

Reality Under Siege

Explorations of the
Creative Role of Difference

Sam Gill

The Charm of the Real

Volume One

Reflections
Dancing & Moving
Technology & Humanity

2024

difference ... constitutes the poetry of the map
and the charm of the territory,
the magic of the concept and the charm of the real.
~ Jean Baudrillard, 1981

Reality Under Siege: Vol. 1. The Charm of the Real

Copyright © 2024 by Sam Gill

All rights reserved. No part of this book may be reproduced
or transmitted in any form or by any means without
written permission from the author.

Printed in USA

Contents

The Charm of the Real Volume One

The Charm of the Real (2024)	1
Reflections	
1 The Powerful Play Goes On (2023)	17
2 Time's Relentless Melt (2020)	35
3 You Only Pass this way Once (2020)	47
4 Eloquence Lost (2023)	51
5 Identity, Skill, & Beauty (2024)	59
6 Vermont (<i>vert mont</i>) (2023)	67
7 What is Mother Earth? A Name, A Meme, A Conspiracy (2024)	73
Dancing & Moving	
8 Dancing: Creative Healthy Teen Activity (2014)	107
9 Dancing as Self-Othering (2012)	145
10 On Moving (2022)	173
11 Moving: The Core of Religion (2018)	213
Technology & Humanity	
12 Thumbelina's Severed Head (2018)	233
13 Harmony of the Flesh (2018)	243
14 Jesus Wept, Robots Can't: Religion into the Future (2020)	281
15 If It Walks Like a Duck: A Long View of Artificial Intelligence & the Future (2023)	295
16 Artificial Intelligence: Takes on AI Complexity (2024)	315
References: Volume One	349

The Poetry is in the Difference

Volume Two

Religion & Study of Religion

17	Prolegomenon to a Twenty-First Century Theory of Religion (2024)	3
18	Imagining a Proper Academic Study of Religion Inspired by Jonathan Z. Smith (2023)	13
19	Smith's Golden Bough: Moving Toward a Proper Academic Study of Religion (2020)	29
20	Jonathan Z. Smith and the Necessary Double-face (2020)	101
21	“What the One Thing Shows Me in the Case of Two Things”: Comparison as Essential to a Proper Academic Study of Religion” (2021)	113
22	The Glory Jest and Riddle: Jonathan Z. Smith and an Aesthetic of Impossibles (2023)	135
23	As Prayer Goes, So Goes Religion (2019)	167
24	Dancing Lessons: A Biological & Philosophical Account of Human Distinctiveness as Relevant to the Proper Study of Religion (2024)	193

Photography

25	On Photography (2020)	201
----	-----------------------	-----

Human Distinctiveness

26	To Risk Meaning Nothing: Charles Sanders Peirce and the Logic of Discovery (2019)	235
27	Gesture, Utilitarian Action, Skill (2024)	275
28	Coenaesthesia (2022)	293
29	Paean to Being Human (2022)	303
	The Mirror World: The Poetry is in the Difference (2024)	321
	Notes on the Cover Images	341
	References: Volume Two	347
	Sam Gill's Publications	357

The Charm of the Real

difference ... constitutes the poetry of the map
and the charm of the territory,
the magic of the concept and the charm of the real.
~ Jean Baudrillard, 1981

In the early 1990s I began teaching world dancing in the university. I used audiovisual complement to lecture hall presentations on the history and cultural significance of dances occurring among many cultures. The course included weekly dancing studios taught by artists I knew most of whom were from the relevant cultures. The course, drawing ninety students, grew to a two-semester sequence covering some thirty different cultures with focus on noted forms of dances. The students experienced, albeit limited to an hour, dancing most of these dance cultures. They found the bodied dancing experience more powerful than what they learned in lecture. I traveled frequently and widely to learn the dances from artists in their various cultures. I eventually founded and operated a world dance studio with classes taught by many of the more than two dozen artists for whom I sponsored cultural exchange visas.

My constant and remarkable experience was that, at least regarding dancing and music, it is difference that is proclaimed to be interesting and valuable. My university and community students were eager to learn, even at the most rudimentary levels, the dances and musics of those who were remarkably different—race, ethnicity, wealth, social status, cultural values, experience, language—from them. Many became so enthralled by these dances and cultures that they devoted themselves to learning the dances to a high level of proficiency, to learn the relevant languages, and to travel to these cultures for extended

cultural emersion. Consistently it was the enrichment of difference that was at the heart of this initiative.

The USA is a nation of immigrants, a welcoming place for those who seek freedom, democracy, and a better life. Yet even prior to its founding the treatment of indigenous folks and an eager embrace of slavery reveals a deeply rooted prejudicial treatment of difference. Difference is welcomed and valued, if limited to Christian Europeans—shades of white. In the cultural historical milieu of the USA and the West broadly, the fear of difference, prejudice associated with any kind of difference, racism and xenophobia have long been present yet during the twenty-first century have only grown to become more evident, ugly, vile, and violent. Hostile responses to the very presence of difference have come to be among the most distinguishing features of large groups of Americans. White nationalism, often Christian white nationalism, is as bold as Ku Klux Klan—it arose following the Civil War and was highly active in the early twentieth century—as is the widely held replacement theory held by Whites fearing people of color. Widely held and seemingly expanding is xenophobic fears of people with gender diverse identities, Jews, the differently abled, non-cisgendered folks, and women. The expression and impact of the intolerance of difference is empowered by the global instant reach of social media. Lip service commonly calls for tolerance. Based on decades of experience, I prefer to encourage *appreciation* beyond tolerance. Tolerance implies something like “live and let live” and “separate but equal,” while appreciation suggests “live together embracing differences that we all might live more richly and creatively, perhaps even peacefully!”

A bit of personal background may be interesting, if not all that clarifying even to me. I was raised in a farming village in southeast Kansas bordering on the Ozarks. This area was (doubtless still is) an almost totally white community with conservative leanings (Kansas, for god’s sake!). My dad was a dirt farmer—the youngest of eight kids who, being the last, was fated to remain tied to the family farm caring for the aging parents and essentially being a sharecropper—who had to supplement an inadequate income with any sort of labor he could find. I remember only a couple black families in the town. I don’t recall that I had any feelings of prejudice regarding them,

although in this era, the n-word was commonly used. I also appreciate that embedded racist values were doubtless far greater than, as a kid who'd never experience anything else, I would have recognized. I do not recall any other races or ethnicities living in the town and recently I have tried to remember when I first understood that languages other than English even existed (likely much later than one might imagine). This bit of personal history is relevant only to frame the unresolved conundrum (mystery?) that remains sixty years later. I somehow escaped the local, went to university (still in Kansas) majoring in math, got a suitably well-paying job in business, gave that up to study religion at the University of Chicago (what the hell?), studied the history of religions focused on Native Americans then Australian Aborigines and cultures around the world (what the double hell!). Something of a capstone book I wrote several years ago was titled *Creative Encounters, Appreciating Difference: Perspectives and Strategies* (2018). My dad in his older life had liberal leaning which I think he tried to hide given the community in which he lived (it was Texas by then). I cannot begin to comprehend the process by which I underwent the near ontological personal revolution from deep near-South cultural, religious, and economic conservatism strongly devoted to homogeneity and “the old ways” (biblical salt of the earth) to a life devoted to promoting the appreciation of difference on a global scale and what I believe to be the creativity that comes inevitably from the encounter with the different. Confessionally, the difference I find least creative and most incomprehensible is that of my own cultural racial ethnic gendered roots. I acknowledge my prejudice of the white nationalist movement, especially its coziness with Christian Evangelism.

Mid-life my attention was drawn under crises to the point of obsession to dancing and bodied activities. The high level of scholarly publication I produced early in my academic career waned as my creative interests were focused on moving and dancing. Then, after thirty years of the seeming dormancy of academic and intellectual production, as I approached retiring (a word I find disgusting) at age 76 (and only then because of a socially and politically intolerable university environment), I began, to realize that this dormancy was perhaps a period of gestation and incubation. While remaining physically active—

despite aging and the isolating forces of pandemic—I began to feel a growing urgency (compulsion) to express myself in creative ways beyond dancing and physical fitness activities. I resisted the academic writing style as I've experienced it, yet with a long academic career this style is naturalized for me, and scholarly publication opportunities have continued. While I had not published much for years, I had always loved writing and continued personal writings that I never even considered publishing. It seemed impossible to avoid writing to satisfy this creative force, yet I wanted to avoid the stilted jargon-laden conventions common to academic writing and to attempt to write intelligently and engagingly to a non-specialist reader. Also, I had long been interested in photography and this became a non-language arena in which to explore and develop my late-life creative energies.

Now after a half dozen years in this new unplugged phase of my life I have written hundreds of thousands of words and taken tens of thousands of photographs. I've certainly published a bunch of stuff during this period, but I've self-published—with no thought of readership or distribution—a good deal more. I've experimented with mixed genre works combining photos and words. Both areas seem only to be growing in production and, I'd hope, also in quality and artfulness. This period of half a dozen years has produced three published books (one winning a national book award), nine published articles, eight self-published books comprised of dozens of essays and hundreds of photographs. I have begun self-publishing at year's end annual art albums to gather some of all this stuff.

Amid planning for my next year of photo projects as well as the writing projects I want to accomplish, I began to remember my own satisfaction (guarded with embarrassment) with quite a few writings I've done during this period and yet I realized that they are spread widely among obscure journals, chapters or essays in published books, and lots of self-published books. Common among these writings is that they are inaccessible and unknown to most who might have interest in them. While I think—shamelessly since they are mostly private—that many of these writings are the best in my career, I have not been motivated by anything beyond satisfying the urge to write. I do what I do because that is how I be who I am. It dawned on me

that it would be nice to gather many of these writings I consider the best if for no other reason than to keep them in mind and to serve as the recent history of my unfolding interests, creativity, and artful progress and development; a way of tracking myself. This gathering called for some supplements appropriate to the resulting collection.

My recent re-encounter with Jean Baudrillard's remarkable passage on difference (epigram to the essay and book) seemed an immediate natural rubric for this gathering. In one way or another difference is at the heart of all I have done. Within the broad idea of difference, I wanted to offer some bit of coherence among the sprawl of my encounters. Given my peculiar personal story the topics about which I am regularly engaged are diverse and disparate.

I sought some rubric that would frame these writings in the context of my sense of urgency and relevance. Across my research and writings I believe that the appreciation of difference is essential and that the forces to deny and destroy difference amount to an assault on reality, on how we know and experience and distinguish it. As Baudrillard so wisely proclaimed, "difference constitutes the poetry of the map and the charm of the territory." Traditionally in the map-territory relationship we understand territory as the primary reality, and map as its constructed double. Thus, difference is essential to what Baudrillard called "the charm of the real." Fear and intolerance of difference amounts to an assault on reality. Consequently, I settled on the title *Reality Under Siege* as stating the urgency and scope of my concerns.

The ordering of the selections, a tentative rough typology, of my writings is intended both to give depth to the areas of my interest as well as to demonstrate the diversity of my interests. I offer six general topics for the organization of the contents. I emphasize diversity and depth.

Late in my teaching career I began to explore and articulate what I thought at the time to be a rich tapestry of new insights. I would later discover that these ideas had occurred in nascent form in my work much earlier. Still, in the current iteration they have occupied much of my recent thinking and writing as will be evident in the examples I've gathered here.

The study of religion that has been most engaging to me foregrounds comparison. Not the grand late nineteenth and early twentieth century project of comparing religions and cultures, whole cloth, but the more granular comparison that underlies understanding ritual and mythology and categories by which we have studied religion as genera. My mentor Jonathan Smith insisted that the more important and interesting feature of comparison focuses on difference rather than sameness as so commonly assumed. Building on Smith I became interested in the copresence of difference and sameness and to recognize comparison as distinctively engaged by humans is at the root of all things human. I began to appreciate the human penchant to hold together without resolution things declaring them to be the same, even identical, while full well knowing they are not the same at all. A metaphor, for example, is to understand one thing by equating it with another that we know it is not. Common child's play often involves treating an object (a block) as something it clearly is not (a car). What has fascinated me is that this relationality defies reason, even common sense, yet rather than being experienced as a problem to be resolved, it, in its embrace, is the source of knowledge, communication, insight, enjoyment. Art, ritual, language, maps, play, and masks all equate things we know are not the same. Impossible! More than an interesting quirk, I find these impossibles a distinctively human and quite common source of power, knowledge, and value. I began referring to this relationality by the term "aesthetic of impossibles." Relying on its Greek root, "aesthetic" is not limited to concerns with beauty but rather suggests something more like "I feel, I sense, I perceive, I know." A bodied feeling kind of knowing. Linking aesthetic with the notion of impossibles opens for consideration, exploration, and sheer wonder this human capability to feel, sense, perceive, and know in ways that defy the banal terms of reason alone.

More recently I've begun to appreciate a distinctively human operation that seems complementary to this aesthetic of impossibles. While I first became aware of it in the form of doppelganger, I have come to realize that doppelganger is but a specific (and usually one with negative associations) form of doubling and mirroring that is also broadly common to and distinctive of human beings. This doubling is the common

penchant for splitting, often into mirror images or duplicates, things that we know full well are whole and singular. In literature and occasionally in quotidian life, this situation arises when a character or person encounters their double, yet the double reveals unknown aspects of self. More generically when we self-reflect, we magically (seemingly) divide ourselves into ourselves reflecting on ourselves. It is in the twoness of self (subject) and self (object) that this banal human activity is possible, and it is in the embraced difference that it is productive and valuable. While we may self-reflect to find our “true or whole self,” we constantly self-reflect with no objective of any full unification. Indeed, we appreciate that perhaps we have awareness only in this mirroring. In our communities we devote much time and energy to creating personal brands, avatars, styles, personalities, and images that are mirrors of facets or inspirations of ourselves.

Whereas the aesthetic of impossibles conjoins as like or the same what are clearly different, the mirroring effect divides and multiplies what is whole and singular. These complementing distinctively human actions share the essential copresence of sameness and difference, and both function, seemingly beyond reason and common sense, without the felt need for resolution. Further, and most importantly, I am convinced that these common, even banal, human, seemingly impossible, operations are generative of the human sense of value and knowledge. Our grounding in reality is possible as a result of these two complementary operations. Despite the common sense of reality as unitary, to appreciate these distinctively human operations is to comprehend that in difference we encounter the charm of the real.

I often find myself writing as an instrument of reflection that could be motivated by most anything. I have sometimes described the process of writing as alchemy because I often experience the action as both the presence of my deepest self and yet also wholly separate and apart from me. Writing for me is the discovery of the unknown known as it in the emergence of the new (sometimes even the shiny new). I often find myself reading what I have written wondering where it came from. How gloriously odd. Those writings that I feel have come about mostly on their own, familiar yet surprising, Writing is an excellent example of mirroring. I have gathered in a section I

call **Reflections**, as in mirroring, those writings that have come about through this seemingly unplanned process.

With age comes wisdom, as the saying goes. So many cultures I have studied and experienced hold their elders in the highest regard. The more I have aged the greater my appreciation for this seemingly practical and valuable practice. My advancing age has produced only the wisdom that in my culture, in the modern highly technical rapidly changing world, this practice is suspect at best. I have written some about experience. Our common use of the term “experience” gravitates toward two distinct, yet related, notions. As experience implicates the active senses, we often use it to identify our sense of the now, the awareness we call “now.” As we see, touch, smell, hear, taste, and move we are aware of doing so. Experience is then awareness of the presence of our environment. Experience marks now. Yet we also acknowledge that over time what we do, what we know, the gestures and knowledge we gain, somehow accumulate organically. We sense this accumulation as other than simply analogous to adding beans to a jar. It is cumulative more on the model of growth. We call this process and the results it produces by the same term “experience.” In those cultures that treasure the views of their elders their experience is valued using the term “wisdom.” Through a lifetime of experience, one is tested and seasoned. Makes sense to seek such experienced elders as guides to life.

In my own nearly half a century experience as a teacher, my understanding of teaching and learning shifted progressively and radically. As a young teacher I thought my job was to know lots of stuff my students did not know and to pass this information along to them and then evaluate them based on the extent and success of their receipts. Student questions challenged my knowledge. It was a crisis for me when I didn’t know the answer and I had to force myself to temper my urge to just make something up that would obfuscate the issue while sounding like I knew something. Students know when this is happening and have appropriate descriptive terms for it. I remember finally realizing that teaching, for me anyway, had to be collaborative. It was a pleasure and opportunity when students asked questions I couldn’t answer. It was the opportunity to learn. I wanted to know what students thought and valued. It was okay for us all

to not know things—that's why we were in school—yet to allow these openings to persist in drawing us forward. Later in my career I began to realize that the wealth of my own experience that provided the bulk of examples I drew on to illustrate my concerns were becoming increasingly unfamiliar to students. They didn't know the movies, books, periods in history that formed the basis of my stories. I began to ask them to help me understand the world that was common to them, but often mostly unknown to me. They responded well and my teaching increasingly became an exchange of my stories including my past and my decades of struggle and effort with their stories of how they found their world challenging, threatening, distinct. My eagerness to learn from my students only increased through the years. Notably I felt that this trajectory correlated with a sense that the classroom experience was engaging and valuable to students and to me. The greater confidence I had in rejecting some ideal that as an aging professor I was both knowledgeable and wise, the more satisfying and successful was my teaching.

Interestingly, this evolution of teaching engagement corresponded with my own discoveries certainly as related to the subjects that impassioned me, but also in the surprising clarification of what it was I had been doing for so many decades. It was surprising to me to finally gain a bit of an understanding on the issue that had confounded me for decades. Why on earth was I spending my life studying religion? It wasn't that I wasn't wholly and enthusiastically engaged in my studies. It wasn't that I lacked passion and devotion to my studies. I never had to exert anything like forced discipline to do my work. I always had an unfolding and expanding agenda of topics I was eager to pursue. What I finally realized—and so late in life it is ridiculous—is that I was interested in the study of religion only because of what it revealed to me about what distinguishes human beings among our animal kin. I don't think this realization could be called wisdom, but I do think that I could only come to understand it based on the accumulation of decades of experience. As a result, the work I have been doing for the last few years is more explicitly directed. I can now strip away the veil that has disguised the work I'm doing as being something other than what it more truly is. This I designate a section of essays as concerned with **Human Distinctiveness**.

While I now recognize that this is a way of understanding what I have been doing my whole life, these recent essays are addressed more explicitly in these terms. Fundamental in this pursuit is my exploration of the role of difference that creates the magic and the charm.

As noted, mid-life I stumbled into dancing and physical fitness. To feel aches and pains because of physical exertion turned out to be a welcomed aspect of discovering that I am body, not only body, but moving feeling dancing sensing body; body active, body aware. While my immediate focus was the selfish pursuit of fitness and personal physical pleasure, my growing obsession with these activities soon threatened my academic teaching and research. To resolve this tension—indeed, to add passion to passion—I began teaching about the dancings of cultures around the world. The academic rationale for this shift was that I considered dancing to be an important and overlooked category for the comparative study of cultures and their religions. The connection (always a bit loose) with religion was made because I was a religion scholar but also because, outside of the Christianities of the northern hemisphere, religions around the world are closely associated with dancing. The bonus, engineered by my own desire to dance, was to befriend (including often sponsoring cultural exchange visas for) dancers from cultures around the world who then taught studio classes as part of my university courses. While I never imagined that I would ever teach dancing, eventually that became not only a necessity in the effort to make my dance studio enterprise financially solvent (it never was) but also because once I got a taste of teaching dancing it was even more enjoyable (thrilling!) than university lecture halls and classrooms.

The long effect of dancing, learning, and teaching about world dancings, teaching dancing, eventually choreographing and performing dancing convinced me that dancing—whose reputation in the west is low among the arts—is somehow inseparable from what is most distinctly human. In dancing we realize most fully (involving our entire moving organism) our potential as human beings. After several decades of contemplating and experiencing this understanding, I began to realize that beyond explicitly dancing, the distinctiveness must reside in human biology. I began to study the biology (neurophysiology)

of moving and how the process, the ongoingness, of moving (contra to movement as event or object and change of place) holds the key. I was delighted to find that a few philosophers offered some insight into moving, although usually not as devoted to a pursuit as I desired.

As a result, dancing and moving became, oddly late in life, the focus for creative explorations that conjoined my long experience with dancing and fitness with my studies of biology and philosophy to address how these might serve effectively as creative strategies to gain insight and a concrete (even scientific) form of discourse. Thus, I include a section for a few select recent writings on **Dancing & Moving**.

At age seventy, still teaching at the university with the hope of continuing indefinitely, I began to notice a growing interest in the future and in the technology driving the course especially as imagined by science fiction expressed in film, art, literature, and television. I suppose these urges derive from my early interest in math and science mixed with delight in story. I realized that I had consumed a good deal of sci-fi media, and I was most attracted to those stories that focused on making sentient hominin beings. Feeling the necessity to relate these themes to my academic field (religion) I began to realize that those who claimed to “make sentient beings” tend to be identified as gods—unsurprising when you think about it—or they proclaimed the status for themselves. I decided to use a technique of exploration that had often served me well. I signed up to teach a large lecture hall course I titled “Religion and Technology.” I was super excited to explore with students the wide sweep of this issue from antiquity (Pygmalion and Galatea), through Golems and automata, Mary Shelley’s classic *Frankenstein*, spinning to Asimov and into the more contemporary films and television shows. The students were excited as well. Over a fourteen-week course I managed to draft most of the twenty-six essays that comprised my book *Religion and Technology into the Future* (2018).

Late in 2022 the explosion of Artificial Intelligence into broad public discourse was spurred by the release of ChatGPT, followed now by many other AI applications, surely not to subside for many years. This technology promised to wholly transform society on a scale at least as consequential as the

emergence of the internet, a development that I also experienced. Drawing on my technological background (hopelessly outdated yet its very presence gave me confidence to take the dive that few humanists dare), my study of the imagined future through sci-fi, and my eagerness to offer the perspective of a humanist which I found sorely absent, I began to explore the new AI applications and to write about the present and a future I imagine. To share these writings, I include a section **Technology & Humanity**. Related, yet reserved for an appendix is my legacy project of looking back across the major developments that I have experience in the course of my life as a way of identifying trajectories that I think may unfold during the lives of my grandchildren extending to the end of the century.

The next to the last day of 2017 my career-long mentor, Jonathan Z. Smith, died. Over the next year I was asked to participate in several events designed to remember and honor Smith and his enormous contribution to the academic study of religion. As I began to reflect on Smith's life and work and his influence on me in preparation for these occasions, I began to appreciate how important Smith had been to my whole life and with no real intention to do so I began to draft essays on various themes that I saw acknowledged and built on his work. I became especially excited as I began to realize that I might ground my own emerging religion theory developments that foregrounded my experience dancing and moving on Smith's work. These essays became *The Proper Study of Religion: Building on Jonathan Z. Smith* (2020) that was awarded the American Academy of Religion's 2021 Award for Excellence in the Study of Religion in the category of Analytical-Descriptive Studies. I retired from teaching the last day of December 2018, yet these Smith-related writings continued as well as the lengthy publication process that followed. Oddly, I had little expectation or interest really in continuing to write on topics related to religion, yet as I began to assess partially finished projects, I found a number that I felt needed to continue. Some of these have been published (yet in disparate journals), others self-published in various forms. It seems only responsible to include a section **Religion & the Study of Religion** to gather these writings comprising the capstone to my half century academic religion study. One

selection is the introduction to an ongoing project to write a prolegomenon for a twenty-first century theory of religion that I believe will offer a radical departure from the history of such efforts.

As I moved beyond my formal career, I was highly interested in being more creative and imaginative and to make work that would have an appeal beyond the elitist academic cohort that had become increasingly annoying to me. With a lifelong interest in photography, I wanted to devote much more time and effort to making pictures. A chief concern was simply to be able to share something I made with others without contention or the effete presumptions of academic writing. My image making has been complemented by my thoughtful reflections on what constitutes photographs and their making. Photography intermeshes with most everything I've worked on across the decades even the broad incorporation of and dependence on Artificial Intelligence and technology. The bonus is that I have been able to write about photography, yet I have also built skill little by little producing images that at least aspire in the direction of art. I include a section on **Photography**.

I selected essays/articles that are among my favorite written over the last half a dozen years, most since my mid-70s. Some have been published in books and journals, others have appeared in self-published works. I selected several essays written prior to this most recent period largely to provide a sense of the development of ideas I presently hold across time. I was shocked to discover that these selections would fill two sizeable volumes. In gathering these writings, I have reviewed and edited the essays to update them with my current ideas and use of language. I have written this introduction and the final two essays specifically for this gathering.

I'm sometimes surprised to discover that current ideas I consider to be new and recently revelatory had appeared in different terms decades earlier. A staple in my sense of intellectual and personal development—basically my idea of cumulative experience—is that we learn organically rather than simply incrementally. This means we feed ideas repeatedly over time resulting in their organic enrichment (or perhaps abandonment).

Perhaps forgivable to someone at my stage in life, I admit to being rather shocked, pleasantly so (even proud), by the amount

I have written and published, and the diversity of topics covered following age seventy-five.

Reflections

1

The Powerful Play Goes On¹

Oh me! Oh life! of the questions of these recurring,
Of the endless trains of the faithless, of cities fill'd
with the foolish,
Of myself forever reproaching myself, (for who more
foolish than I, and who more faithless?)
Of eyes that vainly crave the light, of the objects
mean, of the struggle ever renew'd,
Of the poor results of all, of the plodding and sordid
crowds I see around me,
Of the empty and useless years of the rest, with the
rest me intertwined,
The question, O me! so sad, recurring—What good
amid these, O me, O life?

Answer.

That you are here—that life exists and identity,
That the powerful play goes on, and you may
contribute a verse.

Walt Whitman, “Oh Me! Oh Life!” - 1855

Man [sic] plays only when he is in the full sense
of the word a human being.
And he is only fully a human being when he plays.
Friedrich Schiller - 1795

¹ This late-life reflective autobiographical essay served as the introduction to *Art Album 2023: Photos & Essays* (self-published 2023). In 2022 I initiated what I hope to be an annual publication mainly of my photos.

What verse will I leave? The flowing lifeblood of offspring? A few remembered stories and anecdotes? The printed word and image, specters of ideas and aesthetics? More? Yet, for now, I am here. I live on. I have identity. I play on! My verse, awaiting *finis*, has not gone to print quite yet.

Of late, I've been obsessed, like a grumpy old man, with the decline and regret that accompany being eighty years old, with the world going to hell in seeming countless violent and vile ways, with value and eloquence and humaneness being lost, with the corruption of public institutions and figures, with the wanton destruction of the planet, with the horrors accompanying the prevalence of greed and hunger for power, with the assault on kids and all those who are not white male cis gen, with the insulting and dangerous treatment of women and girls, with the banning of books written by Nobelists and caring folks, with xenophobia on the rise accompanied by a fear of replacement, and with so much lying and disinformation and imitation that the discernment of the real is threatened to the point of being irrelevant. Reality lost. When will this madness end? Will it end? Clearly, I'll not live to see the end. Essay upon essay gushes from my tapping fingers creating electronic flaming files. "9-1-1 laptop on fire!" As a new octogenarian, isn't it my duty to be grumpy and regretful and bitingly critical, even cynical? Yet, this action simply confirms the ageist stereotype of the curmudgeonly grandpa I so hate and rage against. I have been caught in the old man trap. What is an old man to do but ask the sad recurring question "what good amidst these regrets and disappointments has come of my life and the whole world created by my generation?"

Then I remembered Whitman's poem. His questions, put much more eloquently than my nasty rants, were not unlike my own despite the passing of nearly two centuries. His answer, so simple and obvious, so movingly put, is, in my more crude rephrasing, "Get over yourself old man! You are still here. You still are aware. Get on with the creation of your verse and, since it may be your last, make it good. As good as you can imagine. If not now, when?" And behind these admonitions, Whitman reminds me of what has been my passion for decades. "The powerful play goes on" is, to me, an acknowledgement of the

mighty force of vitality distinctive to human beings. My recent Janus gazings have revealed that what I have been impassioned by throughout my life has been the exploration of what distinguishes us as human beings.

While at eighty there is something potent and seemingly natural about it, I am choosing to abandon the raging grumpy old man persona. Its associated power fuels mostly destructive flames. Let my ranting remain private while only the benefits of rage catharsis may go public. My aspiration for my ongoing powerful play is a nugget of wisdom that has repeatedly come to me, stronger each time, over the last few years. "Do as little harm as possible to others and the planet and strive to add beauty to the world." For me, apart from my kids and grandkids, apart from those I call "Bantaba Babies" (a couple dozen kids, now mostly young adults, who were born of the multi-cultural multi-racial relationships of the non-American artists for whom I sponsored visas), my current avenues for adding beauty are writing engaging ideas hopefully with accessible style, making photos that others might find pleasant and occasionally beautiful, dancing if now more privately and vicariously through my granddaughter Fatu, and encountering others (sadly so few) with grace and generosity.

My mentor, Jonathan Z. Smith, wrote an autobiographical essay well along in his career organized around what he termed his "persistent preoccupations." I have found it insightful and returned to it often for inspiration. For me to briefly do something similar here seems a suitable alternative to the ragings of a grumpy old man. My intention is, more so than recounting my studies of objective cultural subjects, to write the stories of the leitmotifs that have persisted as irresistible passions across the decades and to creatively evaluate them in terms of my own dictum to strive to add beauty.

Early in my studies of Native Americans in the Southwest, I was fortunate enough to have observed many masked dancing rituals. Particularly at Hopi in northeastern Arizona and Zuni and the Eastern Pueblos in New Mexico, and at Guadalupe, a Yaqui village near Tempe where I lived while teaching at Arizona State. My research focus was on Navajo ritual that also involved masking. I had considerable experience with Navajo masks, but limited opportunity to be present during their

masked dances. One of my very first publications was about Hopi kachina dances titled “We Dance for Rain” (1971). My first book publication *Songs of Life: An Introduction to Navajo Religious Culture* (1979) was comprised of historical photos of Navajo masked ritual performances and accounts of the related Navajo mythology. Recalling these experiences, now over fifty years later, I’m delighted to find evidence that the cultural kernels then planted steadily grew into persistent preoccupations—masking, play, dancing, difference, performance, story, photography, moving.

Play

Masking from my first encounter has been enthralling. In the most basic experience, mask indicates the presence of two identities, that of the mask and that of the masker. The mask is invariably false, artifice. The masker is a fleshy human bearer and actor of the mask. Yet the effect of masking is to animate and make present that identity represented by the mask. The identity of the emergent entity is focused on the face yet with accompanying costume and associated distinctive movings and actions. Masking is the simultaneous showing of two different identities with the artificial one dominant. Disguise differs in showing but one identity—if successful, the disguiser’s identity disappears—that is considered a true presence, yet as disguise it is false. From my earliest encounters, I saw masking as the copresence of two identities that were, on the one hand, obviously both present yet very different, and, on the other hand, treated by performers and observers as but one identity. Mask and masker—two beings. One being one presence indicated by the mask-marked identity. The emergent identity made present by the masker often dancing was, in my experience, invariably a being beyond the human world—Kachinas at the Pueblos, Yei’i at Navajo, Chapayekas at Yaqui. These are mythic figures from another realm—gods and spirit beings. Religion itself is this encounter of different realms of reality, almost always mediated by artifice, by the made-up equivalent of the mask.

What abidingly fascinates me is the embrace of the impossibility of this copresence, the awareness and obviousness of two distinct identities, or realities, that are also considered one

identity. Add to that the routine unquestioning embrace of beings from another realm despite the obviousness of the stagecraft and artificiality of masking. How can masking not be utterly captivating? It highlights human distinctiveness that is so common as to be banal and ignored, yet, to me, so remarkable.

This fascinating dynamic of impossibles was acknowledged by the Hopi and used as a powerful force of life-stage transition in rites of passage conducted for pre-teen children to initiate their religious lives including their playing roles in masked dancing rituals. Uninitiated Hopi children are carefully protected from the knowledge of the distinction of masker and masked being. What Hopi kids experience in their dance plazas are simply the revered and storied beings physically present. For these children there is neither mask as object nor as concept. Their initiation rites involve the intentional revelation that the Kachinas are present because their male relatives don masks and dance. In other words, the kids are shown mask as object used by their male relatives to fool them. The twoness of masking shatters their experience of reality in complex ways. The simple unity of reality is now divided, yet not. The children are often deeply disenchanted, at least initially, by the conundrum of the identity of the two and the one, the physical and the non-material. I wrote two articles on this practice early in my career (1976 & 1977) exploring how this dynamic of two distinct identities (masker and mask) when considered as one from another realm offers insight into Hopi religion and, I think, into religion as a distinctly human system. These articles are still widely read. As the decades have rolled by, I have come to think this masking dynamic also reveals something at the core of human distinctiveness.

At that time, I also wrote a related essay on masking titled "Dancing the Faces of the Gods." I never published this essay because, as I distinctly remember, I began to think of the dynamic relationship between mask and masker, between an artificial costumed masked character and a real being of another realm, in terms of play. I realized I could not publish this essay until I had first figured out play. From early in life, kids play. Make believe or play-like (pretend), a near universal form of kids' play, shares this complex and sophisticated dynamic of Native American masked dancing. This play is distinguished by

considering one thing to be another thing, a block is a truck, a folded piece of paper is an airplane, yet knowing full well that the two are not the same at all. Amazingly in play we experience no need or even desire to rectify the obvious incongruity. The fun of play is in the simultaneity of difference and sameness. It is a dynamic that I believe is distinctly human and is at play in everything we might mark as distinctively human: art, language, symbol, myth, religion, metaphor, play, theater, fiction, folklore, tools, comparison, imagination.

While I understood that we often consider play as frivolous and directionless and I knew that we often refer to animals playing, I had, long ago, a strong hunch that play, in certain situations, indicates a quite extraordinary and sophisticated dynamic that is distinctly human. Yet, at that time, I couldn't figure out how to understand and describe this dynamic.

I published my dissertation on Navajo prayer (1981) and gradually became professionally known for my study of Native Americans as well as small scale societies around the world. I was asked to write intro level textbooks, two published in 1982 and another in 1983. Meanwhile I had spent years studying the history of Mother Earth in Native American cultures, research I presented in the controversial book *Mother Earth: An American Story* (1987).

While engaged in these works, my concern with the ideas awakened in my encounter with masking and play did not disappear. I recall teaching a block course at Colorado College in Colorado Springs in 1988 during which I spent my every waking minute reading about and contemplating play. I read Gregory Bateson, Jacques Derrida, Hans-Georg Gadamer, and many other philosophers, anthropologists, and psychologists who had written on play in the twentieth century. I found little of interest in the anthropology of play that focused mostly on games in various cultures. Then I pursued older philosophical works on play. Charles Sanders Peirce writing on play² early

² See especially "The Neglected Argument for the Reality of God" in *Collected Papers of Charles Sanders Peirce*, edited by C. Hartshorne and P. Weiss, Vol. VI, Cambridge, MA. 1934 and my extensive discussion of Peirce "To Risk Meaning Nothing: Charles Sanders Peirce and the Logic of Discovery" in my *Creative Encounters, Appreciating Difference:*

twentieth century in an essay culminating what had been for him a lifelong preoccupation. Then pursuing even earlier literature I read Immanuel Kant and most importantly his contemporary Friedrich Schiller's *On the Aesthetic Education of Man* (1795), a book I consider among the most influential I have ever read.

Poet and playwright, the contemporary of Goethe, Schiller, with the support of a benefactor, wrote *Aesthetic Education* as a treatise on beauty, but as much on human nature. In twenty-seven letters organized in groups of three he developed a tripartite schema in which he identified two opposing but paired forces—he called them drives—that when interacting with one another may give rise to a third force or tendency or drive. In his development of this tripartite dynamic the “third thing” developed his understanding of beauty.

The example that has had the most impact on me was his discussion of the dynamic between the human tendency to seek form (*Formtrieb*), that is, order and coherence and stasis and law while also seeking sense (*Stofftrieb*), that is, raw dynamic experience as presence and sensation and feeling. He argued that there is “a reciprocal action between the two drives, reciprocal action of such a kind that the activity of the one both gives rise to, and sets limits to, the activity of the other, and in which each in itself achieves its highest manifestation precisely by reason of the other being active” (XIV.1). As one comes to a static lawful ordered world of form or coherence, there is a felt cost to sensory experience with its possibility of nonlinearity or the unexpected or the chaos of incoherence. Consequently, the sense drive is energized to challenge form and coherence and certainty. And vice versa. Schiller understood human life as unfolding as the dynamic oscillation among these drives or tendencies. More importantly he imagined that as these two tendencies come into concert (his word)—which I imagine to be a lively interplay something on the order of tonus (as understood by physiology) or harmony (in music as the word “concert” implies)—a third thing emerges, itself a force or drive. He named this third thing “play” (*Spieltrieb*) “that drive in which both the others work in concert” (XIV.3). Remarkably, Schiller

understood beauty as interplay of form and sense (or life), which he referred to as “living form.” Beauty to Schiller was the consummation of being human. Play and beauty have a kinship if not a synonymy.

In Schiller I found the pathway to understand and to articulate this dynamic of impossibles, advancing my longtime preoccupation with masking and the play of masking. Schiller put it succinctly “it is precisely play and play alone, which of all men’s [sic] states and conditions is the one which makes him whole and unfolds both sides of his nature at once” (XV.7). In an essay in *Dancing Culture Religion* (2012), I wrote an analysis of Zuni masking in the explicit terms of Schiller’s philosophy of play and beauty.

When one seeks insight by looking far and wide, I suppose it is not uncommon to be surprised to find that it has been nearby all along. Jonathan Z. Smith (1937-2017) was a religion scholar of profound influence on the academic study of religion for a half century following its emergence as a field in secular universities in the USA in the 1960s. I began my study of religion at the University of Chicago in 1967. The notion of an academic, rather than a religious, study of religion had roots in Europe years earlier. Smith was my teacher at the University of Chicago beginning in 1968. While the focus for his study was early Christian-era Judaism, he was perhaps best known for his writings on religion theory, including myth, ritual, and comparison as a core method in both the study and practice of religion. What I had not been aware of when I was his student at Chicago, nor even for some time thereafter, was that his never published Yale PhD dissertation, “The Glory, Jest, and Riddle: James George Frazer and *The Golden Bough*” (1968) has a rich discussion of play. Once I became aware of Smith’s foundational interest in play, I began to realize that it subtly yet decidedly shaped his religion theory. I wrote of this first in “No Place to Stand: Jonathan Z. Smith as *homo ludens*, the Academic Study of Religion *sub specie lud?*” (1998), reprinted as a chapter in my award-winning book *The Proper Study of Religion: Building on Jonathan Z. Smith* (2020). I also explored play in Smith’s work in other articles particularly the several I wrote following his death in 2017. Most significant is my belief that this dynamic of the two that are one is at the core of his understanding of compar-

ison—a core method in the academic study of religion as well as in the advancement of all knowledge—and his theory of religion, expounded also as theories of myth and ritual. I have published extensively in the effort to establish this role of play as valuable to the proper study of religion, beginning in 2000 in an article titled “Play.”

Returning to the final lines in Whitman’s poem that inspire the title as well as the substance of this essay, I’d like to explore what I think he might have had in mind by “powerful play.” He might have been thinking of Shakespeare’s idea that appeared in “As You Like It” that “all the world’s a stage.” In this case Whitman sees life as a performance in a grand drama. That life, as theater, is what it appears to be, but also not. Notably the word “appear” means both “to be present” and to “seem to be what it is not.” We all have been cast in a role in life and we must play our part. The words following, “goes on,” suggest the ongoingness of life with, in this understanding, the word “play” suggesting freedom, like kids on a playground, as well as the unpredictability of life as in a game. This interpretation suggests the courage and faith in the larger story to which we must courageously contribute our part. The unpredictability is the play, the drama, and by carrying on we embrace and enact the power of life. Both interpretations of these lines are compatible with Schiller’s insights on play. Life is vital only in the dynamic interplay of wanting to create and accomplish and to assure the value and legacy of our lives, yet with the ever presence of uncertainty, folly, accident, risk, and apprehension. These two forces—we might call them coherence and incoherence—seem in tension, yet they complement one another, in Schiller’s terms as do form and sense. Inseparable forces coexist with their interaction, if in harmony or concert, being one of play, the sort of play that we might call vitality as well as living form or beauty.

Story

“Story” is a marvelous word. Most use the term frequently with little sense of needing to clarify the reference. Yet it invariably knits together impossibles. Stories are what we tell or read to our children who often beg for “one more time.” They are made of fantasy and drama and imagination. Yet, we often warn our kids not to tell stories, meaning fibs. The word “story” is typically

colored with implications of liberties taken, exaggerations made if not downright falsehoods, yet done for the sake of interest or entertainment or to convey a moral or engage a fundamental feature of human life, death, illness, aging. Through narrative, stories give order to the chaos of reality. N. Scott Momaday once said that a people can endure anything if they can tell it in a story. Stories lift the banal to the exciting and spectacular. Stories are, in short, intentional lies that tell truths. Identifying a narrative as story is to acknowledge and embrace—even more, to celebrate—this impossible identity of lie and truth. There is a kinship among story and play and beauty.

My mom, herself a fine storyteller as was my dad, sent me off to college with the instruction “study math.” As the good son, I minded my mother, only to figure out decades later that she probably meant something more like “go be an engineer so you can make a bunch of money.” Her stories of the hardworking poverty of a Kansas dirt farmer’s life led her to imagine a life of plenty for her son, which I think she understandably associated a bit too narrowly with mathematics. Although I was too naïve to know it then, the modern mathematics I studied was perhaps the purest form of story. It required the invention of impossibles such as a mathematical system based on an axiom such as “assume a straight line is one that crosses itself in but a single point.” Pure mathematics isn’t about reality. It is about exploring the implications (a mathematical story) of anything imaginable. I appreciate the irony (a trope built on the copresence of opposites) only now.

As a science nerd I was intolerant of psychology, literature, mythology, and all those things of the humanities that I considered nonsense made-up useless stuff. Just give me the facts, no stories please! But then I found myself in an American literature course reading Hemingway and Faulkner. Gradually I became mesmerized, amazingly so, by these two oh-so-different writers, both Nobelists. They wrote stories. Really good stories. Yet I was no easy convert. I nearly failed world history because I couldn’t adjust my number focused reality to the wordy accounts of history. It was years later, and then only because of my admiration for a particular teacher, that I wound up in a world religion course that led me rather promptly to abandon a career in business that my mom approved—I was making a

bunch of money—to go off to the University of Chicago to study religion, a move she did not approve. I knew nothing of the worldwide reputation of this renowned university. I knew nothing about the city of Chicago that hosted the legendary Democratic National Convention in 1967 the first year I was there. I knew nothing of religion of any kind. I was not even interested in thinking or writing or studying. Yet the powerful play goes on and, without any clue whatsoever, I was composing a clumsy Chicago academic verse or two. I still don't quite understand how I could tolerate studying religion enough to eventually become fairly well known doing it.

One of the first courses I took at Chicago was on myth, a subject the professor treated with no small amount of reverence. The stories we call “myth” are invariably set in some impossible location with a cast of impossibly fabulous characters doing stuff I couldn't imagine anyone taking seriously. Yet, these stories are, I was learning, the foundational narratives of most religions. They recount the creation of the universe and the first folks, as in Genesis. When I began studying Native Americans—which I did only because these were the only cultures about whom I had a sense of where they live without consulting a world atlas—I found not only myths, but endless bodies of folklore. I would eventually write a *Dictionary of Native American Mythology* (1992) and not so long ago I was asked to write the Forward to *Native American Myths and Tales* (2020). I agreed to do a revision of my *Native American Religions* textbook only because I wanted to include, as part of its conclusion, simply for the fun of being a bit naughty, some mostly concocted (unacknowledged by me) stories about my family lineage encountering Native Americans in Oklahoma.

Story continued to fascinate, playing an ever more central part in my own narrative. Perhaps the fullest development of my interest in story came from my being confronted with an impossible situation in my own academic work. The nature of story was at the core of the crisis. In my writing of the textbook *Beyond the Primitive* (1982) I included a section focused on the importance of myth to small scale cultures and I used an example from an Australian Aboriginal culture that one of my teachers, the renowned Mircea Eliade, had so often used. It demonstrated the extent to which these folks were impacted

when the expectations born in their stories were met with catastrophe. It was a very good story. Yet, years later a scholar who was using my book for a class he taught contacted me to let me know that the story as I had presented it didn't correspond accurately with the original published sources cited. The crisis precipitated by my realization of the failure of my own scholarship would take me on a long journey academically as well as physically twice to Australia. What I eventually realized is that scholarship is not so much the accurate objective accounting of the lives of other folks. It involves the making of stories to further the values and world views of those same scholars woven into a fabric comprised of the stories they often to some extent make up about their subject cultures. Further, as I studied the complex history of the late nineteenth century development of Central Australia, I realized that it might best be told as a collection of stories of various parties—Aborigines, miners, ranchers, missionaries, government folks, and scholars—each with very different values and interests who often encountered one another in this vast landscape. I developed an academic method that amounted to tracking down (and making into story) each of these groups and how all the others were valued from each perspective. This work became the book *Storytracking: Texts, Stories, and Histories in Central Australia* (1998). Scholarship is akin to storytelling.

Reviving my early nerdy interest in technology—it never disappeared—I found myself late in my career increasingly interested in the future especially as it is associated with advancing technology. Seeing that technology is in service to human making, as a student of religion I found that making is religiously based on cosmogonic mythology and on the stories in which the gods create the first people. It is then not surprising that, in the arts, as geeky scientists contemplate the technological creation of sentient beings, they are often identified as gods. Examining a bunch of examples of stories—novels, movies, television shows—of the making of sentient beings I was surprised that the new beings were almost invariably female and sexy females at that. The results of my explorations led to my book *Religion and Technology into the Future: From Adam to Tomorrow's Eve* (2018). This was the most fun book I've written because it is comprised of my telling and interpreting a great many stories about making

sentient beings across a long history—beginning with Pygmalion and Galatea and Adam and Eve—to the current examples especially in film and fiction. Focusing also on the many female made beings, I concocted my own composite figure I call “Tomorrow’s Eve”—my own little act of playing god—who I propose offers a glimpse into the future of technology and humanity. This book also gave me a bit of knowledge as a base to creatively reflect on the recent explosive development in artificial intelligence (AI). The ambiguous yet potentially terrifying promise of AI deserves many a story. Science and technology, including physics, are themselves based on stories, made up both to explain and to make imaginable the unexplainable and to serve in practical terms to make the future. The story of the Big Bang rivals the ingenuity of any myth and seems equally impossible. “Big” compared with what? Who was there to hear the “bang”?

Beginning with my dismissal of story as a young college student in the early 1960s, by the end of the century I had become a proponent of story as residing at the core of not only cultures everywhere, but also of the very nature of the academic enterprise. In broad terms, my fascination with story is with the distinctive nature of being human. We humans, like it or not, are built to author our own lives as we negotiate the interplay of life’s coherence and incoherence. We are storytellers. All good stories are built on how incoherence is encountered to energize the plot, the drama. All lasting stories do not lead to a nifty resolution with everything all in its proper place and everyone smiling. The enduring stories leave us with the unavoidable impossibles, the most fundamental of which is the uncertainty of endings and the impossibility posed by the certainty of endings. Stories are “living form,” the beautiful fluid fixings of the ongoingness of vitality.

Dancing & Moving

With Native American masked dancing being the experiential kickstart for my academic (and personal) story, it shouldn’t be a surprise that somewhere along this drama dancing would come center stage. Yet, I am surprised even now since all along my dancing has seemed the result of random events that comprise their own story—mid-forties failing marriage, random adult jazz

dance class as marriage therapy, accidental discovery of fitness, dancing begun as a fitness activity, obsession with fitness and dancing, shifting academic career to focus on dancing, extensive travelling to study dancing, a dozen years teaching large world dance classes including studio dancing, opening and teaching in a world dance studio in the community, sponsoring cultural exchange visas for more than two dozen artists from many countries, writing a book about dancing culture and religion, expanding my study of dancing to moving (especially self-moving) based in biology and philosophy. The revelation is that perhaps this string of actions and the development of my passion for dancing would never have occurred had I not sat atop the Hopi mesas enchanted by watching Kachinas dance.

Only recently did I begin to understand the full impact of my cumulative experience of constantly dancing and moving. It amounted to a total make-over. I wrote and published extensively on Native Americans, Australian Aboriginals, and religion theory prior to me doing any dancing. My frequent academic publication halted suddenly in the late 1990s at the same time I devoted myself to dancing. It would be over a decade before I published *Dancing Culture Religion* (2012) and I didn't publish another book before I retired the last day of 2018 a few days before my seventy-sixth birthday. My colleagues punished me annually with no raises and they pressured me to retire judging me as producing "below expectations." Yet, a couple years before I quit the university, the steady accumulation of ideas finally came to a tipping point releasing a flood of writing and publishing that has yet to subside. In but six years I have written nine books with one receiving a national book award. I also published eight substantial articles. As I find myself unable to stop writing, I ask, "after nearly twenty years of having little interest in publishing, although I did consistently write occasional pieces that I never cared to publish, why this sudden explosion and extraordinary quantity of writing and publishing?" What seems likely to me is that living a life devoted to dancing and teaching dancing and physical fitness for nearly three decades had the effect, gradually accumulating, of remaking me as a person, both physically and intellectually.

I have long resisted notions of dancing as some sort of language and that dancing somehow has meaning in the sense

that might be translated into words. As a student of dancing in religious contexts, it would seem I would have embraced ideas related to dancing being spiritual and healing, yet I have strongly rejected both. I didn't wish to further the powerful impact of Descartes who valued spirit, thought, soul over body and I didn't wish to presume that dancing is done primarily by those who are sick or unhealthy which seemed to suppose something akin to the Christian notion of The Fall (original sin). For all those years my studies included the dance history of cultures across the globe. I visited many cultures in many countries—Bali, Java, Costa Rica, Puerto Rico, Australia, Nepal, Mali, Ghana—to observe and learn their dances. I studied dancing theory, finding myself dissatisfied with most of it. But mostly I danced, and I taught dancing. I love to dance and teach dancing, and I did what I love doing. Still do. Finally, I came to appreciate that all that dancing—its constant repetition as well as its constant demands for new dances and performances—has, in the most fundamental biological sense, remade me. Acquiring skill and pursuing mastery requires constant repetition with challenging variation and detailed adjustment based on critical evaluation. The eventual result is the construction and shaping of muscle, bone, proprioceptors, and synaptic criteria. I started out as an academic who danced. I danced for decades. Eventually I became a dancer and writer (and aspiring photographer). I can't see how a remaking at the level of tissue, must not also be a remaking of one's entire worldsense, one's most fundamental connection with and understanding of the world. I imagine that those many years of dancing, while having little engagement with standard academic modes of being, might be understood as something like a long period of gestation and development. Likely I spent at least ten thousand hours dancing during this period. I suspect that the slow changes of practice and aging and experience finally came to something of a tipping point that resulted in the release of my writing, a late literary blooming, in a way that has felt natural and honest. It has felt like me being me.

What increasingly distinguishes the way I experience and think about dancing and the larger arena of human self-moving is its ongoingness. I resisted efforts to objectify dancing and moving because it would halt their ongoingness, their energy

and vitality. I preferred verbs and gerunds to nouns. I preferred process to form. In Schiller's terms, for many years I preferred sense to form, dancing and moving to trying to describe them, especially in the formal (and often stilted) genres of academia. Among many treasured aspects of dancing and moving is that it demands a level of attention and concentration that leaves little possibility for reflection or analysis. It is rather like running upstairs. To think about the next step risks a stumble or fall. Dancing and moving have never been for me a bodied action that is apart from brain and nervous system. This organicity is basic biology. The complexity and demands of dancing and moving mandate the highest level of holism of the organism.

Yet, as revealed to me while studying Schiller, such devotion to the sensory presence of action gives rise to the urges and needs to consider and give energy to form. My teaching dancing—both dance history and actual dancing—offered this opportunity. My long devotion to math and science and form was useful in my analysis of dance technique that gave me ways of effectively teaching and learning specific dances. I created systems of the accumulation of technical fundamentals for salsa dancing. These were used both to analyze complicated moves so that they might be learned and taught more systematically, but they offered a graduated system for teaching the dance in terms of its distinctive technical elements. I taught many hundreds of classes, and I created a series of instructional videos using this method. Sense and form began to co-exist and complement one another, yet for years it was confined to dancing and teaching dancing. I also was interested in dance theory, especially as my experience was with cultural and folk forms of dancing, whereas ballet and modern dance are the experiential basis for most extant dance theory. The result, as Schiller would predict, was for my drive for sensory presence of dancing and moving and my drive for formalizing the technique of specific dances and to create a new dance theory began to come into dynamic interrelationship.

Eventually the concert or harmony or tonus that was increasingly realized in this dynamic came to the energizing and vitalizing level that Schiller called play and living form (I suggest it might also be called dancing) and finally beauty. The pervasiveness of this dynamic in human experience and the

conviction that this play is distinctively human finally pushed me to a deep inquiry into the confluence of the biology and philosophy of human self-moving. The force I experienced that was released in this interplay of academic disciplines in the context of my thousands of hours of practical experience unleashed what I have experienced as a creative explosion still reverberating. Perhaps the most interesting, even surprising, result of this wave was my creating a theory of religion, especially relevant to an academic or secular study. I wrote this as the final chapter of my book *The Proper Study of Religion: Building on Jonathan Z. Smith* (2020) that won an American Academy of Religion National Book Award. In this presentation I made explicit identities between the implications of the biology and philosophy of human self-moving and play as foundational to this theory of religion. While the book has been widely praised, I find it interesting that, at least to this point, I do not know of any who have engaged in exploring the implications of my religion theory. Not to be too arrogant or rude, I feel that the largely sedentary lifestyle of academics as well as their seeming fundamental transduction of living reality into the objective forms of words and formal description likely make my ideas based on moving seem particularly alien to most scholars. I'll try to remain patient.

I finally realized that, despite my widely disparate interests and experiences across the decades, my core fascination and obsession, has been with what comprises human distinctiveness. I see it now as a leitmotif interconnecting my various persistent preoccupations. In recent years I have explored this strand more generically as an "aesthetic of impossibles," the capacity to hold together without resolution things declaring them to be the same, even identical, while knowing full well they are not the same at all. In this personal essay I have considered several examples. Art, ritual, language, myth, maps, play, and masks all equate things we know are not the same. Impossibles! More than an interesting quirk of humans, I find this aesthetic of impossibles distinctively human and a common source of power and value. Relying on its Greek root, "aesthetic" is not limited to concerns with beauty but suggests something more like "I feel, I sense, I perceive, I know," a bodied feeling kind of knowing. Linking aesthetic with the notion of impossibles opens for

consideration, exploration, and sheer wonder this human capability to feel, sense, perceive, and know in ways that defy the banal terms of reason alone. I have pursued this aesthetic of impossibles in several publications that combine my efforts to write intelligently, yet hopefully free of academic jargon and tedium, combined with examples of my own photography—*On Photography* (2021) and *On Moving: A Biological and Philosophical Account of Human Distinctiveness* (2022). I am currently writing *On Skill & Mastery: A Philosophical, Biological, and Practical Account*, yet it will not include my photos. While my level of skill in this hybrid genre will never reach anything approaching mastery, I can still imagine the interplay of word and image that might approach something like beauty.

Oh life! Of the incessant aggravating questions,
Of the burden of mounting regrets,
Of the anger bred by rising societal vileness and greed,
Of the existential threat to the planet,
Of the drag on my body, more each year,
Of the looming erasure that comes with night,
Of the shameful impotence to protect my family from
so many threats.

The maddening questions recurring. Why? What
matters among these? Why am I here?

Walt inspires possibilities.

There are dancing & moving & writing & image
making.

There is creative imagination. There is family.

I am still here. I can act. Oh me! Oh life!

The powerful play goes on ... for now,

May I contribute even a bit of beauty.

Time's Relentless Melt³

Likely it is the academic in me, perhaps it is sheer vanity, that I should feel the urge to reflect on how my stories might engage the larger traditions in which others have told their stories. Why are life stories written down and what possible value might they have beyond a graffiti tag, beyond leaving a bit of oneself for the kids, beyond attempting to justify taking up space and resources for so long? Not surprisingly, my consideration of these questions turned into several writings. I explored what sorts of framings and organizing principles might be relevant. The following are more essays than life stories, yet they are personal. I have wanted them to report on my serious explorations and ponderings about the genres and history of personal storytelling. I include them here to function a bit in setting the context. They do not answer my motivating questions, yet they might serve as a warmup.

Invention of the Past

I have never considered trying to write in the memoir genre. The very word seems fitting only for the known and renown, otherwise it implies something presumptuous, self-aggrandizing, egotistical. Yet, its Latin root is *memoria* indicating “to remember” and comes more directly to us from Anglo-French *memorie* indicating “note, memorandum, something written to be kept in

³ This essay explores my thoughts on how to engage autobiographical writing. It is the first substantive essay in *Dancing Graffiti: Stories from my Life* (2020). I include this essay because I hope that my reflections on what and how (or even) to write about one's life might engage common concerns. I have dropped most of my personal response to Covid Pandemic that was in full swing at the time of writing.

mind.” A collection of sticky notes. Beginning in the 1670s the word began to refer to a person’s written account of his or her life. Memoir differs generally from biography in being less complete and perhaps more an account of memories, that is, anecdotal and incidental.

In casual conversation my attention was drawn to question the basis for my personal values. My reactive response, surprising to me, initiated these writings. I found myself asking how my life’s history shaped my values. The out-of-control response fueled wide-ranging reflections. I was surprised that my self-inquiry took the shape of remembrances of things past. A simple question about value was my madeleine. I began to accumulate remembrances in my efforts to discover and articulate my values, even my identity. Then there was my delight in the process of writing itself, in how writing aides and abets remembering. My better and more creative thinking is done as writing. Through much of my adult life I’ve found myself unable and unwilling to remember much of my past. I have been little interested in it. I never imagined that anyone would be interested in what I remember, even if I could. Still can’t. A few disparate and unplanned occasions accompany the initial accidental motivation and here I am trying to set context for a large collection of writings. Despite my skepticism about the appropriateness of doing so, one bit led to another engendering a growing drive or passion whose energetics I have been unable to quell. The result, this pile.

Over many years, my thinking about time and memory and hope and life has developed a notion I call the “fat present.” The basic idea is that, contrary to the scientific rational linear mathematical regular time stream in which the present is but the virtual meeting of past and future with no dimension itself, my reckoning is that the present of our human experience is actually the copresence of all that we have been and done and our imaginings of all that might be. The past is, at least in our experience, what is presently remembered, a time that exists only now yet is marked as having happened in the once upon a time. The future exists in our experience yet as a time marked as being not yet, the imaginings that inspire or terrify. A fan of “Doctor Who” I have recognized that my fat present is analogous to the TARDIS that appears as a blue British police call box sitting idly

on a British avenue. Fans know that when one enters the TARDIS, it is, as the Doctor says, “bigger on the inside.” Indeed, the TARDIS provides access to all of space and time. On a global level, reckoned by physics, I acknowledge that time marches along with no graspable now. Where’s the fun in that? I suggest however that, as locally experienced by a person (akin to each episode of “Doctor Who”), the present moment, the now that we experience, resounds, echoes, reverses, eddies, and whirls. Our memories seem to magically appear in the present always as dialogues of the actual and the imagined. Our memories echo across our lives tipped off by the “re-” prefix of remembering. The experienced present is overly filled with all our existence, fat enough that we have space and time to remember and imagine and reflect and experience and feel.

The remarkable Argentine Nobel Laureate Jorge Luis Borges (1899-1986) wrote a short story called “Funes the Memorious” (1942) that has long been one of my favorites. Funes simply couldn’t forget. His memories were total and perfect. He was able to remember whole days of his life at any time, yet it would take him a whole day to do so. Borges shows the limitations and even tragedy of our common wish that we had perfect memory, demonstrating that, to be of value, memory requires forgetting, selecting, organizing in the making of stories. The jumble of the actual objective past, which we seem so often to want to recover perfectly, is simply a chaos of data. Funes had to stay in a dark room to dampen the stimulation (everything being a madeleine) that might set off his recall of this madness of momentary factoids unrelated to one another. Borges seems to be telling us that whatever might have existed in something we might call the objective past has no value save as it appears in episodic memory, inventions, and the cumulative effect of experience. Memory is image or story made perhaps relevant to the present. Cumulative experience is skill and acumen, perhaps wisdom.

The fat present is, in sensory terms, more akin to sound, whereas scientific linear time bends toward sight. Consider the effort to get the most realistic image, as in *trompe l’oeil* painting or photography. We all know that in photography the fastest shutter speed, the shortest exposure, is how we approach the knife edge of that nothing moment that joins past and future to give us the greatest clarity, even if it is a now that can never be

fully captured. However, what happens when we use the same strategy to record sound? As we approach a zero-length sound capture, we approach emptiness, the sound of silence. Sound, like the fat present, requires openness and interaction and time and space to reverberate, resonate, resound, echo. Even the term “sound bite” suggests something rich enough to chew on. Sound has a built-in time machine. To exist, sound must have a backward referral in time as its waves interplay and encounter the vibrating architecture of the ear of the other.

We might then think of the remembering that comprises memoir also as song or story sung, with themes and variations on a hymn or paean. There is a hint of foreknowledge with each story, yet also the unexpected and unknown. As themes and variations emerge from the entwining of the harmonics of story upon story, perhaps larger themes but also finer tuning might occur. A collection of stories is something on the order of the choral group technique of vocalizing, sometimes used to warm-up voices, as central to the Swedish film “As it is in Heaven” (2004). As stories are told one upon another they accumulate, emphasize, interact, gradually shaping something beyond individual stories sometimes mesmerizing with discord and harmony. Collected, these stories are worth reading only if they are heard as belonging to “everyman,” the soundings among members of a chorus, as they also belong to the writer.

Fat present is a personal present, a present of someone who has a body that resides in some place and time. Like a blue British police call box sitting on a London street, the fat present, the subjective now, provides entry into the expansive life of a person. For me, the accumulation of experience has built some writing acuity. As a dancer or an artist gains skill and naturalness of performance over thousands of hours of practice, I have practiced writing for much of my life. I know that in dancing, where my skill is small, yet my experience is sufficient to offer insight, an accomplished dancer dances with her attention on the creation and enacting of the art not on the components, relying on the mastery of technique to afford her this freedom. What has happened with me in this exercise of remembering is the continuing practice of the still-developing skill by which words flow onto the page seemingly naturally as dancing graffiti, yet perhaps more due to the many decades of practicing, to make

memory into story, to make stories that interest, perchance. And then as one memory is seemingly manifesting itself, I have so often caught a glimmer of another that wants me to make it into a story. As, throughout our lives, we build a character, an identity, a sense of personal coherence that we feel is “me,” we, and especially writers and speakers, describe this as developing or finding voice, a sound term. Perhaps the remembering and recording of our life stories is a kind of resounding exploration that gives rise and shape to one’s own voice, the deep identity that we have become, or, better, are still becoming. Stories hopefully advance to dancing rhythms.

This collection of stories identifies me in a couple senses. It is the current iteration of the seeming natural process of practicing my writing skill, which is in a sense the accumulation of who I have come to be in my life, evidence of my voice. I am my skill. It is also a collection of stories, narrative remembrances and explored concerns, odd-shaped bits contributing to a mosaic, yet unfinished, that is my life.

Biography suggests a chronology, birth to death. Yet memories don’t occur or seem worthy of remembering in anything other than as random splashes, something like splats on a Jackson Pollock painting. Colorful tangled graffiti on a wall. Among the ideas I’ve entertained over the decades, my appreciation for the nonlinear, the random, the incidental and accidental has persisted, indeed, increased. A totally predictable life is a boring one absent of creativity and the trials that build character. Yet, language has a certain implicit linearity, letter follows letter, word follows word, sentence upon sentence, all marching along like disciplined soldiers never daring to step out of line. Hup, two, three, four. Gertrude Stein’s experiments with stream of consciousness writing broke something of writing’s linearity, seemingly invoking the hoard or the swarm, challenging or daring a reader to defy this affront to coherence. Yet, few of us break the code of linearity knowing full well we don’t have the artistry to get away with it. My strategy has been to try to confound the linearity of writing by making independent yet interlocking stories, casting them about, like throwing a handful of corn to the chickens, with only a little concern about maintaining an overall purposeful sequence. I hope that anyone with some spare time and a bit of interest might peck about for

whatever grains of corn seem possibly tasty or nourishing. Let reign nonlinearity, the random, the accidental.

I've finally identified something of an understanding for my shyness and hesitancy in writing these stories. It is that writing about myself is a very subjective process that necessarily foregrounds my feelings and impressions and evaluations. Yet in these writings I am usually the object, the thing being memorialized, whether deserving or not. This process is one that necessarily turns me inside out by giving objective material existence in the written word to what is internal and virtual. Turning my living being into the stable object freezes what is living, a strategy for defeating death. It is to publicly display the private, an act of intimacy (what is more intimate than a battle with death?) that requires careful judgement on my part so as not to be uncomfortably or inappropriately intimate, even worse maudlin, while also needing to trust that readers, should any exist, will find something of enduring value not some inappropriate uncomfortable confession.

I still think and fear that the process of making these writings available to others is a rather embarrassing indulgence and I have no illusions that they will be of interest to anyone at all. Yet I'm wise enough to know that my concern is a false one. One makes. One turns himself inside out. Others find and read and use and enjoy, or not.

Bio-Bits

I often write text messages to my daughter and teenager granddaughter. I have noticed my texts are invariably at least the length of a good sentence and usually are sentences. They are often paragraphs that I try to keep brief. In response I get a few alphabetic or numeric characters (U R 4 K 2, as examples I understand, there are many others I do not) and tightly abbreviated words (thx) and perhaps an emoji, emoticon (heart, thumbs up, hands clapping). From my younger grandkids I get stickers. Not so long ago I recall saying to my university students "you all don't read," meaning that I was aware that most of them understood any academic reading to be optional or, more likely, irrelevant. I was surprised that their response was a haughty "we read all the time!" And many of them held up their phones as evidence. Ahhh!

I've just finished my fourteenth book and there are several more that seem like they want to manifest; incubating idea eggs awaiting a hatching. I have wanted to attempt to harness my penchant for extensive exposition often accompanied by abundant tangential inquiries (thankfully usually dropped into footnotes that can rival in length the main text), that I might learn to write brief (briefer, at least) pieces, each carefully honed (starkly edited and prose-poem inspired). Having traveled to Norway and Sweden in separate trips, but both in the span of a few months and both including a brief visit to Iceland, I had a trove of photographs. I decided to write some brief pieces to accompany a selection of these photographs to comprise a book. I did it in two versions with the title *On Reflection: Vignettes and Images* (2019). I concentrated on the writing and editing of these little pieces for a couple of months. The results, although read by almost no one, were satisfying to me both in the process of writing them and in my own sense of the creative success of the results. Brevity, at last ... although dense.

Since these brief pieces, I have found myself jotting down other petite bits, the result of a memory or my surprise at my reaction to something. And these notes have just kept coming. This collection is the accumulation of these jots allowed to swell like those tiny animal-shaped sponges when placed in water. Rather than prose poems, which I think are too dense, I have aspired to write stories or storylettes or vignettes hoping to be both present and anecdotal, yet also reflective and expansive beyond the personal. I would like them to be more expansive and elegant than the beloved emoji-rich text messages and yet not so long and tedious as to be uninteresting or just plain boring.

Initially I thought of these little pieces as bio-bits. The bio syllable reminds of my strong interest in biology, over the abstractness of mind or soul or spirit, but also life story as in biography. Bio means life. The bits syllable suggests limited in size, a collection of tads or dabs or brief notes or storylettes. Yet the syllable also reminds of my interest in and recent publications on technology (Gill 2018). In techno-lingo, bit indicates binary digit. Binary code is the basis of all electronic computing and the rise of the information age. My first job, in the 1960s, was to install and program some of the first compu-

ters used in businesses. Digit indicates both integers, whole numbers, as well as fingers and toes. I have written extensively on the evolution of the human hand focused on the dexterity of the fingers and especially the opposable thumb. I'm currently obsessed with videos of the pianists Yuja Wang and Lang Lang, whose finger dexterity is a testament to the incomprehensible heights of human evolution. Our concept "to grasp," which when applied to ideas or propositions indicates "to comprehend," is the result of the evolution of the human thumb and it accompanies the shift to upright posture, bipedal motility (where the toes play more than a bit part), and the development of much-enlarged brains. Thus, the term bio-bits is a dense gem. Still, it seemed few would get the nerdy bio-bits expression, at least with the implications it has for me, and it is rather inelegant and techno-babblish.

Septuagenarian's Pandemic Quarantine Folly

In 1918 my parents were both living in a rural community in southeast Kansas. Although one of the theories was that Kansas was the point of origin of the influenza pandemic of 1918, a total surprise to me, I imagine that a rather isolated Kansas farm community would likely not be one of the hot spots for influenza infection. Not until the presence of the current novel coronavirus had become a pandemic, did I become more than generally aware of the one a century ago that killed millions of people across the globe. In the process of working on this set of somewhat autobiographical writings, I became more attentive to the biographies of my parents. I suddenly realized that they had survived that pandemic. From what I can tell that early twentieth century pandemic affected children to a lesser degree than adults. The current pandemic is consistent. I don't really understand why. It made me think of the many times I've visited old cemeteries in mining towns in the Rockies, observing a whole line of tiny headstones with the inscriptions telling a story of tragedy with several babies and kids in a family dying in quick succession, surely from disease. Had one or both my parents not survived the 1918 pandemic, had they been but first names on a small stone in a family graveyard, given the many millions of people who died, their death wouldn't even have become a statistic of note. Yet, had that

happened neither I nor my siblings nor any of our children or grandchildren would now exist. None of the lives that descend in my parents' lineage would have been born as also all the lives in the expanding lineage. I don't even know how to think about this scenario or comprehend the impact. It does however offer some terms by which to empathize with the vast loss of life presently occurring, much of it needlessly so, as it applies to each and every one of those over a million who died in the current pandemic.

Perhaps this novel coronavirus pandemic will be remembered across the century as the Pandemic of 2020. As I write this mid-summer 2020, tens of thousands are still dying and hundreds of thousands are suffering in hospitals. The impact of the virus is getting worse not better, and the future is uncertain for many and assuredly disastrous for many others. I have deep concerns for the millions who are suffering and dying and who have relatives who have been sick or died. I worry for the millions who have lost their jobs and face dire economic ruin. I can't begin to imagine their anguish and agony. I have fundamental fears for the future of our country which seems in steep decline and for all life on the planet whose existence seems threatened. ...

Time's Relentless Melt

All photographs are *memento mori*. To take a photograph is to participate in another person's (or thing's) mortality, vulnerability, mutability. Precisely by slicing out this moment and freezing it, all photographs testify to time's relentless melt.

Susan Sontag, *On Photography* (1973) 15

For many decades I've thought often and intensely about time. The scientific and mathematical understanding of time is a numbered sequence of virtual spaceless (even timeless) points that are indeed relentlessly and regularly marching along an uncompromising irreversible vector. Time moves or so it seems, yet it is the ruler that measures moving itself in both the physics of cosmology and of human life. As I have gained some bit of skill in and understanding of photography, I have so often leaned toward grabbing the thinnest sliver of time, holding it still, that I might expand it in space opening the gorgeous

intricacies of reality we almost never see or adequately appreciate, indeed, biologically we simply cannot do so. As Sontag notes, the capacity of photography to slice out a moment and freeze it seeks to subvert, as it also testifies to, time's relentless melt.

The human experience of time however, as also attested by the cherishing of a photograph, is ill presented as marching infinitesimals of a virtual sequence. For there to be experience there must be what I've come to think of a fatness to time, a duration in which there is backward referral and a sort of eddying or swirling. Sontag's use of the word "melt"—an ice cream cone in the hot hand of a child—suggests a dripping dispersion. She understands time as a fading away, an evaporation, a softening. The richness of human experience requires time's relentless passing—drip dripping on our britches. Human experience, as we are aware of experiencing, occurs only in the present. It is the very mark of what is present, yet experience is a present fattened in the company of memory and imagination, past and future. It is comprised of interwoven complexities.

For contemplating writing this book I've thought about how, in contrast with the distinction of photography, I might honor time's relentless melt in terms more fitting to the human experience of time. My writing in recent years has sometimes taken form in short pieces, stories and vignettes, certainly not always for I have a penchant to elaborate and decorate and ruminate. An important distinction of writing is that, while it is, as is time, a vectored linear marching sequence (letter after letter, word upon word, beginning to end) it bears a time-bending magic that churns sequences into ingredient-rich time stews. In reading, as also writing, there is some implication of foreknowledge. As we select and begin reading any bit of writing we have a sense of, an informed imagination of, a taste of, the whole. Somehow, we know already, if partially, what is to come. Yet, we also don't know at all even the next word, else we wouldn't need to read. Stories and vignettes (but of course all writings) have this quite remarkable distinction. Reading engages and triggers memories and imagination drawn from the reader's life in the constant interaction with the unfolding story being read, the story of another. Reading adds to the reader, but also invokes from the reader nuances and deeper understanding of

self while reading. While I have prepared books that attempt to present experience in sequences and juxtapositions of photos, here I experiment with short writings as nuggets, pearls, coral beads of my life and my work and my experience that they might be more fitting in some sense than photos to time's relentless melt by describing the unfolding and accumulation yet melting away of my life. A grouping of stories is like a photo album of time-fattened images. Stories are artifacts of time, yet they plump up the moment. Made of words, writings have a necessary linearity yet the very acts of reading and remembering cannot exclude the backward referral of time, the echoing resonance characteristic of a cistern or well or box canyon.

Memento mori, a Latin term that means "remember that you must die," is an artistic reminder of the inevitability of death. Sontag perhaps surprises us in describing photographs as *memento mori*. The urgency to take a photo is a desperate strategy to resist time's relentlessly passing. Photographs, think of family albums, surprise and delight or horrify by their magic folding the past to bring it adjacent to the present. Shay and Leon, my grandkids, love to look at the picture books made annually at Christmas of their family, ceaselessly amazed by how they looked as babies. Stories perform the same trick, yet they have the advantage of being brought into existence as remembrances and as reflections, the real past yet aged and mellowed like wine and newly spiced with each telling. Yet, they too are *memento mori* in that they come about, at least in part, by a felt urgency posed by the inevitability that the remembering writer (storyteller) must die.

As something akin to art, *memento mori* in the form of story are appropriate only following an abundance of life. For me I have made these writings because as a septuagenarian I tend to obsess about the end of life, the very act threatening to wring any joy from what time, like Greenland's ice sheets, has yet to melt. I have little expectation that those for whom these scratchings are most immediately intended will find them of much present interest. Through my experience writing many books I realize that I write largely because I must. Leave it there. In arting *memento mori* I seek to serve my family with some depth of their heritage, to entertain and perhaps provoke others with stories about life for living and dying are experienced by all.

More so perhaps I seek my own liberation from the obsession of preparing to die, so that I might live out my life somewhat more freely, more ironically. Clearly, I have also found much joy in the process.

While I've given some consideration to organization, I've not been interested in memoir or autobiography, at least as forms or genres. To retain the inspiration of Sontag and photography I think of this book more as several boxes, call them chapters, containing piles of stories and short writings, not unlike cigar boxes of old photos, to be opened and spilled out on the living room floor on a chilly afternoon for a random perusal. They don't make a whole, but rather an unfinished mosaic.

Many of these writings memorialize like the eye or the lens, yet I prefer they also engage the fingers and heart, that they touch and affect; that they move the reader. I have attempted for each story or essay to hopefully invoke a sense of mystery and wonder, to serve as an invitation to deduction, speculation, and fantasy. I hope that by way of suggestion they hide more than they reveal. The collection is less a summing up, more a teasing forth. Many of these stories witness to something that is no more, yet hopefully in being read they find new breath. What have I chosen? Nothing more than the arbitrariness of my remembering and reflecting.

What makes these writings stories rather than descriptions? Not the factual accuracy, although the detail and its truth are important, but the associations that are made now as something of the accumulation over a lifetime that sees a fragment of an accidental remembrance as an opening to be enriched through a telling that it might speak now. The resound of long-ago fragments played with the skill of writing and storytelling about life's experiences made urgent by time's relentless melt.

You Only Pass This Way Once⁴

United States Congress Representative John Lewis died on July 17, 2020, at the age of 80. He was a black civil rights activist who spent his life lovingly and passionately fighting for the causes of human rights, equal rights, and the more perfect union as promised by the American experiment. As much as he accomplished in his lifetime, his legacy is in the example of what a person is capable of being. From extremely humble origins he rose to prominence forcefully enacting his beliefs and values with the clearest integrity, never wavering on what he knew to be just and right, and always doing so benevolently and humanely.

Upon his death he was honored in many ways appropriate to his position and accomplishments, yet all who knew him and spoke about him agreed that the most fitting tribute to John Lewis would be to follow his example. President Barack Obama, who was inspired by Lewis, told a story that occurred at his inauguration. Immediately after he was sworn in as the first black president of the United States of America, Obama said he went directly to Lewis to tell him that this achievement was really Lewis's. President Obama delivered a stirring eulogy for John Lewis at the Ebenezer Baptist Church in Atlanta on July 30, a speech that some have said is among his finest. In his powerful tribute, President Obama called folks to action communicating the urgency by saying, "So, we're also going to have to remember what John said. If you don't do everything you can do to change things, then they will remain the same. You only pass this way once. You have to give it all you have."

⁴This short essay was written as part of my effort to make some general remarks at the end of *Dancing Graffiti* 2020.

Before I could conclude this collection of writings, another great American has died. On September 18, 2020, Ruth Bader Ginsburg, Supreme Court Justice for 27 years died at age 87. Gaining rock star fame in her 80s, RBG, as she was widely affectionately known, was a wildly popular inspiration to girls and women, and certainly also plenty of men, around the world. Despite the massive number of cases for which she was in the majority, she is perhaps best known for her powerful written descents. Of these she remarked, “Descent speaks to a future age.” She worked arduously and tirelessly through serious illnesses to the day before she died. Like John Lewis, she showed us what constitutes a life well lived, one in which she clearly gave it all she had.

Experiencing rising interest in the potential of this story project as the novel coronavirus pandemic persisted, I have now spent much time and energy over many quarantine months remembering and reflecting on my past. As a near necessity of this process I’ve turned occasionally to soberly do some legacy accounting. Yet taking measure has never been a primary motivation. In a sense it’s a bit late for that. I have done this gathering at the beckon of my love of writing stories. It is what I do to be me. Through this period of isolation, I awaken every morning with an eagerness to get to work on these stories. Once written I have loved rereading and honing their telling. As they have appeared and amassed, I have been delighted to find surprising threads and themes revealing something of a coherent whole, a sense of my own identity and history.

Also arising in this project has been a realization that I bear the heavy burden of having lived so long, that I feel the overwhelm of the accumulation of regrets, that my spirit is dimmed by an emotional darkness, and that in my caring for present and future I’m prone to the occasional diminishment of hope and optimism. These writings have revealed to me that I haven’t had a single day as an adult that hasn’t been emotionally clouded by my abiding concerns for the happiness and wellbeing of my kids and grandkids. As I saw these themes of heaviness and darkness appear—I gave voice to many in gloomy, even maudlin, writings that I then fortunately discarded—I asked, “Shouldn’t there be a measure of catharsis gained from mucking about in the past?” I began to hope that this process of looking back as openly and

honestly as I could, might serve to bring a sense of cleansing transition, if not closure. I hoped for some opening of a new phase of life that I might be free to live forward feeling a lightness of being. I am thankful that I have survived so long and that I'm still living. I have much joy in living near my healthy and relatively prosperous family. Yet the present chaos in the world and the seemingly inevitability of the many national and planetary crises exists on a scale and has an urgency never before present. My feelings churned daily by these crises nullify what relief I might have gained, particularly as I see the disturbing impact they will most certainly have on my kids and grandkids for the rest of their lives. These concerns shroud any rising lightness of being. Of course, history is the frequent cycling among good times and bad. I have briefly explored in these writings some futurist imaginings that I find hopeful and exciting. Yet, the present feels to me dark and dangerous. I think that the impact on me is due to my sense of the urgency of the global reach and the direness of the threat of the current crises. How is it possible to be brightly optimistic and hopeful when it appears likely that over the lifetimes of my grandkids the planet will become a hostile environment unlivable in many places and that this is due to the utter irresponsibility, the product of the thirst for power and greed, of too many of the current world leaders? I hope that in a year or two, in a post-pandemic post-Trump world, I might write a more hopeful postscript and attest to my finally achieving that lightness of being.

The John Lewis and RBG question, "have I given my all," is really not one I can answer for myself. Nina Totenberg, the renowned commentator on the Supreme Court and the longtime friend of RBG recently said, "Ginsburg didn't do regrets." That statement shocked me knowing that in my stories I so often "do regrets." There are many ways I could imagine making better choices and pursuing different interests, seeing alternatives that would have served my family and the universe more effectively and lovingly. Most of all I regret the many years I lived as a zombie to my kids. I also deeply regret not having had many true friends or a truly loving life partner. Writing these stories, I was shocked by how hard I have worked my entire life, yet I have also seen that working hard may have many unwanted

and even unhealthy consequences and it likely does not equate with “giving my all.”

Many a time I’ve asked why I was spending so much time and energy on this project. Who will ever read this or find it of interest? Perhaps no one. Yet I felt compelled, even obsessed, to carry on. The work of this writing seems typical of the works that comprise my life: work hard, driven by the experience of doing the clean hard work, and leave the question of outcomes aside. When the glimmers of these legacy questions arose, I found myself increasingly fascinated and inspired by graffiti. Graffitiists don’t scratch or paint on walls, which they usually do in the dark of night, needing much of any other objective than to say, “I was here.” And while their identity is tagged, the actual person behind the tag is rarely known. Banksy is a famed contemporary example. I’ve increasingly found delight in the idea that my stories might be appreciated as being in some sense graffiti, markings like those in the ancient caves at Lascaux, the hand prints I so love at Cueva de las Manos in Perito Moreno Argentina, the tags scratched on ancient walls in Rome, the names and dates etched on Inscription Rock in El Morro National Monument in New Mexico, or the colorful spray paintings on trains in New York City and walls the world over. My stories aren’t intended to reveal who I am or have been, yet they may do so. They are made to briefly engage, perhaps provoke, any who might pass by. They need not say anything other than, “Sam passed this way once.”

Eloquence Lost⁵

Early in 2023, on an ordinary day, the following were prominent news stories. Excited chats about Chatbots such as ChatGPT, the threats to Twitter (now weirdly known as “X”) by its new owner Elon Musk, and the issuing (as the former president’s latest gift of his faithful) of NFTs (nonfungible tokens)—basically trading cards that are but jpegs of crudely Photo-shopped images he touts as fine art—depicting him in his fantasy worlds (that he insists are actual) in various absurd roles (astronaut, cowboy, muscled superman, adventurer), for a mere \$99 each. AI, X, NFTs caught my attention yet I suggest they are relatively typical among the vast topics we read about daily, and they certainly identify the dominant types of public communicators and their media.

The chatter related to Chatbots is due to the publicly accessible free (so far) AI applications that respond to simple prompts to produce outputs of such quality as to suggest to some the end of education as we know it (at least English classes), art as we know it (a painting done by an AI recently won a human art contest), writing as we know it (especially journalists and technical writers). My oh my, what will we humans do when AIs do what we thought to be exclusively our work especially when they seem to do it better, faster, and cheaper than we can (and they don’t have to go to the bathroom)? The main positive suggestion I’ve seen so far is to become a master prompter (sounds slightly obscene), for it is in the construction of the prompts that AI produces its wares. Yet surely a simple YouTube tutorial made by an AI (who would

⁵ Published in my Art Album 2023.

know better?) would likely be sufficient training, certainly not a college degree, an extensive apprenticeship, or even a workshop.

The upset of Twitter (X) appears to be the intentional action of its new owner to reshape it as a platform of rightwing disinformation, under the guise of “free speech,” of course. I remind that Tweets (the messages of this platform) are restricted to 280 characters (not so long ago it was 140), yet attachments can extend the content. There are over 300 million Twitter users (thankfully not including me) with an average daily use of Twitter among them at more than 30 minutes (Twitter use but a segment of a daily average of 2.5 hours on social media). Much of journalism, business, politics, and personal expression and communication occurs through this platform. Musk’s intentional disruption obviously impacts the bursts of highly abbreviated information on which the world now seems to depend. Only a few users, to my knowledge, are quitting Twitter even knowing the ill intentions of its new owner. “Too big to fail” comes to mind. Yet, in rich boy games, Mark Zuckerberg’s Meta has launched a competitor called Threads.

The other of this trifecta of current communication misery is the market of NFTs or virtual “cards” by the former president. This is a man whose taste seems to value the ostentatiousness of gaudy gold (like everywhere) while gorging himself on canned sodas and MacDonald’s burgers. His known identity throughout his life is as a bully, grifter, liar, and sociopath, qualities all seemingly heralded by his many followers. His presidency was one conducted principally on Twitter. His post presidency has been conducted on his own ill-formed platform named consistent with his character “Truth Social” (a platform devoted to disinformation and lies). I’ve sometimes imagined that his presidential library will amount to a flash drive hanging on a hook on a roadside pole, with no need for a building since nothing of value, certainly no wisdom or eloquence, came from his presidency. The documents he hoards and claims as his rightly belong to the National Archive. He has finally been indicted for this action; he remains unrepentant. The NFT “cards” are embarrassing to the entire country by association, a humiliation to all but him and his “base,” as has been his whole presidency and existence, humor that itself isn’t remotely funny. DALL-E could have made more interesting images, yet the

current ones are touted as “fine art.” I’d challenge anyone to offer a single memorable uplifting eloquent phrase uttered by this person.

These three examples are but tokens of the dominant character of the larger culture as it has evolved over the last third century (to use a mostly arbitrary measure yet it correlates with the period in which the internet has so drastically reshaped our lives). I’m reminded of the shock I received when, in a class I was teaching on Religion and Technology, I remarked to my students that they, as representatives of their cultural age-set, didn’t read any more. With much huffing and puffing they contested my statement. I asked them to explain, and they all held up their smartphones. What I had in mind was the sustained reading of a full carefully constructed well-researched argument of article or book length. I’d observed a shift over this same arbitrary period in student (and faculty) reading habits and expectations. My sense had emerged that reading of the sort I had in mind had come to be considered optional or to be engaged minimally. Many consider such writing characteristically boring and tedious. I don’t wholly disagree. Thus, at my students’ insistence, I stand corrected. It isn’t that folks are spending less total time reading, it is that they are spending their reading time—2.5 hours on average daily and for young folks surely 4 or more hours—on smartphones thumb-controlled spinning, as I’ve often observed, through brief bursts of abbreviations and images, clicking, with great dexterity, “likes” or other emoji responses, as these “messages” fly by. Reading. My question, “Do smart phones nurture smart people?” Naive and rhetorical.

I really don’t think it old fashioned or overly romantic to expect that education at all levels, that our political leaders, and even that the technologies supporting our social communication should exist to support the achievement of, or at least an aspiration for, eloquence. Should our lives not strive for the fullest potential of refinement and tastefulness as well as thoughtfulness, the values that distinguish eloquence? The term “eloquence” is rooted in Latin *eloquentia* indicating to “speak out.” It has come to indicate the expectation of refinement or elegance. The Latin *elegantia* indicates “taste, propriety, refinement” especially of speech or prose. Eloquence as the highest

power of speech, especially the power of speech to move and inspire, is often considered a gift or an art. Certainly it is also a skill that might be acquired, yet only through much effort. Elocution and oratory were skills once studied, practiced, and highly valued. One would expect elegance and eloquence to mark advancements in civilization and culture. Expected in fine art and literature, architecture and music and dancing, surely these values should also be the standard for the aspirations of teachers/educators, politicians and leaders, public figures who shape public discourse, and artists of all stripes.

The standard today, at least as evident to me, has eroded to the point of being replaced by widespread encouragement of the crass, crude, and abbreviated. Trolling, the deliberately offensive or rudely provocative online posting with the aim of upsetting someone or eliciting an angry response from them, is a relished activity engaged by millions, comprising a surprisingly large portion of social media. The deliberate manufacture and dissemination of misinformation—we give it its own name, “disinformation”—has become standard. Consider the future of a society where intentionally hurting one’s fellows and misleading them are preferred to using eloquence to inspire them. Consider the character of those whose lives are driven by such obsessive anti-social crude hurtful activity, not to mention the damage done their many human targets. The refined, if sometimes studied and halting, speech of President Barack Obama, as a recent rare example, is (was at the time) widely resented and often derided, while crude nasty vile speech (say that of Obama’s successor) that incites violence and bad behavior and is comprised of sheer stupidity and intentional lies and disinformation is widely lauded, even celebrated. Imitated by millions. Expertise and mastery are commonly scorned. While there is abundant hand wringing and expressed shock (at least by a few liberals) at this common behavior, it is distressing to me that there is little evidence that anything like eloquence, expertise, skill, mastery might once again be widely valued in the general population. Popular music and sports acknowledge the importance of mastery, yet it is extremely rare for any of these widely revered figures to behave in public with anything suggesting eloquence.

As an academic I've experienced another niche in life that I think also illustrates the loss of eloquence. As a young man, I was motivated by the eloquence of one man whose name was Harry Corbin to leave a successful business career to enter, in the most precarious way, an academic career. He had been a president of the university I attended as an undergraduate. Involved in student government and activities, I came to know him. From his tall erect posture and stylish dress to the eloquence evident in his speech and writing, he personified, to me, refinement and intelligence and humaneness. The University of Chicago, his alma mater, where I went to study religion, carried the same reputation in its architecture and faculty. Poorly prepared and ill-suited as I was for such an ambition, hard work and persistence finally led to a PhD and an academic career. As I review this life path it is fair to say I was motivated by the pursuit of eloquence.

Throughout the over fifty years of my career, I experienced increased atomization of faculty into carefully guarded isolated relatively small cadres of specialists whose members competed with one another, from my outsider perspective, to be as esoteric as possible, employing extreme specialized terms (jargon) with not the least effort to offer helpful hints to those with no commitment to their own super specialization. Most of these scholars considered teaching—apart from their “chosen” few select graduate students—annoying and a waste of their precious time. Of course, in part, my attitude is of one who couldn't specialize because I had too many interests and who loved teaching, especially under-graduates. Also, as a farm village kid with degrees in mathematics and business I simply was never properly educated to pursue these specializations.

I still must do my best to plow through lots of the writings of these folks, it is almost always a slog. It is the rare academic that, to my taste, writes with eloquence or seems to have any interest in doing so. I consider that, to be moving and powerful, writing must be accessible to those who are generally intelligent, but they need not be members of one's specialist cohort. Thus, I suggest that the extreme isolation and atomization of specialization have also contributed to eloquence lost. There is a certain penchant for all areas of specialization—medicine, science, technology, military, finance—to prefer acronym-laden insider

jargon that is both unfriendly (even hostile) to outsiders and utterly ineloquent.

I'm a fan of the "plain style" as Canadian writer Robertson Davies called it. I hold Davies—also Faulkner and Hemingway to name a couple that are so radically different—as exemplary. I think it takes significant skill to communicate complex and profound ideas in plain language. I have always endeavored to build this skill, yet the longer I've practiced the more I appreciate how difficult and challenging it is. I'm reminded of a statement my mentor, the late Jonathan Z. Smith, once said, "Anyone with a PhD can teach a graduate course effectively, but very few can do so for an introductory one." Of course, due to the economic pressures of universities that are now mostly profit concerned poorly run businesses as well as their fostering the elitism of research scholars, graduate students usually teach introductory courses. Smith preferred undergraduate teaching and when he taught as a young scholar at the University of California Santa Barbara his teaching was described as "the best nightclub act in town." His writing was certainly not in the plain style, yet much of it was accessible to a persistent general reader and carefully crafted to provoke at such depth as to require long reflection and multiple readings. An academic prose poetry style is even more pronounced in the writing of the late French philosopher Michel Serres. Not well known in the USA, despite teaching for many years at Stanford University, Serres' writing is more commonly quoted than it is interpreted since any explication seems an affront to the eloquence of his prose.

It is notable that when we think of eloquence in the modern era so many outstanding examples are by Black folks. Not only Barack Obama and Martin Luther King, Jr., but so many others. A long history with Frederick Douglass a notable early example. The two young Black men—Justin Jones and Justin Pearson—recently expelled from the Tennessee state legislature, spoke with eloquence easily identified with this heritage. The Reverend Al Sharpton, in his many funeral eulogies for murdered Black people, never fails to offer eloquent expression to grief and tragedy. Recent resurgence of blatant racism has powerfully reminded us that white supremacy has influenced the entire history of this nation beginning in 1619. The overt efforts, invariably so crudely expressed and enacted, to suppress Black

people in every imaginable way is evident as dominant in nearly every decade of American history. The exceptions are few, but perhaps the first decade of reconstruction and the decade following the twentieth century passage of the Civil Rights Act are two. It is profoundly interesting, and not a little ironic, that the lineage of enslaved people and those so pointedly suppressed and denied opportunities of every kind has given this country many of its foremost examples of eloquent public speech.

In a world where eloquence is lost or rejected or mistaken for arrogance and conceit, in a world where crassness, lying, disinformation, bullying, hostility, and trolling are widely accepted and lauded, there is little awareness of the value of aspiring to the benefits and pleasures and beauty of eloquence. There are few models that inspire the careful nurturing of practices that develop the skills of eloquence and refinement. In such a world, what values and behaviors, what character traits and relationships can be developed? Such a world is not only a diminished one, but a progressively diminishing one.

Identity, Skill, & Beauty⁶

Among those of us fortunate enough to live to old age—although I’m shocked at myself for using the o-word— it is likely common to be startled that the wisdom gained from all this living experience includes the sudden recognition (a winter dawning) that the life we have lived is not the one that we expected. I don’t understand why I’ve had to live the consequences of the fumbling choices some dumb kid I now likely would not even like. I don’t understand why I’ve had to live the life of that angry and strident mid-lifer in deep crisis emotionally torn to shreds by disappointing incongruities (failures) he couldn’t appreciate or even comprehend. I’m certain I’d not like him should I meet him now. All those decades of hurt and damage and plodding make me sick. Such a waste. I have compassion for the earlier versions of me, but I’m also angry that I’m having to live the life so shaped by the choices the younger me made. Given a do-over, I would do better, a lot better. I would contribute more. I would be a better person. I would be more relaxed and have fun (well, maybe). I would have friends. I would be more creative and collaborative and available and sharing and serving.

Yet here I am—not having arrived (quite yet), not comprehending much of anything (while knowing a thing or two about a thing or two), certainly not in control (despite my near OCD routines), busily flinging myself onward (to avoid the overwhelm of more regret)—yearning to account for the broad patterns that oddly got me here (as an act of belated appreciation or perhaps merely justification). If not now?

⁶ This essay was written for my forthcoming book *On Skill & Mastery*. I included it as an essay in my *Art Album 2023*.

While there might well be many stories to tell (lies concocted in search of truths), I've recently come to see that these eight decades might be, among other yarns, a tale told (by one with the tiniest measure of insight) in the terms of skill and beauty.

Growing up as a farm kid in a rural Kansas town mid-twentieth century I was a literalist, I think. I well remember firmly believing—decades before I would first hear the name Stephen Hawking and his Grand Theory of Everything—that there must be a formula of the mathematical kind that would explain absolutely everything in the universe. I remember imagining that even the tiny bits of rubber shed in the wear of a tire were like jigsaw puzzle pieces that, should we have the time and patience, could all be fit back together to reform the new tire. Defiance of or challenge to (maybe ignorance) entropy (the third law of thermodynamics); that same defiance is also present in Hawking's accounts if I read him correctly (he uses the same analogy using puzzle pieces spilled on the floor). Math and reason just made sense. Although I was in all the school plays and played trumpet in the school band (maybe even had a few piano lessons), I don't think I had any sense (feelings) of the beauty of art, or the processes engaged in acquiring the skill to make or to even appreciate beauty. I never took a painting or visual arts class. I was never introduced to art or architecture (I did read Ayn Rand's *Atlas Shrugged* in high school and, because I know I was for a time enthralled by it, I am now assured that I would not like that version of me) or dance (well there were a few social dancing lessons) or even much history (ignorance of history and culture in smalltown mid-American is severe). In my farm community I don't recall ever encountering fine art (given that the term "sofa art" comes to mind says it all) much less art history or really even foreign languages (I've sometimes wondered at what age I became aware that there were languages other than English). As a teen I was fascinated with photography largely due to its chemistry and the wonders it accomplished, not with its potential for art. In college I was a math major and physics minor, thinking literature was utterly senseless (who could bear such made-up fluff?) until I experienced Faulkner and Hemmingway in a required core lit course taught by Professor Kennedy. Perhaps that was the occasion of the birth of the trajectory that now dominates my passions and values. Or

maybe it was Dr. Foltz's choral music class that made me briefly consider becoming a music major because I experienced something like transcendence singing in a large choral group. Yet what a long slog it has been. A stumbling fumbling error-laden meander. And I cannot now say (as I hear so many do), "despite it all, I wouldn't change a thing, because I'm so happy with who I am today!" Nonsense. I don't know that "happy" is a measure I even condone, likely because I don't think I actually know what it is (I'm certain I don't know how to pursue it). The current happiness industry sort of makes me ill. It seems to defy the point of living to say, "I'd knowingly do the same dumb shit all over!" I have lived mostly alone for thirty years. When watching a television program or reading a book that portrays characters with friends and lovers having engaging conversations and tender exchanges, lovely candlelight dinners, travelling companions, the weight and emotion of my friendless alone life (although mostly not lonely) feels so harsh (disappointing? empty?). Absent from my experience are touch, kisses, "good mornings" over coffee, an ear to be borrowed. I often hear myself shout out (and I truly do at a volume my Apple Watch sometimes warns me is dangerously loud), "This was not the fucking life I was supposed to live! Damn it!"

Professionally I have been a student of religion. Professionally I am somewhat known, even internationally. Yet always an outsider. Always feeling inferior to my peers in the standard measures of academia (my background was after all a smalltown kid who studied math, physics, business), yet I had a fierce sense of value and insight (I often vaguely felt it to be creativity), born of farm-bred common sense that led me (the eternal freshman) to ask questions others were trained not to ask. I often thought these attributes missing in my colleagues. I thought that they seemed compelled to artificially complicate everything to the extent of being incomprehensible to all but a few fellow specialists (and they reveled in it!). I wrote a dozen or so academic books, that at least some few read (most not carefully), ending up (rather ironically nearing age 80) winning a national book award. In retirement (which I did at 76 and only because colleagues made work intolerable) I've soberly asked why I spent a lifetime studying religion, why I'd spent a lifetime as an academic, when now I find religion (at least that of the

hateful Christian right) so often disgraceful and dishonest and inhumane (and ... unchristian for God's sake) and I find the education side of academia to have largely sold out to producing credentialed "products" (students) rather than engaging in the noble (if also impossibly idealistic) process of nurturing virtuous humane and thoughtful human beings. As a young man I gave up a successful career in business (and its monetary rewards) to become an academic because of my perhaps romantic ideas about education and intellection. How ironic (tragic?) that after a lifetime I would have to witness my ideals eroded as universities have increasingly come to operate on a business model (yet with remarkable incompetence) treating humans as products, as objects whose value is measurable on a numbered scale (SAT, GPA, GRE, \$\$\$, rate of job placement). Information cyborgs.

Then mid-life (well mid-40s) I stumbled (a story I'll leave untold) into dancing and the unavoidable awareness (for me surprising and sudden) of being a feeling moving body. How odd to become aware mid-life of the most banal of experiences. I move. I feel. I feel myself moving. Feeling moving is vitality. For years following this transformation I was an achy physically exhausted person absolutely thrilled (even obsessed) by my own movings (roughly referred to as dancing). There was nothing intellectual about this awakening. It was all passion and obsession, a tender giddiness at being a feeling moving body. Only gradually over the decades did self-reflection and generalization slowly find an acknowledged place in my life, but only because I came to experience these processes (often located in reason and abstracted mind) with the same feeling moving passions as I had long experienced dancing. I realized I had been practicing (highly repetitious) thinking and writing as I had been practicing dancing (attentive moving). I now think of this long gradual process as something of a makeover, cell by cell, synapse by synapse, muscle by muscle, concept by concept. We tend, I think (thanks to Descartes, the bastard), to privilege and give primacy to mind and reason (a sad debodding utterly at odds with obvious experience) even considering the physical organ we call "brain" as having a rather abstract independent primacy over our existence. "Mind (brain) over matter (body)," as we so often say. Or as expressed by the Cartesian *cogito* "I think therefore I am." The gradual reformative impact of my feeling moving

experience of dancing (and thinking and writing) did not result in simply the reversal of this binary to a privileging of my body over my mind (a fad I find pathetic), but rather in my experienced realization that the brain, in all its myriad functions, is part of an organism (indeed, it is the central part of a nervous system extending throughout the body), comprised of many systems and organs, whose most basic life function is to move itself and to feel itself doing so. Thinking (and writing) then are, as are all intelligent actions, a kind of feeling moving that engages (if not evenly) all the constituents comprising body. Thinking and writing, like dancing, are not isolated in the brain or even in the body (after all moving requires an environment).

Along with our animal kin, who, following Edmund Husserl, we might collectively refer to as “animate organisms,” we are feeling self-movers. Yet, as a mid-life clumsy dancer struggling to gain skill and to move my body in a way that not only felt pleasing (despite the aches) but might aspire to being beautiful (if in some diminutive sense), I have become powerfully interested in what comprises the distinctively human and in the relationship between being human and being humane. Indeed, from my present perspective, I think this is perhaps what motivated and shaped so much of my study of religion (had I only been more aware! Sooner!).

In the fifteenth century the words “human” and “humane” were both used to refer to that pertaining to human beings or to that having the qualities of human beings. The Latin term *Homo sapiens* (wise man) designated by Carolus Linnaeus in 1758 perhaps influenced the variant “humane” to have the distinct meaning of courteous, friendly, civil, obliging, marked by tenderness, compassion, and a disposition to kindly treat others. I am drawn to the word “humane” as indicating that which distinguishes human beings (not to diminish our animal kin) especially as it focuses on qualities (being courteous and compassionate in treatment of others) that we generally recognize as purposeful choices.

I don’t usually write in a style that tolerates many parentheses (plain simple sentences should suffice), yet here I can’t resist their frequent use (even having the urge to put parenthesis within parenthesis (oh my god!)). This writing style I so often reject is, on reflection I suggest, an emblem of the distinctively

human (humane). Increasingly I've become impatient (to the point of being downright irritated) with our penchant for binary either-or choices. I am fascinated that so much of what I treasure in being human rests in our distinctive capacity to hold multiple ideas or positions or thoughts (even biological functions) at the same time (copresent) without feeling the need to resolve the complexity (even contradiction) into simplicity or unity (or even clarity). Even more fascinating is my growing appreciation for what seems increasingly ubiquitous which is that these multiple things we hold as copresent are often considered the same (equal somehow) despite our knowing full well that they are not the same at all. My favorite example is the humble metaphor that by its defining copresent structure (understanding one thing in terms of equating it with another thing that we know it obviously is not) engages transcendent powers needed to acquire new knowledge. Metaphor underlies and is essential to all language and thought.

The parenthesis (an emboldened form of setting apart by commas) marks the human capacity to (as caught by the inelegant, yet in vogue, saying "put a pin in it") hold one line of thinking in brief suspense (trusting it won't be lost) while an aside or second line is briefly (or not so briefly) pursued. As I recall, William Faulkner's writing included occasional parentheticals that might span more than a paragraph (and his paragraphs often exceed a page in length). I have heard that Sir James George Frazer's massive work (finally in its third edition reaching thirteen fat volumes) *The Golden Bough*, has a parenthetical that spans more than a volume.

As, over the last few years, I have focused more and more on this human distinctiveness of copresence, I have found this dynamic (I call it an "aesthetic of impossibles") to be not just an occasional oddity in our language, but characteristic of the very core of our distinctiveness (might it also be characterized as our humaneness?). "Impossibles" refers to the holding together as equal or the same what we clearly know are not the same at all (justice is blind). I intend the choice of the word "aesthetic" to invoke the association of the term's sixteenth century roots indicating something like "I sense, I perceive, I feel, I know." Now it seems appropriate to add to this older sense of the word (an enriching copresence) the complicated notion of beauty

(associated with the humane) that is more recently implicated by the word “aesthetic.” My incentive is linked to my deepening fascination with skill, skill formation and development, and mastery.

I have argued that the repertoire of quotidian gestures practiced by all human beings is foundational to the establishment and the experience of the complex of “faces” that comprise our individual identity. Likely far more than any definitions or concepts, these identity “faces” (doppelgangers, doubles) are acquired and communicated and experienced in the mostly unconscious practice of gesture. Our gender, age, ethnicity, nationality, and all the other identity markers have distinct gestural components. We might think of our identities (at least certain aspects of them) as being comprised of the repertoire of our gestures. The distinction of gesture is that these specific movings are acquired and used mostly without intention or awareness. Gesture is how we absorb traditions of identity and how we transmit identity to those who enter our identity groups.

Yet, as the musings of my own autobiography have intended to introduce, we may also engage in the acquisition and practice of skill that, over time and under often intense concentration and conscious effort, re-create our moving bodies into identities of our choosing. We elect to become a musician, a dancer, a surgeon, an athlete, a writer, a photographer. Yet the election must be accompanied by the extended processes required to acquire and practice a skill. The acquisition and practice of a skill remakes us at the level of tissue (muscle fiber, bone, proprioceptor, synaptic criteria). Yet it also remakes the way we perceive and think, the body of concepts that form our coherent worldsense (a more bodied term than worldview) or engagement with reality.

Whereas gesture is common across all animate organisms, I think skill is distinctive to human beings. As such the acquisition and practice of skill is the way we most fully enact our species’ distinctiveness as well as how we achieve the greatest potential that is offered us humans. As skill is distinctive to being human, it then must be related to the humane. I always encouraged my students (academic and dance) to pursue the acquisition and practice of skill with the intention of achieving some measure of mastery. I made this recommendation because I believe that the

experience of pursuing mastery (including the horizon experience of it expanding and receding as it is approached) is linked with understanding and living humanely. Mastery has long been associated with the virtuous, sometimes expressed with the label “virtuoso.” Yet, I contend that, in the best of circumstances, the humbling yet confident experience (an example of an aesthetic of impossibles) of approaching mastery is closely akin to living a humane life. Surely there is no more appropriate understanding of beauty than that which is made and experienced by those human beings who are striving to be humane.

Vermont⁷

(*verd mont*)

On the afternoon of the fourth day driving the winding hilly narrow roads of Vermont I was surprised when I suddenly started talking out loud to myself. Breaking days of near silence I began telling funny little stories about everything I encountered. I like stories and these weird streams of consciousness laced with expletives amused me.

How do we experience another place? How do we know another place? Do encounters tell us more about the place or ourselves? When we travel and face the unfamiliar are we somehow seeking a mirror by which to plummet through reflection into our own depths? Reading Naomi Klein's *Doppelgänger: A Trip into the Mirror World* (2023)⁸ I've been stunned and inspired by how we human beings have evolved the constant urge to shatter ourselves into mirror images and

⁷This essay was written following a fall foliage trip in October 2023 and included in my *Art Album 2023*.

⁸Ostensibly this book came about when Naomi Klein experienced being so frequently misidentified as Naomi Wolf, both prominent writers emerging in the early 2000s. Yet the book is far more important than this seeming personal effort to live with the unfortunate consequences of confused identity. It surveys and evaluates the extant art and literature on doppelgängers which I had no idea was so extensive, offering a distinctive insight into what I experience as a madness in the world today, a madness so often referred to by likening it to *Alice in Wonderland*. I began to see doppelgängers, including my own, everywhere. How delighted I was to learn that a prominent work of this year's Nobel Prize for Literature, Norway's Joh Fosse, is his seven-volume masterwork *Septology I-VII* 2022 that unfolds around the core issues of doppelgänger. I have yet to read it.

duplicates. Aptly we often simply call it self-reflection. The *other* we most cherish is usually some echo of ourselves,⁹ a resound version coming from bouncing ourselves off walls. This realization, which now informs so much of my sense of things, is a seeming complement to an idea I have been developing over the last few years. I refer to it as an “aesthetic of impossibles.” I point to our human penchant for holding two things as being the same, even identical, when we know all along that they are not the same at all. For example, a metaphor is the assertion that one thing is another when we know it is not. Life is a journey. Argument is war. Laughter is the best medicine. “Books are mirrors of the soul” so wrote Virginia Woolf. None of these is literally accurate. The surprise is that we don’t demand any reckoning. As George Lakoff and Mark Johnson showed us half a century ago, virtually all language is comprised of metaphor. This aesthetic of impossibles is operative in and essential to art, language, symbol, ritual, play, and imagination; most of what we consider distinctively human. Doppelgänger as I’m beginning to understand it is the smashing of a unity into mirrored likenesses even when we know through experience the obvious indivisibility of unity, of an existent, a system, an object or subject. And we so gesturally naturalize these duplicates that we live without question that we experience our own multiplicity as just-so. I talk to myself, even answering. I say I live in my body; I am embodied. I often confuse or surprise myself. I brand myself. I often think of my brain (or mind) as different from me. I present an intentionally false persona of myself to the world. More formally I hold that I have an essence or a soul or a spirit or a heart that somehow exists apart from me, a more authentic me. I search for my essence. I try to bring balance or unity to me and my other mes. I seek self-knowledge. I am a group, a crowd, of mirrored beings. The quotidian mirror splintering of unity that is in some sense doppelgänger, is, not to get too clever, the doppelgänger of my aesthetic of impossibles. The one rips asunder against all palpable evidence of wholeness and unity, the

⁹ As I learned from Klein, the German writer Jean Paul is credited with coining the term “doppelgänger” in his three-volume novel *Siebenkäs* (1767-’97), which he defined as “*Leute, die sich selber sehen*” or “people who see themselves.”

other wantonly collapses obvious ontological differences to create impossible identities. Both I argue are at the core of what distinguishes human beings among all the creatures and objects in the universe and they must be acknowledged and honored as we seek to comprehend ourselves and our humankind and our world as it exists to us.

How truly odd it is that driving down a narrow road I begin to talk out loud to myself and find myself humorous, if embarrassing so, and even answering and commenting on my own funny stories. How can I be surprised and delighted by hearing what I say? Perhaps I must take the next exit to find a mental hospital whose very business is to sort out the relationships among out-of-control doppelgangers.

Following my urge to make pictures, I noticed that last year almost all my photos were taken from or near my home. From my study window I photographed Longs Peak in various moods and seasons. I walked a couple hundred feet from my front door to photograph a lunar eclipse. I photographed the flowers in the neighborhood and the pelicans and herons on a pond a short walk from my house. This year I realize that I've taken few pictures near my house. Rather, without realizing the shift, I've traveled considerable distances to find new places and photo challenges. Likely this difference year over year reflects some change in me, perhaps another me.

In a phrase it might be another me with "expanded aloneness."

I'm not a bucket list kind of guy, but I have often seen photos of the beautiful fall foliage in New England and have long wanted to experience it. Mostly on a whim I chose Vermont as a place I might encounter this marvel. My plan, which I sort of followed with increasing improvisation, was to start in the northern part of the state near Canada and travel the back roads winding through tiny villages roller-coastering over hills (Vermonters call them mountains!).

A map dated 1647 bears the name "verd mont" (Green Mountain) given to this region by the French explorer Samuel de Champlain. Around 1760 English settlers in the region morphed the French into the English Vermont. The name is an apt description of the territory with north to south oriented mountains running the length of the state. My plan was to zigzag

back and forth across the Green Mountains starting in the north and proceeding to the south reasoning that the foliage color changes would progressively unfold in a similar path if I was lucky. Indeed, this was the case, yet, beyond my control, the days I chose turned out to also be cloudy and rainy, with rare, treasured moments of sunshine. As a daily observer of the Rocky Mountain range from my Colorado home with the peaks nine thousand feet above my elevation already a mile above sea level, the elevation of the passes crossing the Green Mountains gave me a chuckle. Most were under three thousand feet. Still the multiple crossings on narrow roads offered amazing opportunity to enjoy Vermont at the peak of its fall splendor, if mood-muted by clouds.

Vermont has a gentleness in its rounded mountains and curving undulating roads. Most everything seems local. There are limited expressways. There are few sizeable towns. The labyrinthine network of roads was navigable only because my virtual companion, pleasantly female voiced, kept me on course. Oddly turning from one street onto another in a village often surprisingly opened, in a mile or so, into a widening road that continued the route. Every few miles a tiny hamlet offered untold stories in the form of prominent churches (most villages had more than one) many closed but still maintained, dilapidated barns and houses that spoke of a long-ago time of hope, and a smattering of dwellings (from grand old Victorians to single-wide trailers). What on earth do these folks do to make a living? Driving through these villages I rarely saw anybody out doing anything. Stopping on a one-lane dirt road I spotted an old man slowly walking his driveway wearing bib overalls and a Santa-red hat. There were few cafes (happily, I saw only one Starbucks in all my time in the state) and only a rare two-pump gas station. Few fields for crops. Seldom cattle or horses. Local and quiet; seemingly the land of my fellow recluses. A mystery to me were the ubiquitous vast handsomely green lawns and fields seemingly just mowed, yet I suspect they just grow that way.

I found myself thinking lots about the dead. Each village has large and old cemeteries, a reminder of the deep history of this region. Longer history, more dead. Vermont was in 1791 the first state following the original thirteen colonies. Most of the old gravestones are tall thin whitish rectangular slabs. While

kempt these graves are of long forgotten folks faded from memory as are their names and dates that have eroded from the stones. Odd that old, weather-beaten headstones somehow ease the stresses of present life, giving my current anguishes perspective if somehow sadly so. In Willoughby I photographed a barely legible headstone inscribed, "Louisa M./ Dau't of Freedom & Marion/ GATES/ Died Oct 13, 1852, A. 18 Yrs, 6 Mos, & 19 ds./ Lonely parents she has left/ And friends, brother, and sister. Adoring/ All. All will stand above her grave/ To cry the mourners tear." It is a long time since Louisa lived her too brief life whose tragic story we can only imagine. I long to know it. Yet in the larger scheme of history and human life her presence was but a tick. How odd this thing, human life. So tearfully important as lived, so soon forgotten. Despite promises made.

The foliage so striking is the autumn face of a vast dense forest. The distinctive colors and textures are I think due to the impenetrable intermingling of mature deciduous trees and shrubs of various species whose dying leaves produce amazing color palettes (were human dying so splendid!): alder, American beech, basswood, largetooth aspen, mountain ash, pin cherry, red oak, red maple, striped maple, sugar maple, sumac, tamarack, quaking aspen, tupelo, white ash, yellow birch, all contrasting with intermingling dark evergreens. As I paused to take photos, I often imagined trying to make my way on foot through the dense undergrowth and across the many streams. I thought of the Indians (who have lived in the area since 7,000 B.C.E. with the recent group identities of Mohawk, Abenaki, Iroquois, Cowasucks, Sokoki, yet with no obvious presence today) and the European explorers and early settlers (from the mid-seventeenth century) wondering how they could have hacked their way through the thick forest growth. How was it even possible for them to get a sense of a land so densely vegetated, so stunning? I feel challenged to simply get a suitable photo or two!

I worship the brilliance of color and am regularly buoyed by the sun's power to reveal and amplify. As I peruse the autumn images that have survived my rather lax process of elimination, there are but a couple that even hint at the vibrance I had imagined. I am deeply disappointed by the results of five days of clouds hanging over my many miles traveling about in search of

inspiring autumnal reflections. I've done my best to edit the pictures I took to approach the images I had hoped to make, yet they remain dim semblances that serve more to document the experience than to aspire to art. Serendipity is part of photography. Yet small benefits remain possible. Having now lived a while with my selection of images, I've found my attention shifting from the disappointment in the vibrant-aimed ones I'd so wanted to those of deep woods and leafy trails with muted subtle colorings properly enhanced by the dreary weather. I've begun to appreciate that they reveal the moods of the woods that are also true and appropriate to the shortening days and the turning of the seasons to winter.

I take solace in the seeming eternal persistence of the land surviving millennia of human habitation. Abiding nature. I see the human sadness, even tragedy, of the many sagging decrepit once grand barns and houses. They still have a surprising beauty like the rotting moss-covered fallen dead trees slowly melting back into the land. Yet, my comfort is sadly disrupted as I remember the clear and present danger to this enduring land that comes with unbridled human caused climate change. I find myself unable to dare imagine that this long grand story has many future chapters with human characters. Sobered by this existential threat, savoring the present splendor becomes somehow even more precious. My privileged witness of this glorious autumn, as have humans for countless generations, is unexpectedly poignant.

What is Mother Earth? A Name, A Meme, A Conspiracy¹⁰

For decades presentations of negative stereotypes of indigenous people have been common in popular media. Young audiences are deeply influenced by these media images. Disney's 1995 *Pocahontas* depicts a girl taken by force and sexually assaulted. I have an old copy of a children's Little Golden Book titled *Pocahontas* that literally lightens her skin color, page after page, as she transforms from a "wild Indian maiden" to a well-dressed woman meeting the Queen of England. There are many other examples dating back decades. Tiger Lily, in the classic 2003 film *Peter Pan*, is a peace-pipe smoking one-syllable gibberish speaking princess of the Piccaninny tribe. The same bar-bar-barbarian grunting was frequent for the various "Injuns" in old Bugs Bunny cartoons. And, of course, these popular media aimed at

¹⁰ In 1987 I wrote a rather controversial book *Mother Earth: An American Story*. It radically shifted my reputation in the academic community that studies Native American religions. Many thought the negative reaction to this book led me to exit this area of study. This reason was not entirely accurate, yet the polarization of this community along lines mostly based on the race of the scholar made it an unpleasant field to work in. The greater reason for my change of academic emphasis was my passion for dancing. My connection with Mother Earth persisted however and a 2019 invitation to Umeå University in Umeå Sweden to lecture on Mother Earth presented me the opportunity to revisit this history and to reflect on and update my Mother Earth studies. I decided to revise that lecture and submit it to the *Journal for the Study of Nature, Religion, and Culture*. The editor, Bron Taylor, sought several scholars to respond to this new study and he invited my comments on their responses.

young people are consistent with a long history of literature and even academic writings.

In recent years a few animated films, especially intended for children and families, have attempted to present more authentic characters; films such as *Moana* (2016) and *Coco* (2017). A recent 2018 addition distributed by Netflix in the U.S. and Latin America is *Pachamama*. It centers on a ten-year old boy in an Andean village who dreams of becoming a shaman. The film is named for a female figure known among the indigenous people in the Andes. Pachamama has a long history and a complex character. In Incan mythology she is a fertility goddess with close ties to the land. Yet, it appears that prior to the arrival of the Spanish she was at times a cruel goddess demanding sacrifice. She is mother to Sun and Moon and wife to her own son, Inti. She has an extensive presence in ritual with shrines to her in hollow rocks and niches in trees. In the Christian context, she aligned with the Virgin Mary. More recently she has been identified with Mother Nature and, finally, Mother Earth. Pachamama might rightly be considered a regional composite of many local figures.

Based on his travels to Bolivia and Peru, Juan Antin, the Argentine filmmaker of *Pachamama*, describes his inspiration for the film saying, “I fell in love with the culture of Pachamama, which is how the indigenous people call Mother Earth, having respect, love for the Earth.” In a scene from the film the boy character, situated in the historical context of the oppression of the Spanish Conquest and the Incan Empire, says, “They are taking away all our crops. We’ll have nothing left to eat. ... Pachamama, we won’t let you down. You’ll be proud of us” (NPR July 17, 2019). Knowing even a little of the Andean traditions reveals how this Mother Earth version of Pachamama simplifies, romanticizes, and drastically truncates the actual traditions associated with her, yet when Antin says “Pachamama ... is how the indigenous people call Mother Earth” he indicates his understanding that Mother Earth exists culturally more widely than in the Andes, with Pachamama being but a local instance of something more universal.

Mother Earth: The Challenge

This innocent Andean film example characterizes much about Mother Earth as this name has emerged over the last two centuries. I'm focused on the English-language proper name. Mother Earth is commonly assumed to be a universal concept or an archetype. Mother Earth often represents the earth in its life-giving and life-supporting generosity. Mother Earth is regularly associated with people whose identity is connected with the earth. Mother Earth is often invoked in situations where a people's connection with the life-giving earth is threatened. Those who invoke Mother Earth often appear as victims overwhelmed by progress and the technologically and economically powerful. In this situation Mother Earth is invoked by the colonized and also by those who feel the earth is threatened by pollution and climate change. Those who invoke Mother Earth often claim moral and ecological superiority to their oppressors. Mother Earth is often romanticized. She tends to convey authenticity. Assumed universal or general, Mother Earth is exemplified with reference to carefully selected local cultural figures without questioning the obvious and extensive differences both among the many instances or the differences with the attributes posited as universal. Whereas these local figures, whose names may or may not be associated with either earth or mothers or grandmothers, tend to have extensively developed and culturally distinctive ritual and mythology, Mother Earth does not. She has strong ecological and political associations and weak theological and ritual implications.

Mother Earth is my subject, and my effort will be to suggest perspectives and strategies that help us appreciate Mother Earth as relevant to many people and cultures and situations across the globe. Reframing the inquiry by asking "what is Mother Earth?" rather than "who is Mother Earth?" opens us, I hope, to new insights regarding the characteristics I've outlined. By developing perspectives and strategies associated with the terms *name*, *meme*, and *conspiracy* I think we can gain an expansive, engaging, and provocative appreciation of Mother Earth. I'll situate the use of this proper *name* culturally and historically in the indigenous cultures of North American and Australia, yet Mother Earth has also been invoked by influential Western intellectual studies that appeared beginning in the late nineteenth century.

I'll consider these publications as part of a cultural as much as an intellectual phenomenon. The name has also played a prominent role in recent ecology movements.

Upon articulating the history and use of the name Mother Earth, using the term *meme* invented by Richard Dawkins to indicate a unit of cultural transmission, I'll show that the name Mother Earth functions effectively as a dense and powerful instrument to establish and confirm common identity among widely located highly varying groups of Indigenous people, among scholars who hold an essentialist or patternist approach to the study of religions and cultures, and among the sprawling and varied ecological movements across the globe who are fighting the causes of climate change.

To show that the name Mother Earth is an effective and powerful meme serving the creation and affirmation of common identity among groups with widely distinct members, frequently engenders powerful emotion, the emotion inseparable from felt identity and reality. To understand the existence and importance of this strong emotion is important for gaining further appreciation of Mother Earth. I employ the notion of *conspiracy*, itself adding potential emotion. I posit the common practice of a conspiracy of silence in which it is deemed insensitive or inappropriate to question the universality of Mother Earth. Yet, this conspiracy of silence is considered a common feature of memes, that is, those who "get" the meme conspire, breathe together, in the affirmation that is appears just-so. Common identity is marked by those who "get" and properly use the meme. Strong emotion arises when the meme is questioned or misused, such being perceived as a threat to identity, even to reality itself.

While my focus will be on Mother Earth, the concerns with identity formation and the influence of active academic imaginations and inventions should be of general interest and relevance to academic studies of religion and culture. I'll conclude with comments on the way this Mother Earth study might exemplify an approach more broadly applicable in the study of religions and cultures. The challenge I faced with Mother Earth threads through the history of the academic study of religions and cultures beginning in the late nineteenth century. The challenge broadly is this: how do we create general theories, hypotheses,

definitions, categories, principles to appreciate religion as distinctively human, while honoring and treasuring the empirical specificity and distinctive differences of all the cultural and historical examples? Mother Earth is additionally complicated because the name is not only an academic construct, but it also serves to help create a common identity among a sprawling collection of cultures.

North America

Teaching in Arizona in the 1980s I began to think seriously about the frequency with which I heard claims about the importance of Mother Earth to Native American people. I had spent many years in the careful study of dozens of cultures indigenous to North America and I had been physically present fairly extensively among the Navajo, Hopi, Zuni, and Yaqui. I recognized and appreciated the frequent ecological associations made to Mother Earth, yet I was confounded by the seeming claims to her commonality, even universality, among all American indigenous cultures. I finally had to act. What at the time seemed to me most important was to search for specific and compelling evidence of Mother Earth among North American cultures. My academic training demanded this extensive and tedious approach. As I look back on my project now, I recognize something of my naivete or my self-deception in this phase of the project because I knew from the outset that I wouldn't find Mother Earth, at least as a singular uniform figure with common attributes appearing in a great many quite different cultures. I knew I couldn't simply accept that Hopi *Kokyangvuti* (Spider Grandmother) or Navajo *Asdzáa Naadleehi* (Changing Woman) or the many other culturally specific richly developed female figures were either all more or less the same or that they were all simply varying manifestations of some universal Mother Earth as so many scholars and folk have claimed. Any top-down strategy that assumed that the vast differences were only apparent or due to historical manifestation was, to me, disrespectful of cultural differences and served only intellectual theories I didn't share.

It is incontestable that there are thousands of cultures that draw important articulations of their identity from their long connection with specific physical land areas. These identity con-

nections are often expressed in origin stories and oral histories. I once hiked into a side canyon of the Little Colorado river north of the Grand Canyon to visit the Hopi *sipapuni*, the Hopi place of emergence. It persists as a pilgrimage destination and is symbolically represented in the floor of kivas. Recently such cultures have been identified collectively as Indigenous. The term indigenous means originating in and characteristic of a particular region or country. It is inarguable that the differences among these many cultures—despite these distinct cultures, often in open conflict with one another, being frequently shoved together by various actors under such rubrics as primitive, native, tribal, small-scale, and indigenous—are not simply minor variations on some well-documented universal or even regional characteristics. Just contemplate the breathtaking assumptions that are necessary to even make such a claim. More generally, considering the religions and cultures that occur across the globe—Western cultures/religions, Middle Eastern cultures/religions, Asian religions, Chinese religions, and so on—one of the most common identifications of them, belying their expansive geographical presence, is to use terms of connection to region or country, if often large or vast. In some sense indigeneity, that is, identity factors tied to specific land areas, is a common attribute of cultures and religions. Indigeneity in this general sense is commonly expressed in terms of affectionate kinship connections with home, country, territory, land, language.

The immense diversity and distinctive identities among the thousands of so-called Indigenous cultures is inarguable. In North America alone there are hundreds of indigenous cultures each speaking a language unintelligible to most of the others. There are multiple language families present with differences among them being on the scale of that between Chinese and English. Given this diversity of identity that can never be reduced to either shaded variations or alternative manifestations of some posited (but by whom?) universal, it is incredulous that one should have any expectation that, especially prior to any general means of communication among all these cultures, there could possibly exist a common singular entity, trope, figure, idea, or theme identified by a proper noun in any language. Such is often the assertion for Mother Earth. The imperialist assump-

tions behind this expectation are chilling. Yet, armchair scholars have not been the only proponents of Mother Earth. Many persons who self-identify as Native American and Indigenous are as well. Mother Earth has played a role in creating elements of a common identity among the broad diversity of individual cultures in North America and revealing this history, telling this story, was central to my initial efforts to appreciate Mother Earth (1987). A similar story, I discovered, could be outlined in Aboriginal Australia.

The search for identity among obvious diversity gave way to my efforts to document historically when and how Mother Earth, the term, came into use in North America and what have been the associations and applications of the name through history. This effort led me to study, among many other things, two widely quoted nineteenth century historical examples that have served as prototypes and often as the only historical examples offered to document Mother Earth.

Among the earliest evidence given for Mother Earth in North America, without yet invoking the proper name, occurred at the 1810 meeting of William Henry Harrison, later to become President of the United States if for but thirty-one days, with the Shawnee leader named Tecumseh. Apparently, no chair had been reserved for Tecumseh as the meeting was about to commence. Discovering this omission, a chair was quickly found, and the following exchange was reported. “Warrior, your father, general Harrison offers you a seat.’ Tecumseh’s dark eye flashed. ‘My father!’ he exclaimed, indignantly, extending his arm toward the heavens; ‘the sun is my father and the earth is my mother; she gives me nourishment, and I repose upon her bosom.’ As he ended, he sat down suddenly on the ground” (Dillon 1859: 441f).

The other quintessential example occurred just prior to 1890. A Wanapum man by the name of Smohalla, likely living in Washington State which became a U.S. state in 1889, was reported to have protested the European-American efforts to remove his people from their ancestral lands and force changes in their lifeways by saying, “You ask me to plow the ground. Shall I take a knife and tear my mother’s bosom? You ask me to dig for stone. Shall I dig under her skin for bones? You ask me to cut grass and make hay and sell it, and be rich like white men.

But how dare I cut off my mother's hair" (quoted in Mooney 1896: 716).

Both examples are the response attributed to indigenous Americans to the threatening presence of European-Americans. While neither one uses the proper name Mother Earth, both have been frequently cited as exemplifying Mother Earth. There is a certain undeniable power imbalance implied by these indigenous speakers. They portray their people in the role of victims making statements to claim some high ground and moral superiority to their oppressors. Their advantage is based on the claim to kinship with the land, specifically as like the respect due one's nurturing mother. There is also the common use of the curiously Victorian term "bosom"¹¹ as evidence to remind us that these accounts exist only as reported by those among the oppressors and bearing their cultural and historical biases, style, and vocabulary.

It was not until the 1970s that any significant references to the proper name Mother Earth occurred that are directly attributed to Native Americans. There is one Native American source discussing the role of the sun and earth that occurred early in the twentieth century. Charles Eastman (Ohiyesa) was born in 1858 in a Santee Sioux family that had already converted to Christianity. He was distinguished in the late nineteenth century as the most formally educated of all Native Americans. He attended several colleges graduating from Dartmouth in 1887 as a distinguished student studying Latin, Greek, French, and German as well as zoology, botany, chemistry, physics,

¹¹ Bosom (n.) Old English *bosm* "breast; womb; surface; ship's hold," from West Germanic **bosmaz* (source also of Old Frisian *bosm*, Old Saxon *bosom*, Middle Dutch *boesem*, Dutch *boezem*, Old High German *buosam*, German *Busen* "bosom, breast"), perhaps from PIE root **bhou-* "to grow, swell," or **bhaghus* "arm" (in which case the primary notion would be "enclosure formed by the breast and the arms"), or possibly a word from a substrate language. *Bosoms* in the narrowed or euphemistic meaning "a woman's breasts" is from 1959; *bosomy* "big-breasted" is from 1928 (earlier of rolling hills, etc.). *Bosom-friend* is attested 1580s; *bosom buddy* from 1924. *Abraham's bosom* "the abode of the blessed" is from Luke xvi.19-31. Use over time suggests it was used extensively throughout the nineteenth century, rarely in the twentieth century.

natural history, philosophy, geometry, political science, and history. He was also an accomplished athlete. He went on to graduate from Boston University School of Medicine in 1890. Through the balance of his life, he was active in his Lakota community as well as building bridges to European-American culture through government service, lecturing and writing, and being active in such organizations as the YMCA and the Boy Scouts of America.

In his 1911 book *The Soul of the Indian* Eastman described the religion of his people to, in his words, “paint the religious life of the typical American Indian as it was before he knew the white man.” He relied on his memory as a boy for his account. This book appeared at a time when the Sun Dance was widely known and likely represented Native American religion for many non-indigenous people. Eastman appears to want to correct those who thought Sun worship was distinctive to Indian religion, writing, “The Indian no more worshipped the Sun than the Christian adores the Cross.” He suggests poetic metaphor is more appropriate than religion, writing, “From the Sun, as the universal father, proceeds the quickening principle in nature, and in the patient and fruitful womb of our mother, the Earth, are hidden embryos of plants and men. Therefore our reverence and love for them was really an imaginative extension of our love of our immediate parents.”

Importantly it appears that Eastman’s intent was to address and correct common beliefs about American indigenous religions. Interestingly he rejects the religious role of the earth as mother, yet he allowed it as appropriately metaphorical. In addressing Indian religion as singular, he also does not acknowledge the great complexity and diversity among the religions of the many and various indigenous cultures. In one other place in this book Eastman again addresses the religious roles of sun and earth. It is in the context of his outline of creation. He identifies it as Sioux (Lakota) yet considers it representative of all Native American cultures. Here he writes, “The Sun and the Earth, representing the male and female principles, are the main elements in his creation, the other planets being subsidiary. The enkindling warmth of the Sun entered into the bosom of our mother, the Earth, and forthwith she conceived and brought forth life, both vegetable and animal” (see Gill 1987: 131-36).

Eastman's Victorian phrasing here—particularly obvious in the words “enkindling warmth of the Sun entered into the bosom of our mother, the Earth”—suggests he was likely aware of published references to the Smohalla and Tecumseh examples. His extensive classical education made it also likely he was familiar with the Western academic works that, by this time, had proposed Mother Earth as a cultural universal. I'll outline these shortly.

Australia

Indigenous references to the formal name Mother Earth did not begin to appear in North America until the 1970s. It was roughly the same time that similar references began to appear in indigenous Australia. In 1977 the noted indigenous theologian Djinyini Gondarra wrote in a booklet, “The land is my mother. Like a human mother, the land gives us protection, enjoyment, and provides our needs—economic, social and religious. We have a human relationship with the land: Mother-daughter, son. ... When the land is taken from us or destroyed, we feel hurt because we belong to the land and are part of it” (Robinson 1977: 18 quoted in Swain 1992: 14). A children's book soon followed in 1981 by Aboriginal author Kath Walker titled *Father Sky Mother Earth*, telling the story of the creation of the world and including this statement, “high-technology-endowed humans ... destroy the ecological balance with guns, bulldozers and pollutants—all culminating in an image of Mother Earth's body pierced with placards erected in her defense” (Swain 1992: 14). Tony Swain at the University of Sydney carefully documented the rise, based on the aboriginal encounters with Indonesians prior to European Christians, of the figures the Father of Us All in southeastern Australia (Swain 1990: 195-232) as well as the Mother of Us All in northern Australia (Swain 1991: 223-260). His subsequent study of the emergence and early history of Mother Earth in Australia shows that she is totally separate from these earlier figures, and he traces Mother Earth to the Aboriginal efforts to articulate differences between themselves and Christian European-Australians in terms of ecology and theology.

Swain documented accounts of Mother Earth among Australian Aborigines from the late 1970s to his early 1990s publication.

Western Intellectual Invention

Mother Earth, identified by a proper name and understood as possibly a universal figure, was the concern of Western scholars long before the name came into significant use by indigenous people. I'll sketch this history.

The great anthropologists of the late nineteenth century contributed to the invention of Mother Earth. In his 1873 *Primitive Culture*, E. B. Tylor wrote, "The idea of the Earth as a mother is more simple and obvious, and no doubt for that reason more common in the world, than the idea of the Heaven as a father. Among the native races of America the Earth-mother is one of the great personages of mythology" (Tylor 1871: 1:326). Tylor offered the Tecumseh anecdote as well as mentions of Algonquin and Comanche examples, neither, in my studies, based on reliable sources.

Tylor's references to the Native American earth mother were soon repeated by Herbert Bancroft in *The Native Races* (1882), Andrew Lang in *Myth, Ritual and Religion* (1887), and several others.

Mid-twentieth century, religion scholar Olof Pettersson set out to document the full history and presence of mother earth in various mythologies and cosmologies around the world. A globally framed forerunner to my own strategic efforts in North America, Pettersson was also unable to find adequate evidence for a common ubiquitous figure. Consequently, he turned to discovering the origin and history of the idea or concept of a universal mother earth. He found that the single most influential publication developing these mother earth concepts was *Mutter Erde* (1905) by the German philosopher and religion scholar, Albrecht Dieterich. Pettersson's thorough critique of Dieterich's work was published in his 1967 book *Mother Earth: An Analysis of Mother Earth Concepts According to Albrecht Dieterich*. Tony Swain insightfully summarizes Pettersson's conclusions this way.

He discovered that Dieterich . . . had upheld the doctrine of a ubiquitous belief in the Earth as a Divine Mother Goddess primarily because he could not find definite

proof of this creed among the people he was originally studying: the ancient Romans and Greeks. It was essential for his argument that Mother Earth be everywhere precisely because she was apparently nowhere at all (quoted in Swain 1992: 4; see also Gill 1987: 111-114).

Despite Pettersson's important critique, Dieterich's book served to establish the mother earth concept as it would thrive in academic literature even to the present. Mircea Eliade affirmed the importance of mother earth in his *Patterns of Comparative Religion* (1958) and his *Myths, Dreams and Mysteries* (1957). Eliade offered as evidence only the Smohalla account and a reference to Zuni.

The renowned Swedish scholar of Native American religions Åke Hultkrantz thoroughly and imaginatively considered mother earth. Hultkrantz discussed mother earth in several essays, most fully in his 1983 essay "The Religion of the Goddess in North America." I am confounded that Hultkrantz seems not to have been impacted by Pettersson's work which he surely knew. Based on my detailed analysis of his Mother Earth studies I concluded that

Hultkrantz identifies an astounding array of Native American female figures and goddesses with "the old goddess," "the goddess," "Mother Earth," all of whom are for him, more or less synonymous. She is the earth and the moon; she lives in the earth, the sky, and the sea; she is goddess of hunters, cultivators, and gatherers; she is goddess of birth and nurturance and of sacrifice and the dead; she is mistress of the game and she is the corn maiden; she is peyote woman and the Virgin Mary. In such an approach, any figure ... could somehow be assimilated into the goddess by one attribute or another (quoted in Gill 1987: 127; see also Gill 1987: 118-28 for a full analysis of Hultkrantz's writings on the mother earth goddess).

My critical studies of more than a dozen Western scholars from Tylor in 1873 to Hultkrantz in 1983 determined that for their evidence to establish mother earth only five culturally

specific examples were actually provided; Hultkrantz's loose connections obviously included more (see Gill 1987, Ch 6).¹²

Challenge Summary

The seeming ubiquitous existence of mother earth was the invention of Western academics from the late nineteenth century through much of the twentieth century appealing to both classical sources yet also regularly invoking the same very few paradigmatic Native American examples. Academic critique shows that mother earth is a scholarly invention in service to the comparative enterprises of essentialist, patternist, and encyclopedic studies scantily supported by reliable accurate descriptions of cultural and historical reality. Mother earth is but a chapter in this phase of the comparative studies of culture and religion that was strongly predisposed to grand universal patterns and categories as a way of understanding and surviving the overwhelm of remarkable difference and diversity. This style of comparison that seeks sameness, has largely, at least in academic settings, given way to comparison that finds difference and variation among exempla within common academic invented categories to be the more interesting and important. My criticism of such efforts must not be misunderstood. The inventive creativity seemed the necessary early response to the overwhelm of diversity across the globe reported by ethnography. This multiplicity was, especially in the late nineteenth and early twentieth centuries, felt as a threat to the largely Christian-based, if tacitly so, understanding of human existence. The academic efforts to assert unity and universality were of the fabric of this response. It gave rise to much of the social scientific theory of the early twentieth century. There remains penchant for these ideas of unity and universality to shape religion scholarship and it remains unquestionably presumed by

¹² Given these Western intellectual imaginings of Mother Earth, one might suspect that these creative inventions of a universal Mother Earth are of the same fabric as the well-documented fascination common to Victorian men with dark-skinned exotic women. I think for example of Prosper Mérimée's novel *Carmen* (1845) and Georges Bizet's 1874 opera *Carmen* based on the novel. Carmen is more the *femme fatale* raising fascinating hypotheses especially given the enormous popularity of this character in the late Victorian era.

popular and folk understanding. This approach is akin to imagining something to be indisputably foundational—*Mutter Erde*, axis mundi, myth, god—and then to use these constructed category terms as a template to make sense of the world. This approach is also that of prototype category theory.

It was not until the 1970s that indigenous people in North America and Australia began to use the proper name Mother Earth, yet it is quite likely that from the time of the earliest encounters of indigenous peoples with threatening colonizers, analogies of territory to nurturing mothers were included in the efforts to defend the importance of ancestral lands. At nearly the same time that indigenous appropriations of the proper name Mother Earth began to appear, so too was she embraced by those non-indigenous people who fought for ecological movements that were gaining strength at the time. Often these ecologically concerned folks romanticized Native Americans and other indigenous people on the basis of the assumption that Mother Earth was central to them. This practice continues.

The outlines of the story of the Mother Earth name begin to emerge. Two strands of the story arose in the nineteenth century. One comes from indigenous people who attempt to communicate to their land-grabbing oppressors the importance of their ancestral lands by invoking references to the earth being like a mother to them. The other comes from armchair scholars who were motivated by the overwhelm of diversity of cultures across the world being revealed by ethnographers. They concocted or intuited grand commonalities expressed as patterns and categories to bring coherence, order, and a sense of unity to this whole human adventure. Mother Earth was proposed and advanced as labeling such a category. Select examples that illustrate, but did not establish, the universality of this category could easily be drawn from affectionate kinship expressions of connection to home, land, territory. It is fascinating that one of these strands is firmly attached to the specific experience of historical cultural people, while the other is an intellectual strategy of those explicitly removed from the nitty gritty experience of a specific cultural life of their subjects. Yet, both serve importantly to articulate and defend long established characteristics of identity. As the story develops into the twentieth century, Mother Earth, likely influenced in part by

these published strands, becomes increasingly important in the establishment of a common Native American or Indian or Aboriginal or Indigenous collective identity. This development included the reverse incorporation of anything suggestive of cultural specificity to be identified as Mother Earth despite any disparity among all these associations with the actual cultural materials. Such associations assisted in establishing a sense of primordiality and spirituality for Mother Earth. Finally, ecology movements developing into action organizations to combat climate change that share a common and natural affinity for the health of the whole earth found valuable elements of the developing history of Mother Earth.

Perspectives and Strategies

I have purposefully focused on the name Mother Earth and its specific history rather than on any possible references with ontological or theological implications—such as goddess, mythic figure, deity, or even metaphor—because I believe that it is fundamental to the appreciation and understanding of mother earth to avoid presuming any references regarding her nature beyond being a name. James Cox and others have addressed fascinating issues of the invention of gods in indigenous cultures and I have documented examples as well.¹³ Mother earth might well be considered as an invented goddess in some situations, yet at present I think it more appropriate to ask “what?” rather than “who?” is Mother Earth. I want to offer a different approach by focusing on name, meme, and conspiracy. I’ll explain.

¹³ On this point I differ from James Cox, *The Invention of God in Indigenous Societies* (2014). I do not doubt that such inventions occur and that my studies of Mother Earth as well as the Australian Numbakulla might well be examples of goddess and god that are academic inventions that eventually came to be embraced as distinctive to the people for whom they were invented. Still, I think to restrict these inventions to such a term as “god” that cannot help but be both highly skewed to Western, even Christian, understandings and limiting to only religious, theological at that, implications. I consider these creative encounters to be broader and often of a much different character.

Name

I have long struggled with the labels and names and terms I use to identify the subjects of my studies. I have struggled with *Diné* versus Navajo, Navajo spelled with an “h” or a “j”, Native American versus Indian or American Indian or First Nations, primitive or savage versus traditional or indigenous, Aboriginal or Aborigine when I know the term is Latin for “of the origin,” oral or non-literate or exclusively oral, and so on. The labels by which we identify our subjects of study have consequences. They shape identities and relationships. We have learned this lesson over and over across many decades. The appropriateness of terms and names is not only an issue for academics but also for everyone and it extends to all names and labels that make distinctions based on sex, gender, race, ethnicity, shade of skin color, nationality, country, ability, intelligence, age, occupation, kinship, politics, and so on. Labels invariably both include and exclude, distinguish self and other, set us off from them. As an academic, I’ve always felt responsible to be as accurate and sensitive as possible, yet it so often has felt bewilderingly impossible. Using a name invariably has felt like inappropriate settling. In a recent essay titled “Not by Any Name” (Gill, 2019). I reflect on this career-long struggle and the many errors and misunderstandings I have participated in, concluding that it is not possible to find non-controversial or wholly suitable names and labels for those we study. They are all loaded, and most are euphemisms for the old classic term primitive. Terms almost always essentialize, objectify, and spoil or halt relationships. We need a different strategy. I suggest that we see names and labels in terms of facilitating “the never-ending negotiation of the processes accompanied by the experience of knowing who we, and they, are and are not” (Gill 2019a: 56).

As the efforts of my research, as well as Pettersson’s and Swain’s, indicate, Mother Earth shows up as a proper name and as an oft-repeated name only, more so than as a documented rich cultural and historical reality for which the term mother earth refers. Mother Earth does not name an ancient universal goddess who has persisted throughout history in various manifestations in cultures the world over, or even a concept. Mother Earth is foremost a name; a name that without contention or argument bears the sorts of associations I listed at

the beginning of this paper. Whatever specificity and complexity Mother Earth has is acquired by means of application in context. The name, always in English, has emerged in and applied to various encounters that could have occurred only in the period of colonization and the rise of modern ethnography; a period that saw increased encounters among diverse cultures. The overwhelm of diversity has characterized this era.

Mother Earth is a name that arose in at least three distinct, yet interrelated, situations as I have outlined. First, the rise of modern ethnography in the nineteenth century produced evidence of near unimaginable diversity among cultures around the world. Armchair Western scholars—for example, Edward B. Tylor and Sir James George Frazer—in various fields engaged strategies in the effort to discover some coherence in the face of this overwhelm. They often concocted the evidence to fit categories and category labels they invented. Invoking the name Mother Earth, or a more generic predecessor, which was their own concoction, gave a sense of consistency and universality to collections of disparate data resulting in the differences being subsumed into a few general characteristics assigned to Mother Earth. They often heavily altered the cultural examples to fit the pattern and category as they imagined and described it. Subsequently any female figure or reference to the life-giving importance of land might be swiftly embraced as a manifestation of the pattern.

Second, colonization obviously was accompanied by the displacement of many indigenous people from their ancestral lands. Mother Earth, as proper name, assisted in the efforts of widely diverse indigenous people to articulate their common plight of being displaced from ancestral lands. It has been important in the construction of new collective identities referred to by the terms such as Native American and Indigenous. This name, while absent of broadly held common cultural richness and complexity as evident in story and rite, became a marker of common identity, that of the colonized and oppressed, the de-landed and land displaced, to these culturally diverse groups.

Mother Earth as a name enabled a synonymy with the names or terms of any and all of the specific cultural and historical evidence that might by any means be associated. Thus, the

paucity of common ritual, story, and practice was easily overcome by the combined effect of including all of the aspects of the specific cultural practices of those incorporated through this extensive synonymy. Mother Earth, the name, thus gained the attributes of Pachamama, Changing Woman, Spider Grandmother, and many more. In turn all these figures could eventually, and usually when referenced to those outside the relevant culture, be referred to by the name Mother Earth.

Finally, beginning mid-twentieth century, Mother Earth, as name, was invoked by groups with ecological concerns. The driving force of this use centered in non-indigenous cultures, yet typically contributed to the romanticization of Native Americans and Indigenous cultures broadly by projecting on them some ancient and fundamental connection with Mother Earth. This use of the proper name appropriated or was inspired by a romanticized association of primal ecological awareness by this time strongly connected with cultural collectives such as Native American and Indigenous. The name invoked values shared across the many organizations eager to save the earth.

These three theaters have often entwined with the name Mother Earth facilitating the common intersection among them. These applications of the name Mother Earth all, in differing ways, meet crises of the overwhelm of diversity and difference, allowing commonality and coherence to be experienced. The challenge is to develop a strategy by which we might appreciate more fully the dynamics of the name Mother Earth as it has functioned within and between these several cultural and historical contexts.

Meme

To meet this challenge, I suggest we also consider Mother Earth, the name, as *meme*. I'm well aware of the potential for such a strategy to seem superficial or inappropriate, yet, with certain clarifications, I think it has benefits.

In the world that has emerged over the last half century, a persistent shift has occurred that privileges communication in compact immediately impactful bundles, some even using alternatives to words. Group identity and social relationships are built and maintained on Instagram, Snapchat, Twitter (X), and endless apps with cryptic texts. The burgeoning selection of

emoticons and emojis and, recently, also memojis and animojis enables many to nearly abandon language altogether, communicating in a string of well-chosen cryptic symbols. The term meme is commonly used to indicate the effective brevity of many of these styles and forms of communication. In social media, the term meme typically indicates silly captioned photos that pervade Facebook and other social media platforms.¹⁴

The term meme was invented by controversial British scientist Richard Dawkins who introduced it in his 1976 book *The Selfish Gene*. He defined it as a “unit of cultural transmission.” He was deliberate in designing the term. The Greek root *mim-* meaning mime or mimic suited his idea; as also did the English suffix *-eme* which indicates a distinctive unit of language structure, as in grapheme, lexeme, and phoneme. And, of course, of value to the topic of his book, he appreciated the homophonic similarity of the words gene and meme. While Dawkins invented the term, the phenomenon it references is not new. He was giving a label, a meme itself, to that common process in which certain images, or clever phrases or a combination of both, sweep through or are widely held by a culture largely through person-to-person exchanges. Effective memes not only take hold quickly, but they also become emblematic of the identity of those who embrace the same memes: political slogans, school mascots, flags, chants, and even fashion.

I appreciate that one of the roots Dawkins considered as informing the term meme is mimetic. I have long been interested in self-moving, that is, biologically active human movement, as fundamental to understanding cultural and religious processes (see Gill 2018 and Gill 2020b, especially Ch 5). I’ve moved progressively toward appreciating that coherence, or the coherence/incoherence dynamic, is more important and interesting as a motivating value than is meaning. Coherence

¹⁴ A brief aside. I think that the styles and media of academic communication including pedagogy have changed relatively little during this same period. Our most daring achievement remains, somewhat pathetically, Power Point. Little wonder the higher education and research expertise is decreasing in its perceived value and importance beyond isolated cohorts of specialists. Marshall McLuhan remains more relevant than ever.

correlates with our feeling of fit, of congruity, of rightness, of smoothness always in tension with the opposing and threatening presence of elements of incoherence. Coherence cannot be rationally determined; it is a feeling kind of knowing. It is something we experience as just-so. However, the feelings of coherence are shaped by the accumulation of experience we have in our lives. Identity is rarely a product of some reasoned objective process. It arises in the mimetic acts of social interaction. Members of a group gesturally imitate and mirror one another. They walk and talk and dress and interact in gesturally naturalized patterns acquired through ongoing and repetitive social interaction. They live in a network of common gestures (memes).

Using Dawkins' term,¹⁵ I propose that identity is gained and experienced in part through the circulation of common memes, efficient units of cultural transmission. Rarely is there any discussion of the meaning or significance or value content of a given meme. It is fundamental to the identity of members of the

¹⁵ I'm sure that some will be disturbed by my embrace of Dawkins' term "meme" in the context of the study of religion largely on the basis of his 2008 book *The God Delusion*. I think that a proper academic study of religion has a full agenda that arises by avoiding the embrace of theological beliefs or assumptions. Yet, certainly it is difficult to consider the study of religion without seeing such theological beliefs and assumptions as important and common data that must be considered in studies of religion. I should think that a more interesting, if somewhat less provocative, position for Dawkins to take would have been for him to see these "god beliefs" and the rich fabric of cultural materials comprise memes, that is "units of cultural transmission." It is impossible to deny the vast cultural evidence of the existence of religions across most human cultures through human history. Much of this evidence is characterized by "gods." One might consider them real in some theological sense or real as the products of enormously creative human imagination. My sense is that Dawkins' focus on delusion needlessly insults human creativity, while also missing what might be a useful application of his own invented term. One implication of what I'm doing in this paper is to show that, from certain perspectives such as a proper academic study of religion, we need not engage the question of the "truth" or "reality" of the referent to terms like "god" or "Mother Earth." As memes, that is, as units of cultural transmission, they are powerfully effective and important.

community in a felt just-so sense. Its value and importance seem essential and obvious despite there being no explicit analytical exploration of the implications of embraced memes. The power of meme is in its obviousness to those who get it and circulate it. Meme is lived and shared and often treasured rather than talked about. Like many jokes, to get the meme is an attribute of shared identity. With attention on meme involving transmission, it might be thought of as units of gesture, routinized repetitive bodied enactments of identity.

It seems clear that the closer and more extensive are the routine lives and interactions of the members of a group, even if physically distanced, the richer the fabric of interwoven units of social transmission. Groups that live much of their lives physically together share an extensive body of gesturally naturalized actions, whole networks of terms and anecdotes, that provide individual members with a solid basis for the feelings of belonging to the group and the specific skills needed for living in the group. They share language; lifeways; social and religious rituals; anecdotes, folklore, and mythology; family and social structures; and much more. The mythology and ritual of a culture functions largely to gesturally naturalize networks of memes to provide the experiential grounds for feelings of belonging and coherence.

Those groups whose members or clusters of members are physically distant depend even more on what we now refer to as memes, circulated via media, to feel connected, to experience belonging, to establish and transmit group/cultural identity. Group identity can also be formed among those who rarely encounter one another face-to-face or do so in smaller atomized subgroups. This possibility is greatly enhanced in the era of modern communications and social media. I suggest that sometimes a single meme, or perhaps just a few, do the heavy lifting by providing a gesturally circulated marker of common identity embraced by members of these collective virtual groups.

The term Indigenous as proper noun, in recent years has increasingly been used to name a particular set of cultural groups. It is often conjoined with specific culture names that have long histories, such as Sami, Lakota, Arrernte, Ashanti, and Navajo. It is held and repeated by many who are often located at great distances from one another and who are culturally quite

distinct from one another. Yet, by means of this name circulated through social media, in time, they feel a common identity. The anxiety of difference is quelled by the comfort of the coherence of belonging. Quite common among these groups, the meme Mother Earth has come to play a role, often either as a general spiritualization of the land with which the group identifies, or as ways of identifying one or another kind of reference to ancestral lands. As the term Indigenous itself indicates having originated or living for generations in a particular place, Mother Earth then becomes an effective and powerful meme for indigeneity itself.¹⁶

The power of Mother Earth as meme can be demonstrated in the three arenas I've identified. First, in the context of the anthropologists and students of religion who, as I discussed earlier, proclaim the common existence among indigenous (or all) peoples of an earth mother or a mother goddess, Mother Earth functions as meme. The term is an efficient marker for a unit of information that helps create common identity among cultural *others* for the benefit of a certain segment of Western intellectual culture. This engagement of the Mother Earth meme marks the identity of an essentialist or patternist community of scholars. Positing the ubiquity of a numinous being identified with the fecundity of the earth is to them just-so, obvious in terms of this shared view of reality. In this community of scholars, the Mother Earth meme is confirmed by citing select cultural examples that, in one sense or another, appear consistent with the meme. Consistent with the popular embrace of comparison indicating sameness, the Mother Earth meme functions to bring the feeling of coherence to a remarkably complex and diverse world and in doing so establishes the essentialist and patternist methods as being authentic, legitimate, and authoritative. Since Western intellectuals are the inventors and purveyors of this meme—the meme precedes the cultural

¹⁶ Bjorn Ola Tafjord has written about groups that have no cultural or historical connection to those who identify as indigenous, yet they appropriate the term, or similar ones, as meme to identify their appropriated romanticized elements of some of these cultures. He calls this process “indigenizing.” Bjorn Ola Tafjord, “Modes of Indigenizing: Remarks on Indigenous Religion as a Method” *International Journal for the Study of New Religions* (Equinox 2020), special issue on Indigenizing Movements in Europe (ed. Graham Harvey).

and historical data—it asserts superiority of Western worldviews and religions.

In the second application area, Mother Earth has served as meme in the creation of amalgam or collective identities among indigenous peoples in North America, Australia, and broadly across the globe. When Navajo and Hopi and Shawnee and Lakota and scores of other people of distinct cultures across North America needed to construct a shared common identity, say Native American, typically two things happen. First, they appropriate and revalue the nomenclature by which their common oppressor collectively has identified them. Prior to the presence of Europeans, generalizing terms like Indian and Native American obviously did not exist. The term *Indian* derives from early European explorers being confused about where they were on earth, mistakenly thinking themselves in India. *Native* is an alternative to indigenous often with pejorative implications, yet prior to the presence of Europeans territory took on a specific and local identity, not a generic one (Gill 1998c). Each culture held distinctive understandings of territory (Gill 1998c), rather than occupying a marked-off bounded area in a much larger generic landscape. I can't overemphasize how important this distinction is. And, of course, the term *American* came from the name of the Italian explorer Amerigo Vespucci. These terms identifying a collective were appropriated and invested with distinctive referents and powers as the result of creative encounters that were often violent and oppressive. These names served to create new identities, not needed or appropriate without the presence of a common oppressing other, more than to accurately identify existing ones.

The second thing memes do to construct a common identity, in contrast with the prior emphasis on difference and opposition among individual groups, is to give expression to some markers that explicitly distinguish the entire group in a way that emphasizes attributes considered as markers of the superiority of its members in contrast with outsiders. In the most general sense this is simply the association of superiority of being in the group rather than outside it. In the case of Mother Earth as meme it often indicates humane, moral, community, and family values in theological and ecological terms, yet rarely with much elaboration. Such markers must emphasize something common

to all Native Americans, or indigenous people, that can also easily avoid any conflicting differences among the individual groups. I believe that beginning in the 1970s Mother Earth served as a meme to communicate common values in service to the establishment of shared identity among indigenous peoples in North America, Australia, and elsewhere. Above all it efficiently communicated the shared experience of having long history in which group identity is tied to particular lands. The meme allowed each who embraced it to understand and apply it in any way they individually wished, yet also assuming it to be common among the amalgam. Thus, Mother Earth can be considered synonymous with Pachamama and even the Virgin Mary without conflict. Mother Africa is perhaps relevant as a cognate meme assisting the forging of a mutual identity among the hundreds of cultures in Africa and especially as invoked by those throughout the vast African diaspora.

Mother Earth, as meme, identifies the simple and obvious importance to people of home, land, country, for sustenance and identity. Mother Earth is a meme that implicates indigeneity, yet also a context of displacement and oppression and colonization. The Mother Earth name, with foreshadowing found in Tecumseh and Smohalla, serves as identity marker for those who have suffered the threat to or actual loss of this life-giving connection to ancestral land.¹⁷

The third area served by the Mother Earth meme includes movements associated with ecology and the increasingly urgent fight against climate change. While the meme is often invoked

¹⁷ I am unaware of any instances in which Mother Earth serves as meme for contemporary migrant communities. An immigrant is literally one who has been forced to leave the land that had long provided sustenance and identity. Mother Earth, as meme, is, I suggest, a unit of cultural transmission that has supported the creative encounters that have resulted in the current global dynamics, including the widely practiced stigmatization of immigrants. The plight of displaced peoples, immigrants, is a crisis across the world today. Those who assess the impacts of climate change project that immigration will characterize increasing groups of people in the world in the near future. Given that climate change will increasingly become the root cause of immigration, might the name Mother Earth find application in this intersection of migration and ecology.

by non-indigenous ecologically conscious people, it continues in this arena to be entwined with the establishment of Mother Earth in collective communities identified as Native American and Australian Aboriginal and, more recently, Indigenous. I well remember in the 1980s my students giving me a bumper sticker depicting a green-colored globe and the words Save Our Mother Earth. In the contemporary ecology advocacy period, the use of this meme may be diminishing. I examined the photographs of the public demonstrations against climate change that took place in cities around the world (9/20/2019 & 9/28/2019), conducted mostly by youth and predominantly females, clearly inspired and led by Sweden's Greta Thunberg. In this tiny sampling, I saw only one sign that referred to earth as mother and it didn't use the proper name. The contemporary prominent memes seem to be fire images and emojis, flood images, planet (as in No PLANet B), earth as home, and the circle with diagonal emoji crossing out oil and coal. I think this trend in meme evolution parallels the recent globalization and the instant communication among people the world over. The memes for regional or nation-based collectives, such as Native American and Australian Aboriginal, are being replaced or supplemented in many contexts by the term Indigenous. The universality of emojis is also shaping the ecology movement memes.

Considering Mother Earth as meme, as evident in these three areas, allows us to appreciate that the name, as meme, has in all contexts served primarily the objective of creating coherence in service to identity where existential diversity and difference are extensive. As a proper name many have identified Mother Earth as the universal figure manifest in a great variety of ways across specific cultures. Some contexts—recall Pachamama as an example of Mother Earth—give a theological coloring to this meme. Yet, there is no reason that a meme serving location-based identity cannot be highly animated and developed in the personal terms of mother kinship relationships without any necessary theological or even religious implications. Even more importantly, this meme has served in this era to create a virtual indigeneity, a social media space, that “grounds” identity where there is no real land space to do so.

Conspiracy

Conspiracy theory is itself a contemporary meme facilitated by social media and internet technology. It is commonly a term of derision when applied to those who concoct outrageous explanations for cultural phenomena based on alternative facts (also a meme), fabricated data, and misinformation, not to mention untethered reasoning.¹⁸ Conspiracy alone suggests a uniting for malicious purposes or to secretly plot or scheme for ill intentions. It is usually not a nice word and is jarring when related to the uncontested sweetness of any mention of Mother Earth. Yet, inspired by and honoring Tony Swain's fascinating 1992 article "The Mother Earth Conspiracy: An Australian Episode," I concur with him that the term might be redeemed and reinvested with implications present in the word's roots. Latin *conspirare* is literally "to breathe together." At its etymological roots it might convey the notion of "to blow together" as ensemble playing musical instruments. *Spirare* is also the root of "spirit."¹⁹

An unacknowledged *conspiracy of silence* is an important aspect of the application and implication of Mother Earth as meme. I suggest this conspiracy of silence is actually a powerful attribute of most memes. While meme does some of the heavy lifting of cultural transmission, it is distinguished by being immediate and surface-level with an assumption that it bears the gravity of primacy and authority. The absence of elaboration, the hints of banality, and the presence of contradictory or incompatible evidence that characterize memes are quelled by emotional protectiveness, by accusations of insensitivity, by the defense that only certain folks can comprehend. Memes are like jokes and riddles to be got or appreciated and told but not explained. Memes are embraced because they are experienced straightaway as authentic and relevant. Even if embraced among those who

¹⁸ This statement might almost literally apply to the scholars who promoted Mother Earth in their writings.

¹⁹ It is fascinating that many words have root meanings that are near opposites of their contemporary sense. I am endlessly fascinated by these oppositions and how even in so many situations the full array of possible senses or meanings remain active should we care to search them out.

have quite diverse understandings, a meme is often accompanied by an unstated conspiracy to hold and use it in common without contest. If one asks questions or raise issues, that person just isn't in the know, that person is an outsider, even a danger. Seeming incongruities that might be connected to a meme are not felt and any evidence of such is silently, yet forcefully, ignored. In the case of Mother Earth, the name/meme rarely has any suggestion of mythology, folklore, or ritual. These incongruities are ignored. Most references to Mother Earth fit nicely on an Instagram post, a hat, a tee shirt, or a bumper sticker. Yet, Mother Earth is embraced with passion as primal and fundamental, often universal.

I offer an extended fascinating example of this conspiracy of silence in the most unusual of contexts, scientific inquiry. On "Science Friday" an NPR program, a segment called "Widening the Lens on A More Inclusive Science" (NPR September 6, 2019) the host Ira Flatow played a listener comment from an Ojibwa ethnobotanist that included the statement, "Native ways of knowing are just as valid as those taught by Western world view." Turning to one of his guests Annette Lee, Associate Professor of Astronomy, St. Clouds, Minnesota who he indicates describes herself as "mixed-race Lakota" he asked, "Indigenous ways of knowing. What are these?" Lee responded,

Indigenous ways of knowing are different than Western science in a few ways I can point to. One is that we have four parts of being human, you know. What does being human mean? So, in native way of knowing, we have our bodies, our minds, our hearts, our spirits. And in Western science it's really very much focused on just the body and the mind and that's where it stops. It leaves out the other half, the spirit and the heart. Another way that indigenous knowledge is different is that there's a very deeply imbedded idea that we are related to all living things. That all living things have spirit and we are all related. This includes things in nature: trees, rocks, stars, and people. Animals. Right. The third thing I can point to is that indigenous ways of knowing there's a strong concept that we can practice logical ways: thinking, observation, measurement, prediction, but there's always a space for the mysterious, the unknown, that's a part of it.

The conspiracy of silence is clear in Flatow's response which was to go to a break and upon returning he asked no questions. As a scientist, especially one interested in "more inclusive science," might one be expected to ask such questions as "Given that the term indigenous refers to thousands of cultures on several continents all speaking their own languages with quite distinct lifeways with histories spanning millennia, how as a scientist are you able to indicate that all of these people share the same anthropology, that is four-part understanding of what it means to be human?" Or perhaps, "You have indicated that the distinction of indigenous ways of knowing is the inclusion of heart and spirit. What do these terms mean and how specifically do they become core perspectives to the advancement of scientific knowledge?" Or "How does an indigenous understanding that all things are related differ from the fundamental Western scientific ideas of ecology or the universal applicability of chemistry or physics?" Any scientist should be asking these questions especially if there is a real interest in incorporating "indigenous ways of knowing" into scientific inquiry.

Yet, I'd suggest that "indigenous ways of knowing" functions as a cultural meme that addresses the creative encounter of the recently invented amalgam identity labeled indigenous with the same old colonialist adversary that is labeled Western, even scientific. For one to ask these questions would be considered utterly inappropriate and would be understood as certain evidence of the limitations and insensitivities that are commonly identified by the memes white, male, rational, Western.

Generally, Albrecht Dieterich's book *Mutter Erde* and Åke Hultkrantz's essay "The Religion of the Goddess in North America" have gone largely unchallenged. But then the patterns and categories of the great essentialist and patternist works remain, for some, authoritative and embraced even when specific examples are occasionally challenged. I suggest that it is because the terms that mark the categories or patterns function as memes, or perhaps meme sources, and are thus enforced and protected by a conspiracy of silence.

As a marker of Native American collective identity, Mother Earth names something generic and primal, although unelaborated, to which culturally specific traditions might be implicated

and incorporated. There is a conspiracy of silence related to both the surface limitations of the name as well as the marked incongruity of the generic name with the array of specific associated cultural items. When Mother Earth is identified as Pachamama or Spider Grandmother or Changing Woman, it is surely known that this identity of Mother Earth with a local figure belies an enormous incongruity of richness, yet almost never is there any challenge; silence happily prevails.

Looking back to the criticism received when I published *Mother Earth* so many years ago (see Glass 2005 for a thorough review), I now can see that I naively ignored or was unaware of this conspiracy of silence conjoined with the power of meme. That book was considered by some to be not only rude, but also certain evidence that I just plain didn't and likely couldn't get it.²⁰ *Mother Earth* which, in its own way, attempted to demonstrate that the figure was an important character (I'd now say meme) in the American story that included indigenous folks (both distinct cultures and an amalgam identity as Indian or Native American), scholars, and colonialists, pretty much irritated everyone. Scholars of religion that had indigenous identity harshly criticized me for being a white male, indicating that as such I couldn't possibly comprehend Mother Earth. Consistent with the character of memes, you must be of the group to get it. The description of indigenous ways of knowing stated by the Ojibwa ethnobotanist and Lakota astronomy professor silently carried the implication that these ways are accessible only to the indigenous. I'm pretty certain that my use of the terms meme and conspiracy will not change this evaluation. Yet, at least in the academic sphere, I still must ask how anyone can claim to hold a worldview or ontology or epistemology that is completely closed to someone without a given identity while they themselves can claim access to both, simply on the basis of their own identity? I suggest this proposal

²⁰ This is a perhaps a common experience. I remember starting my study of religion at Chicago, prepared with degrees in math and business, taking a course on myth from Charles Long. After a few classes listening to him speak with a kind of holy reverence about this term I was confused and asked, "Mr. Long, can you please explain to me what you mean by this word myth?" To which he immediately replied, "If you don't know, you can't be told."

of an exclusive ethnic ontology, spills beyond academic concerns, functioning as a strategy to coerce the acceptance of the conspiracy of silence related to indigenous identity. While I think such a proclamation is academically illegitimate, it can be comprehended by appreciating the considerable identity forming and maintaining and protecting power of the nexus name, meme, conspiracy of silence. Perhaps here, indigeneity trumps academics.

As meme Mother Earth functions effectively in many ways to create and enact identity among disparate folks conspiring together as an ensemble to use the meme to transmit identity with an unstated agreement to be silent with respect to incongruities or dissimilarities. It is the shared practice of using the meme—a highly repetitive gestural bodied self-moving process—that naturalizes it as primal and foundational.

Conclusion

When a friend of mine learned that I was writing a paper on Mother Earth, she wrote to encourage me, reminding me that there is, in her words, “No more important subject than our Mother Earth.” Behold what conspires, breathes together, in this meme! At the moment I read it the Amazon jungles, called by many the “lungs of the earth,” were burning; Dorian was strengthening into an enormous hurricane; billions of tons of ice were melting daily in Greenland; sea levels are rising; plastic is killing sea life wholesale; microplastics pollute even the most remote areas; temperatures are rising faster than ever on record; the pristine forests of Alaska are being opened to mining and drilling; and scientists—still breathing together, conspiring to save the planet—tell us that we have but a brief time to reverse all these trends. For me the greatest source of hope is the youth around the world conspiring through memes and marches as well as embracing hard scientific fact to demand change now. “How dare you!” they, conspiring with Greta, rightfully confront us. We gasp, a bodied foreshadowing of what is to come. The overwhelm of all this is immediately captured, perhaps especially for an older generation, in the eco-meme, Mother Earth. Yet to comprehend and appreciate what is shifting as evident among the youth today, we might look to

their memes as an important measure. Clearly these memes unite groups across the planet.

The power of this Mother Earth meme, indeed, memes in general, is its capacity to communicate critical information packaged neatly in an emotionally charged nugget that, to those who get it, seems just-so, that is, inarguable and unquestionably authentic. It has the power to engender consensus and agreement without overt conflict. All challenges to the obviousness of the meme due to real world difference and incongruity are consistently smoothed by a conspiracy of silence. It constructs and empowers common identity among those other-wise wildly disparate.

While I've intimated something of the history and development of the name Mother Earth used as meme, I want to suggest that, like genetics in biology, memetics in culture and religion studies play a fundamental role, or ought to. Memes are communicated by mimetic repetition, gestural actions, postural orientations, and whole-bodied participation. Memes, like genes, comprise units of heredity and determinants of identity. They are passed from person to person and generation to generation by routinized highly repetitive actions. This generation and transmission of memes is a fundamental aspect of culture and religion, inseparable from our very idea of what constitutes culture and religion. To ask the meaning of memes is at once to ask the obvious since all who hold a meme in common just know. To ask the meaning of memes is also impossible to answer since the implications and nuance of a meme are often not translatable into a reasoned descriptive or explanatory statement. Memes require conspiracy; both the conspiracy of silence that forbids any questioning or discord even defying obvious evidence as well as the conspiracy that is a breathing together in repeating the meme and repeating it again in concert, a paean to identity. Memes are gesturally naturalized to provide the foundational experiential grounding for feelings of coherence and congruity and belonging and identity, always won in the context of the threat to well-being, life, and identity.²¹

²¹ Originally presented at Umeå University, Sweden, October 9, 2019. My thanks to Olle Sundström for the invitation. This paper has been significantly revised from its original presentation.

Dancing & Moving

Dancing

Creative Healthy Teen Activity²²

It is 11.00 a.m. on a Tuesday. I enter the Community Room at New Vista High School in Boulder, Colorado. As I try to figure out how to work the school's cheap portable CD player, the students in my new salsa class are drifting in, singly and in groups. Punching all the buttons, I have a moment of laughable panic that I'll have to ask the students how to get the thing to work. That would be a great way to start. "I'm your dance teacher, but I can't figure how to make a CD play". Finally, totally by accident it would seem, I hit the right combination of buttons and the CD seems ready to go.

Attendance card in hand, I walk toward the teens clustered across the room. They are freshmen through seniors. What does that mean in age range—fourteen to eighteen? There are more girls than guys; more whites than students of colour (and those are all Latin Americans). I circulate among them asking them to write their names on the card and I make a little small talk with them. There are some small groups of three or four that seem to know one another. Several Latinas are hanging together speaking Spanish and dancing together in close embrace. They are doing a dance I've seen and want to know more about. Perhaps later I can get them to teach me. Quite a few of the teens are just hanging alone.

At 11.05 I begin. "OK, let's go. Everyone come over here and get in a circle and get a partner. Come on!" They look up and a few begin the trek across the room, clearly a little skeptical about this partner-circle thing. I keep encouraging them to actually arrive on the other side of the room, and as the last are arriving I find those who are without a partner and look around for another until I have everyone paired. The group numbers 23 – an odd number – which is nice because that puts me as a participant in the circle. Everyone is paired and in a bean-shaped circle. 11.07.

²² *Dance, Movement & Spiritualities*, vol. 1, no. 1, 2014: 181-207.

I don't introduce myself; I don't talk about the dance; I present no rules to them; I have nothing to say other than, "Turn to face your partner. OK, this (pointing to the inside of the circle) is the inside of the circle and this (pointing to the outside of the circle) is the outside. Now those facing clockwise hold up your outside hand with the palm facing your partner. OK, the rest of you grip the thumb of your partner's hand. Now close down your hands". I look quickly around to see if most have done this. Oops, there is one pair holding the inside hands. I make eye contact with them and gesture that they need to switch hands. And we begin. "Everyone step back on your outside foot leaving your inside foot where it is. Now step back on your inside foot without moving it. Now step back forward with your outside foot. Got it? So it is back on the outside, forward on the inside, and forward on the outside. That's a rock step. Let's repeat it". And so on repeating until I see that they are all doing these first three steps correctly. For those who are not, usually direct eye contact and maybe a hand gesture result in their change. For the one boy who is stepping the wrong way every time, I look at him and emphasize "forward" and "outside" and keep repeating until he is doing it correctly. "OK, now that is half of it. Next we step forward with the inside foot and rock back on the outside foot and step back on the inside foot. It may seem that you will step on your partner or crack knees, but I know you'll soon adjust". And they do quickly adjust. Then we put it all together: "back on the outside, forward on the inside". Over and over. "This pattern is our basic; it is called guapea or guapeando". Confident that they are comfortable with this pattern, I ask them to turn to the person behind them; this switches the parts and we repeat the whole sequence again. This time it goes very quickly. Now it is time for music. I put on some salsa music, grateful that the machine works, and I count them in – "six, seven, eight, and" – to start the pattern: "one, two, three, pause, five, six, seven, pause".

At the end of the first class, after teaching a number of basic move elements, I tell the students, "What you are learning is a dance that developed in Cuba and is popular in Miami and danced all over the world. It is called rueda de casino. You will be learning both the 'lead' and 'follow' parts. As you have experienced, there are moves and they have names, usually in Spanish, that are called out to the dancers. Dancers rotate around the circle or rueda, switching partners and doing fancy combinations of moves". During the class, there has not been a break. There are no moments when I have taken any students aside for instruction. No one has received any treatment or instruction different from any other student despite

the large differences in experience, body awareness, coordination, and rhythm. "See you all tomorrow".

This class is part of a nine-week, four hours per week seminar program that distinguished the New Vista curriculum. Most of the students in the class sign up for it not knowing anything about what it is other than (I suppose) that it is a dance class. Few have had a little dance experience, but most have no dance experience at all. Many have undeveloped coordination; others lack confidence; some exhibit noticeably slumped shoulders and downcast eyes. Some seem glued together, unable to function apart from one another. The developmental differences between freshmen and seniors are significant and noticeable, especially among the boys. There are substantial developmental differences between the boys (who seem like boys, even the big ones) and the girls (many of whom seem like women).

The dance is *rueda de casino*, a form of salsa which was developed in Cuba in the mid-twentieth century, and which involves called moves in a repertoire that has many hundreds of moves, many fairly standard throughout the world. The dance is done with partners arranged in a circle (*rueda*) and often includes extensive patterns of rotation among the partners. I have developed the form, as I teach it to high school students (and I also use these developments in the choreography I do for my adult performance group and for my students at the University of Colorado), to include two innovations. One is a called move that effectively changes the parts being danced by all the dancers during the dance. In other words, all the leads become follows and all the follows leads. This is a twelve-count move, so it also changes the connection of the dance within the distinctive eight-count pattern of salsa music. The other innovation is a pair of moves that simply turn the circle to the outside so that, while all of the moves are done exactly the same, they are oriented as though the centre of the circle is outside of the circle. I have included this innovation for a couple of reasons. One is that *rueda* is a social dance, and with called moves and rapid rotation among the partners the movement tends to be almost totally oriented toward the centre of the circle. This interconnectivity reflects the highly social character of the dance. However, as a performance form it is difficult to watch and appreciate because

everything seems to be happening inside the circle, where it is difficult for someone outside the circle to see. So to turn all the dancers to orient to the outside opens it to an audience. The second reason for this pair of moves is that they add major challenge for dancers. While the moves are the same, the orientation within the space is different, and the movement among partners is around the outside of the circle (a larger distance) rather than within the circle. Adding these two innovations has many advantages. It allows everyone to dance with everyone without the need to find equal numbers of dancers who know one or the other part. It allows dancers to dance with everyone without consideration of gender; all boys dance with other boys, as well as all the girls, and vice versa. It creates multiple axes of orientation that has an amazing impact on whole body/brain acuity. As the teacher, I join the group if they are odd in number, or I teach and call without a partner either outside the circle or in the circle if the students are even in number. This can shift on the fly; so if a student comes in or leaves while we are dancing, then I either step in or out and the dancing doesn't even stop.

I have taught this form for over ten years in high schools and as afterschool programmes. I have experience teaching this dance form, along with other Latin American forms, to university students and adults for even more years. One group of high school girls became so proficient that they formed a performance group outside of school and I took them to international competition two years. At that time, an all-girls group that could dance both lead and follow and perform amazing choreography as well was rare in the *rueda de casino* competition circles, as was their youth (*rueda* is often danced by couples in their late twenties to mid-forties it seems).

Now it is a Friday, nine weeks later. It is Exhibition Day, the occasion for students to show what they have learned and accomplished in the various seminar classes and individual projects. At the appointed time, the salsa students enter the stage of the school auditorium and arrange themselves as couples in two rows. They are wearing an eclectic combination of colours and clothing styles that they agreed upon. The music begins and they individually strike a number of poses to the breaks in the introduction to Puerto Rican Power's "Tu Carinita"; and as the beat begins, they do several multiple

eight-count move combinations, selected and agreed upon beforehand, with their partners. Then they perform a move where they proceed, couple following couple, in a line circling around to form the rueda. The last three couples peel off and form a small circle in the centre of the larger circle. This circle is in afuera ('outside') meaning that they do their moves facing outward from the centre, while the larger surrounding circle is in adentro ('inside') meaning they are facing the inside of the circle, which is the standard for rueda de casino; that is, as a social dance, the attention and energy are all concentrated inside the circle. In this formation they perform several moves as I call them (standing in the wings behind a curtain) that actually cause the outer and inner circles to interact in complicated moving circulating patterns. Then they merge the two circles and begin a variety of complex moves, some taking several eight-counts to execute, with many effecting patterned rotations around the circle. From here to the end the dance is improvisation, meaning that the students know a large number of moves by name, but do not know what moves will be called. When a move is called, the entire group must do the move simultaneously and accurately in the prescribed rhythmic structure. They perform confusion several times during the dance, which changes the "lead" and "follow" roles, and shifts the dance from "on one" to "on five" in the music. And they also do afuera, turning the circle to the outside so that the moves will be performed to the outside, which shows the dance much better to an audience. The students perform well with smiling faces and confidence, and strike their poses as the music ends. The packed auditorium has been in an uproar of cheers and whistles throughout.

While most people who learn about this form of *rueda de casino* would surely acknowledge that it is an interesting and important activity for teenagers (and even adults), few would hold it as an exemplar of the most important activities that teenagers can do to nourish their development and to assure that they will achieve their potential. I will show in some detail why I believe this to be the case. While teens certainly need to engage in many kinds of experience and need to learn language arts, history, mathematics, social sciences, natural sciences and so much more, I nonetheless believe that none of these are any more fundamental or foundational than the developmental experiences that

can be exemplified by *rueda*.²³ I do not believe that *rueda* dancing is the only activity that can accomplish the benefits I will discuss, as many types of challenging, on-demand forms of self-movement have many of the same qualities. As a huge advocate of dancing in any form, I tend to think any dancing has major benefits. There are some benefits quite distinctive to *rueda* and I will discuss them here with the understanding that I do not think them exclusive to this dance, but I do consider the various attributes of the dance I will discuss to be exemplary, and therefore may be identified and valued in other movement forms.

Many might say these are crazy claims. It is after all “just a dance”. Well, yes, and this is at once its greatest difficulty and an important asset. Dancing and body-based activities are typically understood in societies as different from and of lesser value than serious educational activities. Despite a broad cultural affection for dancing, the valuation of dancing in education and society places it at the bottom of a towering hierarchy. Dancing is valued below music and painting, perhaps because they seem somehow more mindful, reflecting deep values that recognize mind and intellect above body and physicality (a perspective I strongly challenge in this article). Dancing is retained in school environments, if at all, because it is seen as a physical activity necessary for body development (fitness model) or even for release from the rigors of the body-disabling work of the mind (recess model). Some small justification for retaining a tiny element of dancing in public education is that it represents “culture” in both the sense of cultural heritage (thus square dancing is taught, but often oddly located in physical education classes) or in the sense of high culture (thus ballet may be studied as a subject related to culture and history, while actual ballet dancing is unlikely to be taught).

This article is focused largely on a consideration and discussion of the many benefits to human development and the enrichment of human life of *rueda de casino* as it is danced by teens. This discussion, supported by my studies of dancing in

²³ While throughout this article I will refer to this dance form by the convenient term “*rueda*” or “teen *rueda* dancing”, I intend by it the form of this dance that includes the innovations that I have developed, and also the pedagogy I use for teaching it.

many cultures, leads to a broad conclusion that dancing is constitutive of our humanity; that dancing is in some senses even more elemental than art, language, ritual and metaphor.²⁴ However, it is important to note that, even with such bold claims and even though my field of study is religion, I do not have the need or feel the urge to make reference to dancing as “spiritual”. In my experience, this word “spiritual” is a rather slippery one. I think that, in the best and most well-intended uses of the term, it means something like: dancing is a transformative experience; dancing is an experience that feels as though it is the most fundamental of all; dancing has transcendent qualities and affects; and so forth. These are all fine sentiments, yet they need to be supported by careful studies based on specific elements of dancing, so that we may come to understand how dancing is these things. Yet the term “spiritual” suggests—for me, seemingly unavoidably—the absence of body or the transcendence of body, the mystical, the holy, the Divine, the otherworldly; the term takes us away from the dancing body; the term suggests a premise that the importance of dancing can be articulated only in terms that take us beyond the dancing body; the term, in my view, tends to take the dancing out of dancing. The contemporary use of the term “spirituality” is strongly associated with the “New Age” and with those who prefer a more individual sense of their religiousness than that implied by religion. The spiritual often points to something sort of like religion, without the institutions and traditions of specific religions; we say we are “spiritual but not religious”. It is also often a contemporary euphemism for what a generation ago was called “primitive”. We need be aware of the potentially pejorative implications of this use of the term. I think many are drawn to this term largely because of the stilted, mechanical, and impersonal objectivist approaches so common to the academy, who often scorn emotion, experience, sensuality, and subjectivity. While I concur so wholeheartedly with this assessment that virtually all my research is directed to exploring alternatives, I don’t feel that the use of the term “spiritual” serves us in this pursuit.

²⁴ I present this position much more fully in *Dancing Culture Religion* (Gill 2012).

I have to admit that when asked to teach dance to teens for the first time years ago, I did so reluctantly and primarily out of a sense of responsibility to do community service. I had imagined a group of lethargic kids whose attention would be difficult, if not impossible, to hold. Was I ever wrong! The speed and eagerness with which these students learn is – in terms of all my expectations – simply awesome. Having taught the same dance form to adults of various ages, I am stunned by how quickly and happily these kids learn, and how eager they are to learn and help one another learn. It is not unusual to find them in the school hallways practicing moves or simply showing off their moves to their friends.

As I have read the literature focused on teenagers, I am bewildered by the strong tendency to see teenagers as problems.²⁵ I realize now that the attitude of skepticism I had before I started working with young people reflects a pervasive societal attitude. I now believe that it is this adult attitude that may be their greatest problem. The kinds of attention given to teens defines them as problems to be understood and solved, more so than as developing human beings to be nurtured and supported. Attention is on preventing teen pregnancy; reducing teen substance abuse; improving school test scores; reducing teen depression and suicide; encouraging teen rational and responsible behaviour; getting teens to take less risk and to have more foresight, and so on. A large proportion of teen programmes are designed to serve specific teen needs. Grant funding for research on teens and for teen programmes almost invariably requires demonstrated contribution to serving specific teen needs, but where needs are understood often as problems. Whereas the attitude toward children up to age seven is predominantly concerned with providing resources and experiences to contribute to brain and body development, by

²⁵ Knowing that many readers will be disappointed by my refusal to cite specific reference to this literature, let me explain that, since I have not read this literature systematically and thoroughly, my citations would be somewhat random and, to me, somewhat irresponsible to point to any literature here. Here and several places below I make broad comments that some will want supported by citation. I have made every effort to make such claims only to the degree that they are fairly and broadly uncontested, and to properly qualify them as such.

the beginning of the teenage years, kids have turned into problems to be understood or resolved. Perhaps this attitude correlates well with the commonly accepted (though now recognized as unfounded) understanding that brain development is pretty well complete by the age of seven or before.

My experience with the teen population is certainly limited, and I know full well that there are deep and profound needs that many teens experience. Yet, in my experience working with teenagers, the greater problem is my keeping up with their demands for knowledge, for challenge, for stimulation. I believe that teen problems must be identified and addressed – it ain't easy being a teen, yet we get what we expect. When we see teenagers primarily in terms as perpetrators of anomalous behaviour, as problems to be solved or at least understood (are adults frankly any different?), we are likely to get teens that misbehave, that confound our expectations, and that appear to be problems needing resolution (by us adults). Teens behave in terms of the expectations adults have of them.

Teen *rueda* dancing, as any dancing or educational activity, ought to be appreciated for its intrinsic value, and needs no external justification of its benefits. However, the social needs of teens and adults are well known, and it is worthwhile to say something about needs. Concerns about teens centre on several fronts: a propensity toward high-risk behaviour (driving, drug and alcohol abuse, risky sexual behaviour); a sense of depression due to stress and overwhelmingness; low self-esteem; violence and harassment (bullying); racial, ethnic, age, socio-economic and gender preference discrimination; and failure to achieve full potential (low test scores and grades). While these are identified as youth needs and concerns, it seems to me the list is equally relevant to the adult population. It is important to see that these needs and issues are all the same fabric, and that this fabric is societal, perhaps now even global. It is important to appreciate how complex the modern world is, and how much pressure we all feel from almost every direction. Perhaps the reason we come to focus these needs more intensely on teenagers is because they fall in that space between the confident parenting practices most families have with pre-teenagers (because they are under greater control in the family) and adulthood, when young people leave home and are less under parental control. Parents of teenagers

feel particularly helpless and anxious seeing their children confront the often disenchanting and threatening aspects that accompany being members of our society.

The recommendations for responding to these needs are relatively standard: an environment supported by good family and friends, involvement in meaningful activities, and good food and exercise. Well, yes; aren't these what we all need and want in life. And isn't this easier said than done for teens and adults? Still, the advice is sound if somewhat naïve. It is naïve in that there is some presumption that these things can be delivered to teenagers in the form of added programmes, whereas it seems rather clear that to meet these needs would require a significant shift in society, in the milieu in which we all live.

It is arguable that involvement in meaningful activities that create and nurture human connections, that create communities of acceptance and inclusivity, is vitally important in this most difficult situation. Such activities provide grounding, direction, a base in values that assists us all in navigating the complex, stress-filled modern world. I think there is a difference between something being meaningful and something having meaning. The former aligns with having intrinsic value. We say something is meaningful to us when we love doing it, and yet we may not even be able to say why. The meaningful is usually opaque to the question, "what does it mean?" For us to ask, "what does it mean?" implies that the thing in itself isn't satisfying; that it needs justifying or being given value by some meaning that can be connected with it. We often use phrases like, "get the meaning out of it" or "where is the meaning in it?"

Music and dancing are activities that we describe as meaningful, yet we are often unable to quite articulate what the meaning "in" them is. Most things that have meaning are what I call propositional; that is, we may propose a statement to "explain" what something means despite others who may argue with that proposal and offer different statements of meaning. On the other hand, when something is felt to be meaningful, it is something "known" heartfelt, experienced; there is no proposition; there is no argument or need for explanation. Others may experience it differently, but for us, we simply know that something is meaningful, and we are unlikely to be bothered at all by our difficulty in articulating some kind of meaning. Now, music

and art and dance have no exclusive claim on being meaningful as opposed to having meaning; anything can be found to be meaningful by some. I would suggest, however, the activities we find meaningful are those that meet our most basic human needs and that invoke the greatest value. These are the intrinsically valued activities. Almost all education theory I know confirms that intrinsically valued activities have the greatest educational value.

Fitting to a postmodern culture, teen *rueda* dancing as I have developed and taught it has been engineered to serve identifiable cultural needs, even though I purposefully never explicitly identify those needs to the participants. Teen *rueda* dancing is also fitting to a postmodern world. Characteristic of postmodernity is the absence of anything that is “real” and dependable. Groundlessness is the hallmark of the postmodern world in which teenagers live and grow to maturity. Everything is seen as questionable. There are no truths. Nothing seems dependable. The angst of the postmodern experience is often felt strongly by teenagers. They are trying to create their adult identities and find grounding for a way of life. Teenage years are often filled with self-doubt, uncertainty, loneliness, disenchantment, overwhelmingness and fear (as are adult years). Teen years are often the occasion for high-risk behaviour, depression, and a disregard for possible negative consequences to actions. Teen *rueda* dancing is an activity that is completely engaging, without processing or internal reflection. It is intrinsically motivating. The pace and demands of dancing (if taught effectively) require full presence; therefore, processing and reflection are nearly impossible. While it is typically seen as just a fun dance, it is powerfully real in important ways; it is grounded in bodily action and experience. It is mentally challenging and demanding, and it unquestionably engages all the dancers equally with one another. Touch and contact, cooperation, effort, and inclusion are not propositions to be debated or questioned: they are the hard physically experienced facts of teen *rueda* dancing.

In the balance of this article, I will discuss the importance of dancing for teens and people of all ages from specific, yet complementing, perspectives.

Movement and Learning

“Please sit down and be quiet!” “Stop fidgeting and listen!?” “Keep your hands to yourself”. Most of us have heard these demands from our earliest learning experiences. And most of us continue to say the same things to our children and students. The statements are synonymous with learning. The implication is that movement²⁶ and touching are the enemies of learning. From earliest childhood we are infused with the unchallenged fact that learning is of the mind, the brain; it occurs best when the body is constrained, and movement is discouraged.

Schools are furnished with desks (often ones that are entered like a seat in a cockpit, which makes rapid standing or exiting difficult) that effectively inhibit movement other than of the hands and heads. Classrooms with furniture that limits movement and separates students have existed with little change for centuries. Architecturally speaking, schools are containers where bodies are parked so that learning may take place in the brain. Robust movement of the whole body takes place (when allowed) on the playground or schoolyard or in the gymnasium, all carefully distinguished and separated—both spatially and architecturally—from the classrooms to avoid noise and distraction. Notably, as schools are designed for higher levels of education, the interrelationship between classrooms and gymnasiums and playgrounds shifts to reflect societal intentions. Grammar schools have gymnasiums and playgrounds close at hand. By high school, the playgrounds have become sports fields and the gymnasiums have become athletic centres. Both are clearly removed from classrooms.

Dancing, if it occurs at all in schools, is most likely done in the gymnasium (aligning dancing with sport and fitness) or the cafeteria (often one of the few remaining places not carpeted). In a middle school I recently taught in, the dance room was a dark, low-ceilinged, unventilated, emptied storage room located far from the classrooms. In the high school where I regularly teach, dancing is done in the “community room”, the tile-floored former cafeteria now used primarily as a place where students may congregate to eat lunch.

²⁶ Note, my recent work uses the more active form “moving” rather than the passive object halt noun form “movement.”

Societal stereotypes support this separation of moving bodies from learning: dumb jocks (usually boys or masculinized girls) and empty-headed dancers (usually girls or feminized boys). Then there is perhaps the largest secular ritual regularly performed in the USA and Europe today: school graduation exercises, where students and faculty alike don the traditional cap and gown academic garb. These garments, like Christian ecclesiastical garments, render the body inarticulate, and transform the body to serve as but a pedestal to support the all-important head. Visually, graduation exercises appear as a sea of floating heads. While there is in the USA supposed to be a strict separation of church and state, it seems no mere coincidence that educational, even secular and theological views of the body are about as similar as academic garb is to Christian liturgical vestments (see also Gill 2002).

Clearly, we separate mind (brain, soul, spirit) and body, and we value one over the other depending on the context. In education and learning, the mind is central, the body useless, if not the enemy. There are unfortunate implications to this assumption. When we finally realize that the separation and hierarchical valuation of mind and body simply cannot be supported as an accurate understanding of how we function and learn, we must face the negative and limiting implications of continuing to arrange our lives and our educational institutions and practices in alignment with this fundamental principle. I believe that to evaluate learning/teaching environments/methods it is more insightful to focus on movement, and to consider what types of movement are encouraged, enabled and discouraged. This movement approach avoids the rather facile, and often empty, distinction between mind and body.

Recently, a variety of studies, from cognitive science to philosophy, have demonstrated the inseparability of neurology from the experiential perceptual relational activities of the whole person. And studies of teen brains have begun to show that, counter to the common understanding that the brain is physically pretty much fully developed at an early age, there are periods of significant development of the brain throughout the teen years into the early twenties. In a way, this finding seems hardly surprising to anyone who is around teenagers. But it is important to gain this scientific information, as it places some

urgency on how teens are treated. Rather than simply focusing on filling and training the brain that has been fixed since kindergarten, we need to nurture its physical growth and its structural transformation. We get a second chance, or a continuing one, to nurture and guide this process. Coincidental to these findings are wide-ranging studies demonstrating remarkable neurobiological plasticity throughout life (Doidge 2007). Indeed, plasticity seems to be an emerging theme characterizing the twenty-first century (Malabou 2009).

What is not yet well known are the details of the impact environment has on brain development during this period. The question is “how do we nurture the body in the brain, to use the ideas developed by cognitive scientists?” Some research has focused on the vulnerability of the brain to long-lasting and critical damage due to such environmental factors as drug and alcohol abuse, and even violent video games (Strauch 2003: 21). It is widely believed that positive environmental factors—exposure to languages, to music, to good families—are vitally important to develop the brains of young children to their fullest potential. It makes sense that positive environmental factors are also important to nurture and shape adolescent brains during this period of exuberance. Marian Diamond, a neuroscientist at the University of California, Berkeley, whose research demonstrates that experience can change the fundamental structure of the brain, supports this view (Strauch 2003: 39). Bill Greenough of the University of Illinois wrote, “After adolescence, it’s rare to find a person who can learn and speak a language that is accent-free. There’s something fundamental about how the brain becomes transformed through that period” (in Strauch 2003: 39).

It is clear from my experience teaching *rueda de casino* to many people, from pre-teen through to 60-year-old adults, that there are very different rates of learning that generally correlate with age. In my experience, pre-teens are rapid learners, but some have difficulty focusing for long periods of time, although many are as capable of extended focus as teens. Teenagers learn with amazing speed and most have the capability to focus for 90 to 120 minutes at a time. By the early twenties, the learning rate begins to decline and there are significant changes in attitude. Teens usually learn with abandon, with little concern for mis-

takes or momentary confusion. Adults tend to find mistakes and confusion far less tolerable and take them far more personally. It is clear to me that during adolescence, challenging, on-demand, full-bodied self-movement is essential to growth and development. I believe it continues to be so throughout life, yet aging for various reasons begins to make this sort of movement increasingly difficult to learn and practice.²⁷

Other interesting research conducted by Jay Giedd at the National Institute of Health found that the cerebellum continues to change and develop throughout adolescence and is the part of the brain least affected by heritage or genes. The function of the cerebellum, located near the top of the neck, is not well known, but it is believed to be connected to movement and to a range of social behaviours, to “getting” jokes and play. Giedd believes that environment is important and suggests that the typically prescribed restricted environment may not be best for the brain: “What if we find out that, in the end, what the brain wants is play, that’s certainly possible. [...] What if the brain grows best when it’s allowed to play?” (in Strauch 2003: 39).

Research has shown that cross-lateral movement develops the communication between the two halves of the brain. The aspect of teen *rueda* dancing involving constantly changing between lead and follow roles, and turning the *rueda* inside and outside requires dancers to do all movement across several axes of orientation. This ambidextrous movement works similar to cross-lateral movement. The two halves of the brain are connected by the corpus callosum. The lateral division in the body corresponds with the distinct halves of the brain, albeit in a crossed pattern; the right half of the brain is connected with the left half of the body, and vice versa. Cross-lateral movement—even watching one’s own hand move across the centre line of the body—increases the communication across the halves of the brain via the corpus callosum, and it is known that this movement enriches brain development. The ambidextrous

²⁷ I’ll not take the space here to do so, but it is my view this decline in the learning speed and in the capacity to learn physical skills has at least as much to do with cultural practices that typically lead to a persistently declining engagement in challenging, on-demand self-movement as with chronology.

nature of doing every dance movement in both lead and follow positions has the benefit of requiring extensive communication within the brain and requiring both halves of the brain to be equally involved.

The conclusion is that throughout puberty and into the early twenties, brains remain much more flexible (plastic) than we had, until recently, thought, and they undergo powerful and important changes in ways that have commonly been thought as impossible. The implications of this information are that there is opportunity and responsibility to nurture and feed this brain development through a full range of physical and psychological experiences. Starvation (deprivation of stimulating experience), junk food (mindless television, for example) or poison (abusive behaviour, boring experiences) will have predictable effects. Good brain food is a full range of engaging and challenging physical, social and psychological experiences. The research connecting such teen experiences with positive healthy brain development is now well-established. However, despite them being important, reassuring and comforting, brain studies for me are not actually necessary, and I find it slightly irritating that we need even consider them to justify the importance of dancing to youth development.

Motivation and Happiness

Mihaly Csikszentmihalyi articulated for us the character of that wonderful experience we sometimes have when we are totally involved with something we are doing; he called it “flow”, though now it is as often called “zone” or “being in the zone” (Csikszentmihalyi 1990). His concern was the psychology of “optimal experience”, which he identified with happiness. He studied flow in the context of activities that are widely recognized as being characterized as optimal experiences: basketball (“zone” is closely associated with basketball), rock climbing, surgery, sex, reading a good book, and so on. Flow is experienced when there is an identity of action and awareness. This is the experience of being fully present to the action in which we are engaged. Our awareness is with or within the action, rather than merely standing aside observing. There is minimal self-reflection and external evaluation in flow. The moment we say, “wow, I’m having fun” or “oops, I just messed up” we have

moved outside of flow. Flow is autotelic activity; that is, the goal or end (*telos*) that motivates the action is the action itself. Flow occurs when action is intrinsically motivated. Flow occurs when we do what we are doing just for the sake of doing of it. Csikszentmihalyi finds that people closely identify flow—or optimal experience—with happiness.

Most education is structured around external goals and motivations. Students are constantly pushed to receive high grades, to score higher on tests. Almost everything in learning institutions is evaluated in terms of quantifiable measurements external to the learning experience, and even the content and subject of learning. The measures are almost always artificial and meaningless in themselves: letter or number grades or arbitrary numerical test scores (SAT, for example) or grade point averages. These scores in themselves are artificial and have meaning only in terms of convention (GPA is usually on a 4.0 scale, SAT on a 1600 scale; it would make equal sense if it were the reverse) or correlation with other values (percentiles). For example, scoring above or below a specific number often correlates with acceptance or rejection. Such scores also rank individuals hierarchically within the group. An individual score correlates to a percentile ranking in the group. It is common for parents and even students to translate these scores into monetary value, which is still abstract, but which is now equated with societal, experiential, and conventional material values. Sometimes parents “pay” their children cash for grade achievements, and students often have their GPA translated into potential earning capacity as they advance in education. Test scores are commonly translated into the idea of privileges and freedoms either gained or lost based on levels of performance. This practice correlates with the bonus system and salary levels in jobs in the post-educational world. It persists throughout life, even in the cultural concept of retirement (a relatively recent and culturally specific notion); the freedom to do something intrinsically motivating earned from a life of extrinsically motivated work. There is an implied inverse correlation between extrinsic motivation and optimal experience and happiness.

Almost every student knows from experience that there is, at best, a rough correlation between test scores and learning experiences, or the internal sense of the value of learning. Most

students know that there is sometimes even an inverse correlation between test scores and the sensed or intrinsic value of learning. Perhaps one of the things that makes teenagers seem so difficult is that they recognize and acknowledge that all of this is constructed and arbitrary and irrational; and they don't mind saying they know. Adults have come to embrace these as real and meaningful measures of intelligence, achievement, learning and human worth.

Since the educational environment is largely constructed on external artificial goals, there is a disincentive for learning to be autotelic, for students to experience flow while learning. External goals or rewards displace attention away from the activity, the subject and the experience of learning. It seems flow or optimal experience can occur only despite the educational system. If optimal experience, happiness, or flow occur primarily when we are doing what we do simply because doing the activity is fully satisfying, if they occur primarily in situations where we need no external rewards or measures, then our educational system often discourages flow, optimal experience or happiness. Should we be surprised that learners are so often bored, uninterested, disenfranchised, unmotivated, difficult, and depressed?

Csikszentmihalyi studied what conditions lead to the experience of flow. He understands it, in one way at least, as the correlation of skills and challenges (energetic stress). When the level of challenge matches or slightly exceeds skill level, flow is optimized. If the challenge far outpaces skill, anxiety is likely experienced. If the challenge is far below skill level, boredom is the result. As challenges are met and flow occurs, skill levels rise, and this situation precipitates the need for engaging greater challenge levels (Csikszentmihalyi 1990: 74). The idea of flow is important in the attempt to create learning environments that are autotelic, where motivation to learn is intrinsic to the learning experience rather than to artificial external measures. Optimal learning is when learners experience flow; that is, when each learner is in that zone where challenge pushes her or his current level of skill, ability, or experience without over-whelming it.

It can be argued that a system where artificial goals serve as primary motivation—and this includes most educational institutions, job situations, and even life trajectories—the associated experiences tend to feel meaningless and disenchanting, even

overwhelming at times. In such an environment, any experience of flow—anything done for the sake of doing it, anything we do because we love it—creates a grounding experience that helps us understand and experience who we are. Because such experiences are so powerful, so foundational, so necessary, so fun, they profoundly shape our fundamental values and sense of self. They provide self-confidence, meaningful lives, base values, and happiness. Teen *rueda* dancing is “flow;” that is, doing it is the primary motivation. It is simply fun to do. It offers its own rewards, and these cannot be quantified. The dynamics that create flow in teen *rueda* dancing are tied to both the dance form and to specific pedagogy. The conjunction of action and awareness is inseparable from the form. Dancers move together simultaneously based on the demands of the music and the “call.” There is a constant challenge to perform actions simultaneously and on the beat. The music does not stop; the calls come constantly, so there is no space to space out, to lose attention, not even to reflect on how well one is dancing. Pedagogically, the pace and the demands presented through the call and the teaching of new moves must be gauged to keep all dancers in the present moment. Most dancers experience the common attribute of flow, which is the loss of the experience of the passage of time. Flow especially occurs when teen *rueda* dancers are dancing to fast music. It is common for a class to run over time simply because the song is still playing and the calls are still coming. Students rarely say, “we’re running over time!” At the end of class, it is common to hear students say, “Wow! Is class over already?”

The pedagogy I have developed for teen *rueda* dancing is designed to keep dancers in the flow channel as much as possible. Teenagers learn with amazing speed, even though when presented with a challenge they often groan and feign a sense of the impossibility of learning something new. Teaching teens to dance *rueda* requires the fine-tuned awareness of the students to match the challenge being offered to the current skill/experience level of the group—the *rueda*. The *rueda* moves are systematically arranged so that they can be taught in a sequence of increasing levels of challenge. The form can become so complex as to seem endless in the possibility of increasing levels of challenge. It is open-ended in this respect. Properly

taught, teen *rueda* dancing can keep dancers almost constantly in flow. In the experience of flow, dancers exert themselves physically and mentally at levels far beyond what would be possible based on external goals and rewards, and often individuals achieve far more in the group than they ever could as an individual. Student attention is highly focused and can last for a much longer period than in any system where there are external goals and motivations, or where the challenge differs significantly from the present level of skill/experience.

Teen *rueda* dancing provides the kind of experience that allows the dancers to actually experience what it is like to do something just for the sake of doing it, to be absorbed by the action so fully that they cease to be aware of anything else. The experience of flow is foundational to self-confidence, to an understanding of value and motivation, and to a sense of happiness and satisfaction. There is also something amazingly bonding among members of a group who simultaneously experience flow. The word “team” is a way of designating this experience, as is the word “community”.

Stress is attributed as the cause of many of the problems and illnesses of contemporary society. Most of us suffer stresses of schedules, demands, financial pressures, superficialities, a senselessness of so much that we are required to do, and simply the relentless pace of life. Most of us rarely relax; many of us do not even know what it is to relax. Even play and relaxation have become work for many, along with the accompanying stress. The effects of stress are physiological as well as psychological (Jensen 2000: 64). “Tension stress” is often an aspect of the pressures, demands and measurements of externally motivated actions. Tension stress is different from “energetic stress”, which is associated with physical challenge, competition and the demands of learning a new skill, particularly intrinsically motivated activities. Energetic stress often enhances learning. One of the most effective reducers of tension stress is movement. Challenging movement, such as teen *rueda* dancing, both reduces tension stress and presents energetic stress.

Touch and Contact

Teen *rueda* dancing requires touching. And look who is touching whom. Boys are holding other boys’ hands, girls girls’ hands, and

boys and girls are connected with their hands and bodies. Look at the way they are touching. This connection results in the lead's palm in contact with the back of the follow's hand. Compared with a palm-to-palm hold where fingers may intertwine, this is a safer, somewhat less personal kind of touching. Touch is basic to *rueda* dancing and communication. It is introduced immediately, without reflective comment or use of the word touch. The other common hand-to-hand connection in *rueda* dancing is where the dancers have an open hand with fingers overlapping; that is, where the tips of the fingers of each dancer are at the base of the partner's fingers. In the *guapea* (basic) connection, the hands correspond with the roles. Left hand on top is lead; right hand holding the partner's thumb and grasped from the back is follow.

Popular author Diane Ackerman (1990: 80) concluded insightfully that "touch seems to be as essential as sunlight". Touch is, in evolutionary terms, often considered the first sense to come into being, and is developed even in the simplest single cell creatures such as the amoeba. All the other human senses can be understood as specialized touch sensations: hearing as the compression of air on the ear drum; smell as the contact of chemicals on the nasal membrane and taste buds; and sight as photons encountered by the retina. Based on concrete anatomical and physiological connections, the skin can be understood as the surface of the brain; or, equally as important, the brain is the deepest layer of the skin. At birth, physical and mental development are both dependent upon the child being touched. Massaged premature babies gain weight as much as 50 per cent faster than those who are not massaged. Studies in early twentieth-century orphanages by pediatrician Dr Henry Dwight Chapin found a mortality rate of over 90 per cent during the first year for infants deprived of touch (Juhan 2003: 43–44).

At a conference on touch called by Johnson & Johnson in 1989, Saul Schanberg noted, "We forget that touch is not only basic to our species, but the key to it" (in Ackerman 1990: 78). Helen Keller gave us profound insights about the importance of touch to being human. Keller lived a full and amazingly rich and productive life in a world without sight or hearing, relying almost exclusively on touch. It is unimaginable that one could survive without the sense of touch. Constance Classen (2005: 1) wrote

that touch “is a fundamental human medium for the expression, experience and contestation of social values and hierarchies” The complexity, profundity and importance of touch are reflected in the fact that touch is the longest single entry in the unabridged dictionaries of many languages. The *Oxford English Dictionary*, for example, runs fourteen full columns (not that physical dictionaries are very common these days). Add related words such as “touchable”, “touching”, and “touchy” and it fills 21 columns.

Touch—the sensory organ distributed throughout the skin that encloses and defines the body—teaches us the difference between self and other. While touch seems located on the surface of the skin, touch clearly denotes depth and contour. Our skin, the tactile surface, is the interface between our bodies and the world, but just as importantly, it is the interface between our physical existence and our thought and emotional processes. We say we are “touched” by something when we feel deeply about it. Touch gives experiential shape to the world around us. Without touch, we feel the true isolation that is at the heart of the enigma of being human; we experience the anxiety of separation and being alone. No wonder touch-based therapies are so common in our society today, from the scalp massage of our hair stylist to massage therapists and a host of body workers. Philosopher and scholar of human perception Maurice Merleau-Ponty (1968) created an entire philosophical system based on the metaphor of touch.

Feeling is something we do with the skin sensors to engage the world around us, but it is also a reflection of our inner being and emotions—our feelings. It is no accident that this sense incorporates both these meanings, and that physical touch is closely associated with emotions. Since touch is the sense that connects us to the world, to others, even to our sense of ourselves; since touch is surface (our entire skin surface), but also depth (our complete emotional landscape), it is little wonder that touch is both indulged and feared. The awareness of the connection of emotion with touch has allowed us to appreciate the depth of impact of physical and sexual abuse on the total human being. The societal reaction to abusive touching has often been to avoid, even forbid touch in many public and social contexts. There was a time early in the twentieth century when

psychologists warned parents against touching their children and counselled to avoid touching them as much as possible (“Unconditional Love” 2007). In the past couple of decades, to prevent inappropriate touching and bullying, schools have widely prohibited touching of any kind by anyone. Touch scholar Tiffany Field recounts a poignant example of the possible negative effects of this prohibition:

A recent Oprah Winfrey show focused on this issue of teachers touching children. The president of the National Education Association said, “Our slogan is, teach, don’t touch.” One of the teachers on the show taught music. In the green room before the show, she told me that of course she had to touch children, as for example when she taught them to play the violin. But on air she said, “In our classroom, we hug with our eyes.” Oprah walked over to her and said, “Did you get that hug I just sent you?” (Field 2001: 3)

Rules against any kind of touching in learning environments are ubiquitous. Yet, while it is essential to create effective safeguards to prevent and discourage inappropriate and abusive touch, the elimination of touch altogether amounts to the deprivation of the inarguably nurturing and healthy forms of touch that enable any person to feel connected to others and to the world, and to understand herself or himself emotionally and physically. Touch has unfortunately become taboo and is now identified with risk and danger.

We must find ways to incorporate safe and appropriate touch in our lives, particularly the lives of our developing young people. We learn of the importance of touch in the studies of Dr James Prescott, a developmental neurophysiologist at the National Institute of Child Health and Human Development, who wrote, “I believe that the deprivation of body touch, contact, and movement are the basic causes of a number of emotional disturbances which include depressive and autistic behaviors, hyperactivity, sexual aberrations, drug abuse, violence, and aggression” (Prescott 1971: 1–20).

To my knowledge, few if any movement forms are considered in terms of their importance in engaging the sense of touch and human contact. I believe that teen *rueda* dancing incorporates touch and contact in healthy, safe, and important

ways. First, I do not believe that teen *rueda* teachers should ever explicitly discuss or comment on touch and touching in terms of possible appropriateness or dangers or include warnings. Touch is necessary to the dance, and the focus must be totally on how dancers physically connect to accomplish the demands of partner communication and interaction. The dance simply cannot be done without physical connection; that is, without touching one another. The characteristics of this physical connection, this touching, is safe in several senses. The actual touching has a clear utilitarian and necessary value, with nothing suggesting anything personal, sensual, or sexual. Furthermore, physical contact is brief and open for all to see, and it is incidental to other-directed micro-goals like completing a move. It is safe; it is appropriate; it is necessary; it does not call attention to itself; it is something most dancers are scarcely aware of; they know they are connecting physically, but they do not think of it as touching with the supersensitive connotations that society, and especially schools, now associate with it.

Yet, this touch is amazingly important. It is through physical contact that dancers connect and communicate with one another. It is an essential medium of exchange one has with every other dancer. The communication that is involved between dancers connected only by fingers is truly astounding. All dancers quickly become experts at reading their partner's rhythm, knowledge of a particular move, attitude and style, energy, individuality, and so on, and immediately react and respond to their partners with their whole bodies connected through touching. The rapidly acquired micro-skills of leading, following and back-leading (when a follow leads a move rather than the lead) are all based on touch and contact. In a world where one of the most common and troubling experiences of not only our young people, but also of all people, is a sense of being isolated and alone, this amazing ability to communicate through touch must surely have a significantly positive impact on these feelings.

The touch and contact involved in teen *rueda* dancing stands in sharp contrast with contact sports like football and soccer, both so beloved by our society. The touch and contact in contact sports are based largely on violence and brute strength. It seems that a great deal can be said about a society that embraces and

values contact based on violence, while offering so little opportunities for contact forms based on refined subtle touch.

Movement and the Kinesthetic Sense

In his *Metaphysics*, Aristotle wrote:

The entire preoccupation of the physicist is with things that contain within themselves a principle of movement and rest. And to seek for this is to seek for the second kind of principle, that from which comes the beginning of the change. (Aristotle 340 BC)

Motion is life. Motion is key to depth perception. Movement is freedom.

Any skill—for example, dancing—requires sensorimotor interplay involving movement and contact (proprioceptive) with the environment. The acquisition of a skill is accompanied by a feeling of rightness; that sense that the movement produces satisfactory results. The movement sometimes becomes habitual, or it is relied upon for both quotidian tasks and artistic endeavours. In *Job's Body* (2003), Deane Juhan comments on the importance of this feeling of rightness:

So much of my sense of psychological and physical continuity, my sense of unity and security, depends upon my ability to repeat appropriate and predictable actions, that this feeling of “rightness” can scarcely be overestimated in its importance as an element of my psychic integration as a whole. Each time I “get the feel” for a new response, I also get a new feel for myself and for my relation to the world of external objects at large. (Juhan 2003: 188–89)

Proprioception (from the Latin *proprius*, meaning “one’s own” plus receptor) – sometimes referred to as the kinaesthetic sense—is fundamental to human life. Too few of us know anything about it. Proprioceptors of several types are sensory receptors located in muscles, tendons, and joints. They convey information about the physical state and position of skeletal muscles and joints. Proprioceptors provide essential information for smooth coordinated safe movement and the maintenance of body posture (Beck 1992: 28–35). Proprioceptors give intercommunication for the organization of movement and the body’s orientation in space. The kinaesthetic sense is the feeling

we have for the size, shape, location, and motion of our bodies. Proprioception gives us a sense of ourselves as active moving subjects. We must have a kinaesthetic sense to walk upright in the dark or accurately move our hands and all our body parts without seeing them. The kinaesthetic sense is how we feel who and where we are. Notably, the kinaesthetic sense is based on movement and muscular responses, often to peripheral sensation; yet every muscular movement in turn initiates a reciprocal change in peripheral sensation (Juhan 2003: 186). Perception and movement are inseparable. Movement unites perception with self-awareness. Movement connects us to the world, uniting while at the same time distinguishing the world outside and the world inside.

Teen *rueda* dancing is constant movement requiring proprioceptive awareness of the body in all its parts. The proprioceptive and exteroceptive awareness that connect dancer to dancer, dancers to music, and dancers to the precise execution of movement is demanding and it is through the ongoing dancing that the enhancement and refinement of proprioception is demonstrable among all dancers. An increase in an individual's sense of her or his own body, body image, and its place in the world is accompanied by increases in self-esteem and confidence.

Physical Exercise

Clearly teen *rueda* dancing aligns with almost all movement forms in achieving the benefits of physical exercise. The obvious first thing anyone would think of is the benefit of physical exertion and activity. However, very few dancers mention exercise when asked why they enjoy dancing. All dancers feel physically and mentally tired at the end of a class or party, and with good reason. Most have broken a sweat. When done to music, each dancer steps between 4000 and 6000 steps per hour. This is equivalent to a brisk two- to three-mile walk per hour, and most classes or parties are one-and-a-half to two hours long. Physical exercise obviously increases heart rate, arousal, and oxygen intake; it helps control weight, increases one's sense of well-being and helps manage stress. Plenty of research exists that extol the benefits of these physical states. And, of course, teen *rueda* dancing is not mindless gross body exercise like running on a treadmill. It is also a challenging, whole-bodied on demand

movement. Nor does it focus on limited muscle groups engaging many parts of the body. Teen *rueda* dancing engages young people in vigorous exercise without them even thinking of it as exercise. My experience of teaching teens over the years provides insight into the importance of this physical exercise. I have been stunned at how sedentary most teens have become, and how physically exhausted many of them seem constantly to be. Pedagogically, I have learned never to stop dancing; even the slightest pause commonly results in at least half of the teens dropping to the floor. While their apparent exhaustion may stem from their lifestyle, surely some of it is simply due to their very low level of fitness.

Community and Diversity

Teen *rueda* dancing is an experiential laboratory on building community. In the *rueda*, when a dancer does not do her or his part, there is a natural inclination and incentive for others to assist. While this may be done verbally (and in my experience it is usually done gently), it is more often done by simply physically assisting the dancer-in-need (this too is, in my experience, done gently). This assist often requires no more than a light guiding of another with the hand on the back or arm. It is part of the pedagogy I have developed that such cooperation is not explicitly taught or commented on as part of my instruction. Only occasionally do I say, “If someone needs help, tell them what to do, or give them a little help”. It is a simple fact that sooner or later all dancers will find themselves lost or going in the wrong direction, and will appreciate that softly spoken word, or little push or pull. I believe that this gentle, mutual yet tacit assistance is an important part of the dancers’ experiences. It tells dancers that it is okay to mess up; it is also okay to reach out and help; it is okay to be helped. In the fast pace of the dance, the circle quickly absorbs these little glitches with gracious assistances. And when the circle totally breaks down—which it does occasionally—it is the occasion for laughter, the expression of acceptance. When this happened, the circle can quickly be reformed because all dancers both lead and follow, so there is no need for sorting out time. “Grab a partner; let’s go!” I shout, and usually by the next one-count we are back in sync. Dancers quickly learn to do this themselves. In a circle of a dozen

couples, it is common for a small error to confuse several couples in one area of the circle. The circle doesn't stop and wait for them to sort things out. It goes on, and the pressure—the good stress—of the dancing circle beseeches the dancers to get with the circle, even if they are now in a different role and with a wrong or unintended partner. It is pedagogically essential to believe in the *rueda*, the community. *Rueda* dancers are never removed from the circle for instruction. Even individual instruction is given, as necessary, on the fly, simultaneous with the group dance movement. It is my policy to never call attention to individual errors. It is far more effective to allow the principle of acceptance and cooperation to be a discovery of all the members of the group through their dancing experience.

A bit more might be said about pedagogy. While in teaching there is no reflection on the meta matters—that is, on anything secondary, such as telling people to be kind and respectful to others, or to tell dancers to help others, or to reflect on how much fun we are having, or what great exercise this is, or that isn't it nice that dancing is changing our mood or helping us connect with people different from us—this kind of reflection is, I believe, not only unnecessary, but also actually distracting from the many benefits of simply allowing the dancers to experience the dancing in their dancing. Such reflection would disrupt the flow of the dance. The core principle of the pedagogy is to create a highly energized environment of expectation, achieved by sticking to the task, which is dancing in the *rueda* and constantly moving the *rueda* to a new level of experience—to higher levels of challenge. The emphasis is on connectivity and inclusivity, and these are not propositional ideas or goals: they are the unquestioned expectations of all dancers.

Rueda dancing generally makes quick work of adjusting for individual differences among the dancers, and for adjusting to dancers that may not yet be comfortable with the moves. As the moves become more and more advanced, the follows may back-lead leads who are confused or learning a move. This practice becomes common and is scarcely noticeable to most observers. What happens is that the follow assists the lead to lead them in a move. While back-leading can become a bad habit of some dancers (and for some teachers) who think they must lead everything even when they are following, the fact that all dancers

learn how to do this (and they learn without being explicitly taught, I must add) adds an entirely new dimension to the cross-lateral ambidextrous aspects of this dance. The physical connection of partners is interactive, and dancers are constantly testing through touch and contact the physical micro-signals to assess the status of their partner. If the lead needs some help, the follow will sense this and, without a word spoken, instantly engage the back-lead so that their partners can help them get through the move successfully and keep up with the circle. There is never time to simply stop and work it out. Leads will often say a quiet “thanks” to a follow at the end of a back-led move. Sometimes leads who do not know a move will quickly ask their follow to help them. This is learning to be sensitive to another, to help when needed and to do so without calling attention to the exchange. This interaction is an amazing experiential metaphor for partner relationships of all kinds.

The dancers learn that every member of the *rueda* must perform her or his role responsibly and immediately on demand. The dancers also learn that all members of a community sometimes need help and guidance. They learn that providing help is best done gently and even silently. There is no need to criticize those who need help or to call attention to them. A little help is all that is needed, and it will likely soon be reciprocated. A community is an interactive, interdependent, inclusive entity. The rewards of the community are in the experience of doing things as a group that an individual could never do alone. The motivation is in the experience of cooperation, coordination, and the joyous experience of the group activity. Dancers learn that leadership is necessary; there must be a caller for the group to initiate action. Dancers know that they may strive to play that leadership/initiating role by learning to call. Dancers learn that there is room for the expression of their individuality through, for example, styling elements. So teen *rueda* dancing is inclusive and it creates community – a sense of unity we might call a team?

Achieving acceptance among people who are different from one another is one of the world’s greatest challenges today. It seems the whole world is divided and at war over the misunderstanding or intolerance of difference, as evident in international politics. The whole colonial era has habitually approached difference negatively as a problem to be resolved by forced sameness.

Even the common educational device of comparison—surely the most fundamental operation of all learning—conventionally implies discerning similarity rather than the more technically accurate inclusion of both similarity and difference. The implication is that meaning is strongly associated with sameness, whereas meaninglessness is associated with its absence. This is why teachers must ask students to compare and contrast.

The terms we use to describe types of difference are telling. Ethnic (and that horrible objectivizing pluralization of the term, “ethnics”) commonly refers to the ethnically other or different, or to people of colour. The term ethnic commonly has pejorative connotations, yet every human being has an ethnicity. Disabled seems to divide the world into like us and not like us, isolating the others—the disabled. Yet there are countless abilities we all possess, and there is never a simple distinction between abled and disabled in any area of ability. Clearly, we are all differently abled. We divide along lines of difference, fear and hate, even though homogeneity is not always clearly enriching, challenging or healthy. Solve the issue of difference—our attitudes and valuations of difference—and most of the other problems like violence and harassment will go away.

Dancing has long served as the bridge to integration, not just the artificial studied tolerance of difference, but also its true appreciation. Today, dance groups from all over the world fill entertainment venues. We enjoy the dances of others and seek to be enriched by both observing them and learning to dance them. Most cultures are pleased that others are interested in learning their dances.²⁸ Dancing is a natural and common bridge between people and cultures. In the flow of dancing, the issues of political, economic, racial, and religious differences often have no place.

²⁸ This attempt is certainly not universal. For example, despite having written a number of books on Native American religious cultures and having spent much time observing Native American dancing, I rarely make mention to any of these dances in my academic studies and I can’t imagine including one of these dances as something for students to experience. This is simply because Native Americans have made it clear that they do not consider it respectful to make such reference to or participate in their dancing. Cultural wishes must always be honoured.

During the swing/Lindy Hop era of the 1920s and 1930s, thousands of whites in New York City danced in the grand ballrooms of Harlem, such as The Savoy; more importantly, they learned to dance from the black dancers. Decades before the civil rights movement, blacks and whites danced together peacefully and joyfully and whites voluntarily embraced black dances and dancers.

Teen *rueda* dancing achieves integration as well. The *rueda* is inclusive with the ability to integrate along many axes of difference: age, gender, race, ethnicity, sexual orientation, language, religion, politics, personal style, ability, skill, experience, et cetera. Teen *rueda* pedagogy never verbally reflects on the acceptance of difference, but rather always acts unquestionably inclusively.

Dancing—both dance programmes created for young people and dancing as it commonly occurs in our culture generally—is often based on a competitive sport model. Breakdance (breakin’) and hip hop are dance forms based on symbols of aggression and competition. Historically, they arose as less violent alternatives to physical aggression, to gang-like behaviour. The progressive elimination model of sport and reality television is central to the hugely popular television shows *Dancing with the Stars* and *So You Think You Can Dance*, which is more appealing to teens. It is also the basis of the Dancing Classrooms programme offered to over 40,000 students in over 500 schools centred in New York City schools by the American Ballroom Theater Company and now presented in cities throughout the world. As depicted in the popular documentary film *Mad Hot Ballroom* (Agrelo, 2005) and the commercial film *Take the Lead* (Friedlander, 2006), Dancing Classrooms is based on the progressive elimination of dance groups from various schools until a single school’s dancers are found to be the winners. In contrast to the competition sport model with progressive eliminations, teen *rueda* dancing relies primarily on intrinsic motivation and inclusivity. It has no back row and is not focused on selecting the winner out of all the others who, it would seem, must see themselves, in some sense, as losers.²⁹

²⁹ There is also the large American industry of dance competition focused primarily on jazz, lyrical, contemporary, hip hop and tap, all

Individuality and Creativity

But what about individuality? In such a group-centered activity, it seems fair to ask whether there is any room for individuality and for distinctively individual expression. Contemporary society places high value on individuality and freedom of expression. Every person in teen *rueda* must be on the same beat in the music and accurately and simultaneously execute the moves that are called. In dancers' experience, every individual has a responsibility to the community, and that achieving one's individual potential is satisfying because of the effect on the group. Individual achievement and expressiveness are always possible through the endless potential for styling, technique, form, partnering skill, and the level of dancing experience and knowledge. Dancers can move from circle to circle based on their level of skill and experience. Dancers can learn to call the moves, thus engaging higher and higher levels of challenge and the accompanying experience of fun and satisfaction.

So-called "creative dance" is often understood as that sort of dance where an individual is flitting about in totally free form unrestricted in any way even by music or any movement conventions. Many may experience this kind of formless (which it is not) dancing as creative. However, the act of creating something involves creating form. The most satisfying creation comes within the context of some form; exercising its energetics, pushing its limits, discovering something others have yet to accomplish. This is why almost all creativity occurs within a genre, often a tiny sub-genre. Photography is a good example. While most of us snap a picture now and then, only the accomplished and creative photographer can create images that are art. Dancers in the *rueda* learn that endless creativity and potential are enabled by the conventions and form of the dance.

Dancers are often amazed when shown a move they are about to learn. When they see a new move for the first time,

with a strong ballet base. Girls almost exclusively participate in these competitions, although boys are not excluded. The competition is designed so that all dancers and dance groups are judged and receive an award based on their performance. Although no one is left out in terms of awards there are many other ways that dancers are distinguished hierarchically.

many see it as utterly novel, and they often think it will be impossible to learn. Yet, while learning the move they realize it is comprised of different ways of executing and combining the simpler elements they already know into a flowing remarkably delightful new move—a work of art. *Rueda de casino*, while comprised of hundreds of named moves, is based on about a half dozen basic elements.

Teen *rueda* dancers can (and often do) make up new moves and variations on moves, but they do not have to do so to gain essential insights about creativity through their dancing experiences.

Gender

Society presents rather clear images of gender roles and the expectations of gender relationships. This aspect of society is among the most controversial and contentious around. Failure or refusal to conform to the established gender roles often comes at a personal cost. Gender roles related to dancing are particularly strongly enforced by our society. In the USA and Europe, it is a pervasive view that dancing is for females only. We have all heard the phrase “white men can’t dance” which can be used in so many unfortunate ways. The popular film *Billy Elliot* (Daldry, 2000) set in County Durham England in 1984, explored the family and community repercussions of a boy who wanted to dance ballet. Boys are rarely enrolled in ballet classes or any of the other dance classes for young people. Even hip hop, despite its roots in breakdance, is more commonly danced by girls in many places across the world. The principal bastion of male dancing is breakdance. It tends to be gender exclusive as well. Until the last decade or so, girls have been largely excluded. The so-called B-girl was rare indeed, and when present, she usually danced in a marginal role. Dancing and gender role go hand in hand, in ways I feel are often anything but healthy.

Teen *rueda* dancing deals with the gender issue most effectively by ignoring it. Certainly, the pedagogy acknowledges that dancers are gendered people, but the dancing does not associate any dance role expectations with a dancer’s gender. Furthermore, there are no gender associations with any aspect of the dance. The results are not to simply ignore gender and gender

roles, but to open the space for individuals to explore and experience various roles that they know have gender connotations in the larger society. Everyone knows that in society at large and in history, the male is the lead, and by leading he acts out his masculinity. Females follow with the connotations of being secondary and passive and responsive. I have often heard male social dance teachers describe gender associations with dance roles this way: “The lead’s [meaning the man’s] job is to show off the beauty of the follow [the woman, of course]” or: “The lead asks [through bodily action presumably] the follow ‘will you take this action?’ and the follow graciously accepting, ‘Yes, I’d be most happy to do so’”. The intention of these statements may seem nice, but the gendered values maintain the same gendered images: the woman is the passive pretty one to be humoured into the man’s strong, willful yet sensitive guidance or manipulation.

In teen *rueda* dancing, everyone experiences every role without anything being identified as gendered. Through this experience, dancers learn that following is as demanding as leading, but that it is also different. I believe that most teen dancers have few if any explicit thoughts about gender and gender role when they dance (at least, I never hear them say anything).³⁰ Particularly for young people, as they are developing gendered identities and exploring gender roles, this dancing experience offers a healthy accepting context whereby gender does not equate to role expectation. I knew this worked when one day I drove up in front of the high school where I was teaching and saw two boys on the school ground in plain sight of many other students practicing salsa moves together. It was also amazingly clear when one session of the class was made up of a dozen boys and three girls. They received huge school support when they performed for the whole school at the end of the term. Teen *rueda* dancing provides a safe comfortable

³⁰Interestingly, I have noticed a slight hesitation a couple of times with boys from cultures that have strong gender identities related to touching and dancing. One boy from a Middle Eastern culture modified his touch behaviour by not placing his hand on his partner’s back. Boys from cultures that expect the male to lead usually lose their hesitancy as soon as they experience the difficulty of following.

environment for gay, bisexual and gender undecided young people.

Music

Teen *rueda* dancing is done to music. Music is the tapestry that holds all the dance designs woven into it. The rhythm is what grounds the simultaneity of the movement by all the dancers. The tempo of the music corresponds with the dancers' levels of energy, intensity, focus and motivation. Interestingly, adults tend to prefer slower music while learning, yet teenagers absolutely love fast music that pushes them and challenges them, and that helps them stay focused and in the zone.

It is vogueish today to attempt to argue the importance of music to education based on scientific studies that indicate its impact on brain development and on student performance as based on academic test scores. While clearly well intentioned, this sort of effort seems narrow-minded to me; yet it is played to the narrow-mindedness of an educational system that seems to measure everything in terms of cost per student per year in relation to test scores. It seems that if one cannot demonstrate that the inclusion of music in school curricula does not cost-effectively produce increases in test scores, it should not be included. But the question might be asked: What is so important about young people learning the math, science, language, history, and so forth, that is included in academic testing? Can it be anything other than to allow the development of healthy, happy, responsible, well-adjusted human beings whose lives are enriched in every possible way? Is there anyone on earth that would contest that music and art and dance and literature and beautiful things are essentials of the sought-after life?

Cultural, historical, sub-cultural, and individual identities are all created through music and dancing. There has never been a community in human history without these. That any discussion of the importance of music and dancing is needed suggests a shameful and alarming narrow-mindedness and a failure of education. Anyone even modestly educated in the humanities and in history would appreciate the importance of music, dance, and art in all human cultures. I like to think of the story of the Inuit woman who was isolated from her people and lived alone for many years. When she was found and rejoined her commun-

ity, all the clothing she had made herself while alone was elaborately decorated. While it is certainly interesting to learn about the impact of music on brains and test scores, I must respond to this laboured effort to justify music as powerfully affecting human beings in the same way most teenagers surely would: “Duh!”

Furthermore, I find these studies narrow-minded in another way. All that I have read seems to understand music as limited largely to commercial and classical music. The controversial “Mozart effect” is a good example. The Mozart effect is a theory suggesting that classical music—particularly Mozart (and specific Mozart compositions at that)—increases brain activity and is accompanied by short-term improvements in certain brain functions such as spatial-temporal reasoning. Some have even suggested that particular works by Mozart reduce the number of seizures in people with epilepsy.

While these studies seem to have a limited understanding of music, they also seem rarely to differentiate between music styles and genres. Not surprisingly, classical seems the standard; but should there not be studies to determine the effects on learning of all forms of music, particularly the genres popular among teens? I have often let students select their own music to dance *rueda* to. Anything with a beat can work, and it is often fun for them to select their favourite music and dance to it. The enormous range of music that they enjoy always surprises me. Another thing I find missing in the studies promoting music as fundamental to learning is the acknowledgement that while schools may have reduced or stopped teaching music, students are not thereby deprived of music. No student is without a cell phone. Every school has quite a few students involved in garage bands, kids hanging out together endlessly making music. The music-is-good-for learning studies do not consider that almost all young people spend a large percentage of their time listening to and making music.

One last complaint of these studies—as well meaning as I believe them to be—is that they almost never mention the relationship between music and movement/dance. It is a simple fact that almost all the world’s music through-out human history has been dance music. Throughout its history, the successful salsa bands and musical developments in salsa have been those that have most delighted dancers. This is true of most forms of

music. In the history of the development of jazz music, it was enormously popular so long as people could dance to it. When it developed into music that wasn't danceable, its popularity dropped, and it became music for an esoteric and elite segment of society (Burn 2001, 2002). We all know that, long before they talk, small children in all cultures dance when they hear music. Only recently have we begun to lose that sense of the proximity of music and dancing, and this shift aligns with the duplication and commercialization of music recordings.

Teen *rueda* dancing is done to music and it is also the participation of extending the rhythm while dancing. In the eight-count rhythm, dancers step on counts one, two, three, five, six and seven.³¹ There are rarely instruments in Latin music that play this rhythm explicitly. The rhythmic structure of salsa music is created through the interplay of many different instruments and musicians—timbales, bongos, congas, cowbell, and so on—and the dancers' step-patterning participate in this complex layering of rhythms. Salsa dancing is making rhythm; that is, making music, while at the same time carefully listening to the music, its character, flavour, colour. Spanish-speaking dancers also enjoy the lyrics.³² Dancing and music are as inseparable as they have been throughout human history. Salsa dancers experience this interplay bodily, both absorbed in it and creatively participating in it like members of the band.

It may also be argued that since music and rhythm are powerfully connected with cultural and historical identity, the participation in these rhythms is an experientially based way of learning about and appreciating cultures and histories.

Dancing as Self-Othering: The Human Distinction

Of all human art and cultural forms, dancing is arguably the most bodied; the most neurobiologically integrative. Dancing is the body. Dancing is done with the body being both the means

³¹Dancing “on one” is a convention most common in North America. In Cuba, New York, and many other places, dancing is commonly done “on two” or “on clave”. Yet, dancing can be done on most any beat. When I was in Vancouver a few years ago, I found that many dancers there seemed to like to dance “on seven”.

³² Non-Spanish speaking students often sing the lyrics along to the music, even though they do not know what the lyrics mean.

and the outcome. In dancing, the body is both instrument and art; both process and product. I find that while dancing does many things—such as create and enact identity, negotiate differences, enact protest, effect change—and it is thus powerful, it is in some greater sense constitutive of being human. This is what interests me most (Gill 2012). That is, as I understand dancing, it is inseparable from that which distinguishes us as human beings. Dancing is the very source of the powers, behaviours, and abilities that make us human. In terms of human development, dancing is pre-linguistic; children dance before they speak. In terms of cultural views, more than one religion—a wonderful example is the Hindu form of Shiva known as Nataraja—sees the creation and destruction of the universe both occurring in the actions of dancing. Dancing means nothing, does nothing; but it is in dancing that meaning and doing and making are possible at all. Dancing is a kind of relationality that founds the very possibility of symbol and language, art and ritual. I personally believe dancing to be more fundamental—one might even use Merleau-Ponty's term "elemental"—than ritual, art, metaphor and language because it engages the body in the felt experience of the structurality that is fundamental to all of these (1968).

Dancing does what ought not to be possible; that is, dancing creates an artifice, an other, something made up, something that is not the dancer; however, because this made-up thing, this artifice, is created of the dancing body, it is experienced as self. Inspired by my studies of dancing, I call this aspect of dancing "self-othering": it is the experiential bridge between self and other. Arguably, there must be some initial experiential foundation that underlies all the connectivities that constitute our humanity; those "this-is-not-that, but this-is-that" [aesthetic of impossibles] kinds of connections that distinguish language, art, metaphor, ritual, and religion. Dancing is one of the fundamental experiences that make our humanness possible.

Dancing as Self-Othering³³

Dancing is the interplay among dancer-self and danced-other; at once separate and the same. The dancing movement is in the dynamic of the two. While self-movement is primary to animate organisms, to anything that has the capacity for movement, dancing as acquired gestural/postural patterned movement is of another order distinctive to humans. In the culturally, historically, personally shaped techniques that con-tour and interrelate this paradoxical relationship of self and other, dancing has a primacy to human life. The contribution of dancing is to forge the human capacity to harness the energetics of animate self-movement for cultural and personal ontogenesis. Dancing is the deep experience, and thus the embracing with certainty, of the structurality I call self-othering; the experience that something completely other than self can be experienced as self. Dancing offers the experiential grounding that makes it possible to know the other, to be aware of the other, to represent the other, to name the other, to comment on the other. Dancing is to experience the creative ontogenetic energetics of the

³³ This essay is a chapter from my 2012 book *Dancing Culture Religion*. I include it here to offer both introduction to and the early explorations of what in the last half dozen years I have attempted to articulate in the more generic terms I refer to as “aesthetic of impossibles.” When I began to think of this relationality as distinctive of human beings and when I began to see it not as some occasional or incidental aspect of being human but rather at the heart of human distinctiveness, I thought it was a new discovery. Of course, what has always been for me a special joy is to discover that what I thought to be a novel discovery had been long percolating in my efforts. Thus, this essay not only shows the history of my efforts it complements my current articulations in philosophical ideas I refer to now less frequently.

paradox of the separation of self and other that is also their identity. Thus, dancing shares in the vital enabling of external memory and language and art and symbolism and ritual and mythology, all things human. In this essay I turn to a powerful cultural example, Javanese *wayang kulit* (shadow theater) and classical dancing (*wayang wong*), as well as to the insights of one of the most important figures who reshaped the modern understanding of perception, French philosopher Maurice Merleau-Ponty. While Merleau-Ponty did not include dancing in his discourse, I want to show the importance of Merleau-Ponty's philosophy to the self-othering understanding of dancing I have been developing and I want also to show that dancing is an important way of exemplifying and understanding the "flesh ontology," as he termed it, that Merleau-Ponty developed.

Javanese *Wayang Kulit*

There is nothing to a shadow; its being is in its nothingness. A shadow is an absence. Yet we can see it as surely as we can feel the wind.

Java, in the heart of Indonesia, has a fascinating complex of cultures whose ancient shadow play, *wayang kulit*, is the prototype for its life and arts including court-supported classical dancing. Dancing and shadow theatre are based on and illustrate Javanese philosophy.

Java was populated for thousands of years by tribal peoples before Indian influence began to be felt in the eighth and ninth centuries of this era. The extent of Indian influence is evident in the grandness of the religious structures that were built in south central Java during that time. Near present day Jogjakarta, the Hindu Sanjaya dynasty built the vast temple complex, Prambanan, comprised of one hundred fifty-six shrines around eight major temples, the dominant structure being the temple of Shiva. At roughly the same time, only thirty kilometers away, the Mahayana Buddhist Sailendra dynasty built the magnificent stupa, Borobudur, including hundreds of Buddha statues and thousands of reliefs illustrating Buddhist literature and stories (Miksic 1990). Both structures had been long abandoned, buried under ash and dirt, when discovered in the nineteenth century. Since then, both have been restored, resurrected from the jungle, by archaeologists and cultural preservationists. Indian

influence has remained strong in Java despite half a millennium of Islamic influence. Remarkably, Java has the largest concentration of Muslims in the world. The stories of classical Indian literature, found in the Mahabharata and Ramayana, adapted to the Javanese world are the foremost influence on popular culture, art and the heritage and identity of the Javanese.

Wayang kulit (Keeler 1987), the shadow puppet theatre found throughout Southeast Asia, plays a powerful role in maintaining this vital heritage and in applying it to ongoing life. *Wayang kulit* is in many ways, the prototype for the arts, including Javanese classical³⁴ dancing. The *dalang* or puppet master sits on one side of an opaque screen. Hundreds of puppets, leaning against the screen with their supporting rods stuck in green banana logs, flank the *dalang* to both his right and left. The *dalang* casts the shadows on the screen by manipulating the chosen puppets in the light from a lamp that hangs above him. Members of the *gamelan*, the Javanese musical orchestra, sit behind the *dalang* accompanying him³⁵ as he sings and chants the stories, he enacts by manipulating the puppets. Formerly the women and the invited guests sat on the side of the screen opposite the *dalang* where only the shadows cast on the opaque material can be seen. The men sat on the same side as the *dalang* where they could see not only the partial shadows but also the puppets, the *dalang*, and the musicians. Today, generally, all guests have the freedom to watch the theatre from wherever they like.

Shadow is a double, a doubling.³⁶ It is a play of puppet and shadow, of light and darkness, of substance and insubstantiality, of visibility and invisibility, of radiance and occlusion. Shadow play is fascinating. Why? The Javanese puppets, like most pup-

³⁴ Terms such as “classical” need to be used with caution and suspicion. Here I intend only to indicate dance forms that are carefully codified, learned through formal and rigorous training, and that endure, certainly with some modification over time, in a culture for a period spanning multiple generations of dancers.

³⁵ Javanese *dalangs* are male.

³⁶ Note added 2024. This doubling aspect of *wayang kulit* has become extraordinarily important now a decade later as I study the importance of difference in the context of doubling. See my final essay “Reality Under Siege.”

pets in Southeast Asia, are elaborately painted. They are objects of beauty and are often displayed as works of art. The identity of the hundreds of figures is interconnected with not only the outline shape but also the clothing, facial features, and accessories that are painted on the puppet. Indeed, puppet design involves a remarkably complex system of defined shapes and characteristics. As important, indeed, even more so to shadow theatre, the puppet is created and used as an occlusion, as a mass to block the light. It is only with the puppet as an occlusion blocking the light that we can see the shadow figure.

Shadow puppetry is the play of the visible and the invisible. The light, both in its quality of radiance and in its location or position, is vitally important. Shadow cannot exist without light. But the light, in itself, is sheer radiance and lacks distinction apart from the occlusion of the puppet. Only when paired with the shadows whose creation it enables, the dark nothings that are nonetheless present, does light take shape. The shadow is always different from the puppet and cannot exist except in its separation from the puppet. As soon as the puppet is moved away from the scrim enough for a shadow to be cast, the shadow cannot possibly exactly replicate the shape of the puppet. Thus, the puppet and the shadow can never be simply duplicates. Among the fascinating characteristics of shadow play is that a broad array of shadow effects is created by moving the puppet closer and farther from the screen, tipping and turning the flat puppet in relation to the plane of the screen. These effects produce the illusion of dimension, that is, depth and life, which is all the more fascinating given that the shadow itself is an absence rather than a presence. While dim electric light bulbs now often replace the oil lamp as a source of light, the Javanese still indicate a preference for the live flame which they say causes the shadow figures to appear to breathe. Where the light is located with respect to the puppet and the screen determines not only the location of the shadow, but also its qualities and character. Drawing on our experience of making shadow figures by our occluding hands, we are reminded that, in some sense, we lose our hands in the forms we create. Our hand manipulations become tacit as we *attend to* the shadow forms. Philosopher of science Michael Polanyi's notion of the tacit dimension (Polanyi 1983) is relevant. He holds that we know more than we

can say. That is, when we focus on some object about which we seek knowledge we are attending to that object. However, at the same time and inevitable to the process is that we must also *attend from* a whole body of tacit knowledge and assumptions—all our former experience, our image schemas, our array of categories, the tacit rules that underlie grammar and a vast embodied experience of gesture. We cannot articulate all that is known in this tacit dimension—it is hidden from us though we know it is there and certainly depend upon it. Our hands, or the puppets, become tools we use to affect the world. Yet, while the hands or puppets themselves tend to disappear in the puppet shows, it is their gestural patterns that create the illusion of presence and life for the figures who have no physical reality at all, who exist as gestural illusions. The revelation here is that the world is known only through a process of doubling, through the pairing of the known and the tacit, the visible and the invisible, the conscious and the unconscious, the real and the virtual. Understanding this relationship shows the folly of attempting to reduce the world to singularity, to truth or reality, a common Western strategy. The metaphor, the analogy, of shadow play, both our innocent playing and the formal Javanese shadow theater, powerfully articulate and illustrate that the interactivity of gesture, even the hiddenness that is inherent to it, must be embraced and celebrated.

While our bodies are seemingly lost in the menagerie of shadows we create, there is a hinge in the making of these shadows that allows us to experience our own aliveness. The doubling is no simple mutually exclusive dualism. The making and perception of these shadow figures is inseparable from the gestural movement of our bodies or the bodies of the puppets. Occlusion reveals depth or distance and suggests that life is inseparable from movement. The shadows dance and come to life, become of interest to us, as our bodies move and gesture to make them. Our oddly entwined hands look like nothing but a knot of fingers until we see the moving shadow they cast. The doubling is the key. The play of the two is what intrigues. The play depends on gestural movement. What we see is not a simple literal presentation; it is a seduction—an appearance, a promise of something always unfulfilled—that invites comparison to

facets of our distinctly human existence. For centuries the Javanese have offered a profound exemplar.

The Javanese recognize a gradient of values delineating the range of possibilities of the human character (Geertz 1960). The ideal of refinement, *alus* (*halus*), has its origins in the *prijaji* or gentry who, in pre-Muslim days, were royalty. *Kasar*, designating the crude or rough, is the opposite of *alus*. Refinement is exemplified in the ubiquitous arts of dancing, poetry, batik, and shadow puppetry. The refined demeanor of royalty sets the etiquette of much of city culture in Jogjakarta.³⁷ Following the royal example, the general citizenry routinely practices politeness and civility in its speech, dress, and actions. Poor and homeless bicycle rickshaw drivers, shop keepers, and waiters are reserved and polite. Even street touts are refined. One common scam is for them to encourage tourists to visit what they say is an exhibit of fine batiks. They insist that it is a show of Javanese batik master artists and that, not to worry, nothing is for sale. Invariably the show is closing that very day, so you learn that this is your last chance to see it. If you go, and of course you do, they treat you to a cup of tea and chat about the last time they visited your home country or about an uncle that lives in your home state. They show you the batiks and introduce you to one of the artists. They leave you alone to enjoy the fine art and allow you to eventually, and we always do, ask if anything is for sale. This request seems to take them by surprise, actors they are, and they appear reluctant to suggest a price. The art is not for sale, they will remind you. Yet, for the sake of the opportunity to share their art with people in other parts of the world, they agree to consider selling it. They ask which your favorite piece is and promptly hang it over the door, the better light to see it, yet also effectively blocking the exit. They suggest a price. When you try to bargain for a better price, as we know we are supposed to do,

³⁷ For example, the sultan, who lives with his family in the palace in Yogyakarta in Southern Java, now serves as an overseer of the city and surrounding areas. Far more important than his powers of governance is the example of refinement he sets for all in his domain. Not only does he present this example in his own physical appearance and demeanor, but also by sponsoring daily performances of music and the arts (dance, gamelan, and *wayang kulit*) held in palace pavilions that exude the spirit of peace and tranquility.

they do rapid calculations on a notebook that has suddenly appeared. They assure you that any reduction of price would be inappropriate to the quality of the art, yet, because it is the last day of the show and it would save them effort in transporting the works to another city, they agree to make some adjustments. Only later, of course, do you learn that the whole thing is a scam and that the vendors would have been thrilled to get a small fraction of what you paid. Though you rationalize the price as including a cultural experience, it is still difficult to see quite as much beauty in a work of art that is now a folded-up piece of cloth fitting neatly in a shirt pocket.

Javanese philosophy is intertwined with this valuation of the human character. The body is distinguished in terms of an inner (*batin*) and an outer (*lahir*) aspect. *Lahir* is the bodily realm of human behavior including self-movement, posture, and speech. *Batin* is the inner realm of experience including feelings, emotions, and imagination. Both are conceived as aspects of the body; they are, like the inner and outer sides of flesh itself, interdependent and inseparable. The Javanese consider *lahir*, the outer aspect or behavior, the more easily directed and controlled, that is, the more easily refined. By practicing *alus* behavior one comes to experience refined feelings and emotions; in other words, refining *lahir* is accompanied by the refinement of *batin*. Put simply, how one moves affects how one feels; and, of course, the opposite also pertains. Javanese culture is defined in terms of highly prescribed gesture and posture.

Wayang kulit is a complex representation and enactment of Javanese philosophy. The shadow, in its insubstantiality may be considered—this is my construct not explicitly put this way by the Javanese—to represent *batin*, the inner body, while the puppet in its physical substantiality represents *lahir*, the outer body. The characters in the stories portray the full range of values from *alus* to *kasar* in both their physical forms and in their gestural/postural behaviors. The refinement of the characters of the dramas played in puppets and shadows is easily recognized by their physical appearance (posture) and movement patterns (gestures). The stories (*lakons*) drawn from the Javanese versions of classical Indian literature reinforce the character valuations in the consequences they enjoy or suffer resulting from their actions. Illustrating that the outer affects the inner, the *dalang*

moves the physical puppet, the correspondent of *lahir*, the outer body. The *dalang* cannot manipulate the shadow except by moving the puppet. Yet, the *dalang*'s attention is primarily on the shadow effect, corresponding to the inner body, as he manipulates the substantive puppet. The shadow is separate and yet inseparable from the puppet; it cannot be without there being both.

The Javanese interpretation of the Indian *rasa* is operative in *wayang kulit* (See Gertz 1960). In Sanskrit *rasa* has two roots, one referring to hidden significance or ultimate meaning,³⁸ the other referring to tactile sensations or taste. For the Javanese, the five senses are seeing, hearing, talking, smelling, and feeling. As feeling, *rasa* is a sense that includes touch on the body, taste on the tongue, and emotions like sadness and happiness. It refers to feeling from without as well as within. *Rasa* refers to something like deep significance, subtle or elusive meaning. The Javanese have a fondness for the artful use of language, for poetry, and for verbal etiquette. They both blend and hold separate the two meanings of *rasa* resulting in the distinction, identification, and interplay of the inside feeling with outside sensation and with meaning, the subjective and objective, one's behavior in the world and one's character.

Refinement is directed toward achieving the ultimate *rasa*, the fullest realization³⁹ of this complex relationship, though it is often expressed as the union of inner feeling with outer action, the full concert of feeling and meaning. The Javanese believe that happiness and unhappiness are interlinked, allowing one to move beyond the distinction between them, to experience a certain tranquility amid intense polarity. Evidence of this tranquility can be seen and experienced in human countenance and comportment of the royal family and members of court, a kind

³⁸ It is of interest that ultimate meaning and hidden significance are equated with *rasa*, suggesting not only the importance of occlusion but also that in its inaccessibility, there is seduction involved with ultimate meaning.

³⁹ There is the issue of what constitutes this fullness of realization. I think it best not to use the notion of union (though even in union separation may still be implied), but rather taking inspiration from Friedrich Schiller's *On the Aesthetic Education of Man* (Oxford at the Clarendon Press, 1967 [1795]), I suggest the use of the word "concert."

of remote or detached intense presence. It can also be experienced in the court's dance pavilion, considered the still center of the universe, quickened by the presence of dancing.

Javanese Classical Dancing

Wayang kulit has been performed in Java for over a thousand years. There is debate as to whether its origins are Indian or indigenous (Hood 1963: 447), yet it is clear that it is an important model for Javanese dance and theater.⁴⁰ *Wayang topeng* refers to masked dancing. *Topeng* means mask. There is remarkable resemblance of *wayang kulit* and *wayang topeng*. This masked dance theater form, performed in Java for perhaps as long as shadow theater, preserves the doubling, the intertwining I discussed related to shadow puppetry, yet it is not shadow play, but masked dancing.

One of the fascinating things about masks is that they are so apparently artificial and unlikelike.⁴¹ This quality is observable in the rigidity of mask construction, its tendency toward exaggeration of features and design, its simple and crude mechanics, its incompatibility with nature. A mask is not a disguise. A mask is like a puppet manipulated by the dancing masker. Whereas in *wayang kulit* the puppet representing the outer body (*lahir*) and the shadow representing the inner body (*batin*), in *wayang topeng* this model is turned inside out while keeping the structurality of intermingling and inter-positioning. The mask, like the puppet, is the rigid form, but it is given life, animated, by the sentient human dancer who, behind the mask, is the partially hidden inner animate body. The identity of the dancer is usually obscured (or partially so), being occluded by the mask; yet, like the puppet, the mask gains its aliveness by its being a distinctive gestural self-moving occlusion. The virtual entity identified with the mask, rather than the personal identity of the dancer, comes to life by being moved and manipulated in its distinctive gestural

⁴⁰ This dependence on *wayang kulit* of dancing is clear in Javanese performance theory (*joged mataram*) where the dance must become the puppet. See Hughes-Freeland 1997 and Suharto 1990.

⁴¹ The exception is the lifelike rubber masks—we think of gorillas, US presidents, and celebrities—whatever they might share. And even these are far from lifelike.

patterns danced by the dancer.⁴²The intent is not complete disguise, a total absence of the masker. The power of the masking is in its doubling, in its reversibility; an *incomplete* reversibility as I will explain later. Indeed, the most distinctive aspect of mask is that it hides as it reveals, that it is lifeless yet alive.

Javanese trance dancing has more ancient roots in Java, and it continues to be practiced in village culture. In trance dancing, the dancer is understood as being possessed by a spiritual entity. The dancer gives presence and life, that is, reality, to this otherwise virtual being. The spirit outside the dancer possesses or entrances the dancer, a process usually depicted as the spirit entering the body of the dancer. Yet the dancer's body, in some sense, is inside the manifestation of the spirit who takes physical form by means of the body of the dancer. The two intertwine; the two are reversible, yet incompletely so.

Javanese classical dancing (*wayang wong*) does not employ masks yet retains the structure in the mask-like appearance of the dancer's face and the puppet-like movement style of the dancer's technique. We commonly consider the face itself a mask especially when it is rigidly set, held in a fixed expression. Javanese classical dancers are trained in this technique. This dancing takes the doubling—what I call “self-othering”—to greater sophistication. The dancer is no longer hidden by the danced character in any literal sense, yet she or he remains doubled with the character or the dance performed. A spectacular form of dancing that does not use masks is *wayang wong*, or human puppets (Kam 1987). Dating from ancient times this form of dance-drama became highly popular in the eighteenth century and has since received royal support. These dances are direct adaptations of *wayang kulit* to the realm of human dancing. The characters are the same and the costuming and makeup serve to make them appear like the puppets, especially when

⁴² Foley 1985, following Jane Belo, offers the idea that the dancer (as the puppet and mask) is an “empty vessel” awaiting “the vital energy of the other to fill it.” Foley discusses that the dancer is trained not to reach within her/himself to find the resources for dancing, but to empty her/himself and to execute the movement as a puppet (see especially 37). What is important is not that the dancer disappears, but that she or he fully experiences otherness, rather than some expression or projection of the self.

seen in profile. In a fascinating and effective way, classical Javanese dancing applies the Javanese principles and relationships articulated in shadow puppet theater. The presence of the Sultan during the performance has suggested to the Javanese the idea that the Sultan is the *dalang* or puppeteer of the performance (Kam 1987 :32).

The philosophy of Javanese court dancing was codified under the reign of Sri Sultan Hamengku Buwana I who reigned from 1755 to 1792. But it was not until 1976 when dance master B. P. H. Suryobroncto delivered public lectures on dancing that this philosophy was known outside the succession of dance masters. The philosophy is complex and intricate beyond adequate presentation here, yet it is important to mention several fundamental elements because they all are consistent with the self-othering structurality. While dancing provides aesthetic pleasure or entertainment, it also, and perhaps more importantly, provides the dancer, and in turn audiences, with models for appropriate behavior (*labir*) and inner growth (*batin*). Javanese court dancing is characterized by total concentration that does not cause inner tenseness (*senji*). There must be an inner dynamic that gives life to the dancer's presence, but which must be carefully controlled to avoid coarseness of expression (*grege*). Dancers must be self-confident yet without arrogance or conceit (*senggul*). And the dancers must experience freedom, which is understood as the courage to face difficulties, total dedication, and a full sense of responsibility (*ora mingkul*).⁴³ What is particularly notable considering this discussion of Javanese arts and philosophy is that each of these key principles requires opposing values or traits to be co-present and in concert. We begin to appreciate how fully the Javanese have developed this very specific structural dynamic of joining oppositions without resolution to produce clearly identifiable results, a distinctive quality they often refer to as "profound tranquility" that stands at the center of the Javanese character.

Merleau-Ponty's "Flesh Ontology"

While it may seem that twentieth century French philosophy is at a distance relative to Javanese dancing on the same order as

⁴³ For dance philosophy see Hughes-Freeland 1997 and Suharto 1997.

the physical distance between France and Java, I believe the distance calls forth creative movement. I will return to Java after a French interlude to make this point.

Maurice Merleau-Ponty was a French existential phenomenologist whose understanding of human perception reshaped traditional philosophical positions. He denied the body-mind split that has for centuries shaped the way we understand not only perception and body, but also what it means to be human. His conjunctive constructions of the lived-body and the minded-body seek acknowledgment of the traditional distinction without the radical separation.⁴⁴ He defined the mind as “the *other* side of the body” holding that

we have no idea of a mind that would not be *doubled* with a body. ... The “other side” means that the body, inasmuch as it has this other side, is not describable in *objective* terms, in terms of the in-itself—that this other side is really the other side of *the body*, *overflows* into it (*Ueberschreiten*), encroaches upon it, is hidden in it—and at the same time needs it, terminates in it, is *anchored* in it (Merleau-Ponty 1968: 259).⁴⁵

There can be no mind without body. At the time of Merleau-Ponty’s death in 1961 he was working on a manuscript that was to broadly expand his earlier ideas, specifically through his development of what has come to be termed “ontology of flesh.” The manuscript was edited and posthumously published as *The Visible and the Invisible* and the ontology of flesh is developed most fully in the complex essay “The Intertwining—The Chiasm” (Merleau-Ponty 1968: 130-55)⁴⁶

Merleau-Ponty does not limit his understanding of flesh to skin and meat, nor are these its primary reference, yet his most enduring and inspiring analogy and example of what he termed

⁴⁴ In general ways these ideas are explored in terms of dancing by Sandra Fraleigh in her book *Dance and the Lived Body* (1987).

⁴⁵ “In-itself” or “being-in-itself” is a Sartrean term referring to nonconscious being (Sartre 1966, especially the glossary by Hazel E. Barnes.)

⁴⁶ The predecessors to this theory are found in Merleau-Ponty (1964).

flesh⁴⁷ is developed in his reflections on our experience of touching one hand with our other hand.

If my hand, while it is felt from within, is also accessible from without, itself tangible, for my other hand, for example, if it takes its place among things it touches, is in a sense one of them, opens finally upon a tangible being of which it is also a part. Through this crisscrossing within it of the touching and the tangible, its own movements incorporate themselves into the universe they interrogate, are recorded on the same map as it; the two systems are applied upon one another, as the two halves of an orange (Merleau-Ponty 1968: 141).

There are at least two things here: a hand touching an object and a sentient object being touched, but in this case the object touched is the other hand of the person, the subject, doing the touching. There is a complexity here, as Merleau-Ponty shows, that denies the simple division between object and subject, between the perceived and perceiver. What is doing the touching is also being touched and vice versa. Merleau-Ponty points out the crisscrossing in which the touching and the tangible are but two sides of the same thing as are the two halves of an orange. The unifying structure of two hands touching is the inarguable singularity due to both being of the same human body. As Merleau-Ponty writes, “My two hands touch the same things because they are the hands of one same body” (Merleau-Ponty 1968: 141d). “The body unites us directly with the things through its own ontogenesis, by welding to one another the two outlines of which it is made, its two laps: the sensible mass it is and the mass of the sensible within it is born by segregation and upon which, as seer, it remains open” (Merleau-Ponty 1968: 136). “Our body is a being of two leaves, from one side a thing among things and otherwise what sees them and touches them; we say,

⁴⁷ I believe this example provides the “flesh” terminology Merleau-Ponty adopted. The difficulty with this terminology lies in its inevitable identity with substantive banal flesh, an identity we have constantly to deny even though it is the basic bodied experience we must always depend on as the basis for our understanding. There is a certain irony in the need to disembody, even dematerialize flesh, in order that it help us more fully understand our being lived-bodies.

because it is evident, that it unites these two properties within itself, and its double belongingness to the order of the 'object' and to the order of the 'subject' reveals to us quite unexpected relations between the two orders" (Merleau-Ponty 1968: 136).

This image of the body that is two yet one is clarified with Merleau-Ponty's discussion of chiasm (a cross piece, crossing place, or to mark with the letter *chi*), that is, a crisscrossing, intertwining, folding that he calls "flesh." Flesh is not stagnant or inanimate matter, but rather it is on the order of an element (in the same sense as fire, air, earth, and water) in the sense of being constitutive of reality.⁴⁸ I might prefer the term "structure-ality" to indicate a dynamic relationality. It is a texture, he says, (a woven fabric) that expresses the fundamental unity and continuity, yet allowing diversity, division, and opposition, that permeates all interrelated and interwoven pairings. It is no thing, but the formative medium of the subject and object. As a skin or fabric, flesh is two-sided—the sensitive and the sensed—yet where the two are not entirely separable from one another. The hand being touched is also capable of touching. The sides are reversible as are the insides and outsides of a jacket or glove or, to suggest a metaphor Merleau-Ponty did not use the windings of a möbius strip. A möbius strip is a single sided geometrical structure. It can be modeled by taking a thin strip of paper, giving it a half twist, and joining the ends together. At any point on the strip one can turn it over to confirm that it has a second side. By holding the paper between one's finger and thumb the finger is on one side, the thumb on the other. Yet, when one traces the extent of one side, say by marking a line along the length of the strip, it is continuous and single; the line meets itself without any break to move from one side to the other. The endless conjunction and continuity of inside and outside is also captured by the infinity sign this form takes as a three-dimensional object.⁴⁹

⁴⁸ The shift of flesh from the gross matter of the inspiring analogy, that is, two hands, to the elemental is a difficult one largely because of the gross physicality, the bloodiness that is almost inseparable from the word "flesh." Dancing, I'll suggest, is an important alternative.

⁴⁹ Merleau-Ponty did not refer to the möbius as a model. Elizabeth Grosz did apply it to his work (see Grosz 1994: 36). Merleau-Ponty

For Merleau-Ponty, the essential feature of flesh is its reversibility (a description of a structurality), the exchange between the inside and outside, the subjective and objective, the touching and the touched, the seeing and the seen, and so on. Which hand is touching; which is being touched? Which side of the möbius strip is the outside? The structurality that Merleau-Ponty calls flesh is characterized by reversibility, a capacity to fold in on itself, a reflexivity, a fundamental gap or dehiscence that is also continuity and connection of being that Merleau-Ponty shows is the operative relationality that makes possible perception, language, and thought. Merleau-Ponty did not explicitly give primacy to movement in his discussion, but there are plenty of signs he recognized it. And, of course, Renaud Barbaras, a leading authority on Merleau-Ponty, has written much on movement clearly developed from Merleau-Ponty. It is in the separation and division that perception, language, and thought occur; but were there not also a unity or interdependence among the parts, there would be no connection, no passage, no access from one part of a structure to the other. It is the reversibility of flesh—“a texture that returns to itself and conforms to itself” (Merleau-Ponty 1968: 146)—that offers the separation that is also continuity and therefore motivates movement and makes life possible.

As perception is the intertwining of the percipient and the perceptibles, Merleau-Ponty extends his notion beyond the boundaries of the human body in his understanding of what he called the “flesh of the world.” Merleau-Ponty attacks the self-other distinction that usually survives even those philosophies that interrelate or identify mind and body. He sees that to allow this radical separation, this dichotomy, would be to stop too

used an analogy that was quite close, “If one wants metaphors, it would be better to say that the body sensed and the body sentient are as the obverse and the reverse, or again, as two segments of one sole circular course which goes above from left to right and below from right to left, but which is but one sole movement in its two phases. And everything is said about the sensed body pertains to the whole of the sensible of which it is a part, and to the world” (Merleau-Ponty 1968: 138). His reference to one sole circular course is but a half twist from being a möbius and clearly the möbius would have served him as a better metaphor.

soon. “Is my body a thing, is it an idea? It is neither, being the measurant of the things. We will therefore have to recognize an ideality that is not alien to the flesh that gives it its axes, its depth, its dimensions” (Merleau-Ponty 1968: 162). Merleau-Ponty expands the understanding of body to extend beyond that space displaced by the physical body. The flesh of the world extends perception beyond the physical body, but, as importantly, it reconceptualizes the body as extending into the world. As the inner and outer are continuous (separable, but unified), as the body and mind, subject and object fit the same pattern, so too do the physical body and the world beyond it. This development is fundamental to Merleau-Ponty’s understanding of perception. Perception, as usually understood, bifurcates the perceiver and world perceive-ed, yet, for Merleau-Ponty, they are of the same fabric; they are both of the flesh of the world. He writes,

If the body is one sole body in its two phases, it incorporates into itself the whole of the sensible and with the same movement incorporates itself into a “Sensible in itself.” We have to reject the age-old assumptions that put the body in the world and the seer in the body, or, conversely, the world and the body in the seer as in a box. Where are we to put the limit between the body and the world, since the world is flesh? (Merleau-Ponty 1968: 138)

Otherwise, Merleau-Ponty argues, we would be in a world he finds impossible, a world divided into discontinuous paired members isolated from one another. The flesh of the world is the fabric that at once divides us from and unites us with the world in which we live, the world beyond the bounds of our physical bodies, the world that we perceive and experience. Here our sentient bodies are understood by Merleau-Ponty as belonging to the same flesh as non-self-sentient sensibility, as those things outside the body that we perceive as objects sensed. Merleau-Ponty argues that we can perceive that which is beyond us because our bodies share the same fabric, a fabric he calls the flesh of the world.⁵⁰ Merleau-Ponty investigates the bond that

⁵⁰ In Hall’s *The Hidden Dimension* (1966) proxemics explores how our physical bodies are surrounded by domains (bubbles) that can be characterized differently that extend us into the world seemingly

he calls flesh between the physical and the idea or internal image, the issue addressed by the title given his book, the bond between the visible and the invisible. He writes, ideas

could not be given to us *as ideas* except in the carnal experience. It is not only that we would find in that carnal experience the *occasion* to think them; it is that they owe their authority, their fascinating, indestructible power, precisely to the fact that they are in transparency behind the sensible, or in its heart (Merleau-Ponty 1968: 150).

He writes further,

The idea is this level, this dimension. It is therefore not a *de facto* invisible, like an object hidden behind another, and not an absolute invisible, which would have nothing to do with the visible. Rather it is the invisible *of this world*, that which inhabits the world, sustains it, and renders it visible, its own and interior possibility, the Being of this being. (Merleau-Ponty 1968: 151).

Merleau-Ponty's flesh ontology addresses the current most engaging cultural and intellectual problem: "is there intrinsic order in the world?" Merleau-Ponty articulates his understanding of this intrinsic order in the terms of this doubling structurality, this intertwining, this reversibility, this reciprocity, this flesh that makes possible, that grounds, that both distinguishes and unifies self and other.

For Merleau-Ponty the reversibility of flesh constitutes "the ultimate truth" (Merleau-Ponty 1968: 155).

Javanese-French Connection

Javanese philosophy as exemplified in shadow puppetry and classical dancing has provocative and tantalizing parallels to Merleau-Ponty's flesh ontology. It exhibits in the concrete terms of these artistic and cultural forms many of the attributes that Merleau-Ponty developed as an abstract discussion of flesh and in the Javanese examples we can perhaps more clearly see the intertwining, the reversibility, of the body and the body with that which is beyond the body; or turned inward, the body physical

outside of ourselves. Merleau-Ponty's work is, to me, far more radical. He argues that we are continuous with the world, of the same fabric, yet still distinct from it.

and the body of ideas and emotions, the outward body and the inward body. Interrelating the Javanese philosophical principles of distinctive human structuralities exemplified in shadow theater and classical dancing with Merleau-Ponty's flesh ontology develops and clarifies the way I am approaching dancing, here in terms I call self-othering.

Classical Javanese dancing exhibits the same self-othering structurality I have shown as basic to shadow theater yet interpreted for dancing. In Javanese dancing, the thing seen is the dance presenting the characters of the *lakon* as though projected on the bodies of the dancers. But where is the light? Where is the puppet? What is manipulated to present the appearance that is nothing, that exists only because of some occlusion? What in shadow puppetry is so neatly and unambiguously distinguished—puppet and shadow—are collapsed and seem inseparable in dancing, yet the fundamental structurality remains. The dancer and the dance, corresponding with puppet and shadow, are bound in unity in being the same body. Amazingly, and distinctive to dancing, the thing made by the body never leaves the body because it exists only in the body's self-movement, yet in some sense this thing made, the dance or a character danced, seems to transcend both the body and the dancer; it is identified as other. While dancer and dance are one, indeed identical, yet they are also separable. The self-movement of dancing is possible only as an aspect of the virtual distance that separates. Dancer and dance, as puppet and shadow in *wayang kulit*, are clearly and easily distinguishable, yet utterly inseparable.

Dancing, as exemplified by Javanese classical dancing, corresponds with Merleau-Ponty's much-studied example of one hand touching the other, in that object touched (perceptible) and subject touching (percipient) are at once distinct and the same. This is the interdependence and inseparability of self and other that I have been developing as self-othering. Dancer and dance are separate, yet intertwined in the dancing, as are toucher and thing touched in acts of touching. Yet, the dancer-dance example is, to my mind, richer in that it shares the distinction of the puppet-shadow example in exhibiting two entirely different orders of things—one immanent the other transcendent—rather than one order as in Merleau-Ponty's

example, that is the one hand touching another where both hands are of the same order. And the identity of dancer and dance realized in the self-movement, the self-othering, of dancing is also more powerful than simply two body parts (hands) connected by being of the same body as in Merleau-Ponty's example. Thus dancer-dancing is itself in a chiasmatic relation with Merleau-Ponty's principal flesh example in that it offers clarification and extension to his ontology of flesh, while in turn, his flesh ontology deepens our understanding of dancing as self-othering, the structurality most distinctive to humans. Indeed, even this peek at dancing considering the ontology of flesh causes a bursting open, a flowering that puts a smile on the face of our understanding of dancing because it contrasts so sharply with the common Western marginalization of dancing. Let me continue to show how dancing—comprised of the intertwining of dance and dancer, dancing and being danced—exhibits and is more deeply apprehended when understood, when seen, in the terms of self-othering.

Dancing is chiasm. Dancing is flesh. Dancing is self-othering. There is a Christian theological chiasm. The Christian cross is a chiasm exhibiting the transcendence of verticality and the immanence of horizontality. Christian theology is exemplified in Christ and the Christ event. As God the Father he is transcendent; as Jesus he is immanent. The two are distinct and radically separate, yet one, even identical. This chiasm is at the core of the story of Christianity. One would suppose that this paradoxical core of Christian theology would have been what created the distance, the desire (in Barbaras's 2006 terms) that has fueled Christian history. It is confounding to me that Christianity has throughout its history abandoned what seems a central aspect of the chiasm that is Christ by its devaluing the immanent aspect of the structurality and radically separating it from the transcendent aspect. To deny the visible or to make it suspect, as exemplified by the Christian attitude toward dancing, surely closes or denies the gap that energizes the movement that is vitality. The gap or distance that calls forth movement, that is moving, then would need to be created by other strategies as in negatively valuing what is unavoidable, the immanent, the body, the dancing. Dancing is often referred to as spiritual. One reading of this reference in the Christian context is that dancing

can be valued only to the extent there is a corresponding devaluing of the body. How else can this be understood when the contextual system of values radically separates body and spirit, and holds the body suspect? Dancing is accepted to the extent that it is not bodied. The dancing body is always a sentient body; a living, feeling body. Dancing is flesh, dancing is the play of the double, the möbiatic play of multiple bodies that are yet one body. The dancer—the named human being with distinctive personal history and physical appearance—imagines or knows a dance. The imagined or known dance is of the interior of the dancer as invisibles, ideas, or emotions. The danced body—that is, an often costumed moving sentient form—physically manifests the ideas as the dance, the actual or the visible. The dancing is the virtual self-moving, self-othering structurality that emerges in the gap that both separates and unites dancer and dance.

Dancing, the dancer manifesting the dance, can be seen as a movement from inside to outside, a projection of what is inwardly felt and imagined outward onto the body as a dance, but with the powerful effect of extending the sentience of the body throughout the real and imagined world. Dancing effects a realization of body that not only gives continuity between inside and outside but extends the body by the projection of its imagination and sentience into the world beyond the limits of the skin to the flesh of the world.

The inside-to-outside movement of dancing is doubled and reversed, that is, dancing is not simply expressing, a movement from inside to outside, it also moves from outside in. This looping aspect of dancing is easily demonstrated in several ways. At the psycho-biological level we know that dancing changes the way we feel. This is a principle of dance therapy. The rote embodying of fictional forms of movement has predictable effects on feelings. Whirling movements tend to entrance; jumping and bounding movements tend to quicken, brighten, and energize.

This outside to inside movement must also be understood in the broader frame beyond individual expression by recognizing that the dancing body is a construct of its historical and cultural experience. Moving gesturing bodies are always historical cultural bodies. The Javanese hold that comporting the outer body or *lahir* in culturally defined movements of refinement (*alus*) results

in the refinement of one's inner body or *batin*. That is, the dancing body is one way Javanese culture makes itself and provides an ongoing evolving reference to its cultural identity born as gestural and postural traits and values.

Merleau-Ponty and “Pure Depth”

As we contemplate the distinction between the clear physical separation between puppet and shadow in *wayang kulit* and the seeming collapse of that distinction in the physical identity of dancer and dance in *wayang wong*, Merleau-Ponty may inspire us further. In some sense this condition was his constant concern. How is it that self and other are separated yet inseparable? How can the perceptible and perceiver at once be at a distance but inseparable, of the same flesh? Dancing as self-othering is a structurality where distance is at the core of the very movement of dancing (Barbaras), yet that distance has no dimension. It is precisely in this respect that dancing is a distinctive human activity that can provide us insight into this most fundamental issue.

One way that Merleau-Ponty approached these most fundamental concerns is by a consideration of depth. How do we perceive depth? This is a basic issue for psychology, philosophy, and any studies of perception. Distance is key; yet distance must be understood relationally, and this suggests depth. The concern with how we perceive depth is an old one, usually understood as “a line endwise to the eye” (Berkeley 1709: 30) and was thought as derivatively perceived, added to an otherwise flat and static image produced by a two-dimensional array of radiant energy on the retinal surface. Maurice Merleau-Ponty and James Gibson (among others) rejected the classical explanation. Notably, Merleau-Ponty's ways of resolving the issue of distance and depth then become fundamental to his flesh ontology. Depth comes to be understood as that which both allows difference and distinctness while creating a bond or connection or identity between perceiver and perceived. The exploration of depth is necessarily complex, yet it leads to profound insight.

James Gibson's (1986) approach is environmental. For Gibson distance is an intrinsically dynamic concept that requires movement. We do not actually see depth but rather we see one

thing behind another. Movement reveals the occluding edges of objects that are separated and connected along the dimension of depth. Gibson formulates depth in terms of paradox, a “unity through disparity.” The environmental aspect of his approach is articulated in terms of *affordance*, as he termed it. Affordance is the value and meaning of things in the environment and value and meaning are always understood in terms of the relationship to the perceiver. Thus, depth is the dimension that points both to the object and to the perceiving subject. Depth is the significance of surfaces in relation to the body (see Cataldi 1993: 31-34).

Merleau-Ponty held that an essential aspect of every meaningful perception is a spatial orientation. It is always already there because it must be presupposed in the body holding some place in the world as the locale for perception. Depth is then a primordial spatial orientation. Merleau-Ponty holds that we come into the world as perceptible bodily beings; we belong to the flesh of the world. The body is already oriented by being a perceiving body inseparable from the perceiving-perceptible world.

The body has in its structure and behavior examples of distance and separation that are also unities. One hand touching the other hand is a favored example often contemplated by Merleau-Ponty. Another example is stereopsis, seeing a single image yet with two eyes. We, in fact, see the singular world clearly, under normal circumstances, through two eyes that *see* separate images. We can experience this difference by closing first one eye then the other in a variety of situations. Difference, separation, is easily confirmed. Yet so thankfully also is the unity of the visual image. Even vision situations in which there is a distinct disparity between the images separately seen by our two eyes get reconciled; they appear as a unified image that is nearly impossible to willfully separate. This separation yet unity is fundamental to Merleau-Ponty’s consideration of depth and interestingly, in the crossing of the optic nerves in which the left eye relates to the right brain and vice versa offers a rather literal example of Merleau-Ponty’s chiasm.

Depth at this naïve level then is understood as that dimension by which we see something from *here* that is at its place *there*. The *here* and *there* are contemporary in our experience. Here and

there are joined in time through their visibility and this is *depth*, a space of “copresent implication.” Depth is inseparable from movement [moving]. Gibson appreciated movement for the discernment of occluding edges. Merleau-Ponty appreciates depth as a “sensitive space,” as “living movement,” as “lived distance.”⁵¹ Barbaras, in the lineage of Merleau-Ponty, understands living movement [i.e., moving] as fundamental. Depth, in this progressive consideration, becomes increasingly profound. It is the dimension that contemporaneously unites and separates; it is the condition of living movement, vitality. It is “a thick view of time.” Depth is the “most existential dimension” (Cataldi 1993:45).

Depth, we might call it more properly *pure depth*, when taken in this most profound sense, is a dimension that is primordial, allowing the perception of distance and the value of the distant. Primordial depth does not yet operate between objects, between perceiver and percipient. *Pure depth* is depth without distance from here (Cataldi 1993:48). In its thickness, depth preceding perception is perhaps difficult to grasp. Merleau-Ponty offers an analogy that both depends on vision and foils vision to the point of replacing it with touch, with feeling. This lever is *dark space*, the visual experience of night or darkness. In darkness seeing is thwarted, yet seeing into the darkness elicits a feeling of thickness, a density, a materiality, a tangibility, an intimacy. In dark space everything is obscure and mysterious. Eugene Minkowski, an early twentieth century psychiatrist, who offered the idea of *dark space*, held that “the essence of dark space is mystery” (Minkowski 1933: 429 in Cataldi 1993: 49) The experience of dark space provides a means of understanding pure depth. Pure depth is depth without foreground or background, without surfaces and without any distances separating it from me. Minkowski understood dark space, which Merleau-Ponty identifies with pure depth, as “the depth of our being,” as “the true source of our life” (Minkowski in Cataldi 1993: 50).

⁵¹ Erwin Straus clarifies, “Distance is a primal phenomenon ... there is no distance without a sensing and mobile subject; there is no sentience without distance.” Quoted from his *The Primary World of Senses* in Cataldi, *Emotion, Depth, and Flesh*, 45.

Pure depth is key to understanding flesh which, like pure depth, as pure depth, is always already there as *precessive*, that is, “the formative medium of the subject and object” and as *progenitive*, the “inauguration of the where and when.” (Merleau-Ponty 1968: 149). The moving body is fundamental to flesh, because through movement flesh begins to understand itself or become aware of itself (Cataldi 1993: 61). Flesh, without the moving body, is not yet even a possibility in that percipience is disconnected from perception. The body in living movement is then, as Merleau-Ponty termed it, a *percipient-perceptible*, that is, an entity possessing the potential to perceive while also being capable of being perceived. The living movement is an intertwining of two sides, the adherence of a self-sentient side to a sensible side. The moving body blurs the boundary between the flesh of the world (depth) and our own bodily flesh. The body as the environment (the world) comes to exist then in an ambience, a primordial given, of depth, the hidden dimension behind everything (Cataldi 1993: 61).

This doubling is for Merleau-Ponty a *reversibility*. Reversibility is a way he used to express the interconnection among distinctions. A subject requires an object and vice versa; they are reversible. As vital movement subject and object oscillate. Moving is an essential quality of reversibility; moving is necessary to occlusion, for perception to take place. Yet, this reversibility is never complete. This incompleteness is a fascinating phase in this argument. Complete reversibility would result in identity among the distinctions and a collapse of perception through the cessation of moving. Without a negativity or incompleteness (difference) there is no desire (to use Barbaras’s term) manifest as moving. Were the touching of one hand with the other to be completely reversible it would not be possible to distinguish one hand from the other, the touching from the touched. The images provided by each eye would be the same and there would be no negotiation and reconciliation between the two, no vision. The term *chiasm* here identifies this gap or cross-over space; chiasm is always also chasm. There must remain this undetectable and unbridgeable space or gap or hiddenness for reversibility to be incomplete. Incomplete reversibility is not some flaw to be overcome in perception, it is rather the very motor that drives the moving of reversibility that allows for simultaneous

interdependence and distance. Since the chiasm is hidden, since chiasm precedes and makes possible reversibility, it can be thought of as depth or better as pure depth as analogized by dark space, but equally if not more powerfully by dancing. Chiasm, pure depth, this incompleteness is the source or condition of percipience and at the same time unifies flesh ontology.

The Javanese usually say that *wayang kulit* is the foundation for all Javanese arts. Perhaps this is because it offers a powerful analogy by which to comprehend *pure depth* through dimension and actual distance. From our perspective outside of Java, the amazing experience of witnessing Javanese classical dancing is penetrating in its demonstration of pure depth through the self-othering structurality of dancing. Dancing is always creating a virtual other. The dancer is the corporeal aspect of the incorporeality of this virtual other. They are separated in some ways that can never be united; this is the negative that is living movement. They are united in their separateness as the living experience of pure depth. The self-othering that is dancing is living moving pure depth.

Reflections on Java

As I approach Borobudur, I know that I should circumambulate the temple, progressing through the levels, keeping the center on my right as is appropriate to the right-handed tantric method. I should study and decipher the many tales depicted in the thousands of bas relief images on the inner and outer walls of the open-air corridors that surround level after ascending level. Only after gaining this knowledge will it be appropriate for me to finally emerge at the upper open levels to suddenly experience the enlightenment of an open outward gaze. At this sunrise hour, my eagerness is uncontainable, I ignore the imagined tradition and, somewhat guiltily, bound quickly up the eastern steep stairs, noting the portals through which I pass. Exploding onto the open terraces atop the temple I find myself among the latticework stupas each containing a statue of the Buddha. Most of these Buddhas are without hands, all are looking outward across the expansive and varied landscape. This morning as we—the Buddhas and I—look, we contemplate, they more patiently than I, the forest of palms with the occasional majestic hardwood tree rising above. The forest is afloat this early morning in a sea of gray fog; soft, calm, mysterious. I feel that I am at the still center of the universe. I sit on the upper terrace behind a stupa left open by modern reconstructions so the sitting Buddha can more easily be seen and

appreciated by me and my fellow tourists. Sitting here I think about the centuries this Buddha has patiently held his mudra and his gaze. I try to imagine myself a Buddha sitting here for a thousand years. Though it has countless moods, I doubt the landscape has changed all that much in this long time. The Buddha is calm, patient, confident. Perhaps he is telling me that life is transient—it comes, it passes away; that not even he is permanent; the best one can do is to be what one is, to be centered and calm and patient, to watch but also to be a part of the endless cycles in which one has a moment of existence; to be the stories that constitute one's existence.

Now in the sultan's palace, having made my way through a political protest carried on by a crowd of rowdy youths dressed in blood-red head bands and black tee shirts revving the engines of their smoky motor bikes and protesting through cheap crackling loudspeakers, I observe the dancing. Dressed in immaculate costume, their faces utterly calm yet acutely attentive, the dancers approach the dance pavilion and squat to enter the floor using the waddling step that shows their respect for the Sultan, though he is not present today. The dances are not irrelevant to the political actions just beyond the kraton walls, though I suspect the enthusiastic youths would have little interest in or see any relevance to these dances—at least not today. The dance is the bedoyo. The dance presents nine sea nymphs dressed as royal brides. They dance in perfect unison swaying gently like seaweed moved by water currents. Their palpable presence as sea nymphs is extraordinary self-othering; it takes considerable effort to find any presence of the human dancers. Yet the power of this presence is its uncanny otherness, an otherness that is wholly due to the dancers always also being there, at the occluded edges.

In their energized calmness, through their ability to control, in the fictions they dance, the dancers, like the Buddha at Borobudur, have created in their dancing the calm yet vital center of the whirling chaotic world of Javanese existence. As powerful as is the message of the great temple and as amazed as I am at the unfathomable inspiration and imagination of the temple's architects and builders, I am more deeply moved by this dancing. It is at once more accessible through the amazing skills of the dancers and the experience is even more powerful. The dancer is the live medium of her art and her product is nothing more, nor certainly less, than herself, her body danced, othered into anything imaginable. The dance is entirely ephemeral, passing away as it comes into being. As fragile as it is, by giving life to the gods, the stories, and the world, the dancing quickens even the cold stones of Borobudur.

Afterword (2024)

I have elected to include this chapter from my 2012 book *Dancing Culture Religion* largely because I am somewhat astounded that many of the core ideas about which I currently feel so strongly and urgently have a nascent presence in this chapter and others in this book as well. This book was written when I was immersed in dancing and teaching dancing with the philosophical ideas desperately sought to support my efforts to create an understanding of dancing based in the cultural forms of dancing found around the world rather than the more common grounding in ballet and modern dancing. I had yet to explore broader philosophical works or the biological elements I now believe to be so important.

While there is some clumsiness in my writing, I am pleased to find early efforts to articulate what I now refer to as “aesthetic of impossibles” and even more surprisingly I find a discussion of “mirroring and doubling.” I now see these—aesthetic of impossibles and mirroring/doubling—as core notions to the comprehension and articulation of the distinctively human. I can also see that I was beginning to recognize the moving aspect of dancing to be of central importance, yet it seems that I was still thinking of moving as being as somehow secondary or derivative. In my *On Moving* (2022) I finally realized that, based on human biology, it is the moving itself that is generative of coherence and vitality. See also the final essay in volume 2 “The Mirror World: The Poetry is in the Difference” for fuller development of these ideas.

On Moving⁵²

Born Moving

Excitement with a tinge of fear keeps us on edge. The time has finally come. After months of anticipation, labor has advanced. Birth is near. Unspeakable pain with utter joy. Boy or girl? Healthy? It's here! It's a girl! She's moving! She's breathing. Relief. All jump for joy and shout "congratulations." A quick count of her fingers and toes in the timeless and quaint ritual measure of wholeness. Yep, all is well, moving, breathing, with ten fingers and toes.

Early human development is a miracle in motion. I've been fortunate enough to have three grandchildren whose early development I have been able to regularly observe. It is nothing short of unfathomable that in but two years' time, human life goes from a little fragile less-than-ten-pound bundle that mostly sucks and poops and cries and wiggles to a little character that

⁵² Among the most important developments I have experienced one came from my biological and philosophical inquiries into moving that was demanded by my decades of dancing. I shifted from the conventional nominal conception "movement" to the gerund/verb/ process emphasis of "moving." Moving, particularly what I call self-moving to indicate biologically active moving, is not adequately understood as something the body does, although this is accurate. More satisfying, moving is life-force and it is inseparable from experience, the distinction of coherence and incoherence, and the mechanisms of perception. In brief, as it has evolved in a distinct way in human beings it allows an engaging articulation of human distinctiveness. My fullest exploration and discussion of self-moving is in my book *On Moving: A Biological & Philosophical Account of Human Distinctiveness* (2022). For a sense of my excitement, I have selected several essays from that book.

can run and jump and speak and tell jokes and identify colors and engage in a huge range of social, intellectual, and physical skills. And even more remarkable is the hidden nine-month development from two joined cells to trillions of cells organized in a bunch of biological systems that work smoothly together to sustain life. This is biology, but not mere biology. It is a person, a living human being. I'm amazed that our culture seems so eager to dismiss and discount the body,⁵³ often with prejudice, preferring some vague constructs like mind or spirit or soul as offering a more adequate way of distinguishing who we are. The biology that transcends itself is more than good enough for me.

We are born into the world moving. From birth to death, moving is the go-to measure of the presence of life. A nonliving birth is referred to as a "stillbirth" and death is marked by the absence of breath, the rising and falling chest, and moving. As a

⁵³ I'm writing shortly after SCOTUS decision on Dobbs (2022). I feel it essential to include a comment. As a student of religion, I have gradually over many decades come to foreground the biological commonality among human beings and all animate organisms. These complex systems are also echoed beyond biology. I've found myself moving to this biological and philosophical space largely as a strategy to consider all life on some equal footing, the natural processes of biology and the reflective self-awareness needed for philosophy. While in this first paragraph I've focused on the amazing biological processes of a pre-natal being, it must be recognized that the development of this being is impossible without that of its mother and father. One must also recognize that, as I'll consider repeatedly in these essays, human beings are distinct among their animal kin in their capacity to be self-reflective and to have agency beyond necessity. My studies of religion and culture and history, indeed the very existence of these realms of human life, attest to this capacity. It is of the distinctive nature of human beings to reflect on and to make choices about themselves and their communities and their environment. Human history might be written on the theme of how this remarkable human capacity for choice and agency is gained and lost, fought for, and denied. To be clear it is my conviction that prohibiting human beings from their freedom to make choices and have agency, especially as related to their private lives, and to insert the will of the state is, in the context of "the land of the free," blatantly un-American but even more so egregiously anti-human.

fetus comes to life in the womb it is the mother's feeling it moving that assures her it is alive.

In her book *The Primacy of Movement* (1999 2nd ed 2011) philosopher Maxine Sheets-Johnstone⁵⁴ writes

In the beginning, we are simply infused with movement—not merely with a propensity to move, but with the real thing. This primal animateness, this original kinetic spontaneity that infuses our being and defines our aliveness is our point of departure for living in the world and making sense of it. . . . We literally discover ourselves in movement. We grow kinetically into our bodies. In particular, we grow into those distinctive ways of moving that come with our being the bodies we are. In our spontaneity of movement, we discover arms that extend, spines that bend, knees that flex, mouths that shut, and so on. We make sense of ourselves in the course of moving. (136)

We are not taught how to move. At birth we automatically grope about with arms and legs, suck, and cry. Throughout life many kinds of movings are acquired. Some of them are the natural and inevitable markers of human development: creeping, rolling, crawling, toddling, walking, running, throwing, playing. None of these movings need be taught to acquire. They accompany our species biology. Other kinds of moving are acquired or enhanced through instruction and practice. We learn—we are taught and critically guided through highly repetitive practice—sports and music and dancing and endless other activities, skills, and gestures based on the potential of the human body's design for moving.

Humans share with all animals the fundamental importance of moving. The word “animal” came to use in the early four-

⁵⁴ Maxine Sheets-Johnstone's *Primacy of Movement* has had a powerful impact on my reflections on moving. While she does not emphasize the distinction between movement and moving—no one really does—that, as I'll show is important to me, she makes a powerful argument for the claim stated in the title of her long and rich book. What I have attempted to do in my ongoing studies of and writings on moving—shaped by Sheets-Johnstone, and by a few other philosophers, neuroscientists, and physiologists, as well as my own dancing and moving life—is to take this premise as radically as possible.

teenth century to indicate “any sentient living creature” including humans. Its Latin root *animale* means “living being, being which breathes” with historically deeper roots indicating “to breathe.” From the 1540s the word narrowed a bit to indicate “pertaining to sensation” and a century later it was refined even more to distinguish the animal kingdom from vegetable and mineral kingdoms. This narrowing of the term’s meaning anticipated the development of the classification (taxonomic) system developed by the Swedish naturalist Carolus Linnaeus (1707-1778) that formalized kingdom, genus, and species. Generally, animals are sentient living beings that can move themselves. The distinctions among animal species often include attention to styles and modes of motility, how they move: swim; slither; crawl; having many, four, or two legs. Motility is acquired and refined differently among animals as well. Within minutes of birth, a foal manages to stand on wobbly legs and soon thereafter frolics about. Humans take months to stand on unsteady legs and take tentative and precarious steps. Yet we humans share the identity of life indicated by self-moving with all animals from amoebas to ants to aardvarks to apes to Adam. It is essential that we recognize our kinship with all animals.

Philosophers from Plato (427-347 BC) to René Descartes (1596-1650) to many in the present have emphasized that life is some sort of nonmaterial essence, perhaps eternal, referred to by various terms such as soul, spirit, ghost, even mind. Of course, this belief is a common indicator of religion. These cultural systems have tended to break apart the wholeness of animate life into such bifurcation as spirit/body, mind/body, self/body, oddly recently even brain/body. The result is often a relative diminishing of the bodied aspects of our existence. The body is often discounted as temporary, sinful, dirty, prone to illness and decay, and mortal. Gender distinctions often have unfortunate consequences when, as common in Western history, males are associated with mind and females with body. Yet males are the brute sex, females the fair. How odd! Such widely held and unquestioned views often encourage us to focus on fixing, controlling, flaunting, being embarrassed by, feeling overwhelmed by the simple fact that we are moving bodies. We often feel ourselves separate and distant from our bodies. We may try to ignore our bodies or control them. Yet, what is lost

is the simple wisdom we all know from experience—life and moving are more than just connected, they are identical. Philosophies (philosophy means “love of wisdom”), although concerned with truth, reality, knowledge, and experience, rarely focus on body beyond being a container or a vehicle or a tool, unfortunately ignoring the remarkable aspects of the vital creative capacity of bodies to move themselves. The primacy of moving is pretty much ignored. Religions, as I’ve studied them, often have irresolvable conflicting concerns with body. Moving bodies are at the core of ritual and essential to the stories of founders and prophets and leaders and martyrs and saints and saviors. Miracles are focused on bodied things. Yet soul, spirit, and the non-material essences tend to dominate, as also do mind and thought. Christianity, for example, centers on the Christ event, a bloody crucifixion and bodily resurrection. The central rites have to do with consuming the fleshy body and blood of the Christ. Yet throughout its history Christianity has expressed disdain, at best embarrassment, towards human bodies. Fascinating.

The German philosopher and mathematician, Edmund Husserl (1859-1938), was a founder of a highly influential philosophical movement called phenomenology that focuses on experience and consciousness. He used the term “animate organism” to indicate a complex yet whole organism, comprised of many systems and parts, that moves and in moving discerns itself and its environment. Even amoebas, as evidenced by their movings, distinguish among things they encounter in their environment. The notion of animals, including humans, as animate organisms, returns us to our simple folk wisdom experienced at childbirth and throughout life: we create and discover ourselves and our world through encounters experienced as we move ourselves about.

Our history and culture have encouraged us to think of ourselves as divided beings with our parts often in conflict. We feel our bodies and minds, our bodies and souls, get out of whack with one another. Philosopher Maurice Merleau-Ponty (1908-1961) offered the conjoined terms “minded body” and “bodied mind.” We strategize about how to balance or sync or unify or harmonize mind and body, body and spirit. Yet, like Humpty Dumpty of the classic nursery rhyme, after falling off

the wall—a fall reminiscent of cultural and religious systems that focus on the Fall of Man, the inherently sinful body—“all the king’s horses and all the king’s men cannot put Humpty together again.” We find ourselves in this never-ending struggle with the facts that we are already and always have been whole moving bodies and that there is a primacy to self-moving.

Without rejecting religious or cultural ideas and beliefs or philosophies, by trusting the obvious identity of life and moving we can focus on the whole-bodied, environment-connecting, self-engaging art and skill of moving. Humpty atop the wall before falling and breaking apart. The view is better. We can gain greater experience of health and wholeness and richness of life by realizing—experiencing and appreciating—that we are from our beginning whole complex bodies that in our moving about create and discover ourselves and the world in which we live.

What an emphasis on self-moving accomplishes is more than simply a wholeness preceding the Cartesian rupture or the Fall. It offers a different course that accompanies the dynamics of these distinctions once made. Moving, as I’ll show, while thoroughly corporeal (of the body) is also transcendent and incorporeal (virtual, nonmaterial). The nature of moving is that it always impossibly conjoins here and there but never being in either place. Moving is fully body, physiological and biological, yet also entwined with environment. The dynamics of these and other impossibles is the very force of life. Self-moving is at once wholly body and yet transcendent. It is in light of this *aesthetic of impossibles* that I’ll explore moving.

Moving is Being in No Place

If we pay attention to our feelings, we often encounter things that surprise us. Too often we dismiss the potential of being surprised. Surprise is a feeling kind of knowing that underlies our creative and innovative lives. The American philosopher, Charles Sanders Peirce (1839-1914), was, throughout his life, deeply interested in how we discover new things, how we come up with something new. His philosophy has much informed my view of creativity and novelty.⁵⁵ In technical terms, how do we

⁵⁵ See “To Risk Meaning Nothing: Charles Sanders Peirce and the Logic of Discovery” in my Gill 2019a and reprinted in this collection.

give birth to hypotheses? He gave much attention to the felt experience of surprise and to the processes he eventually identified as play. Surprise is the felt reaction to the awareness of incongruity, incoherence, the absence of fit. Surprise is not the logical consequence of a studied reasoned process. It does not occur as the result of our attempt to feel it; such would ruin the surprise. It is largely subjective and individual. What surprises one may not surprise another. Surprise is a feeling that may foreshadow the need for reason and further consideration. Surprise nudges us to concoct a possible explanation whose acceptance or confirmation would resolve the driving force of surprise. Surprise inspires the “what if?” iterative process that produces many possibilities in search of a resolution. In more formal language and in more formal settings surprise inspires hypothetical inference, that is, the imaginative playing with options to find the best guess as to why something surprises by not making sense or even by making sense in an unexpected and unanticipated way. The best guess, formally stated, becomes a hypothesis to test. Much of the scientific method is focused on induction and deduction, both demanding facts and reason to test hypotheses, but these two methods do not include the process by which hypotheses come about. Peirce used the term “abduction,” which means moving away from the center as well as to carry off by force, as synonymous with the creative process of hypothetical inference. Abduction is followed by induction and deduction.

There are key insights related to surprise as the basis for knowing and creativity. Incongruity, which we often find painful or uncomfortable or a persistent niggling, is essential to creativity and innovation. Popular psychology urges us to find balance, or coherence, or meaning. Yet, it often does not recognize that it is the incongruity that surprises that leads to thinking, reflecting, acting, all essential to creativity and the advancement of knowledge. French philosopher Paul Ricoeur (1913-2005) observed “Incongruity gives rise to thought.” We often ignore the surprise of the incongruous, the incoherent, the nonlinear, yet embracing surprise may open the door to discovery and growth. While we often restrict knowing and learning to purely mental and abstract processes, the foundation for real and significant discovery and new knowledge is based on feelings—

hunches and guesses and especially the feeling of surprise—and feelings are inseparable from the subjective self-moving body that comprises the history of individuals.

This brief discussion of surprise and discovery provides context for one of my own stories of discovery. Some years ago, I experienced surprise that gave rise to a long history of inquiry. Reading Brian Massumi's 2002 book *Parables for the Virtual*, I came across his brief phrase "moving is being in no place." Wait! How can this be? Hmm. But then, come to think of it, this is obvious! To put moving in place is to deny it its most essential quality of ongoingness, the -ing of moving. Why am I surprised? Hmm. Because, it slowly dawned on me, we usually don't think of *moving*, we think of *movement*. And historically, culturally, this vocabulary choice privileges being *in place*. Movement is preferred in our language and thus our thinking. It means a change in place or position. What is the significance of this difference? Who cares? Is this not just a matter of word choice and has little to do with anything important? My own bodied experience regarding moving, as I reflect on it, is not that of merely a change of position, even if my language favors it. My experience is of flow, of process, of ... wait ... oh yes, of life itself. That's significant and important, right?

Moving is being in no place. It is ongoingness. Yet, in all this seeming abstractness and virtuality, it necessarily implicates relative location from and to, here and there, a vectored or direction-oriented going. As Erin Manning wrote, moving is "qualitative multiplicity . . . becoming toward a potential future that will always remain not-yet." Moving may be the most primal aesthetic of impossibles.⁵⁶ In common sense, moving implicates something that is ongoing against a ground or ether. This use of the term "ether" refers to a medium that in the wave theory of light was once thought to permeate all space as ground enabling moving light waves. For millennia, the stars were thought to be features on a fixed dome of the heavens. With the knowledge

⁵⁶ Surprise! In gathering these essays, my review of "Self-Othering" in Gill 2012 includes a discussion of Merleau-Ponty's understanding of depth. He noted that depth implies the copresence of *here* and *there* and the perception of depth involves moving that occludes. Hypotheses rising.

that light is composed of waves, it was believed that these waves needed some medium or matrix to allow them to travel across space, something like water or air, some fixed fabric to all of space. Yet the 1887 Michelson–Morley experiment designed to confirm the existence of this ether failed. The surprise of this failure, this unexplained incongruity, led to relativity theory in modern physics. We might think of relativity theory in physics as equivalent to the philosophical statement “moving is being in no place.” While the ongoingness of all moving bodies is detectable, it is so only relative to other ongoing moving bodies. There is no fixed and unmoving ground. The center does not hold because it does not exist. Movement, that is, change of place, is always trumped by moving, since place itself, no matter how seemingly fixed, is also always moving. While this example is seemingly so cosmic, so mathematical, so abstract, so philosophical, it coincides with the persistent relativity of our common experience of life.

The Greek engineer Archimedes (287-212 BCE) is said to have proclaimed “give me a place to stand on and I can move the world.”⁵⁷ While the context of this statement was believed to have been about the nature of levers, it has commonly been interpreted, consistent with the common preference for movement rather than moving, as attesting to the importance of place. Archimedes’ adage is often cited to beseech one to find or proclaim place on which to “take a stand.” Yet we might also interpret Archimedes’ wisdom in terms of the agentive focus, that is, to move the world. Surely, he was primarily interested in moving the world rather than in any location of or change of place.

Our existence, our life, as human beings is inseparable from self-moving, from the physiological miracle of being an organ-

⁵⁷ My mentor, the late Jonathan Z. Smith (1937-2017), often quoted Archimedes to communicate his sense of the importance of scholars being relentlessly self-reflective, by which he understood their selection of a place to stand on, holding that a theory or body of precedent pretty much determines the outcomes of the resulting academic studies. I have reflected extensively on Smith’s influence on my academic life in *The Proper Study of Religion: Building on Jonathan Z. Smith* (2021). The final chapter of that book is reprinted in this collection.

ism that is biologically capable of moving itself, but also of having amazingly sophisticated sensory systems that allow us to be aware of this ongoingness, this moving, this being in no place. It is an awareness, a cognizance, of an abstractness of moving that transcends its biology, its mere physicality. We sense an incorporeality, that is a nonmateriality or virtuality, coexisting with the brute corporeality of moving. Moving is at once fully body, engaging the full capabilities of physical body, and moving is also transcendent and virtual, the denial of place and any fixedness because the essence of movings is ongoingness. This felt knowing experience of the copresence of the material and the transcendent, of the body and its life force, gives a powerful foundation to our species designation as Knowing Humans (*Homo sapiens*). Our very knowing is at once necessarily bodied, corporeal, as well as transcendent, virtual, a force, ongoing moving, process, life. Copresent impossibles.

To experience ourselves as the impossible conjunction, *incorporeal corporeality*, that is the experience of being a moving body, is to tap the core of the evolved capacities that distinguish us, as our own species among other animals. Other animals do not reflect on or contemplate the nature of their own moving lives. This moving-based experience of and conscious awareness and experience of this copresence that I call an *aesthetic of impossibles* is what distinguishes humans. I believe that it is this common human experience that leads to so many human actions and behaviors that depend on the embrace of impossibles that coexist by necessity: religion, art, language, play.

Moving Bodies

“When I think of my body and ask what it does to earn the name, two things stand out. It *moves*. It *feels*. In fact, it does both at the same time. It moves as it feels, and it feels itself moving.” These are the first sentences in Brian Massumi’s provocative 2002 book *Parables for the Virtual: Movement, Affect, Sensation*. These statements, if you think about them, are prosaic. They state what each of us experiences all the time. Massumi reveals nothing we cannot confirm upon reflection. None the less I’ve returned to these sentences many times because I find they express in bold simple terms profound wisdom about human self-moving.

I'm stirred by the wonder of our moving bodies. How is it that bodies move? Move themselves? How can the moving that the body is and does be initiated? Doesn't something need to be already moving for moving to occur? Does something give it a shove? How is it possible that we feel our bodies moving? To feel ourselves moving is outside the purview of the common five senses. Yet it is this feeling of ourselves moving that is at the core of our experience as well as our sense of truth. When we take even cursory note of the feelings related to our moving, we discover that they are remarkably complex. It is common to feel moving in specific localities, a finger or even a muscle. Put your hand behind your back and move just your first finger. So easy, we not only can control the specific movement, but we can also mentally see and feel it moving. How is this moving/seeing/feeling possible? What do I do to get my finger to move? And then, when I can't see it, how do I know it is moving? I somehow feel it moving. These capacities to feel, to move, to feel moving simply astound me. We also have a general awareness that we, our whole being, our whole organism, is moving, both all the time and, in the moment, in specific ways like playing, running, dancing. If we are a skilled mover, we also feel the quality of our specific movings. We feel our location as bodies moving in the world. And we feel the trajectories and destinations—our finger scratching our ear, our performing a back flip, our playing a melody on a guitar—of our many body parts even when we cannot see them. We feel the difference between our two hands touching, even the difference of one of them touching the other (the touching hand and the touched hand), yet we also feel both hands to be me, my hands. I can use my shoulder as a tool to bang open a door thinking of my shoulder as a thing, a ram, a tool, yet it is still me, of my whole moving being. It is at once an object I use, and the subject I am. How can I think of my moving self as both subject and object at the same time? Clearly distinct, yet identical. Moving and touching—which we often call feeling—seem intertwined, yet also distinct. We notice that these feelings of moving are not limited to sensory place locators, we also feel an array of qualities to be stitched to our movings. We often refer to these feelings as moods and emotions. Isn't it fitting that the word "motion" is embedded in emotion, yet might we be more accurate to call them e-movings? Maybe too

far! The terms by which we describe some emotions—pleasure, joy, depression, anger, rage, elation—correlate closely with qualities of moving related feelings. Technical aspects of moving are felt as tension and resistance, smoothness and jerkiness, coherence and incoherence. We commonly experience pleasure or discomfort, sometimes pain, in our moving. The quality of feeling related to our moving is a measure of our health, age, fitness, emotion. There is delight in moving, ask any four-year-old—they run everywhere no matter the distance—or a dancer or an athlete. They also experience the feeling of grace in moving. Can we comprehend such an important quality as grace without it being a characterization of the feeling of moving bodies?

There are biological and philosophical ways of understanding and appreciating how the human body moves and feels as it is moving. Both inform the practical concerns of developing healthy moving bodies. Biologically we need to consider *proprioception* (self-perception) which is a complex system spread throughout the body, especially in the muscles and joints, that directly senses the actual moving in progress and adjusts in an ongoing process to refine the moving. A property associated with proprioception is *kinesthesia*, the mechanism by which we feel ourselves moving, both to locate the moving body parts as well as the quality of the moving. Moving is foundational to all perception. Moving is linked with how we experience and reckon time. Moving is important in our perception of depth. Neuroscientists often describe the brain and nervous system as designed to facilitate the moving body. Proprioception and kinesthesia have termini in the cord and brain as well as in muscles and ligaments. The shaping of synaptic criteria serves the formation of neuronal groupings—memories, motor programs or synergies—that allow the performance of complex and refined tasks such as skills and gestures. Philosophically, moving is associated with developing a sense of self as well as the surrounding world in which we live and move. Moving is the foundation for concept formation. It is essential to even such seemingly abstract notions as transcendence and those of pure mathematics. Moving body is key to what we refer to as body image, how we think others see us, and body schema, our objective moving biological body. All these aspects of moving

help us to not only appreciate that our moving bodies are how we create and discover ourselves and the world, but they are also essential to our efforts to understand healthy moving and to create practical ongoing skills of moving that contribute to a healthy life. Even our understanding of health is assessed and articulated in terms related to self-moving.

One fundamental concern I have, a bit of a pet peeve, has to do with the common word “embody” and its forms and synonyms. The verb embody means “to be an expression of or give a tangible or visible form to such things as an idea, quality, or feeling.” We say things like “that team *embodies* competitive spirit and skill” or “George Washington *embodied* so many of the virtues that Americans hold dear.” While there are many appropriate uses of the embody terms,⁵⁸ there are some uses that refer to the human or animal body about which I suggest caution. The prefix *em-* modifies word meaning to indicate “put in or into, bring to a certain state.” Statements like “we humans are embodied” or phrases that designate embodiment like “I have a strange relationship with my body” or “I don’t feel

⁵⁸ As evident in her title, *Agency & Embodiment: Performing Gestures/Producing Culture* (2009), Carrie Noland retains the use of the term embodiment which she describes as “the process whereby collective behaviors and beliefs, acquired through acculturation, are rendered individual and ‘lived’ at the level of the body” (9). She depends primarily on the work of the anthropologist, Thomas J. Csordas, who has argued in several publications for embodiment as a paradigm for anthropology. My distinction, picky and technical as it might be considered, is that I simply don’t see an alternative to behaviors and beliefs being even possible apart from body. The best one could argue, given Noland’s definition, is that they exist somehow abstractly as “collective behaviors and beliefs” yet surely anything called behavior is incomprehensible apart from moving body. While it is certainly legitimate to use a term like collective behavior, it can be given no substance apart from an abstraction based on a collection of individuals. Behavior is always body. Body is always individual yet existing in the environment including other social and cultural bodies and the entire world. The danger in using the term embody is that on the one hand it defies the primacy of self-moving by making it somehow the result of the collective and on the other hand it foregrounds the tendency of Cartesian views to see the body as but a container or vehicle.

comfortable in my body” have implications I believe we should be aware of and cautious about. These embodiment statements denote a distinction indicating that identity is some nonmaterial essence, spirit, soul, or ghost that merely lives in a body, perhaps on a temporary basis like a renter. Granted that many religions, some philosophies, and lots of folk hold such ideas, there are benefits to avoiding the assumptions of this separation. This separation of self from body dates from antiquity yet the strongest influence that shaped the modern near ubiquitous assumption of this separation is René Descartes (1596-1650) whose “I think, therefore I am” (*cogito ergo sum*) on the face of it places primacy with thinking, with mind, leaving the body with but a vehicular role, as regrettably necessary. Yet, apart from religious usages which require their own consideration, the idea that we move in and out of a body suggests pathology, a broken Humpty Dumpty that must be put back together, if only we could, even with the aid of all the king’s horses. I am skeptical regarding the vogue for assuming that we are all (by nature? by original sin?) broken and ill and need to be healed, centered, balanced, reunited with ourselves. Animate organisms, to use Edmund Husserl’s term, including human beings, are moving bodies, whole and complete, with wondrous near-unfathomable capabilities and potentialities. While in some contexts it may be suitable to imagine ourselves apart from our moving bodies, I believe we must avoid the assumption that our makeup is a disjointed composition. The assumption that we are whole, if complex and constantly varying, gives us a more direct and satisfying way to appreciate in practical terms, as well as in biological and philosophical terms, what it is to be an animate being. It may also help us understand why and how we humans tend to conceive of such bifurcations. My simple rule is that it is fine to use the word “embody” and its synonyms to give tangible or visible form to ideas, qualities, or feelings—a metaphorical use. Caution needs to be taken for uses that sever human identity objectively into essence and matter.⁵⁹ To foreground moving

⁵⁹ My discourse *On Moving* is about constant change and it excites me to discover aspects of my understanding that need development. Reading Naomi Klein’s *Doppelgänger: A Trip into the Mirror World* (2023) opened ongoing possibilities. Whereas my idea of aesthetic of

bodies is to assume wholeness and health and to emphasize seeking the fullest appreciation and realization of being human.

Gesture, Posture, Prosthesis Nexus

The body is this being that exists in the mode of relationship and comes back to itself—constitutes itself on the basis of its entry into exteriority.

Renaud Barbaras

Maurice Merleau-Ponty and André Leroi-Gourhan viewed the body as a sensorium extending itself prosthetically through gesture into the world.

Carrie Noland

There is an essential entwinement of gesture, posture, and prosthesis. While they may be considered independently, they pair up dynamically, comprising a tripartite nexus that can be understood as one way of appreciating the power and distinction of self-moving that characterizes animate organisms. I will build toward this nexus by considering the three constitutive pairings.

Posture and Gesture

Consider the newborn lying supine in her crib with arms and legs stretching upwards groping about. It is simple physics or, better, biomechanics. The mass of arms and legs relative to the trunk or core of the body allows the arms and legs to move as the trunk of the body remains relatively stable. Imagine a body comprised of only one arm and hand extending from a body of similar size and mass. A crazy image to be sure. A contraction of the muscles to move the arm would result in equal movement from both the arm and trunk (which could no longer rightly be named trunk) if neither were attached to anything stable. The human body is designed and refined over eons of evolution to

impossibles is the collapse into unity or identity of two or more things we know are not the same at all, the mirror world, of which doppelganger is a part, splits apart what we know as unity into multiple facets or images that reflect differing faces. I'll certainly be developing these complementary fundamental human capabilities. Immediately it allows one to see the word "embody" functioning as doubling reflecting differing aspects or faces of how we experience and know ourselves. Note added 2024.

maximize freedom of limb movement by stabilizing the core. If we think about posture as the organic composition of the whole-body design including its modes and capacities to move, then clearly there is an interdependence of the patterned movings of gesture/skill and posture. As dancers learn to spin (pirouette) they discover that core strength, abdominal strength, correlates with successful spinning. Body movement is often initiated by a counter movement of limbs. To maximize the speed of a thrown ball requires the amplification of the moving mass of the thrower's core by the lever of a swinging arm. The intricate varying touch of the fingers on piano keys to produce a wide range of volume and sound qualities is possible only because of the anchoring of finger, hands, arms in the core body mass.

The movement of any part of the body (gesture) is inseparable from the composition of the entire organism (posture) and its infinitely complex neuromuscular bio-mechanical integrity.

Posture—the composition and construction of the body, the alignment of the body, the mode of motility, and the internal biomechanics—functions as the platform supporting gesture—the patterned movings of the whole body relative to the environment and the various parts of the body relative to its whole. Bipedal motility correlates with the development of brachiation—the gestural physiology of overhand throwing or hanging and swinging by the arms—whereas with quadrupedal motility brachiation is not possible. Dogs and horses don't throw overhand nor hang from a tree. When travelling over rough terrain hoofs and padded paws work fine for quadrupeds with advantages over the complex construction of human feet. Humans, absent hoofs and paw pads, have had to invent shoe prosthetics to adapt to rough terrain. But hoofs and paws on extended forelimbs of upright walkers wouldn't work so well for watch repairs or writing with a quill pen or typing on a keyboard or threading a needle as possible for human bipeds who have forelimbs comprised of arms and hands with fingers and an opposable thumb.

Maurice Merleau-Ponty, as did Edmund Husserl before him, spent time contemplating his hands touching one another. Perhaps when you are an academic sitting most of your life at a desk (scholar's posture, often including kyphosis) idle hands become philosophical hands, a solid example of the primacy of

the deed. He raised the question of how one hand could be experienced as touching the other one and then the touching hand could be reversed. While, to my reading, it appears he didn't think there was a point where both hands are touched and touching at the same time, I think I can experience this simultaneity. Yet his concern was to demonstrate a principle of reversibility, foundational to his phenomenology (he called it "flesh ontology"), and he also asked how these two separate things (left and right hands) could be connected. I've thought lots about this example over the years and I'm not so sure it is such a remarkable example, that is, offering all that much insight. To my present point however I think it illustrates the interdependence of gesture and posture. It also illustrates our ability to consider body parts as objects as well as subjects. Just take a second to extend your hands and have one touch the other. Then at some point reverse the touching and touched hands. Now attempt to have them touch and be touched simultaneously. You will likely have experienced two things. The touching hand tends to move more relative to the touched hand because touching is moving, gesturing; moving is agentive and active. You also likely placed the touching hand above the touched hand. Agency, as a sense of action (thus moving) on the environment, complies with the corporeal concept of superior, thus taking a position above. The touching hand is more likely experienced as a bit more subject, the touched hand as object. And there's a good chance that when you attempted to experience equal touch/touching you held the hands with fingers upright and moved both hands equally. You might have used a kind of hand washing rotational moving. This demonstrates that sensory activity is often associated with gestural moving. This is a characteristic of agency, to affect the world you must move. To touch you must also move to activate both exteroceptors in the skin and the interoceptive proprioceptors. These relative hand movements would be impossible were it not for posture as I am presenting it as related to the core-based composition of the complex organism. The relationship between gesture and posture allows the objectification of body parts (hands in this example) and the direction of these objects to move relative to one another. Yet as the right hand is separate from the left and each, at once, experiences a different sensation, they nonetheless are both my hands, they

both are of the whole body I experience as me, and the feelings experienced by both are my feelings. A core experience.

Posture and gesture are a bit like nut and bolt. Neither would be of much use without the other. Also, like nut and bolt, moving is required for their proper interdependent and relational functioning.

Gesture and Prosthesis

Minimally gesture is self-moving in space in patterns and techniques acquired as a body living in a social, historical, and psychological environment. Often acquired unconsciously by mimetic repetitions of the gestures of others in one's group, gestures enculturate and create identity through shared patterned behaviors. Gesture is a technique of extending oneself into the environment shaping the perceived environment as an extension of the perceiver's body. At once gesture incorporates, literally in making corporeal, the environment into one's being and identity. Gesture is not simply expression; it is agentic and creative to the degree of worlding. Gesture often is the skilled use of tools—body parts or mechanical aids—to extend the body, to perform an action, and to create an effect.

Gesture is then invariably prosthetic. Gesture facilitates the active encounter with the environment, with other, both to magnify the capacities of the body as well as to influence and to be influenced by that beyond the body's physical perimeter. Gesture externalizes thought and will and influence and memory and expression.

Gesture is instrumental. Gesture is the process of making and shaping. Making and shaping have the prosthesis effect of turning the person inside out. Perhaps, as acts of perception, gesture also brings the outside in, Merleau-Ponty's reversal, his chiasm. Gesture—including skill and technique—is prosthesis concretized in language, the arts, architecture, technology, religion, and all social and expressive systems.

Prosthesis and Posture

We come into the world moving. Our earliest movings are gropings. Groping is reaching out in expectation, but without knowing. Groping anticipates contact, encounter, exteriority, other. Groping anticipates without knowing what. It is through

a groping encounter with what is not us, that we discover who we are, that we situate ourselves among what is not us. Our groping movings are intertwined with touching. Exteroceptors in the skin sense heat and texture. Proprioceptors, interior sensors in the muscles and joints, sense mass and resistance, location, and the quality of moving. We feel ourselves take shape as we feel the exterior world. Kinesthesia. The encounter reverberates. Self and not-self, interiority and exteriority, encounter via biomechanics with the objective environment all echo like sonar, revealing, or perhaps better, creating the knowledge of self and world, more strongly even, creating self (posture) and world. It is in this encounter that, through the kinesthetic capacity of proprioception, we experience the certainty of the feeling kind of knowing, of the difference between smooth and jerky moving and the baseline gradient spanning from incoherence to coherence. Phenomenologist Renaud Barbaras wrote in his *Desire and Distance* (2006), “the body is this being that exists in the mode of relationship and comes back to itself—constitutes itself on the basis of its entry into exteriority. The body is a temporal and historical unity that creates itself against what undoes it through a continual movement toward and within exteriority” (144). It is our prosthetic urge, the given need to reach beyond our limitations, that constitutes the shape and feeling of identity as our body reverberates back to itself in the encounter with what’s out there.

Gesture Posture Prosthesis Nexus

With the shift from movement, change in place, to emphasizing the dynamics and ongoingness of moving, especially self-moving, the difficulty is in grasping moving in that it is in no place. To grasp is to hold in place, thus dismissing the essential distinction of moving. What I propose as the advantage of this gesture posture prosthesis nexus is that it allows an appreciation of the primacy of moving, but also its very ungraspability. The nexus is relevant to human self-moving in that it offers dynamic parameters and relationships operative to effect moving in its ongoingness and to provide a vocabulary for the dynamics and powers of moving in process.

Aristotle’s theory of moving, according to Czech philosopher Jan Patočka (1907-1977), is “being-in-act as potential.”

Patočka, building on Aristotle, states “existence is a mode of being that is *the act of accomplishment of self*—that is its own goal, that through its action returns to self, that is its own act in and next to itself. Existence is thus something like movement, and just as movement, according to Aristotle, is passage from possibility to accomplished actuality, passage that is itself accomplishing, so existence too is *life in possibility*” (Quoted in Barbaras, *Desire*, 144). Surely understanding Patočka’s insight would be improved by using the present participle “moving” as better reflecting Aristotle’s dynamic understanding.

In his *Gesture and Speech* (1993) André Leroi-Gourhan offered the French term *tâtonnement*, which means trial and error, but also refers to the groping movement of the hand or other body part used as prosthesis. Yet, *tâtonnement* is not simply some random moving, it is, as Leroi-Gourhan understood it, an aspect of gesture and schema and skill. He recognized developmental stages but continuity between the motor programs of groping of the newborn and the later gestural and skill developmental schemas of the apprentice. The importance of this insight is the recognition that as gesture is a prosthetic reaching out to explore exterior, the experience of the encounter is returned in the construction or ongoing modification and refinement of schemas and gestures and even to the shaping of posture. Further, the groping aspect of the gesturing suggests that encounters are not fully known or predictable—a distinctive characteristic of *tâtonnement*—thus these movings are the source of creativity and novelty and growth and knowledge. The term *tâtonnement* also implies the use of a tool or hand to explore, as a physician using a practiced hand to palpate a patient’s body. It easily extends to any sense of reaching out to probe or explore.

The bodies—the postural distinction—of musicians, persons accomplished in sports, and dancers are shaped (as are all bodies), often quite noticeably, by the skilled explorations of their movings, by the *tâtonnement* experience. The same person would wind up with a different posture, body structure and mobility capabilities, should she spend a decade training to dance ballet versus the same period training as a break dancer (or an academic!). A dramatic example. Think of the feet of a ballet dancer supporting her weight *en pointe* for hours daily, compared to her feet should she be an academic whose weight

is supported principally by her *derriere*. Our bodies reconstruct themselves to enact the deeds we are.

Popular culture often vilifies repetition as boring, as uncreative, as a waste. And, of course, repetition has plenty of potential, as most school kids and office workers can attest, to be dull and draining. However, it is impossible to appreciate the power, creativity, and vitality of this gesture posture prosthesis nexus without realizing that repetition is essential to growth, to the acquisition of knowledge, to the accumulation of skill, to creativity, and to the discovery of self and world. And to freedom.

There is something magical about threes. They are at once stable as geometry, yet dynamic as relationships. I think my first sense of deep appreciation of threes occurred in reading Friedrich Schiller's *On the Aesthetic Education of Man* (1795). In twenty-seven letters he developed a relationship between dynamic pairs that in their interplay give rise to a "third thing" or force. For example, he proposed that human beings have what he referred to as a "form drive" (*Formtrieb*) which demands that all experience be reduced to principles (forms); we want to understand everything in well-defined terms. Yet there is also a "sense drive" (*Stofftrieb*) that pushes us to be in the moment, to savor the now. He then suggested that these drives are not in opposition, as might be assumed; rather they coexist, they are copresent, and each both restrains and enables the other. Remarkably, he proposed that when the two urges or drives are in concert—dynamically engaging one another—a third drive arises which he called play (*Spieltrieb*). The seeds that led to my current efforts to appreciate and articulate human distinctiveness in the remarkable structurality I call aesthetic of impossibles were sown by Schiller.

Years later I became thrilled by Charles Sanders Peirce's account of discovery and the development of knowledge. While the scientific method is built on the rational processes of induction and deduction, Peirce, who in his youth had read Schiller, argued that a third thing, which he called "abduction," was essential. This third thing proceeded from the experience of surprise, that is, incoherence, and led to the rise of hypothesis. Late in his life Peirce referred to this third thing as play. Peirce's induction/deduction/abduction nexus is similar to Schiller's

form/sense/play nexus. Both were conceived as more a triangular relationship among pairs, a nexus, rather than a linear progression. Both, as I have come to understand them, envisioned pairs of copresent impossibles whose interactions, not their resolution, accounts for the force of life.

Then along the way I became beguiled by phenomenologist Maurice Merleau-Ponty's flesh ontology. It recast perception by replacing a representational understanding with a complex chiasmic copresence of impossibles that understood perception in relational terms. Merleau-Ponty foregrounded touching and moving and the reversibilities of touching and being touched and the exchange of outside and inside—applicable between body and environment as well as body surface and depth—essential to perception as well as the felt unquestionable sense of self. Merleau-Ponty's *flesh* was something of a third thing as well, occurring in the dynamic interplay of perceivable/perceptible, self/other, and akin to my imagining of an aesthetic of impossibles. Merleau-Ponty understood this dynamic he called flesh as so foundational he referred to it as “an ‘element’ of Being” (1968: 139), “an ultimate notion” (1968: 140), “the ultimate truth” (1968: 155).

What I suggest by proposing this nexus is that there are three things—gesture posture prosthesis—and that engaging them in pairs gives rise to an interplay that invariably demands self-moving as the force that drives the nexus. Gesture and posture considered together demand prosthesis and so on. The nexus is one of interplay, and that implicates that it is also one of moving, of ongoingness, of vitality.

Vitruvian Man

Among the most distinctive and recognizable of all images is Leonardo da Vinci's Vitruvian Man drawn around 1490. It depicts a man with two superimposed postures one with the legs together and arms extended horizontally, the other with legs spread and arms slightly raised so the fingers are at the same elevation as the top of the head. The figure is inscribed in both a square and a circle with the feet and extended fingers in contact with these geometrical shapes. This drawing is named for the ancient Roman architect Marcus Vitruvius Pollio who described such a figure in Book III of his *De architectura*, the first known

book on architecture written 30 to 15 BCE. Vitruvius wrote extensively of many proportions of the male (of course!) human body and how these proportions apply to architecture. Some proportions approximate the famed Fibonacci ratio. Da Vinci understood the drawing as demonstrating that the proportions of the human body are those of the universe. The use of geometrical shapes foreshadowed Johannes Kepler's (1571-1630) theory of harmony—building on both Pythagoras's (570-500/490 BCE) theory of harmony and Copernicus's (1473-1543) shifting to a solar center of the universe—published in 1619 in his *The Harmony of the World*, in which he illustrated the harmonic principles of the solar system by inscribing geometric shapes one inside of another.

Among the many ways of appreciating Vitruvian Man, I suggest that it might reflect something of the dynamics of self-moving, glimpsed in a still image, in terms of the gesture posture prosthesis nexus. Da Vinci presents the ideal man [sic] with exacting proportions, that is, with posture that correlates with the fundamental geometrical shapes, the square and circle. The man has outstretched arms and legs in two positions, indicating range of motion, giving a sense of the self-moving potential of the man. Located on a circle, the Vitruvian Man suggests the moving in an arc as suggested by Michel Serres' description of walking. This man is made for walking, for moving his arms and legs, for gesturing. The inspiration of the ancient text of Vitruvius on the proportions of the human male body and the application of these proportions to the principles of architecture as well as the correlation of the figure with geometrical shapes extends the proportions of the human body to the proportions of the whole universe. The Vitruvian Man is Prosthetic Man, echoing the principles, attributed at that time to God's creation, of the entirety of the universe as well as the principles of the most magnificent of human makings, the buildings that illustrate human creativity and agency. These echoes reverberate with the prosthetic extension beyond the human body in acts of making. What the gesture posture prosthesis nexus allows when framing the fixed image of Vitruvian Man is a glimpse of the full ongoing dynamics of self-moving.

Corporeal Concepts

Concepts are something that we generally feel to be abstract principles, often formally stated, that are extracted from the living world. We think of them as rather heady things. Things we might struggle to learn in a classroom or from a textbook. Things that, should we be able to finally understand them, help us comprehend the principled way the world works. The common dictionary definition of the noun “concept” is “something conceived in the mind, thought, notion.”

Taking as radical as possible the primacy of self-moving and the inherent bodied wholeness of animate organisms, I suggest that there is much to be gained by questioning the mind-based understanding of concept. A clue to the alternative I offer is right there in the dictionary definition. I wonder how we can comprehend, make sense of this definition. It seems that we must come to the definition with at least an understanding of the word “conceived.” When we look up the definition of this word we find “to become pregnant with (young), to cause to begin, originate.” To rephrase the dictionary definition “a concept is something birthed from a pregnant mind.” Isn’t it fascinating that a thing so abstract and heady, derives from the most bodied of experiences of getting pregnant and giving birth? When we look up the word “thought,” it is described as “an idea or opinion produced by thinking occurring suddenly in the mind.” We cannot comprehend thought unless we already know the concepts “produce,” “sudden,” and “in,” all thoroughly based in bodied experience. Now my observation shifts. While we think of concepts as airy mental abstractions that come somehow whole cloth from mind, implying that the body is not involved, I submit that we can’t even comprehend the concept we label “concept” without already holding concepts such as pregnancy, birth, production, sudden, or even the simple in/out. And clearly all these words designate experiences, thus fully bodied, inseparable from our whole self-moving animate organism. An interesting challenge: state a definition of concept that does not depend in any way on a prior understanding of bodied experience.

Philosopher Maxine Sheets-Johnstone wrote an article supporting her contention that *in* is the first concept we learn after birth and yet it is a concept that is an experiential kind of

knowing rather than some abstraction somehow appearing in the mind. I'd suggest that the concept *in* is always paired with *out*. Yet, when we reflect on the most common experience of the newborn, we can't help but recognize that discerning encounters with the world are focused on mouth and hands, on sucking and groping and grasping. The world at birth is comprised of actions and reactions related to what is in and out. The concepts *in* and *out* are not abstractions that somehow exist in the infant's mind apart from body. Nor is it an abstract principle that some adult, likely the mother, must teach to the infant that it learns to put the mom's nipple in its mouth. Our bodies, I argue, can be considered as comprised of concepts inseparable from common experience. The concepts reside not in some abstract virtual sphere we term "mind." They come to exist in the whole body comprised of toned and ever refined muscle and joint sensors and in the synaptic criteria that bear the neurological programming that allows us to move our bodies in the patterns that support our lives and effect our interests, that create and discover our world as we encounter it.

Evolution of the human body privileges upright posture, face-forward motility, hands that grasp, and so on. Thus, concepts such as up/down, forward/backward, above/below, in front/behind, grasp/release, and so on are all born of and borne by the self-moving body and dependent on its distinctly evolved biology. Concepts correlate with posture. All these corporeal concepts, as we might call them, and so many more, are fundamental orientational and basic bodied relationalities that can be used in abstract ways. We *rise* in our professional field. We *backslide* in our religion. We have many employees *under* us. We *grasp* the significance of love. Alternatively, imagine ourselves as Janus structures with faces in opposing directions and (can we even conceive it?) biology of motility that is equally agile in both facing directions. What sort of arms and legs would we have? What would our shoes look like? Forward and backward wouldn't have any distinction. How would we describe or comprehend the passing of time? How would we sit? How would we even move to a destination? Our most fundamental concepts would be entirely different. Our world, our language, our concepts, our sense of self, would all be ontologically different.

Linguists and philosophers George Lakoff and Mark Johnson published a seminal work *Metaphors We Live By* in 1980. They demonstrated that language, indeed, most everything we utter, is based on metaphor, often embedded in the history of the words themselves. Metaphor is a language trope by which we understand one thing, often a seemingly abstract notion or idea or concept, by equating it with another thing, a solid bodied experience, knowing full well that these are not really the same at all. What their work convincingly shows is that the process of gaining knowledge and understanding of those things we normally consider abstract, mental, and nonmaterial is invariably deeply dependent on bodied experience, indeed, specifically human bodied experience. Metaphor is also an excellent example of the aesthetic of impossibles.

Lakoff joined by mathematician Rafael E. Núñez in their 2000 book *Where Mathematics Comes From* test this claim of the corporeality of concepts on mathematics widely held to be the most abstract constructs and concepts known, including so-called pure mathematics that allows any propositions imaginable, for example, defining a straight line as a line crossing itself in one point. They tested such mathematical concepts as infinity and irrational numbers like Pi and the square root of two, which by their very nature cannot be precisely quantified. In their long, detailed, and fascinating book, they show convincingly that the mathematical constructs that seem the most abstract and that seem to defy any material connection are all, when pushed to their roots, dependent on the bodied experience of the self-moving animate organism.

Of course, we all learn formal mental concepts. School focuses on such styles of learning. Such learning is valuable and important. Such mental concepts can be precisely stated, quantified, informationalized, objectified, reasoned, and most certainly applied to the real material world to help us gain understanding and insight. They are key to building bridges and buildings and calculating trajectories for journeys to Mars. Yet, it is unquestionable that none of these are literally conceived and birthed in some mental world, separate and isolated from the self-moving quotidian body. We are not divided into mind and body (sorry René); we are bodies that require brains and all the other juicy parts necessary to our every action and awareness.

Stated even more radically in a way I'm rather fond of, we should consider ourselves, our very bodies, as comprised of concepts that permeate our every moving experience and action. We are comprised of corporeal concepts. Our moving bodies are our concepts, our concepts are our moving bodies.⁶⁰

⁶⁰ My mentor of fifty years, the late Jonathan Z. Smith, proclaimed that an academic must be relentlessly self-reflective since the theory adopted at the outset of a study largely determines the outcome. It is common in academia, and I suppose also in life, to select the concepts on which we chose to build our understanding of reality. In the sciences, what Thomas Kuhn (1922-1966) referred to in his 1962 book *The Structure of Scientific Revolutions* as "normal science" is the day-to-day science in which inquiry proceeds based on the embrace of a body of theory, an initial set of concepts. In religious communities, early in life, one, often in a formal ritual process, embraces the basic principles by which life is to be lived and values are to be discerned. Creeds are written and frequently repeated as reinforcement of these embraced concepts. Yet, in science, as Peirce and others have shown, hypotheses and theories do not simply appear in the mind, they are the best guesses that emerge from the experience of surprise, a bodied feeling that leads to a bodied sense of potential coherence. Further the very thinking and statement of concepts is utterly dependent on the experiences of body. Religious principles may have a millennia-long heritage, yet most are explicitly based on a richly bodied event such as crucifixion and bodily resurrection. What could be less abstract than ritual murder and the impossible emptiness of a tomb?

What I am suggesting as essential, what I consider to be a major revision, is that we recognize that even as concepts, born of bodied experience, over time come to be abstracted and formalized in creeds and theories and hypotheses, they ultimately are corporeally based and it is this base that, first, allows them even in their abstracted sense to apply to real life, and, second, for them to be understood even by those who hold different foundational concepts, because of the commonness of the human biological distinction of building concepts on the experience of the human body. Tradition, that is the relatedness that unfolds over time in a lineage of bodied experiences, is the ongoing formation, application, and revision as demanded by experience of the codification of what constitutes the shared identity.

The bottom line is that no matter that concepts are commonly considered to be seeming abstract and things of mind, they are always, and most fundamentally, corporeal. The shift I believe will contribute

Perception

It is movement itself that perceives!

Renaud Barbaras

Movement is the generative source of
our primal sense of aliveness and of
our primal capacity for sense-making.

Renaud Barbaras

Colorado is my home. I am fortunate to live in a house with an expansive Rocky Mountain vista. Growing up in Kansas amidst the endless Great Plains I felt the views to be vast and fascinating and beautiful in their subtle monochromacy, amber waves of grain. Now, sitting in my study all I need do is lift my head and I see mountains, some snow-covered year-round, foothills, houses mostly rooftops, sky with clouds and occasional birds, a couple of little lakes with landlocked pelicans this time of year, and a traffic light blinking spots of color, an insulting incongruity against the amazing background of the iconic Flatirons above Boulder. I can name a few of the mountains and recall experiences I've had camping, hiking, and mountain biking in those places. I can see Boulder Valley the home of the University of Colorado where I taught for thirty-five years. I can see the area in the foothills where I built and lived in a dome house for many years, later burnt in a forest fire. Pre-dawn many times I've photographed the winter full moonset marveling at how it moves during the season from north of Longs Peak to south of Arapaho Basin. In the summer I can photograph the full moon from a bedroom or walk a few steps to catch it rising red with its reflection in a lake.

Sometimes amidst my awe and wonder of this world, I can't help but muse about something else that engages me with unfathomable mystery. Here I am, one tiny organic being amidst this vastness, yet unlike all that I can perceive as comprising existence, I'm the only kind of thing that can perceive and wonder at not only what I perceive, but also at the very actions and feelings of perceiving. In all the universe, I know of no other things of any kind that hold claim to such a marvel. The

to our experience is to constantly pursue the corporeal base of those concepts we hold, often tacitly so, or are considering embracing.

awareness of a sense of having the capacity to sense, a common sense or coenesthesia, is distinctive to us humans. All animate organisms, as sentient beings, sense their worlds. Yet humans are distinguished among our kin in our affinity for being aware of being sentient and reflecting on it. We have a common sense that we have senses, and we may objectify the whole process to wonder at it.

How do I perceive Longs Peak or Arapaho Basin or a pelican or clouds? How do I distinguish the bookshelf across the room from the nearby wall and window? How do I immediately spot a favorite book on the shelf full of books? How do I identify a photograph across the room of my granddaughter, Fatu, when it is a canvas print in sepia tones and how do I know that it is a photograph and not actually her? How do I distinguish her presence of a picture from the presence of Fatu herself? I can look at the picture and say “there’s Fatu” yet I know that she’s in North Hollywood, not here. She’s here but she’s also not here. Oh my! All this, and I haven’t even gotten up from where I’m sitting and it is my moving, I’ll argue, that is essential to my explorations.

From where I sit, should I point my camera in the direction of this whole collection of perceivables, it does not distinguish which specific objects to record (the camera’s wannabe equivalent of perception?). To the camera the data recorded on each pixel (all forty-two million of them crammed on a postage-stamp sized sensor) has its own light values yet none are any more important to the camera than any others. Indeed, that’s its distinction. To my camera an image of a Kansas plain has the same number of pixels, each to the camera of the same importance, as an image of my Colorado mountains. The camera has no sense of the picture nor of what effect each of its millions of pixels contributes to the picture. It has algorithms to find the subject or sense light values and many other things, yet it does not know it is doing so. I cannot see my environment like my camera does even if I try my very best. The camera “sees” in some sense, but I *experience and perceive and know what I see* and cannot not do so. Certain things (objects and places, colors, and textures) just jump out and shout their identities (generic and/or properly named). My eye is drawn to specific areas and objects including all the senses rather than only sight. Human percep-

tion is not like the objective recordings of mechanical devices, a five-track sense recorder. The difference is crucial evidence that I, as all humans, come disposed to perceive my surroundings as comprised of objects I recognize, that is, objects that in some sense, I already know. Humans are perceiving knowing experiencing animals, pattern discerning animals, reflecting animals. Perception requires prior experience and a sense of expectation and anticipation. Perception, beyond the camera's objective recording of data, is interactive and experiential, thus subjective and distinctly felt to be mine.

A classic theory of perception is based on the *camera obscura* or "dark chamber" model and our banal experience and common language of perception tends to support it. This is the representational view of perception that considers it, as with the camera, a mostly objective gathering by the various sense organs of the data in the world projecting them onto a screen within us like images on a wall, stored it would seem by the brain as on a memory chip. A major shift in theories of perception—perhaps made most notably by Maurice Merleau-Ponty mid-twentieth century yet also by other philosophers—sought to replace the representational view with one that imagines perception as action and encounter and recognition. Once the *camera obscura* representational model of perception is dumped, exploring perception as creative and interactive quickly raises the deepest and most complex, profound, elusive, fascinating questions leading to insights related to what distinguishes being human. What were clear distinctions—visible and the invisible, external and internal, mind and body, self and other—become facets of blurred categories and a mingled body. Perception reveals complicated dynamic systems, structuralities, play, "body without organs," "body without images," flesh and mucous, chiasm, reversibility, seduction, images and ideas that project us beyond the simple substances and patterns into a contemplation of dimensions of perception that transcend the easily graspable as we seek to comprehend what fuels the concretions of our existence. Every scientific advance has philosophical implications. Every philosophical idea suggests new scientific inquiry. We must look anew at the complex interactivity of sense organs and brain processing. Synesthesia—the intertwining of the senses, or better a networking of senses beyond separate modes

—is now more important and interesting, at least for offering insight into the nature of being human, than are studies of senses independently. And forgotten or overlooked or unknown senses such as proprioception/kinesthesia (moving) play new roles beyond fifth business.

Aristotle identified moving as inseparable from life itself. Moving plays little part in the *camera obscura* representational understanding of perception. While at the end of his life Merleau-Ponty appeared in his explorations of perception to be shifting from a visualist prominence to increasingly appreciate the fundamental importance of moving, it has been Renaud Barbaras—building on the philosophies of Edmund Husserl, Maurice Merleau-Ponty, and the Czech philosopher Jan Patočka—who has much more explicitly appreciated the inseparability of moving and perception as evident in his numerous articles and especially in his 2005 *Desire and Distance: Introduction to a Phenomenology of Perception*. He couldn't be clearer.

In truth, it is *movement itself* that perceives in the sense that the object exists *for* it, in which movement has its meaning, as its oriented nature attests, inspired and clairvoyant with regard to the living movement [moving] that often demonstrates an intimacy with its objective, an intimacy that runs deeper than that which knowledge exhibits. In and by movement the object appears, though without its manifestation being separated from its brute presence, according to the indistinctness between its essence and its existence. Here the grasp of the object is not distinguished from the gesture made toward it; perception takes place in the world and not in me, and the object is therefore perceived where it is (*Desire*, 91-2, italic in original).

Barbaras notes the obvious that “one has no choice but to concede that bodies that perceive are *living* bodies and that they are distinguished from other corporeal beings ... by their capacity for *movement*” (*Desire* 86, italics in original). He essentially restates Husserl's term “animate organism.” The word “animate” once meant “sensation” and animals are “sentient,” that is, self-moving creatures able to perceive and feel. The Latin root of animate links breathing, sensation, perception, moving, and living. Perception is experience, the experience we know as the

feeling presence of now. Perception is the aspect of experience that gives it content. As I'll soon discuss related to Ganzfeld, we do not experience nothing. There is no experience without experiencing something. The content of our experience is, or is dependent on, that which we are aware or are in the presence of. This content gives explicit features to our identity; thus, perception is worlding as it is also individualizing. Perception is not a figment of imagination, a virtual psychological construct. Perception is of our environment, our world, our selves. It is intimate. Our actions of perceiving are accompanied by a strong felt conviction that what I perceive is real (*esse est percipi*) as distinct from imaginary or virtual, despite at some level knowing that appearance and brute reality are not the same at all.

Perception arises in the gap between us and the world in which we live. Self-moving, according to Barbaras, occurs due to this inherent negativity, this openness or *distance* that coincides with a *desire* to move, that is to reach out to connect or touch. Moving is inseparable from this negative, the distance/desire that marks copresence, that cannot be fulfilled by moving. Yet, perceiving is a creative interactive process, that mingles self and other, subjective and objective. While we can certainly exercise our imaginations, we cannot imagine anything that is not in some way linked to perceivables. Perception is a felt and owned experience. I know that I exist because I feel and I know that I am perceiving things in the world beyond me, indeed, even perceiving myself as an object in the world.

Early in the twentieth century Henri Bergson discussed "pure perception," the sort of perception that does not rely on prior experience or encounter with the external. Pure perception, as I understand it, is perception before there is anything to perceive. The Ganzfeld (total field) experiments, first done in the 1920s, tried to actualize something like perception before there is anything to perceive. For periods of time subjects were placed in isolation with their eyes covered with devices resembling half ping pong balls illuminated by total spectrum light. They heard white noise added to quell hallucinations that occurred when the subject heard nothing. The subjects were asked to describe their perceptual experience. Most indicated that they soon could not determine if their eyes were open or closed. Many felt fatigue and a lightness of body. Following the

experiment, they suffered reduced motor coordination and a loss of balance. Dizziness or feeling intoxicated were reported. Typical was a temporary state of depersonalization. As Brian Massumi reflects on these results, “Under its purest empirical conditions, vision either fails to achieve itself or falls away from itself—and from the self. The empirical conditions of vision are not only not able to be held onto in experience, but they also prevent experience from holding onto itself” (145). At this limit, perception never becomes action and thus there is no world, no self.

It is evident then that perception is an action performed by individuals, not always with identifiable intention, shaped by their own histories of experience. Perception differs from what we might call “sensation” or “raw sensation,” the pre-valued information that presents itself to and is gathered by our various sense organs. The biology and health of the sensing organs both limits and shapes these sensations. Perception is the result of the evaluation and processing of this raw sensory data. In this regard, we must acknowledge that perception is, perhaps contrary to our common understanding, largely *recognition*, acknowledging patterns whose profiles are continually under formation and refinement. We somehow already know what it is we will perceive at least in some generalized sense. Recognition requires that over time our brains, complemented by the function of sense organs including proprioceptors, build neurological profiles and neuronal networks of related profiles that engage sensation data to direct attention to (our attention is drawn to) specific objects that are already known to us. Whereas there is arguably a continuous field of possible perceivable objects, only some seem to leap out of this otherwise amorphous background. These objects are ones about which we have experience, for which we have profiles. Here experience takes on its cumulative implication, surpassing the sense of experience as *nowness* and *presence*. This understanding of experience is what we reference in applying for a job. This experience accumulates profiles of perceivables that are constantly modified and enriched across time as we have more and more varied perceptual experiences. Thus, I perceive Longs Peak in morning and evening light, in winter and summer, from my house but also from sixty miles north when I take a drive and even from

its summit when I hiked there. I experience Longs Peak today and on many other days over the last forty years. All these specific perceptual experiences present differing sets of raw sensory data, yet I perceive them all as Longs Peak. The profiles correlating with Longs Peak are not projections on a screen in the brain, representations like a photo album. They are ensembles of encounters enriched over time. Henri Bergson's pure perception might be understood as the closest to raw sensation. I suggest that pure perception is perhaps the perception of infants before they have had much experience with focal attention to objects and before they have formed many neuronal object profiles. It is the closest humans come to the Ganzfeld. We can appreciate that, despite its purity and objectivity, such nascent perception is severely limited.

I emphasize that perception is not a recording at all, it is an action that constructs interconnections among profiles (neuronal groupings) built and constantly modified through experience and the sensations objectively connected to the environment registered by our various sense organs. I have shown that concepts are basically corporeal, that is, based in the particulars of the homology and biology distinctive of human bodies. Perception has a similar dependence on human biological distinctiveness. Were our senses and sense organs and brains different we would perceive an entirely different world. Had we more than a dozen types of photoreceptors, as does the Mantis scrimp for example, we would see colors we humans cannot even imagine. Were our brains incapable of building profiles and negotiating these profiles in the encounter with sense data, we would experience a different world, one absent of objects and distinctions. Neuroscientist Alain Berthoz wrote extensively, in his 2000 *The Brain's Sense of Movement*, on the capacity of the human brain to anticipate, with sophistication, the future; perception requires anticipation.

Time is an essential element in perception. Henri Bergson's pure perception is the liminal position where perception does not, or just barely, exceeds raw sensation. It requires no duration, Bergson's term for the reaction's delay necessary for the action of perception to occur. Following Bergson's observation, Renaud Barbaras wrote that "if immediate reaction corresponds to an absence of perception, *it can be inferred that perception*

originates in the reaction's delay. A more complex organism perceives to the exact degree to which the reaction does not immediately follow the stimulus, to the degree to which it can be delayed” (Barbaras, *Desire*, 90, italics in original). Bergson’s duration, what I clumsily call “fat present,” is the flowing time interval that succeeds the stimulus, the detection by the senses of raw sensation information. Bergson writes, “It is this inscription in duration, insofar as it allows the intervention of memory, that accounts for the properly subjective dimension of perception, a dimension that is understood ultimately in rather a classic way as the *recognition* of what is given in the actuality of the action. Recognition is defined as the act by which recollections involve a current perception and the difficulty is understanding how recollections that are of a purely spiritual [he refers here to a rejected view of the brain independently producing images of reality] order can coincide with the only thing of which the brain is capable: movements [movings]” (quoted in Barbaras 2006: 103-4, italics in original). What occurs, and essentially so, in this duration is not a glitch, inefficiency, or failure. It is what constitutes the richness of human perception. It involves the remarkably complex monitored and regulated integration of multiple channels of sensory information. We perceive the world whole, not as a set of separate sensory streams or tracks. Perception involves the negotiative and comparative neurological process of locating potentially appropriate profiles or networks of profiles, evaluating the variables of the profiles in the creation of an emerging perception. The action of perception involves revisions to the profiles to enrich and codify some and eliminate others, accomplished, according to neuroscientist Joseph LeDoux (2003), by modifications of relevant synaptic criteria. The duration, the length of time constituting reaction’s delay, is brief, fractions of a second, but in neurological time it is significant. Typically, we do not notice any delay in our ongoing perception. It seems instantaneous and uninterruptedly continuous. Where we may notice the delay is in the situation where we may have a flight reaction that evolution has built to short circuit the complex perception process as necessary to our survival. When hiking we may find ourselves leaping to the side of the trail, only to realize, that what one part of our brain (the amygdala) identifies as a threatening snake

triggering the autonomic system to immediately react, is, after the full neurological processes of perception transpire, but a tick. The interval between flight and perception is *reaction's delay*.⁶¹ One might think this delay in perception would cause our experience of perceiving the world to flicker like an old movie as one bundle of raw sensation information follows another to be processed into discrete perceptions. But it might be better imagined that objective or scientific global time flows uniformly forward, yet with a parallel subjective or local continual flow including a constant backward referral in time as required to incorporate memory, object profiles, schemas, experience into the ongoing action of perception. An appropriate analogy is music that, to be heard, requires resonance, a re-sounding, a return on itself, an interaction with itself, to constitute the sounds we hear.

Appreciating that perception is necessarily an action that involves the interrelationship of the perceiver and the environment, it is evident that perception is essentially linked to self-moving. As Renaud Barbaras wrote, "Movement is the generative source of our primal sense of aliveness and of our primal capacity for sense-making" (2006: 132). Further, "In truth, it is *movement itself* [moving] that perceives" (2006: 91, italics in original). Feeling, of course, is biologically grounded in the kinesthetic aspect of proprioception, the biological mechanism of sensing self-moving. This conjunction of feeling and moving in the action of perception is remarkable in its inclusion of both self-perception, the perception of our own moving and our own being, as well as the perception of the external world, the environment in which we live. I've argued that one amazing capacity of proprioception is its ability to sense the quality of the virtual aspects of ongoing self-moving. When self-moving is never in any place how can it be measured other than the feeling experience of its ongoingness, often correlated with values associated with coherence/incoherence? As Barbaras notes, perception, feeling, moving are all aspects of the "same mode of

⁶¹ Reaction's delay is akin to the delay that physicist Benjamin Libet in "Do We Have Free Will?" *Journal of Consciousness Studies* (1999) documented that occurs between the decision to move and the preceding neurological activity.

living.” And that mode distinguishes us as human beings. Yet it might be stronger and more accurate to say perception, feeling, moving comprise the vital force that is the ongoingness of living. When we think of perception, we commonly focus on the basic five senses, their respective sense organs and how each gathers sensory data and informs the brain. We unfortunately skew toward a representational understanding of perception, that is, the notion that the world is projected onto a brain screen as a representation. When proprioception/kinesthesia is included as a sixth sense, we unfortunately tend to limit its value to helping us track location of body parts we can’t see, to maintaining balance, and to preventing injury. Yet, my discussion of proprioception and kinesthesia offers a decided enrichment of our understanding of perception.

In my naïve pondering of the wonder of perception, I noted that I experience perceiving specific things that seem to jump out to me. Yet, the agency isn’t with the object out there, it is rather with the way I am disposed to interact with my environment. This preparedness includes my attention that, in its sweeping assessment of my surrounds, comes to focus, stopping, grasping, recognizing. This aspect of perception attests to moving as essential to perception. Barbaras wrote, “By virtue of its continuity with perception, attention as a gesture of grasping reveals its motor dimension; insofar as it is also a ‘stopping there,’ perception implies movement [moving]” (2006: 91).

To distinguish moving from movement, as I’ve insisted, we must do, draws our attention to the seeming impossibility of virtuality, the implication of here and there while never being in any place (here) at all nor ever achieving the seeming destination (there). This structurality of moving is parallel to that of perception. The precondition to perception is separation, Barbaras’s negation, of perceiver and perceived. The seeming goal of perception is to close or bridge the gap of separation. Unfortunately, we often assume that perception involves the bringing into us of what is outside of us, a representation. We might better suppose perception as the reverse, that is, projection. Yet, perception, like moving, as moving, is neither here nor there, neither inside me nor in the exterior, neither representation nor projection. Perception implicates both a here and a there, an interior (in me) and an exterior (environment, world) but it is

never *in* either place. As action it is vital moving that actualizes self and other, person and world, inside and outside, yet as action it is always moving and feeling and living.

Perception is richer yet when, understood as inspired by moving, it is considered as an *aesthetic of impossibles*. I remind, the word “aesthetic” is from Greek *aisthētikos*, from *aisthēta* “perceptible things”, from *aisthēsthai* “perceive.” In the late eighteenth century, the word began to shift from relating primarily to perception to being concerned with beauty. I love the idea that the two senses present in the history of this word remain present, if not in our full awareness. Aesthetic then implicates a set of experiences, “I feel, I sense, I perceive, I know.” And ain’t that a beautiful thing! Perception requires holding together as the same two things that we know are not the same at all. Looking out the window of my study, I perceive Longs Peak. I see Longs Peak. I know Longs Peak. It is right *here*, as my perception. It is *there*, in its rocky mountainy physicality. It is not Arapaho North or Meeker. It is Longs Peak. Yet while I feel confident that I perceive the world—Longs Peak—I know that it is not the world (Longs Peak). I somehow knew it even before I perceived it. Doesn’t that mean I created it? Yet I also know that Longs Peak was here long before me (even eons before it had a name) and will remain long after me (even after its name is forgotten). How could I create a mountain? I also know that while I once, years ago, hiked to the summit of Longs Peak, there is no way I will ever really know Longs Peak. As I create it, surely it too creates me, in some sense. Perception—the relationship between me in my study and Longs Peak sixty miles away out my window—requires both here and there, knowing and not knowing, experiencing that is never whole nor complete nor really accurate (if that even makes sense), yet I nonetheless still experience it as whole and complete and accurate and real. I affirm that every morning when I open my bedroom drapes and say “ah, Longs Peak.”

Perception can also be thought of in terms of the gesture posture prosthesis nexus, as I have introduced it. Perception is the gestural action of attending to, of recognizing. Perception, as gesture, is anchored in the whole human biology of self-moving that creates and constantly refines memory and profiles and that provides the feeling sense of knowing that is kinesthe-

sia. Perception, even including the focus of proprioception, involves the creative interaction with the external beyond the body perimeter, even in the Condillacian notion of one's own hand touching one's body. Thus, perception involves prosthesis or transcendence. It is an ongoing interaction that involves time and space. Perception as prosthetic involves engaging the world beyond. Human perception involves the temporal process, a plumping of the now, of engaging information regarding raw sensation in a comparative process of memory and profile selection and modification requiring duration (Bergson's term) observable as reaction's delay. But it also involves the long *durée* of accumulated experience and the gradual building and modification of profiles which make perception recognition rather than some directly significant sensation. What neither Bergson nor Barbaras do sufficiently, in my view, is to place this action process in this longer timeframe of accumulated experience. I consider this shift the grounding of the gestural action of perception in the bodied distinctive human posture. Bergson referred to pure perception as instant perception unfiltered by what I'm calling profiles and memory. I'd suggest that we best understand pure perception as a baby's first perceptions—or even simpler animal's perceptions—which is the closest to an utterly objective act of perception being uninfluenced by the remarkably complex shaping of profiles related to specific objects perceived colored by experience, variety, emotion, anecdote and so on. Artificial Intelligent imitations of perception are more on the order of pure perception, uninfluenced by the feelings and awareness spanning the continuum of coherence and incoherence or its many identities—pleasure pain, happy sad, confusing clarifying. For AI perception is comprised of a probabilistic algorithm applied to sense data. Human perception is not logic, not based on computation, Human perception is messy, subjective, and often unreliable, yet it enacts our identity and creates a world that seems to us unquestionably real.

Moving

The Core of Religion⁶²

Give me a place to stand on and I will move the world.
~ Archimedes

When I think of my body and ask what it does to
earn that name, two things stand out. It moves.
It feels. In fact it does both at the same time.
~ Brian Massumi

“Fury Road,” the subtitle of George Miller’s 2015 dystopian “Mad Max” film, identifies its central theme as moving with passion and purpose.⁶³ The word “fury” indicates an unrestrained or violent anger, rage, or passion and indeed this characterizes nearly every second of this filmic journey. Imperator Furiosa (Charlize Theron) driving an enormous black tanker truck and trailer, the War Rig, abandons her contracted designation to procure gasoline and bullets in exchange for mother’s milk and water, to pursue her own mission of hope and redemption. Unknown to Immortan Joe (Hugh Keays-Byrne), the tyrant who controls the Citadel where the raggedy remnants of humankind live, Furiosa has hidden Joe’s Wives, five young beauties, in her rig and the whole female gang strike out to find “the green place,” Furiosa’s childhood home. Of course, upon learning of the rebellion, Immortan Joe sends his crazy gang of mechanics in their cars—works of dystopian art pieced together from found scraps—to bring the women back. Max (Tom Hardy) is

⁶² Published in *Body and Religion* (2018).

⁶³ https://www.youtube.com/watch?v=hEJnMQG9ev8&feature=em-share_video_user

an independent kind of guy and has attempted escape from, but was recaptured by, Joe's cult⁶⁴ of mechanics. Max spends the first long section of the road chase strapped to a metal cross on the front of a car wildly pursuing the fleeing women. A metal grill attached to his head covers his nose and mouth echoing the metal chastity belts Immortan Joe forces on his wives. A tube tapping a vein in Max's neck supplies a flow of blood to the terminally ill Nux (Nicholas Hoult), the crazy this-is-a-good-day-to-die "warboy" driver of one of the chase cars. Max finally escapes and becomes awkward companion to Furiosa; yet the small extent to which he is savior to the women, he is a reluctant, almost accidental, one. And, compared with the Mel Gibson's Max, this Max is not all that mad.

In Greek mythology Fury is the name of a female spirit of punishment often represented as one of three goddesses of vengeance and retribution, the Furies or Erinyes, a name perhaps coming from the Arcadian word meaning, "to be angry." Furiosa, joined by the five wives of Immortan Joe, might be understood as modeled on these Greek goddesses. Perhaps the film, enhanced by its harshly dystopian setting, is a version of the old story that life is a journey with every moment invigorated by the presence of grave risk; yet life is a moving on that must be pursued with passion (even anger⁶⁵) and the courage to act strongly with conviction inspired by hope and redemption.

One of the few conversations in the film more than a phrase long occurs just before the War Rig arrives at Furiosa's child-

⁶⁴ This group of young men are "branded" as initiates and their personal totem is a steering wheel.

⁶⁵ I find it fascinating—a copresence—that both anger and one's heart-felt calling are associated with the term "passion." There is more on which to reflect when taking the etymology of the words "fury" and "passion" into consideration. Fury: late 14c., "fierce passion," from Old French *furie*, *fuire* "rage, frenzy" (14c.), from Latin *furia* "violent passion, rage, madness," from or related to *furere* "to rage, be mad." Passion: late 12c., "sufferings of Christ on the Cross," from Old French *passion* "Christ's passion, physical suffering" (10c.), from Late Latin *passionem* (nominative *passio*) "suffering, enduring," from past participle stem of Latin *patis* "to suffer, endure," possibly from PIE root **pe(i)-* "to hurt."

hood home, which she calls “the green place.” Max is in the passenger seat, Furiosa is driving, the wives are in the back seat sleeping.

Referring to “the green place” Max asks, “How do you know this place even exists?”

Furiosa: “I was born there.”

Max: “Why did you leave?”

Furiosa: “I didn’t. I was taken as a child. ... Stolen.”

Max: “Have you done this before?”

Furiosa: “Many times. Now that I drive a War Rig this is the best shot I’ll ever have.”

Pointing to the back seat where the wives are sleeping

Max asks, “And them?”

Furiosa: “They are looking for hope.”

Max: “What about you?”

Furiosa: “Redemption.”

Arriving where “the green place” is supposed to be, they find only a rusted old metal power pole in a sandy desert and a motley gang of bikie chicks called the Vulvalini, remnants of Furiosa’s ancestors. They learn that “the green place” has become poisoned and is no more. There seems no place to go; hope seems lost. In one of the most searing images in the film, with evening light casting her in silhouette fallen to her knees with the wind blowing the sand about her, Furiosa howls in anguish, silenced by the fury of the wind carrying her voice away into the vastness. Yet to live another day hope must prevail and Furiosa decides that they must attempt to cross the “unknown territory,” endless desert flats.⁶⁶ She calculates that they can probably last 160 days. Max decides to go his own way telling Furiosa, “Hope is a mistake. If you can’t fix what’s broken, you’ll go insane.” Yet, as Max watches the women drive off into the desert, he has a vision of his dead daughter, apparently killed in the apocalypse, who beseeches him to act, to get moving. Max intercepts Furiosa and the Vulvalini and convinces them that if they seek hope and

⁶⁶ There is a fascinating historical parallel especially given that this film was shot in Australia. In the mid-nineteenth century, when European Australians attempted to explore the interior of Australia, they had no idea what was out there or even if there. Many an exploring party were faced with the same challenge of starting across a vast barren territory.

redemption⁶⁷ their only chance is to return to the Citadel.⁶⁸ This choice of route will require them to engage head on the motored gangs that have been chasing them; their only weapons left are surprise and audacity. Yet, it is clear that it is the moving itself, not the place, that fuels and enacts hope and redemption.

Hope and redemption, but redemption more so, are common religious notions. Redemption is being saved from sin and evil and it is usually something attributed to the action of god, earned by good deeds or given as grace or forgiveness. Max, a blood bag affixed to the cross shaped hood ornament on the pursuing roadster, reminds us of this old old story. In the end he saves Furiosa's life and does so by giving her his blood connecting the plastic tube from himself to Furiosa as she lay dying; he gives his blood that she might live at the expected cost of his own life. Yet, seemingly with an endless supply of blood, Max lives as well, perhaps his own redemption.

Hope and redemption are both associated with something sought, but not yet attained. Both terms denote moving, the continuing transcending of where one is in the desire for what seems to be at a distance yet remains on the horizon beckoning yet always a bit out of reach. Hope and redemption invoke a way to understand what characterizes life and most fundamentally the insight is that we are *animate organisms*.⁶⁹ The life we attribute

⁶⁷ As Max is trying to convince the women to return to the Citadel, Nux traveling with the women is among the first to accept the plan saying, "It sounds like hope." Pressing his plan to Furiosa Max says to her, "At least if we go that way, we might together find some kind of redemption." He offers his hand to her and finally she accepts the plan and grasps Max's hand.

⁶⁸ This journey might be understood in many possible ways, yet surely it is a primary gesture that makes a place one's home. Yet, taking moving and gesturing radically it gives a nuanced meaning to the adage "there's no place like home." This would mean that home is not a place so much as an unattainable designation associated with certain values enacted through gesture. This mobilizing of the idea is compatible with the phrase "home making" as an action never finished or complete. The moving approach also gives insight into the phrase "you can't go home again" suggesting that it is relationship thus moving/gesturing, rather than place, that has primacy.

⁶⁹ The term is perhaps most strongly associated in philosophy with Edmund Husserl.

to our being is inseparable from our *self-moving*.⁷⁰ We don't acquire movement, we come to life moving and our vitality is characterized by the way we move. Thus, we must recognize that hope and redemption are *corporeal concepts* that arise from human self-moving; that is, hope and redemption are empty apart from the felt experience distinctive to human self-moving.

Maxine Sheets-Johnstone's remarkable book, *The Primacy of Movement* (1999, rev. ed. 2011), goes far to help us appreciate the inseparability of moving and vitality.⁷¹ She points out that we do not learn to move; moving is not something we are capable of doing yet must acquire. Rather, as animate beings, we come to life moving. Prenatally our mothers are assured of our aliveness as they feel us moving. A stillborn describes a newborn that does not move; it is a baby born without life. Renaud Barbaras notes insightfully, "it is *in living movement* [self-moving] *that the essence of incarnation resides*" (2005: 143, ital. in orig.). He also writes, "It is quite intrinsic to movement that it does not and cannot arise from something foreign to it; movement is not a mere contingent modality; it is not possible to enter into a sphere of movement if one is not already in it" (Barbaras 2010: 105).

Yet, throughout our lives, we certainly learn many kinds of movings; Sheets-Johnstone calls them "I cans." The life cycle is often articulated as a sequence of modes of motility that mark distinct phases in our journey (note the metaphor based on moving) through life—from creeping and crawling to walking and running to doddering and shuffling, to the cessation of moving that marks death. There is a primary connection between moving and living; indeed, an identity. Shared motility connects us with all animals and creatures; yet modes of motility help distinguish animal groupings. Brian Massumi expresses this primacy of movement adding the remarkable connection of moving with feeling when he writes, "When I think of my body and ask what it does to earn that name, two things stand out. It

⁷⁰ Despite the awkwardness of this hyphenated term I use it to be more precise. It indicates movement that a body actively performs as opposed to passive movement as in a vehicle. Based on Barbaras's use, I also see the term synonymous with "living movement."

⁷¹ As also does her collection of essays *Inside and Outside* (2016)

moves. It feels. In fact it does both at the same time” (Massumi 2002: 1).

Hope and redemption require temporal implications. Hope suggests the conjunction of a present felt absence with some future felt presence. Hope is the attribute of experiencing in positive terms a not-yet future. Redemption implicates a presence of something past that, in its present, is acknowledged as needing to be set right somehow some day. Redemption is the attribute of experiencing a not-yet future conversion to positive of what is felt in the present as negative attributed to an accumulation from the past. In identifying hope, rather than redemption, as what the wives seek, Furiosa is indicating the innocence of their past although a past characterized as confinement. She acknowledges her own painful and storied past by indicating her goal as redemption. These temporal implications of hope and redemption are not simply descriptive; states identified with specifiable places along the grid of time. Rather the implications are inseparable from the specific circumstances and energetics of self-moving.

Hope and redemption give specific coloration to what Renaud Barbaras (2006) referred to as “desire and distance,” terms he explored in developing his understanding of the energetics of living movement. By *desire* Barbaras does not denote some lack that can be fulfilled or even an emotion really. *Desire* is how he refers to that living force of moving, moving on. We feel it as vitality; that bittersweet sense of going on while also departing from. Desire is a dynamic or tonus rather than a place. And as desire has a temporal implication, it also has a spatial one, *distance*. A remarkable, yet obvious, attribute of living movement, as discussed by Brian Massumi (2002), is that it is never in any place, yet it always implicates the conjunction of places, if virtual ones. Simply put if we attach moving to any specific place, it would cease to be moving. Moving is the very quality of not being in any place, neither here nor there. Yet moving implicates the living connection of a virtual here with a virtual there. Moving is always relational; mover in context of moving, here in relation to there. Moving is vectored, directed, valued, and experienced because it invokes this sense of *distance*, a virtual spatiality. Moving implies a distance before there is a measurant. Moving occurs in a virtual gap.

Kinesthesia, the feeling of self-moving, is grounded in proprioception, the biology that turns moving and touching (nearly synonymous) into awareness and experience. These miraculous gifts that distinguish humans among their animate kin imply a “common sense” or the awareness, even a reflective awareness, of being sentient.⁷²

Movement is the objectification of moving; the verb made noun, action made thing. We have become most comfortable comprehending and reckoning moving in terms of movement, the track rather than the traveling. Math and science tend to be concerned with gridified movement, with traces rather than moving in process. We see movement as captured by a line or trajectory from here to there that in being represented as a fixed object permitting the calculation of all sorts of things like speed, acceleration, and lapsed time. Yet clearly as movement, the vitality, the actual moving, has been removed or transduced into a different form or phase of reality. Yet, even when we backfill moving as a trajectory across a piece of paper, a route on a map, a journey across a place, we can comprehend that moving involves both a here and there that are at once separate and conjoined. A journey traced as a route on a map clearly has a here (or beginning) and a there (or destination) that are different and separate⁷³; otherwise no route, no movement. Yet we can objectively simultaneously see the beginning and end points and all those points in between.⁷⁴ The whole process exists at once for us. In movement, we are in all places at the same time. In contrast, in moving we experience a common presence of here and there while being in neither one. While moving, our here is never a full presence because, were it so, we would not be moving. While moving, our there is a not yet, a destination, the idea of destination, a horizon even, present only as destination

⁷² Variousy Aristotle’s “common sense” or *aisthesis*, Christian Hübner’s “coenesthesia,” and Daniel Heller-Roazen’s “inner touch.”

⁷³ Yet, of course, as “Fury Road,” “The Fantasticks,” and life itself show, the end point is often a return to the beginning.

⁷⁴ I find it helpful to understand this “representation” of moving in terms of Charles Sander’s Peirce’s theory of signs. The map image is what he called *iconic* in that it allows the whole of process to be represented as present.

not as presence in place.⁷⁵ The experience of process, the sense of moving, is framed in the common presence of here and there, yet with the experienced implication of uncertainty or openness or transition. And isn't it this uncertainty (the *is* that also *is not*) that is inseparable from the experience of vitality, of life itself?

Hope and redemption then might valuably be appreciated more deeply in terms of *moving* more so than *movement*. Whereas we typically halt the dynamics by attempting to state goals and repair the effects of the past, be they stories or sins, we might propose that hope and redemption are distinctive ways of shaping the factors of desire and distance that comprise moving; moving as vitality.⁷⁶ Perhaps, simply put, hope and redemption articulate life force in some specifiable terms. Redemption and hope are *qualia* of living. Both terms provide a sense of direction and motivation, a *desire* and *distance* in Barbaras's terms, that we might comprehend as moving or living movement. We might understand that one's life is a journey fueled necessarily by hope and redemption. Quite commonly stories of life are told in the very terms of moving, hope, redemption. We may account for cultural and human differences in terms of how the notions of hope and redemption are understood and used to engage action, power, and agency. We may appreciate the importance of these words in terms of their correlation with specific qualities of moving and those qualities include passion and fury.

The more important implication of moving as understood by Sheets-Johnstone, Massumi, Barbaras, and others is that the self-moving body has a primacy to the formation of concepts that arise as experienced and felt kinds of knowings.⁷⁷ As *gesture* self-movement is also essential to the construction and constituency of identity. Showing that moving is essential to perception, Barbaras writes that "only a being that is originally in touch with

⁷⁵ Zeno's arrow paradox is based on the conflation of movement and moving. Henri Bergson was perhaps the first to recognize this aspect of the paradox.

⁷⁶ Barbaras understands desire/distance as a negative that energizes or we might consider it a gap.

⁷⁷ Once appreciated, it is difficult to comprehend any concept as purely abstract or intellectual, since all conception is based on living corporeality, that is, the distinctiveness of the human brand of animate organism.

exteriority is able to discover what is likely to suit it there,” that is, a self-moving being. Yet there is something of the miraculous in the self-transcendent implications of exteriority, of outside. This connection recognizes the primacy of experience, repetition, and a feeling kind of knowing.

Given this introduction, students of religion must ask, “What is our ‘fury road?’” I suggest that the future of the academic study of religion might be enriched if inspired by the primacy of self-moving, by entertaining that *moving is the core of religion*. I offer the following seven suggestions made in an effort to take as radically as possible the implications of the primacy of self-moving.

First: Religion/Religions. The distinction between movement and moving corresponds with Brian Massumi’s term “backfill,” Erin Manning’s term “territorialize” (2009: 23) both likely reflecting the influence of Henri Bergson who wrote of the “retrograde movement of the truth” (1946: 1-17). Where the term “movement” might refer to a “halt” that captures and holds still dynamics and energetics, in doing so it tends to lose the moving itself. Movement results from a transduction of the energetics of moving itself, moving in process, into trace or mark or text or description or meaning. The gestural and postural skills that identify the academic enterprise tend to discourage moving.⁷⁸ The academy is, in a fundamental sense, the transduction of a moving reality into books and labs, into movement-controlled environments. The gestural naturalization of movement tends to obfuscate the living, moving, vitality of our subjects, diminishing them to mere objects of academic description and analysis.

It seems an important inspiration for students of religion to recognize and account for the moving/movement distinction. I have tended to use the terms *religion* and *religions* in the effort to do so. As Jonathan Smith proclaimed some time ago, religion is the scholar’s invention, yet I would propose that religions are

⁷⁸ Our jobs are described as “positions,” “lines,” or “chairs.” Our work is to articulate a “position” or a “point” of view.

not.⁷⁹ Religion involves the ongoing comparative discourse on and construction of a common category, be it academic or folk. It contributes to the modern liberal concern of the humanities and importantly so. Religions (from this perspective) are however the “stuff” of our discourse that makes it a conversation that is not wholly self-referential and abstract and academic, despite our penchant for this tendency. Religions are essential to religion; yet religion, at least in some technical academic sense, is not essential to and is often totally unknown to and commonly irrelevant to the subjects, the data, the stuff comprising religions.

While the distinction religion/religions has long been made, the essential implication from the “moving as the core of religion perspective” (used here to implicate the copresence of both religion and religions) is that we need appreciate that much of the moving is halted by academic studies, that we need develop methods that honor the moving aspect of both religion and religions, and that the very vitality of the academic study of religion is generated in holding as copresent both these terms. I sometimes use the awkward gerund “religioning” to remind that it is the ongoingness of religions (and in a different sense also the study of religion) that is, or I believe should be, most interesting.

Second: Definition. It seems that any academic study identifying itself with the term “religion” must offer at least a working definition; surely such a definition is the fruit of the academic invention. When I was a graduate student at Chicago, we spent much time reading and analyzing definitions. This seems no longer the fashion, yet the enterprise is still recognized as important. Thomas Tweed’s 2006 *Crossings and Dwellings: A Theory of Religion* is a book length effort to do so, yet, despite the complexity of his definition, it gravitates toward the core idea that religions “intensify joy and comfort suffering.” In his *Between Heaven and Earth* (2005) Bob Orsi reflects on the Protestant Christian influence on a broadly held folk understanding summed in the phrase “religion is good” and suggests

⁷⁹ In his article “Religion, Religions, Religious” in Mark Taylor, *Critical Terms for Religious Studies* (1998) Jonathan Smith gives the full history of the distinction of the singular and plural uses of the term.

this understanding is commonly held by religion scholars as well. There are others.

What we must recognize from the perspective of an appreciation of “moving” is that defining religion is a halting activity. To define suggests our work is done, seemingly also that our subject is dead. We sometimes qualify the objective of our urge to define as producing a “*working* definition,” yet as a qualification it betrays our sense that a final definition is our true goal. We tend to prefer *autopsy* to *kinesiology*.

My practice is to model the use of the term “religion” on color terms. For a host of reasons there is no satisfying way to precisely define a color term without ignoring most of what makes color interesting and aesthetic. Yet we not only use color terms knowing that we are all talking about approximately the same thing, but we also find the energetics of the conversation located in the variances and differences and applications and observations. Color terms encourage discourse on variations in style, culture, history, aesthetics, philosophy, and psychology. What delights in such conversations is the appreciation that color terms and the corresponding experiential realities are so interesting precisely because they resist and confound objective grasp and final definition.⁸⁰

My sense is that developing a similar strategy for the study of religion—that is, *conversations* and *accounts* honoring differences in style as opposed to halting definition—opens the study to the moving energetics and vitality that are surely what most attracts us to our studies. It also avoids prickly academic arguments in defense of terms while directing our attention toward religions and religioning, the actual stuff of our interest.

Third: Body. In recent decades, the study of religion has included, seemingly as a reluctant afterthought or nod, a niche or limited range of concerns that relate to body. Gender, lived religion, popular religion, practice, ritual, and performance are but a few of the terms that implicate body. Other terms with

⁸⁰ Color is a wonderfully rich topic. The biology of sight varies with person and species. Color terminology is believed to impact perceptual capabilities. Colors confound with environment and one another. Color is both objective and subjective and the experience of color can never be isolated to one or the other.

misleading implications, like *embody*, are now also commonly used.⁸¹ Yet, as we acknowledge the primacy of moving, self-moving, we must realize that both religion and religions are *always already* body. Moving is bodied, yet *to recognize moving body is not a materialist reduction*. To rise to the challenge of appreciating moving, we must take seriously that moving is a becoming as much as it is a being. Self-moving is always a transcending in the most fundamental, even biological, sense. Our biological design has evolved to be highly sophisticated at engaging, responding to, and creating the environment in which we live. Animate organisms at the most fundamental biological level are designed for self-transcendence. Humans are distinguished among their animal kin in having an awareness of and a creative response to the experience of transcendence. Moving is what Massumi shows to be at the core of our “incorporeal corporeality.” As he puts it, “to think the body in movement thus means accepting the paradox that there is an incorporeal dimension *of the body*. Of it, but not it. Real, material, but incorporeal. Inseparable, coincident, but disjunct” (2001: 5, italics in original). I suggest that the foundation of such common yet squishy terms as “spirituality,” “divine,” and “ethereal” is and can be no other than the extension and implication of human felt transcendent experience of quotidian moving. Moving necessarily involves, in Barbaras’ terms, distance, but not a distance that can be

⁸¹ See Sheets-Johnstone (2011: 310-11, 454, 466-67, 496-97) for her critique of “embody,” “enaction,” and similar terms. She is even more incisive in her “Emotion and Movement,” (1999b: 274-5), where she writes, “the term ‘embodied’ is a lexical Band-Aid covering a 350-year-old wound generated and kept suppurating by a schizoid metaphysics” (275). The term “enaction” is proposed as the “new paradigm” for cognitive science (see Thompson, ed., *Enaction*). It has a significant history of development that correlates closely with the development of cognitive science. Certainly while “action” correlates well with self-moving, the implications of the “enaction” form need to be carefully reconsidered in terms of Sheets-Johnstone’s comments. Sheets-Johnstone (2011: 310), even includes warnings about such compound terms as “lived body” that were introduced by Maurice Merleau-Ponty. I fully agree with Sheets-Johnstone and recognize that finding alternatives to the use of such terminology is far more than just clever use of language; it demands a wholly new and innovative approach.

mastered. As Erin Manning puts it, “movement is qualitative multiplicity . . . becoming toward a potential future that will always remain not-yet” (2009: 17). This present yet always unattainable future gives rise to the notion of horizon. Horizon experienced in conjunction with what Sheets-Johnstone suggested as our first corporeal concept “in” and the necessary accompanying “out” leads to the imagination and construct of some “radical other,”⁸² itself necessarily a corporeal concept.

Moving offers an alternative to the thorny and persistent problem that arises in an embracing of body as distinct from mind, soul, spirit, even brain. When we begin with this Cartesian distinction, we can never stitch it back together.⁸³ This effort never achieves more than a patch job accomplished with hyphen glue or slash paste. Moving, as an alternative, cannot be comprehended apart from the copresence of corporeal/incorporeal.

Fourth: Metastability and Nonlinearity. Everywhere that I’ve encountered religions their attraction is linked to what I recognize as their penchant for exaggeration and fictionalization; for practicing an *aesthetics of impossibles*. While fiction may be said to be comprised of “lies that tell the truth,” we might suggest that religions concoct certain kinds of impossibles while proclaiming them to have an originary, an ontogenetic, an ontological status deserving the capital “I” for their proclamation of truth. Religions unapologetically concoct worlds and times and beings that defy sober reasoned acceptance or common sense.

I spent years researching an Australian Aboriginal example used by Mircea Eliade as one of his principal illustrations for his understanding of religion. It was the story of Numbakulla who, after creating the Arrenta people and their landscape in Central Australia, erected a pole, anointed it with blood, and ascended it into heaven. This story, we’d call it myth, is linked to a second

⁸² I think this is what Charles Sanders Peirce referred to as “The Neglected Argument for the Reality of God” (1908)

⁸³ I often refer to the impossibility of this strategy with the term “the Humpty principle” because when one begins with the assumption of separation and brokenness, it is impossible to put it seamlessly back together. Better a totally different strategy; which is what I believe moving offers.

account that Eliade implied was ethnographic rather than mythic. In this story, the Aborigines inadvertently broke the pole and so dismayed were they by their loss of connection with their god Numbakulla that they reportedly laid down and died. While my research (Gill 1998b) shows that both stories are almost wholly the concoction of the scholar's imagination, they nonetheless have the aesthetic distinctive of the religious; the practice of an *aesthetic of impossibles*.

To offer another more familiar example, we commonly understand the categories human being and divinity or god to be mutually exclusive, each one dependent on its exclusion of the other. Yet we might understand the energetics driving the Christian tradition across two millennia as fueled by the Christ event in which, knowing full well that gods and humans are mutually exclusive categories, god is declared to be human, indeed so fully human as to be subject to death. God is not human; human is not God. God is human; human is God. And it goes on death is life; indeed, eternal life.

I refer to the structurality of this aesthetic of impossibles by the technical term *metastability*, borrowing it from science largely to demonstrate that it is not rare and unusual or humanities-soft but rather that as a copresence it exists everywhere; I like to say it is "as common as dirt."⁸⁴ Metastability is when each of two or more things depends on a distinction from the other, yet their identity or copresence with one another is not a problem to be solved but rather is the dynamic source of energetics and vitality. Natural language illustrates metastability; the word is both the same and different from its referent. The word *is* its referent; the word *is not* its referent. We do not understand the power of language by resolving the impossibility of the copresence of *is* and *is not*, but rather by appreciating how this metastability is the very source of its power. Going further, the force of metaphor is in its metastability; metaphor can be described as understanding something in terms of something else, which it is not.

⁸⁴ Mary Douglas and Jonathan Smith showed that "dirt" is not a phenomenological category but rather a relational one; a valuation based on the copresence of a thing and a place. The term "dirt" then implicates the long history of considerations of place and the dynamics and value dependent on place. Yet, I also simply mean to implicate the ubiquity of soil or earth; it is always and everywhere beneath our feet.

Metaphor structurality is to say something *is* what we know it *is not*. As George Lakoff and Mark Johnson, Zoltan Kövecses, and others have shown, metaphor underlies the power of language and its structurality is metastability: holding as copresent that something is what we clearly know it is not. Coordination dynamics is a branch of neuroscience and mathematics that studies self-adjusting complex networks. Metastability is a vitalizing structurality commonly recognized in these networks.

By *nonlinearity* I refer to the non-predictable, the unexpected, the surprises, the novelties, the randomness that occurs in any complex self-regulating network from the nervous system to the animate organism to societies. Nonlinearity too is inspired by moving; since moving is not in any place, there is a necessary element of the unexpected and unpredictable in the very essence of moving. Nonlinearities are what laboratories seek to eliminate and what academic theories and definitions seek to normalize and reduce. Yet nonlinearity is an essential part of any system and, in my view, exists at the core of change and creativity. History and biography and even scientific theory may articulate recognizable patterns, yet our interest in such stories is always drawn to those occasions where nonlinearity becomes apparent and impactful.

Taking radically the primacy of moving requires that we embrace these notions of *metastability* and *nonlinearity* with the greatest of expectations and interest resulting in, I believe, a richer account of religion and religions. Playing out these structurealities is, I'd suggest, the forte of religions. Exploring them should be the mandate of the study of religion.

Fifth: Coherence. The copresence *coherence/incoherence* is, as I have come to realize, preferable to *meaning*. Coherence is a felt energetic inseparable from moving that has temporal and spatial implications. The term has to do with fit, yet the older Latin root indicates also "hesitation." This root suggesting that uneasiness or concern is a clue that coherence is necessarily copresent with incoherence. Coherence is not a rational or logical condition objectively determined. Coherence is the felt knowing of relief, the relief of fit or rightness, if temporary, from the ubiquitous threat of looming chaos. It is experiential, subjective, temporary yet it occurs in contexts that can be described and appreciated. I suggest that our most fundamental model for recognizing the

feeling of coherence, a feeling kind of knowing, is our experience of skilled movement as smooth and natural and easy; *sprezzatura* as the Italians might term it.⁸⁵

Sixth: Gesture. Based on the inspiration of moving as primary, our attention should be on matters related to gesture, posture, prosthesis which I understand as comprising a nexus. This approach directs us to the skills that cultural and religious traditions give folks to creatively navigate the complexities of life experience. In attending to gesture, posture, prosthesis we appreciate repetition, practice, accumulations of experience, biology. We appreciate the experience of ordinary religious practice as important and valued every bit as much as the so-called peak experiences we have so commonly exclusively identified as religious experience. In his 2012 lecture “Now You See It Now You Won’t: Religious Studies over the Next Forty Years,” Jonathan Smith listed gestural studies as one among five trends he expects will emerge.

As we go forward, I think we must be careful not to identify moving with the peripheral niche locations where we place body and performance and practice. The focus on moving should relocate these lesser concerns as deserving much greater consideration. For example, we must recognize that reading and writing texts are also essentially bodied, performance, practice, gestured, postured, and have their own prosthetic reach, if somewhat limited.⁸⁶

Seventh: Place. For decades students of religion have sought a firm place on which to stand. This has sometimes taken on the proclamation of some proper place. For example, Eliade articulated his construction of religion, a sort of academic theology, in terms of a fixed center and originating time. He understood in largely negative terms the ongoingness, the moving of religions, the history of religions, the metastable nonlinear (or relativist) aspects of religions that inevitably arise over time. He imagined ritual as the antidote to history allowing

⁸⁵ As slippery as appears the term “smooth movement” there is considerable scientific study in support of such an idea, notably that done by Nicholas Bernstein.

⁸⁶ We’ve wasted much of a generation on the struggle for dominance between text and practice; an issue that wouldn’t even arise if we allowed in a radical way the primacy of moving.

a cyclic return to the purity of the original firm place. Eliade's colleague Jonathan Smith, recognizing something of the dynamics of place, brought our attention to the mapping, to even religions as mappings, that directs our attention to the issues of fit/coherence; his favored term has been incongruity. Yet, despite this awareness of a fundamental dynamics, Smith sought place, even if place had no ontological status beyond the proclamation of one's present interests. He recognized that the choice of a place on which to stand largely determines the outcome of the succeeding academic process. Scholars have argued for definitions or grounding theories or a selected discipline or a fixed medium on which to stand, recognizing that the firmness of stance, place, is fundamental in determining outcomes, to producing defensible results. The study of religion has become gesturally naturalized to articulating its distinctiveness in terms of the articulation of place. While it is perhaps no longer done in the theological style of Eliade, the articulation of place nonetheless occurs in the narrow devotion to the expertise of a specific religion, era, figure, event, perspective, medium, issue, problem. Without the serious common and comparative academic discourse on religion, the study of religion gravitates toward a loosely related collection each designated largely by geography, historical specificity, or sub-specialty. Scholars are standing firm in all sorts of places without raising any concern or contention, without acknowledging the importance of any common discourse.⁸⁷

⁸⁷ Despite important critiques such as Tomoko Masuzawa's *The Invention of World Religions* (2005) the study of religion remains largely one of studies defined and articulated by place designation: East/West, Asian, Middle Eastern, African, Native American, European, Indigenous, Latin American, Borderlands. Even the designation of specific "world" religions as singular (e.g., Christianity) rather than plural (e.g., Christianities) I suspect is due to a strong identity of religion as place. It is without contest that religions, being historical and cultural, are always located geographically, yet even the discussion of religion and movement is often one confined to the dynamics of place. An example of this understanding of movement is Thomas Tweed's discussion in his *Crossing and Border* (2006). The proposition I'm making is that to understand religion in terms of moving, place is made and negotiated

Jonathan Smith often cited the dictum of Archimedes “give me a place to stand on and I will move the world.” While I think the statement was made as evidence of the multiplying force of levers, Smith cited it to demonstrate the importance of finding a place on which to stand; that is, carefully constructing and selecting one’s theory. I’m suggesting that there is another element of Archimedes’ statement that might also be of interest; perhaps an even greater one. Archimedes’ concern is with agency, the potential for power. To move, as in to “move the world,” marks the agency and power of making, doing, creating, acting, living. Archimedes’ attention is beyond place to moving.

I offer these suggestions to the emerging study of religion.⁸⁸ Each is a chasing of the vitalizing dynamics of self-moving. Each is an implication of the premise that moving is the core of religion. Each is offered in the spirit of hope and redemption that we might venture on down our own fury road.

as a dynamic of religion rather than a given that delimits one’s area of study. Moving (kinesthesia) is primary rather than place (autopsy).

⁸⁸ I’m well aware that this presentation is the briefest summary, yet I hope it is at least tantalizing. I’ve developed these ideas much more fully in forthcoming works. For a fuller development see my *The Proper Study of Religion* (2020).

Technology & Humanity

Thumbelina's Severed Head⁸⁹

Every occasion for whatever passes over and goes forward into presencing from that which is not presencing is *poiesis*, *is* bringing-forth.
Plato, *Symposium*

A prominent French philosopher observes school kids obsessively thumbing their smart phones and he writes a book, and a fine one at that. What else should we expect? In his recent little treasure, *Thumbelina: The Culture and Technology of Millennials* (2014), Michel Serres places these texting French school kids in historical context,

This young schoolgirl and new schoolboy have never seen a calf, a cow, a pig, or a brood of chicks. In 1900, most human beings on the planet worked the land; by 2011, in France and in similar countries, the number of people working the land had been reduced to one percent of the population. This has been one of the greatest revolutions in history since the Neolithic period (2).

These texting school kids remind Serres of the origin story associated with the monastery of Saint-Denis on Montmartre in Paris. According to one version of the story, in 250 A. D. on orders of the Roman prefect, Denis was ordered decapitated for preaching the Christian faith to the Gallo-Romans. Instructed to take him to the top of the hill for execution, his lazy executioners decapitated him halfway up. According to the story Denis collected his own head and carried it to the hilltop. Based on this miracle Denis was later canonized and the hill named Mount of Martyrs. Serres locates the intelligence of Denis in his severed

⁸⁹ Published in my *Religion and Technology* (2018).

head and the miracle with his capacity to continue with nothing above his shoulders, with his head in his hands.

Serres connected this head in one's hands image of Saint Denis with today's Thumbelina and her handheld thumb-interfaced intelligent device.

Even if she does not know this legend, she is nonetheless beholding her own head, in front of her and in her hands.

It is a full head, because of its enormous stock of information, but it is also a well-made head, since its search engines bring up texts and images at a moment's notice, and its programs process huge amounts of data faster than she could ever do herself. She is holding, outside of herself, a cognition that used to be inside her, just as St. Denis held his head severed from his neck. Has Thumbelina been decapitated? Miracle? (2014: 18)

The violent image of a decapitated head might lead us to anticipate that Serres is preparing to launch a rant on the beheading debodilying evils of modern technology, yet what of his invocation of the story of Saint Denis? What of his seeming interpretation of Thumbelina's decapitation as a possible miracle?

Serres reminds us that prior to the printing press we had to memorize—inhead we might say—everything that contributed to our intelligence. How limited and difficult was that! Even after Gutenberg we still had to know about the books where this knowledge was stored and know where to find the books and how to read. In so many ways, pedagogy and academic research methods continue today to rely on keeping our heads on straight, on filling our heads with information, and focusing strongly on how to read which is how we get what is in our hands into our heads. Why hasn't this process evolved; kept up with technology? Like religions, perhaps academia in large part is out of touch.

Notably Serres celebrates that our head has been projected before us in an objectified cognitive box. ... Thumbelina's severed head, better made than filled, is very different from her mother's. Since she no longer has to work hard to gain knowledge—it is already in front of her, objective, collected, collective, connected, accessible at her leisure, already reviewed and edited—she can return to the absence that

hovers over the severed neck. There she will find air, the wind, and—even better—the light portrayed by Leon Bonnat, the academic painter, when he painted the miracle of St. Denis on the walls of the Pantheon in Paris. There, she will find the new genius, the inventive intelligence, an authentic cognitive subjectivity. It is as if her originality takes refuge in this translucent emptiness, in this cool breeze. Knowledge is almost no cost, yet difficult to grasp.

Is Thumbelina presiding over the end of the era of knowledge? (2014: 19-20)

Serres sees beyond knowledge, beyond information; Serres imagines a “new genius, the inventive intelligence, an authentic cognitive subjectivity.” And he gives us this shocking image of Thumbelina’s severed head as invitation to invention and discovery.

There are other things that should shock us. Although Serres describes his schoolyard observation using the gender inclusive term “children,” it is almost certain that the gender of the kids Serres saw texting was female; he gives them a feminine name and pronoun. Should Serres have approached these girls to inquired of their new genius and inventive intelligence he would likely have discovered that, rather than using their well-made handheld heads to access the universe of knowledge, they were texting and exchanging selfies on social media; theirs is an exchange of self-referential, empty, ephemeral social chat that is considered by them to be of great value. Almost certainly these girls were engaging in some aspects of social media; a social media invented and developed frequently by young nerdy techno-skilled porn-obsessed guys; a technology that has an almost addictive appeal to girls (well, and everyone else). To have their heads in their hands, means that these Thumbelinas can not only see themselves (I often see women in my classes using their phone cameras as mirrors) they can also take photos of themselves (selfies) which they do constantly in various states of mugging (duck face) and attire (or not) which they instantly post on any of many possible social media platforms, yet especially Snapchat and Instagram.

Nancy Jo Sales’ 2017 book *American Girls: Social Media and the Secret Lives of Teenagers* explores the shocking extent to which girls

(and to a lesser extent boys) are engaged in and impacted by their handheld interface to social media that often comprises their entire social world.⁹⁰ In her study of girls ages 13 to 19 across the country Sales found that nearly all girls in this age range regardless of race, education, and household income, or whether they live in urban, suburban, or rural areas participate extensively in social media.⁹¹ She found that a significant number of girls admit to spending as much as nine to eleven hours a day on social media. Sales documents and explores the potential negative impact on girls being dependent on “likes” for their self-esteem and their high vulnerability to being bullied and harassed online by their media “friends.” Often their social media connection with boys is highly sexualized. I find especially telling Sales’ link between the culture of social media and the culture of Silicon Valley. It is an all too familiar example of a pattern of the “invisible,” yet highly intentional, “makings” by men—and men of a certain type and social background and experience—that deeply impact, often in questionable if not also deeply disturbing ways, almost every American girl; and they do so for money, lots of money.

Jean M. Twinge (2017) has studied generational shifts over time and finds a stark shift in the behavior and attitudes of the generation (born between 1995 and 2012) that corresponds with the 2007 advent of the iPhone. These kids spend an enormous amount of time alone in their rooms using their smartphone as a window into the world. Physical social contact is more limited than it has ever been. Compared to preceding generations, they have decreased interest in being away from parents, in driving, in getting a license to drive. Although the causal factors are complicated this generation is more likely to feel depressed and lonely and to commit suicide.

⁹⁰ I was discussing this subject with my daughter and my teenager granddaughter, and my daughter remarked, “Well don’t these girls spend time talking to their friends?” My response, “Well they text each other even when they are physically together.” My granddaughter shook her head and said, “Yes, I know lots of girls who do this; they think it’s fun.”

⁹¹ Sales found that 88% of American teen girls had access to a mobile phone, 92% were online at least once a day, and 24% were online nearly constantly. (Sales 2017: 9)

Some scholars on gender suggest that through history increased popularity of pornography often correlates with the rise in women empowerment. Centuries ago, the invention of print increased the availability of porn, yet it also gave women greater access to knowledge and education. Perhaps pornography, popular largely among men, is a strategy by which men retain some feeling of dominance when they feel threatened by the rise of women. The recent development of electronic media has been accompanied by a universal rise in popularity and availability of pornography, yet it is also a period marked by the dramatic rise of women empowerment and the well-documented achievement of girls and women in most every respect significantly outpacing that of boys and men. Yet is it a concern that these female achievements also correlate with the potential objectification and degradation of girls and women facilitated often by their own obsession with social media including producing narcissistic selfie nude photos (nudz) and other acts intended only to establish themselves as “hot” and “famous”? (Sales 2017:38) Unquestionably the conjoined and interdependent cultures of American girls and Silicon Valley contribute to the creation of the sense of self as understood largely in terms of online image and self-worth understood largely in terms of being famous and hot. It breeds a culture of narcissistic self-objectifying Kardashians and Trumps whose principal skill is confined to creating their own fame, parading their wealth, being an enviable brand, while flaunting that their fame and the size of their wealth (and often also certain sexualized body parts) constitute the only measure of value. A trumped-up selfie image that receives “likes” has become for so many, especially the vulnerable, the measure of everything.

What is certain is that the head-in-the-hands of these contemporary Thumbelinas is indeed spawning the invention of a new culture and sense of personal identity, a near ubiquitous trend that is, according to Sales, being broadly ignored, misunderstood, and discounted despite the potential consequences that, once glimpsed, are profound and deeply disturbing.

The head-in-the-hands is accessed by the thumbs. From the earliest human use of the hand or a tool to make a representative mark on a surface there is a trajectory extending to this contemporary severed head. As André Leroi-Gourhan (1993) noted this

first use of a tool, the hand *making* marks on walls—“Kilroy was here!”—was the origination of the externalization of memory, yet also of knowledge. The hand was the tool used to pick the fruit from the tree of knowledge in the Garden of Eden, specifically an apple we are told (more on this later). Knowledge is both out there and in here. Knowledge is given duration and enhancement through accumulation and review and interpretation and use; all interactive—the copresence of out there and in here. Laurence Scott (2016) uses the term “the four-dimensional human” to refer to this capability of turning ourselves inside out. As what is inside is projected outside through these makings, we have now come to such gymnastic feats of contortion as to hold our own and our collective heads in our hands. As Serres reminds us, the play of invention “appears between the neck and the severed head” (2014: 40).

Although I want to throw in with Serres and his hope for a miracle, I cannot deny that short of miracle (why Denis became a saint after all) severed heads invariably mean death. Decapitation is the ultimate amputation and it defies prosthesis, yet we can now hold our heads in our hands. This *aesthetic of impossibles* characterizes our time, as also does the near identity of the almost unimaginable rise of genius and cognitive subjectivity with the increased risk of the total loss of humanity if not also human life as we know it! Perhaps this impossibility is always the basis of a good story. Although in his book Serres does not engage the interpretation of Hans Christian Andersen’s 1835 story “Thumbelina” or the Grimm Brothers’ account of “Thom Thumb” (he does elsewhere *Hominescence* 2001) this identity characterizes both of their lives, so beautiful and promising in miniature, yet their diminutive stature makes their lives always precarious.

As one whose generation, coming just before what we now refer to as the “Baby Boomers,” wasn’t even named—Tom Brokaw apparently named us the “Greatest Generation” while the Pew Research Report labels us the “Silent Generation”—I want to consider those youngest of today’s adults; those born after 1997. They too are having a bit of an identity crisis. They are squeezed in with the Millennials (born 1981-1997) yet sometimes called “Gen Z,” a label being broadly offered perhaps because Z follows X and Y which have already claimed their

generations overlapping with Millennials. As Z is the last letter in the alphabet, Gen Z has a rather ominous feel to it. I sometimes hear the term “digital natives” used to refer to those born coincident with the internet; those who have never experienced a reality without personal electronic devices. I get that and understand the naturalness with which life and personal technologies coexist. Yet, I think of digit as also and more fundamentally referring to finger. Thus, digital refers to the capacity to distinguish by pointing; the capacity to make reference to pointer and pointed; the tendency to enumerate; the prosthetic extension of ourselves into and to relate ourselves to the entirety of reality, material and imagined beyond our reach. Jean Twenge has appropriately given this group the label iGen since their distinctiveness correlates so closely with the appearance of the iPhone or smartphone.

In the hopeful spirit of Serres, I suggest for those born just before the beginning of the twenty-first century we use the term “Tri-Centurials,” or “Tricents,” because, with the growing increase in longevity, this group may well live in three centuries. My former spouse’s grandmother was born in the last year or so of the nineteenth century and lived past one hundred years of age thus living in the nineteenth, twentieth, and twenty-first centuries; surely, she is one of but a literal handful of humans who have ever achieved this distinction. And the current group has a far greater likelihood than had she. I suppose other labels inspired by Serres might be “Thumbelinas” or “Gen Severed Heads.” Maybe not!

It is important that Serres looked to a religious event in antiquity as a guide to the present; and to his openness to the possibility that the present Thumbelinas are miracles on the order of Saint Denis. Yet, this religious event was not of the sweet romanticized “religion is good” flavor; it was one of beheading and martyrdom, violence, blood and death, incongruity in the most literal sense of a severed head and characterized by an *aesthetic of impossibles*. It is the light between the body and the severed head that Bonnat envisioned and that catches Serres’ attention. It is an example of an impossible that so commonly marks religion that fascinates Serres as an image of hope applicable even in the case of Thumbelina’s Severed Head.

Hans Christian Andersen's "Thumbelina," as her friend Tom brought to us by the Grimm Brothers, is named to call attention to her size—half the size of a thumb—and through much of the story she goes by the name Tiny. Likewise, Tom, as his name denotes, is thumb sized. Yet their diminutive stature is precisely what makes their journeys and destinies so remarkable. By the end of Thumbelina's story, she is renamed Maia, invoking perhaps the mother of Hermes in Greek mythology—with the name also suggesting "mother" or "midwife"—and in Roman mythology the embodiment of growth as associated with the earth. To identify with the thumb, that which is small but mighty, is appropriate. Certainly, one of the wonders to behold is the journey the thumb has taken through its evolution from its form in apes and early humans to the distinct appendage of modern humans known for its dexterity and sheer acumen as demonstrated by those schoolgirls Serres spied on. Thumbelina's head, held in her hands, is effectively useless save the interface of her nimble thumbs. While I still tend to use my index finger in a hunt and peck fashion, I recognize the behavior as a denial of my evolutionary bounty. Typing on a standard keyboard is largely a matter of the use of eight fingers with the thumbs consigned to the lowly task of keeping our words from running together. The romanticized notion of some writers that writing is authentic only when performed in longhand on pads of paper has perhaps more to do with the active grip their thumb gives not only on the pen, but also on their writing process. Yet handhelds have keyboards totally unsuited for two-hand typing and especially for multi-finger typing. It is an interface designed for the thumb dexterity that distinguishes us human beings; that and the eye hand coordination that allows a user to choose among word and phrase choices as the artificial intelligence built into the handheld anticipates what is being written. This evolution in machines niftily correlates with the evolution of humankind as evident in this small body part, the most distinctive digit of the human hand.

The term "articulate" arrives to us from the Latin *articulare* meaning to divide into sections. As a verb, it means to divide or separate. In sound production, it refers to refined diction in speech or to emphasize the distinctness of individual notes in the playing of a musical sequence. It also means to unite by joints

or joins as in the mechanics of arm or leg movement due to the joint design. Articulate also indicates explanation especially in the sense of giving clarity to meaning. As an adjective, articulate is synonymous with such terms as fluent, eloquent, intelligible, organized, and precise. The term handily captures the conjunction of biology and intellect.

Modern humans share general hand morphology with early humans as well as apes including the presence of the thumb. Yet perhaps no part of the body so clearly articulates the distinction of modern humans among our evolutionary kin. As Frank Wilson in *The Hand* (1999) summarizes, “the greatest variability found in the pre-hominid hand was in the thumb” (22). The human thumb has full opposition made possible by “not only the rotation of the thumb and to its relative length, but also to the rotational movements of the index and other fingers. These do not occur in any pre-hominid hand” (22). The evolution of the thumb correlated with “enhancing the overall grasping repertoire of the hand,” as anatomist O. J. Lewis put it (in *Hand* 1999:128). In his classic 1989 study *Functional Morphology of the Evolving Hand and Foot*, John Napier cunningly addressed the importance of the thumb, “The hand without a thumb is at worst nothing but an animated fish-slice, and at best a pair of forceps whose points don’t meet properly. Without the thumb, the hand is put back 60 million years in evolutionary terms to a stage when the thumb had no independent movement and was just another digit” (in *Hand* 1999: 128).

Napier was, according to Wilson, the first to see “past the thumb” to the fuller implications associated with the thumb on the evolution of the arm, shoulder, and body, including enhanced movement. The development of the thumb was essential to what is often referred to as the “power grip” an essential element in the evolution of the hand, arm, and body enabling enhancements such as manipulation, overhand throwing (a development upon brachiation, that is, arm swinging required for movement among trees), and striking—thus violence and making. The thumb development also enabled the “precision grip” that allowed the manipulation of tiny objects by the hand without contact with the palms. The chain of development anchored in the thumb is, as Wilson puts it, “an astonishing example of versatility realized through structure”

(Hand 1999: 136). For the thumb to move in opposition it had to be made long enough to reach the other fingertips and its attachment to the wrist and the muscles and tendons moving it had to be modified so that the thumb could actually make pad-to-pad contact with the tip of each finger (Hand 1999: 136).

Thumbelina and her clever thumbs demonstrates the revelations first presented in the classic 1834 study *The Hand: Its Mechanism and Vital Endowments, as Evincing Design* by Charles Bell and that have continued up to the contemporary studies suggesting that it is the development of the structure of the hand that led to the expansion of the distinctively human brain.⁹² Her thumbs, articulate at texting, scrolling, and searching on her handheld, are the contemporary manifestation of the thumb enhancement that allowed her fore-parents to grasp spears and stones to enrich their menu and to grasp charred sticks and ochre stones that they might articulate through markings on cave walls their thoughts, imaginations, and memories; that their thoughts and memories be prostheticized, projected outside their bodies.

Should we care to see the thumb as the quintessential example of modern human body articulation, we might see an essential link between these contemporary texting thumbs, the evolution of the distinctively human hand and brain, the adoption of the metaphor in which “to grasp” indicates comprehension as much as holding in the hand, the distinctive-ness of human body movement including throwing, the refined manipulation of tiny objects (including writing), the development of language, the rise of tools including those that place the head in the hands, and the rise of music as comprised of distinct yet interrelated units or harmony. These observations give nuance to the phrase “we’re all thumbs.”

⁹² The proposition that the development of the thumb and human hand preceded and gave rise to the expansion in size and development of the complexity of the human brain is core to Wilson’s book. It has been proposed frequently since. I tend to think that neither the brain nor the hand/thumb could develop independent of the other and that neither are independent of the development of the feet that allowed upright posture and bipedalism, not to mention dancing.

The Harmony of the Flesh⁹³

Secret Hidden Horrors

Part of what makes us human are the kinks. They're the mutations, the outliers, the flaws that create art or the new invention, right? We have to assume that if a system is perfect, then it's static. And part of what makes us who we are, and part of what makes us alive, is that we're dynamic and we're surprised.

~ President Barack Obama (2016)

It was a hot day in July when my friend Abdul Doumbia took me to visit a smithy in Bamako. Dozens of open-air shacks swirled in a labyrinth down a slope into the valley below. Men pounded red hot metal on anvils near forges kept stoked by boys pumping bellows. The heavy atmosphere was charged with the rhythmic sounds of hammers and voices. Made curious by the appearance of an old white guy, one group took a break and, likely in jest, offered me the opportunity to join them. Pride in my Kansas farm upbringing pushed me forward. With full overhead swings of a sledgehammer, I managed to strike the target now and then, each time earning high praise from the surprised smiths. Abdul, a master drummer, wanted to take me to this place because he explained smiths are also Doumbias, with the kinship being in the pounding rhythms. He explained that the rhythms that emerge among the smiths' hammers transform the men into a state of action we might call the zone so they are able to keep up this hot hard work for many hours

⁹³ These three essays were originally published in my *Religion and Technology* (2018).

straight. I'd often seen Abdul do the same with his djembe, playing hour after hour for dancers leading a group of drummers in intense interlocked complex rhythms.

At one point, I stopped to contemplate the scene. Nearby, in one smithy they were building the little square steel charcoal stoves used in all Mali homes most often by men in their endless tea making. In the neighboring smithy, the men were making colanders of a lightweight metal, shaping it and punching the holes. The hammers of different weights striking different metals made distinct sounds. As I listened, I began to hear the interplay of rhythms among all these hammers, appreciating the complexity and cyclic character of the tones and beats. Men doing different kinds of work with unlike tools with distinctive materials, yet clearly every hammer blow contributed to this mesmerizing melodic interlocking rhythm. Who could possibly interrupt this wonder?

A few days later in Foutaka Zambougou, Abdul's home village in the heart of Mali beyond the reach of roads, I observed a group of women rhythmically pounding millet while singing together. And still later in Dogon country I watched a group of farmers, each with a hoe, arranged in a line in a small stone rimmed garden singing to the rhythmic sounds of their chopping hoes.

The forge is a place of making, tool use, and transformation. Not only are raw materials shaped into products, the heating and pounding of metal also hardens and transforms it. The ancient connection with alchemy is obvious. Alchemy produces gold, understood in many ways. Perhaps the most precious is the transformation of working metal into enthralling musical rhythms, forging the individual hammer blows into the coordinated organic ensemble. Think about it. Forging means creating as well as faking, fashioning as well as counterfeiting, imitating as well as falsifying. Forging is heat and danger. Forging is boldly going where no one has gone before. The very word is magical.

Pythagoras (6th century BCE) was the inventor of harmony (theory) in the double sense of how musical sounds interact with one another as well as the promise that the whole natural world is somehow intelligible, coherent. More remarkably Pythagoras felt these two senses of harmony are somehow related; a link we continue to contemplate millennia later. Apparently, Pythagoras

initially distrusted the senses (his ears in this case) as well as musical instruments since he felt both have a propensity to change over time. His approach was to seek pureness and he relied on reason and numbers. Yet, before he completed his work, “As if impelled by a kind of divine will” (Heller-Roazen 2011 quoting Boethius: 12) he entered into a forge where he, as did I in Bamako, experienced, the hammering sounds of the smiths. “Somehow they emitted a single consonance from differing sounds” so that Pythagoras found himself “in the presence of what he had long sought, and he approached the smiths’ work as if spellbound” (Heller-Roazen 2011 quoting Boethius: 12).

Pythagoras discerned that the consonance resulted from the relations between the weights of the hammers. He set about weighing them and comparing their weights in correlation with the sounds the hammers produced. According to Boethius (early 6th century BCE) Pythagoras’s results were to “let the weights of the four hammers be contained in the following numbers: twelve; nine; eight; six” (Heller-Roazen 2011: 13). Pythagoras set about testing his numerical proportions using a variety of methods, including strings whose tensions were determined by the relative weights, water in glasses, and a device called a monochord whose single string could be divided in various proportions. Pythagoras discovered that sound in all its diversity could be reduced to several simple relationships: octave to 2:1; fifth interval to 3:2; fourth to 4:3. The implication for him was that the natural world could be transcribed into numbers—an early example of information theory—that numbers were according to Aristotle the basis for metaphysics. Aristotle had held that “things are the same as numbers,” ... “things and numbers are composed of the same elements” (Heller-Roazen 2011: 14). Pythagoras, as did Aristotle, understood number to mean integers, whole numbers. Pythagoras’s harmony was metaphysics.

Yet in Boethius’s account of Pythagoras in the forge, there was a fifth hammer; one that Pythagoras ignored. Although Boethius does little more than mention this act of omission, he raised a question mostly ignored since, “why did Pythagoras leave out his fifth hammer?” It is perhaps most likely that it was because it confounded his emerging theory of harmony, based

on numbers; the abstract purity of whole numbers trumped his own sensual listening experience. Daniel Heller-Roazen took on the challenge of exploring the implications of this interesting issue in his book *The Fifth Hammer: Pythagoras and the Disharmony of the World* (2011) where he understands the fifth hammer to “name that unsettling part” (10), that is, disharmony. At least one understanding of the “unsettling part” is the apparent discord between experience (the ears) and the supposed perfection of numbers; the long struggle between bodied experience and the abstractness of mind and ideal. The fifth hammer Heller-Roazen shows to be unsettling not only for Pythagoras, but also for many others since. It is my intent to trace this “dis-ease” with its possible implications right up to the cusp breaking into the future. Certainly, for me the prevailing question has to do with our terror and rejection of disharmony.

Heller-Roazen analyzes this single sentence of Boethius, “The fifth hammer which was discordant with all the others, was discarded” (15). He considers, in the context of the ancient world, various ways of understanding what this statement might have reflected from the time of Pythagoras leading him to offer a fascinating speculation. He first points out that while Pythagoras discarded the fifth hammer, “he nonetheless perceived it.” It was upon hearing the five hammers that so stunned Pythagoras “as if spellbound.” Heller-Roazen writes,

Thus the fifth tool beat, no less than one of five. Perhaps, in his momentary distraction, Pythagoras found himself drawn to that very instrument: the hammer with no number and no master, which somehow—yet impossibly—sounded both “in a single consonance” and in utter discordance “with all.” One wonders whether the “kind of divine will” that caused the thinker to abandon his sheltered contemplations may not have had a part to play in this mysterious quintet. The spirit that deterred Pythagoras from his reasoned inquiry may have also been the one that remitted him to the sensible organs that he never meant to trust. ... Dimly or distinctly, if only for a moment, he had nonetheless perceived a being without measure. ... harmonies of music that no numbers may transcribe (17, the quotations are from Boethius’s account).

Heller-Roazen's comments are fascinating. He suggests that despite Pythagoras's distrust of his own ears, it was nevertheless his perception, his bodied experience, that was the basis for hearing both the single consonance among all five hammers, yet the very harmony experienced was the troubling part in relation to his theory of harmony where it raised the "utter discordance with all." His reasoned construction of a theory of harmony—based on numbered relationships—could not incorporate the fifth hammer. Numbers could not transcribe the heard consonance of all five hammers, thus, in this respect the fifth hammer didn't fit "with all." The possible conflict, the discord, the kink that led Pythagoras to leave out the fifth hammer was none other than the conflict between the evidence of his senses, his ears, and his belief that numbers, integers in their wholeness and purity, must pervade the foundation of the harmony of sound and of the principles pervading the whole world. Fundamental is that heard consonance—perhaps too easily considered synonymous with harmony—is perchance not possible apart from the copresence of that unsettling part, the part that can't be transcribed into number or into bits or represented by information. Perhaps, to shift Heller-Roazen's articulation ever so slightly, the fifth hammer represents our historically gesturally naturalized propensity to ignore our experience, our ears, our bodies, when that evidence, no matter the certainty of the spellbinding feeling and affect, conflicts with the assumed perfection of abstracted systems of laws, with the eternal relationship among numbers, with the flawlessness of god.

We might then recognize that harmony has long been bound in the tension between aesthetics and experience on the one hand and abstract theory and ideal on the other. The Greek root *harmonía*, means "joint, agreement, concord" from the verb *harmozō*, "to fit together, to join." Yet, to the ear, harmony is but an occasional experience within the ongoing flow of musical sounds comprised of consonance and discordance, the whole experience often being moving, even spellbinding. Clearly the engaging tensions and colorings of musical experience are inseparable from the discordances that create minor keys and build the drama in music toward its fulfilled conclusions. The play of music is in part the interaction of the ranges of possible tensions and resolutions that constitute harmony. Yet, since at

least Pythagoras, harmony also has meant a theory of relationships and laws believed to be not only at the root of music, but also and perhaps more importantly at the root of cosmic reality, pertaining to the very motions of the stars and planets; metaphysics. Harmony is theological in being understood as the principles used by god in creation and the perfection of the created world that attests to god's presence.

In my decades of interest in Native Americans I have frequently encountered this idea of harmony commonly projected, usually by non-Native Americans, on these people seen as representatives of purity, as original (*ab origine*) perfection. This notion of harmony tolerates nothing that is not centered and balanced, nothing that is subject to change or discordance, nothing that is not by the numbers (often also for Native Americans charted in fours or other number sets), as these attributes are believed to be the very markers of god's perfection.

To adumbrate my current concern with our breaking to the future, machine learning, deep learning, AI, all share the Pythagorean strategy of translating everything in existence to numbers, more basically into the metaphysics of bits. Yet, unlike Pythagoras, these machines discard nothing because there is no ideal or sense of perfection or notion of the importance of god or center; the *bolos* of numbers has seemingly given way to simulacra; a hyperreal self-imitation based on statistical probabilities without metaphysics. These machine beings, if we grant them the status, exist in a world without philosophy, without theology, without music, without proper ears. They simply mine and crunch big data and calculate probabilities; ranking everything based on the statistically most likely and discarding nothing. Nothing is actually believed or felt because nothing is heard. There is no unsettling part for AIs. This style of learning is based on the ancient proposition that reality may be adequately transcribed into numbers and information, indeed, where number is the purest form. Yet, among AI there are not annoying fifth hammers or irrational numbers to signal that disharmonies, once experienced, tend not to disappear. And there is no awe.

There remains, for us eared beings, the capacity, even propensity, for the spellbinding experience Pythagoras heard with

his own ears that included necessarily the fifth hammer in the impossible copresence of the single consonance yet the utter discordance “with all.” And Pythagoras, according to Boethius, attributed being drawn to this body presence by a “kind of divine will.” Surely the insight to be gained here—I’m endeavoring to see and express it—will be revealed to us as we appreciate the conjunction of the necessary presence of the impossible, the spellbinding effect of the interplay of consonance and discord (coherence and incoherence); this was perhaps what Pythagoras felt as the force of the divine will.

Our machines do not have proper ears to hear and feel the music so their followers (are these machines as well?), should they have any, would never wonder and attempt to understand why the fifth hammer was left out of their calculations despite its spellbinding effect for they leave out nothing; besides statistical probabilities of something are not so spellbinding, they can hardly be enthralling. We are, I believe, arriving at a shift of a singular kind (perhaps not a singularity, yet significant), one that has been brewing since Pythagoras.

Two millennia after Pythagoras a remarkable conjunction of the appearance of new maps of various sorts attested to a newly imagined and experienced reality—the rewards of those two thousand years. These maps appeared nearly simultaneously in 1543, the year of Copernicus’ death.

Known as the father of modern human anatomy, Andreas Vesalius (1514-1564), Belgium anatomist and physician, published in this remarkable year, 1543, a seven-volume work *On the Fabric of the Human Body* that contained hundreds of plates illustrating many aspects of the physical body. These plates progressively peeled back the layers of the bodily construction isolating the various systems within, all the way down to the skeleton, the bones. The work birthed the era of modern medicine.

The term “atlas,” used to refer to a collection of maps, was first used by Belgian Gerardus Mercator (1512-1594), philosopher and mathematician, who is most remembered for his cartography. The map Mercator published in 1543 was distinctive for using a projective method so that a flat map of the world charted in straight lines the sailing routes following a course of constant bearing. What he wanted to achieve, as Mercator

described it, was “to spread on a plane the surface of the sphere in such a way that the positions of places shall correspond on all sides with each other, both in so far as true direction and distance are concerned and as correct longitudes and latitudes.” The earth, a spherical planet, was translated into a flat whole that could be observed of a piece. The shift in perspective to one from above was a shift in relationship, a conquering in some sense.

Of course, Nicolaus Copernicus (1473-1543) is well known for his contribution in shifting the understanding of our Earth location away from the center of the universe by demonstrating that we live on one planet among others all circling a common star, the Sun, which he placed at the center of the universe. Although Copernicus knew that the orbits of the planets were more nearly elliptical, he presented them in illustrations as circular; an acknowledgement perhaps of the importance of presenting a system characterized by the perfection of circles as demanded of god’s work. Although Copernicus had formulated the theory decades earlier, his book *On the Revolutions of the Celestial Spheres*, published in the year of his death, would revolutionize not only astronomy, but also theology and the entire sense of the importance of humankind. Kepler, as I’ll consider immediately, was to work out some of the larger and even disturbing implications of the Earth being other than the center of the universe. Of course, Copernicus revolutionized the sky that led to the full explorations of the universe including space travel.

At this signal moment (relatively speaking), the year AD 1543, everything changed from the human body to the earth to the sky, birthing the modern world. The mysteries of the body became scientific knowledge. The shape of the earth lay on charts navigable to any location. The solar centered sky reshaped the cosmos. Perhaps most important was the opening and energizing a new era of exploration and discovery of the interlocked realms of body, earth, and sky; an enterprise that continues to the present.

Martin Luther (1483-1546), the German who had rejected the teachings and practices of the Roman Catholic Church and lead the Protestant Reformation, published a book in this same year, 1543. It was a book-length anti-Jewish treatise titled *On the*

Jews and Their Lies. Unfortunately, this religious intolerance too is a heritage that continues to inform the present seemingly unabated and remains ubiquitous across the globe. Luther's *Ninety-Five Theses*, published in Latin in 1517, marked the onset of the Protestant Reformation. The rise of Protestant Christianity certainly remapped the world in profoundly fundamental ways.

It would be more than half a century after Copernicus died before the publication of *The Sacred Mystery of the Cosmos*, also known as *The Secret of the Universe*, in 1596 by the self-styled reincarnation of Pythagoras, Johannes Kepler (1571-1630). Although it remained commonly accepted by early modern thinkers that god created the world in its perfection and symmetry in accordance with numbers, Kepler rejected numbers which, as he wrote, "are at a second remove, in a sense, or even a third, and fourth, and beyond any limit I can state, for they have in them nothing which they have not got either from quantities, or from other true and real entities, or even various products of mind." Further he wrote, "Arithmetic is nothing ... but the expressible part of geometry" (quoted in Heller-Roazen 2011:118). As perhaps is obvious, Kepler proposed geometry, not numbers, as fundamental in both theological and scientific terms. Kepler offers a rather powerful early criticism of the limitations of information, of what we now understand as "bit reality."

Kepler created his own theory of harmony published in 1619 as *The Harmony of the World*. Reviewing Pythagoras' harmony, Kepler wrote, "The Pythagoreans were so given to ... philosophizing through numbers that they did not even stand the judgment of their ears, though it was by their evidence that they had originally gained entry into philosophy; but they marked out what was melodic and what was unmelodic, what was consonant and what was dissonant, from their numbers alone, doing violence to the natural prompting of hearing" (quoted in Heller-Roazen 2011: 119). Holding that geometric figures, finally two-dimensional or sur-face ones, were fundamental, Kepler constructed his harmonic theory based on inscribing regular shapes (those that can be constructed with compass and ruler) within a circle using the portions thus determined as the basis for his harmonic proportions.

Like Pythagoras and so many others before him, harmonics for Kepler had to do not only with music, but it was also the core of metaphysics. Harmonic theory contained the principles used by god to create the world in its perfection. Kepler did much to achieve what was then the issue of unifying physics, by proposing that the physics of the earth and sky are homogeneous, in theological terms, that god's creation was consistent in principle throughout.

Turning to the world—what now we'd call our solar system—Kepler built upon Copernicus. To comprehend the relationship among the planets moving in orbits around the sun, Kepler proposed that again geometry was the foundation. He imagined solid geometrical shapes arranged one within another around the sun with the surface of each corresponding to the orbital behavior of the successive planets. Since these same geometric shapes constitute musical harmony Kepler argued, "Therefore, the motions of the planets are nothing but a kind of perennial harmony (in thought, not sound), through dissonant tunings, like certain syncopations and cadences (by which men imitate those natural dissonances), and tending towards definite and prescribed resolutions, individual to the six [the number of planets then known] terms (as with vocal parts) and marking and distinguishing by those notes the immensity of time" (.quoted in Heller-Roazen 2011: 129. There is then a song (if thought rather than heard) of the universe. Yet, the remarkable impact of Copernicus was that Kepler recognized that this song could only be heard if one were in the center, at the place of the Sun. God's association with the sun is perhaps obvious for the symmetry occurs only from that location.

The more profound issue subsequently arose in the consideration of the size and possible infinity of the world. Kepler held that the universe was spherical, a container of sorts, comprised of the fixed stars. A major issue, since Aristotle, was considering the possibility that the world was infinite, a view finally rejected. This is, of course, a metaphysically framed issue based on the experientially based corporeal concept that every inside must have an outside. A powerful consequence of the heliocentric world Kepler considered was the full realization that the universe was far greater in size than had been imagined. The difficulty of observing any stellar parallax required the conclu-

sion that the stars were at a distance almost immeasurably farther from the earth and sun than the distance between the earth and the sun. This knowledge would suggest a possible infinite universe. Using a variety of arguments (not essential to review here) Kepler continued to defend his view that the universe could not be infinite. Holding to the uniformity of nature, including not only the earth but also the sky, and based on his principles of geometry, Kepler argued that “were the heavens truly limitless, the placement of the stars across them would be manifestly homogenous. Stars of equal numbers, set in equal groups, would follow each other to infinity” (quoted in Heller-Roazen 2011: 137). The Sun would then be but one among others equally spaced throughout an infinite universe. Kepler then concluded, “Among the innumerable places in that infinite assembly of the fixed stars, our world, with its sun, would be one place in no way different from other places around other fixed stars, as represented [referring to an illustration he prepared]” (quoted in Heller-Roazen 2011: 137). Since the stars are not evenly distributed, Kepler concluded that the universe could not be infinite. Kepler’s recoil from an infinite universe was one raised by the specter of relativity. The very entertaining of this idea was disconcerting. Such a world would be neither Earth centered nor Sun centered, indeed, it would have no center at all. Without center: where does one account for the creation of god, or for god’s very existence for that matter? Where does Kepler locate the base for his harmony? In *De stella nova* (1606),⁹⁴ Kepler wrote, “The mere thought of it [an infinite universe] brings with it I know not what of secret, hidden horror; one finds oneself wandering in the immensity, which knows no boundaries, no center, and, therefore, no defined places at all” (quoted in Heller-Roazen 2011: 139). As Pythagoras couldn’t include that fifth hammer, Kepler couldn’t embrace the possibility of an infinite universe.

Heller-Roazen suggests that an unacknowledged insight of Kepler was that the “limitless universe is out of this world” (quoted in Heller-Roazen 2011: 140). that is, beyond the

⁹⁴ Kepler wrote *De Stella Nova* or *The Birth of a Star* in response to the appearance in 1604 of a new star in the constellation Ophiuchus better known as Serpent Bearer.

possibilities of human experience. From Kepler on, astronomy has relied on methods of observation inaccessible to direct human perception to attempt to detect new regularities. How to settle the issue? Heller-Roazen's insight is that such discoveries likely would not have changed Kepler's view. Heller-Roazen writes,

His intuition may have been sound. In a universe without limits, its center everywhere and nowhere, its boundless stars distributed in endless uniformity, one might well continue to grasp natural phenomena by mathematical means. But a harmony of the world would not be heard. One might wait another six thousand years, yet no thinker, sage, or scientist, would step again into the forge, and no Pythagoras would be reborn (140).

The bald suchness of this "secret, hidden horror" is so immense as to force us to quickly drop the fifth hammer and find respite wherever we can. Yet, like revealed naiveté, once one has glimpsed the abject, it is impossible to forget. The strategy, as we attempt to forge our way into a future, to create in that forge a world that is anything but bleak, is surely to find that there is an interplay of the finite and infinite as well; that our very lives depend also on the courage to forge our way to acknowledging the possibilities revealed by this "secret, hidden horror." But before exploring these ideas, I want to offer another way of comprehending the "secret, hidden horror" that also begins with Pythagoras. A moment of distraction from that terrifying glimpse.

This "unsettling part" reveals itself in the theorem that bears Pythagoras's name; in a right triangle, the square of the length of the hypotenuse is equal to the sum of the squares of the lengths of the other two sides. Thus, the length of the hypotenuse is equal to the square root of the sum of the squares of the other two sides. To take the simplest example, consider a right triangle in which the sides that are not the hypotenuse are each equal to one. By the Pythagorean Theorem the hypotenuse would be equal to the square root of one squared plus one squared or to the square root of two. The square root of two turns out to be an irrational number, that is, a number that cannot be represented as a ratio of integers—it is closest to, yet not precisely, $99/70$ —and thus there is no end to the number

of decimal places its calculation produces. The arithmetic value can never be precisely calculated. It is believed that the square root of two is likely the first known irrational number. Another well-known irrational is Pi. Since irrational numbers invariably and necessarily arise in the numeric representation of geometric figures, they provide another way of understanding the relationship between arithmetic and geometry. A circle is a circle easily confirmed by observation; it can be constructed in any number of ways, and it can be constructed to have a measurable perimeter (take a string of a given length and make it into a circle). Yet the numbers representing the circle can never be exact; that is, the calculation of the perimeter from the measure of diameter involves Pi and thus can never be exactly determined. Unlike the fifth hammer, in physics irrational numbers cannot simply be ignored. Because of the necessity of these “unsettling parts” the universe cannot be known or represented exactly by numbers. The field known by the appropriate term “chaos theory” arises from this feature of numbers related to geometry.

It was from Michel Serres that I became aware of the appearance of the three maps in 1543. He mentions them in the effort to show the trajectory that has unfolded over the last several centuries. In his *Variations on the Body* (Fr. 1999, Eng. 2011) Serres wrote,

During the years, known as miraculous, of sixth century Greece, the abstract geometry of similarities was therefore born from the concrete body that imitates, at the same time as astronomy, mechanics and, I haven't said it, the geography of the Earth, since the measurement of the latitudes was derived from the sundial. Now, during the Renaissance, in the same year or almost, 1543, three maps came to be: a map of the sky, modeled by Copernicus; another terrestrial globe, projected by the geographer Mercator; and a new body, drawn on Vesalius's anatomical plates. Lastly, this very day, we are introducing three pages of the body, earth and sky to the modern era: a Universe whose photons reach us from billions of years in time and millions of light-years in space; an Earth that has been explored, to the very centimeter from satellite height, down to its innermost

movements: we watch volcanoes breathe and maritime abysses slowly open; finally or firstly, we are detailing the body's biochemical and genetic constitution.

These three landscapes carry us toward the future. In these three moments which we can regard as beginnings begun again, the presence of the human body harmonically summarizes my arguments (101-102).

Let me add to this group a fourth map observed in 2014 by Andrew Keen at the headquarters of Ericsson, the world's largest provider of mobile networks. Keen describes the map:

The wall was dotted with a constellation of flashing lights linked together by a looping maze of blue, pink, and purple lines. The picture could have been a snapshot of the universe with its kaleidoscope of shining stars joined in a swirl of interlinking galaxies. It was, indeed, a kind of universe. But rather than a celestial firmament, it was a graphical image of our twenty-first-century networked world (Keen 2012: 11).

From his description, this map, an earth map, appears to have an uncanny resemblance to the recent scientific depiction of the super-cluster of galaxies named Laniakea in which our own Milky Way galaxy is but a speck.⁹⁵ It may also invoke images of fMRI brain scans.

In the presence of these remarkable mappings, Serres does not follow Pythagoras and Kepler in dismissing body or perception. He concludes, "the presence of the human body harmonically summarizes my arguments." We can certainly appreciate the gravity of the efforts of Pythagoras and Kepler (and all the others), yet from the complexity of the interconnectivity of the internet (the presence of "the all"), the magnitude of the known universe, the complexity of the genome, the "unsettling parts" seem increasingly pervasive.

Into the future we know there is no center, we know that our science and math tell us that there was no one around to hear the music for almost all of cosmic existence; we know that only

⁹⁵ For an interesting video showing how this image came about, see nature video, "Laniakea: Our home supercluster," YouTube Video, 4:10, September 3, 2014, <https://www.youtube.com/watch?v=rENyyRwxpHo>.

in the last few centuries have we even been able to contemplate in some reflective terms what constitutes the harmony of music and hammers and planets and galaxies; we know that we are alone with our nearest possible neighbors being a mere 40,000 year voyage by our fastest spaceships;⁹⁶ we may begin to realize that what we have discovered in the time since Copernicus and Kepler is but a hint of what will come to be known in the next couple centuries, perhaps even decades; we surely realize that the changes we are forcing on our world due to our own recent short-sightedness is not gradual but rather has placed us on a trajectory careening towards extinction; we know that we already have one foot in the door of a future dominated by machines—perhaps, at the least, our bodies transformed into machines or our behavior and sensibility indistinguishable from machines—whose listening instruments are so accurate and precise as to make our ears seem sadly inefficient. Yet, more importantly, these machines cannot smile or laugh or be moved to tears by the sound waves they measure so they might calculate statistical probabilities labeled with musical terms. Machines, as the universe, exist in a cold eternal silence; they can't feel the harmonies so common to our pathetic ears.

It might be suggested that we have our own fifth hammer and, like Pythagoras, it is our denial of what is apparent to our senses; of the implications of what is well accepted in our knowledge. Far more consequential than Pythagoras's physical hammer or Kepler's refusal of relativity, ours might be understood as being comprised of the greatest of human conspiracies; the tacit agreement that we all refuse to acknowledge the dire implications of our own current maps as being relevant to our journey into the future. Perhaps surprisingly complicit in this conspiracy of silence, more than we might imagine, are traditional religions and academic institutions.

⁹⁶ Given this number there is shocking incredulity in reading that our preeminent physicist prophet the late Stephen Hawking has indicated that we have but a hundred years before we need to be exiting from earth for a new home. See Arden Dier, "Hawking: Actually, We Have 100 Years to Escape Earth," *Newser* (May 14, 2017) <http://www.newser.com/story/242261/hawking-actually-we-have-100-years-to-escape-earth.html>

Serres gives us hope. We might understand him as calling for a new harmonic; this one based not in the purity of numbers (Pythagoras) or the perfection of geometry (Kepler), but on the imperfect variations of the human body.

Step Again into the Forge

Pythagoras's ignored fifth hammer, Kepler's "secret, hidden horror," and Heller-Roazen's "unsettling part" all weigh on me as does the insight common to Pythagoras, Kepler, and Serres that harmony is both musical and metaphysical. I'm fascinated by the relationship of body to the imagined purity of forms, that this relationship parallels the distinction between divinity and humanity, and that it has persisted since antiquity. As the base for harmonic theory, I'm intrigued by the shift—is it a progression?—from purity of integer to the perfection of geometry to the suggestion of a harmony found in variations on the body. Is this a shift from an imagined idealized god to finally embracing that most unquestionable aspect of our existence, that we are body? Are we, as Vernor Vinge suggested back in 1993, on the cusp of either a totally new human era or one absent of humans (again)? How do we follow Pythagoras into the forge knowing we must create a theory of harmony that will guide us into our future? What hammering on what anvil will create a new understanding of harmony? What alchemy must we discover? How do we find the courage to forge ahead when the discordance of all existence—no, better, the utter silence and coldness of the vast universe—seems unbearable? And on religion, how do we not feel other than depressed that Luther's protestation of the Catholics and his disdain for the Jews seems still to mark the dominant character of religions—religious intolerance and hate seem at the core of most of the world's current conflict, violence, and suffering—when concurrent with Luther scientists and philosophers ignored discord primarily because they believed that the world had to reflect some idea of god's perfection? Kepler understood the "secret, hidden horror" as when "one finds oneself wandering in the immensity, which knows no boundaries, no center, and, therefore, no defined places at all." Yet the immensity known to Kepler is miniscule compared to our current reckonings of the extent of timespace. How do we muster the courage to forge ahead?

The term “singularity” is intriguing to me. Physicists and cosmologists use the term to describe the moment just before the big bang, before the first moment. Singular is one or whole (*holos*) but also naught. It is in some respects akin to “unique,” which simply means “incomparable,” although more commonly we tend to use it as a superlative. In overly simplistic terms, one can take the conditions at any time and place and, if it all works out, apply to them using the laws of physics to determine the conditions at any other time and place. Projecting from the current state of the expanding universe in reverse fashion one ought to be able to determine from whence we cometh. That seems to reveal a retrograde convergence on a single point of infinite mass and energy. At that moment, that point, where/when it all began, the causal temporal laws of physics no longer apply. One cannot project beyond that first point to some point before the beginning. Immensity, yes; infinity, no. This unimaginable situation is not comparable to any other. In the beginning time and space collapse into the incomprehensible (not even a void); cause and effect, laws, progression, prediction, comprehension, time and space, all disappear. Physicists can apparently describe what occurred during the first micro-second—that is, what constituted the first stages of the explosion—yet we cannot know who or what put match to the fuse. For some, this was the job of that most singular of beings; in a lawful world (a perfect world), the one and only single job left to such a being.

The term “singularity” has come about again, introduced in 1993 by mathematician Vernor Vinge to describe what he understood as imminent “change comparable to the rise of human life on Earth.” In his essay “What is the Singularity?” Vinge offered several degrees of specification: computers that awake and are superhumanly intelligent; large computer networks that awake as a singular superhuman intelligent entity; computer/human interfaces so intimate as to be considered superhumanly intelligent; and the biological improvement of natural human intelligence.

Vinge’s term “awake,” which, interestingly, he places in quotation marks, seems to be his indicator of singularity. It uncannily evokes the image of the moment in Victor Frankenstein’s lab when his creature seemingly awoke. Awake as thus

used is not the image of birth, of naissance or origination. It implies coming to awareness and moving from a state of sleep and inactivity; a fully formed (adult) being suddenly coming to “life” (I’ll add my own quotation marks or as many now say “scare quotes”). This being is more than intelligent in the sense of calculating statistical probabilities which can be done by an inanimate tool (a calculator). For a computing entity to awake is for it to become aware and thus animate, that is, self-moving (Main de Biran). What is truly singular about this awakening is that this event cannot possibly be predicted or anticipated based on the application of the present laws such as Moore’s Law and all the laws of physics. The awakening would be the singular and signal arising of a creature fully formed, as was Frankenstein’s creature.

Yet, as a mathematician, Vinge fully knows that to predict a singularity is precisely to deny its singularity. To predict this event would be like a countdown to the big bang. It requires something on the other side of nothing. We join Kepler in feeling the mere glimpse of this possibility to be a “secret, hidden horror” expressible in terms also used by Kepler, “a monstrosity.”

What is now fascinating about Vinge’s discussion is that from the vantage of our time almost a quarter century later, most of what he foresaw, other than the singular awakening, has come to pass and is progressing. His image of the large computer networks comprising a common intelligence has come to pass in the internet that feeds the mass data mining algorithms that shape our lives; creatively imagined as the Borg with its “hive mind.” We have considered the disappearing interface in the rise of the cyborg. Vinge wrote not only of AI, artificial intelligence, but also of IA, intelligence amplification. The latter references an aspect of what I have discussed as the metahuman cyborg we are becoming. Considering the idea of singularity with respect to AI, it perhaps helps us realize and emphasize the obvious. AI is artificial. To suggest that one day AI will awaken is to suggest the transformation from artificial to natural to real in something on the order that we humans are real. We are reminded that AI is ARTIFICIAL: human made, cold, second order (or third or fourth), unfeeling, senseless, a hammer in our forge. To be

reminded of the artificiality of AI might, I'd hope, beseech us to step up as creative and responsible smiths.

Following Pythagoras and Kepler we need forge a new understanding of harmony more fitting our journey into the future. Taking a clue from Michel Serres, based on the perspective he gained by comparing the charts of the 1543 world with those that guide us today, we must focus on the "presence of the human body" as Serres demanded. We should not distrust our ears; that our hearing changes and varies is what distinguishes us as human, natural, real. Should we wish to be theological about it; we might realize that to insist on the purity of integers and the perfection of geometric shapes as evidence of god's creation is to limit god to stabilities, to exclude novelty and ongoing creativity from the purview of an on-going presence of god; such a world is that described by physics. It is the unreliability and variability and unpredictability of human ears and bodies that, among all things, attests most decisively to creativity and to actually hearing and being moved by the music.⁹⁷ Why music if not for the ear?

Kepler understood that in a heliocentric world the harmony of his geometrics could only be heard if one were located at the center, that is, at the Sun; an impossible concert venue. He also understood that the song of metaphysics, the rhythmic melody of the world, was not a song that anyone, any ear, could actually hear.

⁹⁷ A fascinating example of the importance of randomness and accident is present in Nicholas Britell's description of his composition of music for the 2016 film "Moonlight." He says, "There's this fascinating alchemy of how sound and picture relate. And I don't think anyone really knows why these things feel the way they do. So, you know, the more I get the opportunity to do this, the more I feel it's important to follow these kinds of instincts and feelings and let your emotional response to things drive you in different directions." (NPR interview 2/20/2017). This classical music also illustrates something of the metahuman cyborgian approach to creativity. The music is composed and played by human artists yet with the final version altered by use of a "chop and screw" technique that bends the pitch of the music effectively changing the key. The fascinating thing about this process in the present context is the honoring of the importance of the unexpected that is accepted as part of the creative process.

How to construct a new understanding of harmony? Where do we begin? We have but clues, yet they are tantalizing. Perhaps rather than focusing on the concordance of the single chord or set of chords, we consider the composition, not the composition completed, but the ongoing coordinated dynamics that we experience, as did Pythagoras, as “spellbinding,” that is, enthralling, enchanting, entrancing, mesmerizing. What keeps us listening other than having some sense of the whole with the potential variation of all the parts as they emerge in play? Perhaps our listening is not in the achievement of the end, but in the feeling of, the seduction of, the unfolding. It is not just that the infinite number of possible songs astound us, but so also do the themes and variations possible for each one. In this respect, songs are like bodies; both are realized as themes and variations that unfold through moving. A song as sung by a living human body, rather than being a recorded fixed replication (bit reality), is exemplary in another respect: though we quickly have a sense of a song as a whole even if we’ve never heard it before, we still do not know with certainty what is coming next. We experience the same in dance and in reading a book. The whole is somehow adumbrated in its every part, yet every part has the potential for novelty, for surprise. This too is the experience of living our lives in time; an experience of time I’ve referred to as the fat present.

Listening to Serres, we should incorporate harmony in a broader sense of a theory of music, music played by living bodies (even if augmented by instruments and machines), and find, should we desire it, therein the theological and metaphysical inspiration. We might finally give god credit for ears and bodies, highlighting god’s wisdom in linking all the seeming imperfection and variation with novelty and vitality. We might comprehend that apart from ears and bodies, the totality of the universe in its vastness, including our computing machines, is silent and lawful, perfect and pure, cold and unfeeling. This might inspire religion(s) to enter a post-theological era.

On an optimistic note, a happier melody, perhaps the “secret, hidden horror” is not, as Kepler said, finding “oneself wandering in the immensity, which knows no boundaries, no center, and, therefore, no defined places at all.” Rather it is our

realization that without ears and bodies, there is no wandering, knowing, or defining at all.

Song of Tomorrow's Eve

you must pose as Eve;
it's the most distinguished pose of all.
No other artist, I dare say,
will dare to take the role or sing the part,
after you've made it yours, of *Tomorrow's Eve*.
~ Villiers, *Tomorrow's Eve* (1886)

For decades I've heard the phrase, "you know this whole thing (the cosmos?) just may not be about us (humans?)." I've always felt I was supposed to agree and I'm sure that occasionally I've yielded with a tentative nod of my head, but my heart has always screamed in silent protest. I totally get it. We have to see ourselves as part of the larger universe, kinfolk with animals, interdependent with plants, inseparable from the health of the earth, and, were we stronger more courageous, this relationality might well be projected to the whole cosmos. It is surely utterly arrogant to feel that everything is about us humans. Yes, I get it. Yet, take us humans out of existence and I can't comprehend anything at all really. I am certain this is anthropocentrism, yet how to even contemplate anything being about anything without the distinctively human capacity to ask "so?" How can song be about anything without the ears to hear it, to hear it as song? How can cosmos or universe be considered the final container (an inside that has no outside), be anything but impossible given that inside/outside are corporeal concepts and thus arise from our human bodies?

We might understand that cows go "moo" and chickens go "cluck" and dogs go "bow wow" and that they hear and respond, yet it is hard for me to consider that they recognize and contemplate metaphysical and theological dimensions to their songs or even that they are inspired to create themes and variations on "moo moo" or "cluck cluck." Ponies don't pen poems; cows don't contemplate cosmos. Without the inspiration or the biological venues in which songs move and inspire and enthrall, then what? In retrograde terms through almost all of the existence of the cosmos, time and space as the physicists

account for it, there were not even animals, just rocks and gas moving through space. Imagining the whole of the cosmos in these terms I'm quickly led to ask, "Why not endless numbers of universes?" Not only our solar system; not only our Milky Way galaxy, not only our galactic super cluster Laniakea, but our whole cosmos comprised of 2 trillion galaxies might just as well be but a grain of sand on an endless beach of universes. Without human reckoning, anyone to say "Oh Wow!" how can there be any measure, any sense of inside/outside, any limit or not? We account for cosmic time and space in terms of the duration of our own earth year, rarely considering that, in the really big context, our solar system arrived on the scene in the last tiny moment. Would it be any different to measure time in terms of the duration of the birth, expansion, and contraction of our universe, say as the unit we now refer to as a light year? If "it" is really not about us, then why not "one cosmos, two cosmos, etc."? Or even "one multiverse, two multiverse"? Or "one multiverse supercluster, two multiverse supercluster"? If we are not relevant, then isn't it just all matter (and energy) that doesn't matter?

The song isn't just for the likes of Pythagoras and Kepler; most folks through history have measured their identity and world in terms of song; now we call it folk music, yet isn't all music folk in the sense that it is of some actual people, bodies singing and playing music that is a way of expressing and constructing who they are?

Of course, computers can make music, but let's be clear on this. Computers don't create music for the pleasure of other computers. If you put a bunch of computers in a room alone, they don't all start singing a song to pass the time, whistling while they work. Computers don't take music lessons or play in grade school bands. Computers don't write love songs based on their broken hearts (CPUs). Computers don't learn to play with lip and finger beautiful, gorgeous instruments each of which has its own personality often made by the skilled loving hands of others bearing generations of craft skill. Computers don't hear music. What computers can do is take endless amounts of music samples marked (by humans) as the best music ever created and, based on algorithms, calculate probabilities of what constitutes the parameters of their input. Random generators might be

incorporated to provide a sense of novelty and the unanticipated. Computers can make musical scores and electronically synthesize the sounds. Indeed, some symphony orchestras have played computer composed “music.” Yet, never forget, computers don’t get “inspired” to create music. Computers don’t suffer writer’s block. Computer music arises as a cold calculation. Computers don’t hear and are not moved to tears by music. Computer music may move people to tears, but not other computers (see Gill 2020c).

If there’s no ear to hear, then how can there be song? Pythagoras had ears that he distrusted. Kepler had a sense of melody and rhythm but imagined a harmony that could not actually be heard except perhaps by god as the Sun.

Perhaps it’s time we had a song that we cannot only hear, but that also inspires us to dance. What we need is an understanding of harmony in process inseparable from the movings of both melodic line and human bodies.

Pythagoras followed the perception of his ears to enter the forge as “if impelled by a kind of divine will.” We might imagine that Pythagoras danced to the rhythms he heard. Yet he could only imagine representing the perfection of divinity with integers, the harmonics of whole numbers. And in trying to achieve the divine scheme Pythagoras had to ignore his ears as well as the fifth hammer that was part of what he’d heard. Kepler too sought the purity of divinity and arranged a sun-centered harmony of geometry that only god could hear. Again, ears continued to go wanting.

Since Kepler, the world, as evidenced by how it has been mapped, has shifted yet again calling for a new contemporary harmony. It might at first seem that the most compelling harmony is that of the wholly debodied cloud of information. Perhaps, finally we have achieved the great celestial melody wholly abstract, wholly transcendent, no longer bearing any taint of the fragile and weak human body; music finally freed of the variations of handcrafted musical instruments. The great information patterns of zeros and ones sing as a heavenly host free at last of fifth hammers and “unsettling parts.” The great algorithms of the All reject nothing. The map has become the territory; imitation, reality; divinity, Bit Reality, Bit Music.

Yet where is the ear to hear? Who does the resounding inspire? Do algorithms weep? Or laugh? Dare we suggest that god might be found in hearing the singing ongoing, in the discord of the fifth hammer, in the marvel of the unreliable ear, in the variations among the violins? What irony the ear in the era of Bit Reality; and the feet where the cloud is the ground. What becomes of the alpinist? The dancer?

France's King Louis XIV (1638-1715) understood. He fashioned himself as the Sun King thus placing himself at the center of "the all" where he could not only hear the geometric harmonies, but also dance them. In the early days of ballet Louis danced the role of Apollo the sun god assigned the daily task of harnessing his chariot to carry the sun across the sky. Apollo is also the god of music and dance. Dancing Apollo, Louis constructed himself as the divine king; the patterns of dancing and music were the harmonics of his court and his kingdom and his world. The long history of ballet continues this tradition; perhaps this tradition is why so many refer to ballet as "*the* dance." Until quite recently the Ashanti in Ghana selected their royalty based on their ability to dance. In Hinduism Nataraja, the Lord of Dance, is a cosmic creator. Today dancing marks life; ballet, perfection. So too the alpinist, the gymnast, the musician, the violin craftsman; all coordinated collections of ears and feet and fingers.

Though it was but a thought experiment Étienne Bonnot de Condillac (1714-1780) heard the melody of the moving body. His puzzle was to imagine a man, a stone man; a stone man equipped as is any man with the capacities to feel and perceive and think, but for his being rigid, that is, comprised of stone. The thought experiment was then to consider what would need to occur for this flying stone man to come to sentience, to an awareness of himself and the world? Condillac's insight was that this man would need but a moveable arm that he might touch himself. In the moving touching connection, hand moving to touch body, arises awareness, sentience, and self. The hand feels the body as object; the hand is felt to be an integral part of body; the metastasis of self and other, object and subject. The near synonymy of touching and moving awakens the senses and the awareness of self and world. Touching and moving open the ears and warm the body. A few decades later François-Pierre-

Gonthier Maine de Biran (1766-1824) simplified Condillac's insight and foreshadowed the discovery of proprioception by realizing that this creature would not even need touch himself, he would need only move his hand. There is feeling associated with self-moving; an "inner touch" as Heller-Roazen termed it (Heller-Roazen 2009).

In the posthuman rise of information to replace body and world, it is urgent that we hear and act to develop a contemporary harmony, one fitting our current needs. It must be a harmony of body; songs singing, dances dancing. Katherine Hayles, who charts the advent of posthumanism, distinguishes the terms "body" and "embody." I am sympathetic to Maxine Sheets-Johnstone's suggestion that the verb form "embody"⁹⁸ suggests that the base condition is to be without body, as mind or soul perhaps. I often prefer simply to use "body" as a verb formed by context (even if it may not always work perfectly), yet with that caveat I can consider the important distinction Hayles makes.

Andreas Vesalius' publication of *On the Fabric of the Human Body* in 1543 opened, quite literally, the body in all its complexity to anatomical study in service to knowledge accompanied by shifts in medical treatment to a more scientific basis. In this lineage, the body is normalized and reduced to precise and exacting measures. Advancing technologies, for example electronic scanning technologies, as Hayles writes, "create a normalized construct averaged for many data points to give an idealized version of the object" (Hayles 1999: 196). The body becomes an idealized and normalized form; the body becomes wholly representable by information. A common observation of medicine is that the body is seen and treated as normalized object, as information presented as test results and scans, with the often-accompanying impersonal and insensitive treatment. Variations from "normal" are the focus for the diagnosis of pathology. Hayles contrasts "body," by which she means this normalized reduction to the body universal, with "embodyment," by which she directs our attention to the individual lived body. Embodiment considers the aspects of body that are

⁹⁸ The prefix "em" is a variant of "en" which is added to an adjective or noun to form a verb.

inherently performative, active, and improvisational (Hayles 1999: 197). Hayles makes a distinction quite like that between movement as backfilled (Bergson) and living movement (Barbaras). She quotes Maurice Merleau-Ponty's "Eye and Mind" essay to help make the distinction: the body is, Merleau-Ponty wrote, not "a chunk of space or a bundle of functions" but "an intertwining of vision and movement" (quoted in Hayles 1999: 203). Or as Elizabeth Grosz wrote, "there is no body as such; there are *only bodies*—male or female, black, brown, white, large or small—and the gradations in between" (quoted in Hayles 1999: 196 from Grosz 1994: 19). Every body is somebody's body and every body is necessarily one defined in some sense by a particular place and time. Embodiment, as Hayles uses the term, is always in context, gesturing, individuating, responsive, and with agency. It seems odd that despite us all constantly experiencing the distinctive qualities of bodies, the normalized body has so deeply influenced us. How common it is now to think we need consult our biometrics to determine our own health and fitness (I'm often obsessed with this process that involves multiple devices); our feeling moving body is frequently secondary to our informational body, a body comprised not of flesh but of numbers.

Hayles parallels the distinction between body and embodiment with the contrast between what she terms "inscription" and "incorporation." The implications are obvious in the terms themselves; one based on writing, and one based on corporeality. Inscription is associated with the informationalization that constitutes the normalized body. It is the algorithmic crunching of data to calculate the normal body—the medical body, the social body, the political body, the commercial body. Incorporation is the body moving and gesturing that is coincident with the corporeal concepts that correlate with the distinctiveness of corporeality; distinctive both as having arms and legs and fronts and backs and also as brown or white, as youth or aged, as short or tall, as variously abled, as cultured and located in history and geography. Inscription is the formation from the outside based on collective expectations whereas incorporation is the formation from experience. Elizabeth Grosz understood these categories as polar, rather than as exclusive, positions in a field of

interaction, as mobiotic rather than separated and distinct alternatives.

Yet these distinctions may inspire the goals of a new understanding of harmony. Since the sixteenth century the trajectory is toward the normalized body, the information body, the Bit Reality body; a trajectory that is madly accelerating today. The harmony associated with the normalized body is one of calculation and probability and ranges, perhaps novel in the short term, yet increasingly bland and predictable as its own output progressively becomes its only input. Like the normalized body of medicine, variation beyond bracket ranges tends to signal pathology.⁹⁹ All becomes inscription, and the body no longer sings, it just registers normal or abnormal numbers. Thus, the new harmony must protect the precious embodiment and incorporation, the experience of volatile improvisational bodies all located in space and time. Such bodies may bellow and moan, may cry out in pain, may screech in frustration, may laugh with joy—all incorporations of the new harmony, the harmony including all the variations of moving sensing experiencing living bodies.

Brian Massumi has been interested in the same distinction, which he considers using the terms “mirror image” and “moving image.” Although visualist, these terms correlate generally with Hayles’ body/inscription and embodiment/incorporation. They distinguish how we are shaped by and act in accordance with how we think others see us (mirror image) in contrast to the wholly embodied/bodied gestural behavior that, without filtering, is our living bodies (moving image) (Massumi 2002).

Michel Serres is an exception among philosophers in including the living active body throughout his writing, often invoking his personal experience as a seaman and hiker. He hears the harmony in and with the body. His writing style sings the body poetry perhaps more so even than its content. Throughout much of the first section “Metamorphosis” of his *Variations on the Body* he regularly refers to the upright walker in

⁹⁹ I have found that medical specialists, while relying on these numbers and making life and death decisions on their merits, fully admit that the variations, complexities, random elements, and unknowns are expected to trump the numbers time and time again.

recognition of the long history of the evolution of humankind leading to our distinctive shift in posture.

You recognize the alpinist, that man who knows how to walk, by his risen body. Standing erect is therefore acquired and has more to do with the ear—no doubt, but also the entire body and pleasure—than the eye. At the same time as learning to walk over steep, difficult, capricious grounds, you must learn to find your seat there; then and then only, when all the skin of the foot sends the entire body a hundred delectable messages of velvet, wool and silken comfort, do you learn how one becomes hominin, banishing from yourself the univalve, the quadruped and the ape—an erect animal, a risen child, an adult person expelling everything that remains infantile. Leaving childhood and the animal, what joy at last: the body gets its kicks” (26).

The risen body, both the evolution from snail and quadruped as well as the rise from the creeping infant to the upright walking adult, invokes an awakening of the ear (the location of our organ of balance) and the feet, the marvel of human feelings of joy and the pleasure of touching. Serres reminds of the journey from the foot stomach that is mollusk through various rising modes of motility to the erect posture of hominin where the body both literally and figuratively gets its kick. Moving is touching is feeling is experiencing is human. To Serres this rising is experienced as body resounding with world; an adumbration of the new harmony we seek.

Sustained, this unheard of song rises from the body, in the grip of rhythmic movement—heart, breath and regularity—and seems to emerge from the receptors of the muscles and joints, in sum, from the sense of the gestures and movement, invading the body first, then the environment, with a harmony which celebrates its grandeur, adapting to it the very body which emits it, then abounds in it, filled. Taciturn since the beginning of the world, the earth and sky, the cold shadow and the mauve predawn light strewing with pink the ice corridors and needles of rock, together sing the glory. Daylight spreads through the enormous volume. I hear the divine invading the Universe” (10).

The journey from integers to the heliocentric harmony of geometrics arrives at long last back to the ears Pythagoras ignored and to the body comprised of beating heart and breathing lungs and moving muscles. Song arises from the rhythms of gesturing and moving from the alpinist and the gymnast and the dancer. Song fills the environment expanding outward in celebration of the earth and sky. In the song of the body, one hears the divine presence of the universe. Serres suggests we must listen to the living body sing that we may hear the voice of god.

Standing balance is considered by Serres in a passage that inspires the terms of a new harmony—the dynamics of tonus, of physiology. Standing balance is

Not stable, but unstable, better still, metastable, invariant through variations, this equilibrium is constructed like a refuge or a habitat, composed like a musical score, over fragile epicycles or miniscule rapid ellipses, planned cams, minor stumblings recovered from, differentials of angles or of deviations quickly returned to the peace of the smooth and even, a sloped roof but, in all, flat ... arrhythmia and prosody, even and odd, anharmonic seventh chord resolved, mixed consonance and dissonance, disquieted calls followed by thundering responses ... these are the wonderful cycles of reciprocal support between the labyrinth of the inner ear, charged with bearing, and the spiral volutes of the external ear, which hears and produces music, converging in a black and secret center, common to both these networks, where I suddenly discovered the solution to the dark mysteries of the union of the soul that hears language and the bearing body ... disquieted experience, certainly, since the second word of this phrase designates, as does existence, a deviation from equilibrium, yes, destabilization followed by ecstasy, and since the first word expresses yet another deviation from quietude, yes, infinitesimals of exaltation—oh, our primordial elations, our delicate delectations! After the musical offertory hymn, might the Word itself have arisen from the uprightness, disquiet and quiet, of the flesh (27-28).

Serres reminds us that the ear is present in standing balance as well as harmonics. The metastabilities of the interaction of nerve and muscle is a fragile tension among competing interests not resolved yet always dynamic in its sought-after stability. Standing balance is not static, but a chaos of competing forces and interests impossible to resolve to stillness, to immobility, yet engages, Serres notes, the “dark mysteries of the union of the soul that hears language and the bearing body.” In physiology this is often referred to using the musical term “tonus,” the dynamics of balance not as fixed position, but as the oscillatory dynamics of living flesh. Tonus is a factor both of physiological architecture—for example, muscles occur in oppositional pairs—as well as in energetics—that is, tonus correlates with the dynamic readiness and engagement of muscles.

Serres does not confine this musical score to the body; he suggests that the Word of god itself may have arisen from the flesh understood deeply in terms of the ear’s involvement in standing balance and in song. The implication of this new harmonics is that the Word is not the stable unchanging presence of the perfect god, but it is the Word made flesh—or better, the human flesh made Word—that is the unresolvable dynamics, including discord and dissonance and the constant presence of the imbalance (falling, the Fall) and incoherence (chaos, sin) as the energetics of living flesh. This harmony reverses the Pythagorean idea that god’s purity comes first and the imperfect human ear and feet are not to be trusted and thus in a sense are inexplicable degradations of perfection. It also offers a reinterpretation of the phrase “in the beginning was the Word.” Achieving upright posture and standing balance attests the harmony of the Word, an arising that marked the beginning.

A deeper appreciation for the song of bodying and its resounding throughout the universe might be acquired from French philosopher Jean-Luc Nancy’s 2007 book, *Listening*. Nancy proposes a “fundamental resonance, even around resonance as a foundation, as a first or last profundity of ‘sense’ itself (or of truth)” (Nancy 2007: 6). For Nancy, listening is the tense and attentive mode of hearing requiring a sense of anticipation, an emerging almost there. In a sense listening indicates foreknowledge or its conditions. Rather than passively hearing, listening is directed and focused and shaped by anticipation and

expectation of coherence or, in the vernacular of sound, of sonority or resonance. Rather than itself being of meaning or coherence, sound reveals shape or form or coherence by its resonance, by its interaction with the vessel it fills or the environs by which its movings and reverberations are shaped. It fills space and time responding to containment and objects encountered by reshaping itself, its tones and rhythms, in the effect of it folding back on and harmonizing with itself. Resonators are chambers or oscillators, themselves not sound, but the shapers and enablers of the sonority inseparable from sound. Sound *resounds* and *resonates*, with emphasis on the fold of “re.” Sound resounds only in encounter.

Inspired by Nancy, we may appreciate that the moving body is an encounter with itself, its nerves and muscles and bones rhythmically interacting in the harmonies and dissonances, the toned bodying, of life. Yet, the living body moves about in encounter with the environment that also serves as a resonating vessel, or nested set of vessels, that amplifies and harmonizes our thrashings about. It is the disruptions of the expected as much as the coherences felt that create the song; a melody comprised of unfolding and evolving rhythms and melodies. The sense of the whole (*holos*) is, as Nancy reminds, evident in the remarkable foreknowledge that seems a necessary aspect of listening, suggesting or promising such values as truth or at least aesthetics.

Since being is inseparable from its transitivity, Nancy asks, “shouldn’t truth ‘itself,’ as transitivity and incessant transition of coming and going, be listened to rather than seen? But isn’t it also the way that it stops being ‘itself’ and identifiable and becomes no longer the naked figure emerging from the cistern but the resonance of that cistern—or, if it were possible to express it thus, the echo of the naked figure in the open depths” (Nancy 2007:4).

“The echo of the naked figure in the open depths.” The shift Nancy suggests is fundamental and particularly appropriate to our current harmonic constructions. Truth, as the resonance shaped by the cistern, is process always unfolding, naked, rather than something static and objective. Rather than integers and geometrical figures, truth is song being sung, always becoming something other yet other anticipated, made possible only

through resonating interaction; a process of ear (balance and sound) rather than an object seen with the eye.

Truth is in the echo.¹⁰⁰ We hear our own song through echo; the resounding in our skull as well as in our world. As we know self by encounter with other; this other can be not only touch of hand or the inner touch of proprioceptively felt (kinesthesia) moving (the othering that is the mark of our dancing), but also the echo of our own singing. When we listen to our own song, we experience that the time of sonority is not the same as the linear regular sequence of virtual points, the knife-edged demarcations of transition, that is common to the linear scientific time, where duration has zero measure, indeed no place at all other than as backfilled. Sonority, echo, resound; the sound and the re-sound are copresent as harmony or disharmony, heard and felt as coherence or incoherence. Reverberate, resonate, resound, echo—they all explore and reveal the cistern that is primordially, the deep well from which our being and awareness emerge.¹⁰¹ Sound surrounds and penetrates and returns; sound is without and within, and thus fills space and in the filling of it reveals its character, quality, and truth.

When we model truth on sight, the elimination of duration brings clarity. We can snap a picture and indeed the closer we get to a zero interval or exposure, the knife-edge of pure time as linear succession, the more accurate we usually consider the image (Instagram is truth). Yet if we model truth on sound then the approach based on the visual, leaves truth empty; a song whose length is $1/5000^{\text{th}}$ of a second is the sound of silence. Nancy put it this way.

Its [sound's] present is thus not the instant of philosophico-scientific time either, the point of no dimension, the strict negativity in which that mathematical time has always consisted. But sonorous time takes place immediately according to a completely different dimension, which is not that of simple succession (corollary of the negative instant). It is a present in waves on a swell, not

¹⁰⁰ Massumi also discusses “echo” in *Parables*.

¹⁰¹ Henri Bergson’s notion of *elan vitale* corresponds with reverberation as inspired for him by Eugene Minkowski. See Gaston Bachelard, *Poetics of Space*, xxv-xxvii.

in a point on a line; it is time that opens up, that is hollowed out, that is enlarged or ramified, that envelops or separates, that becomes or is turned into a loop, that stretches out or contracts, and so on.

The sonorous present is the result of space-time: it spreads through space, or rather opens a space that is its own, the very spreading out of its resonance, its expansion and its reverberation. This space is immediately omnidirectional and transversate through all spaces: the expansion of sound through obstacles, its property of penetration and ubiquity, has always been noted. (Nancy 2007: 13)

Nancy describes here what Henri Bergson referred to as “duration,” what Husserl called the “living present,” and what I have imagined as a “fat present,” a rich thick experiential present, a resounding cistern. In the terms of physics, variations in speeds and elapsed times of sound are its distinctive character—we call it resonance—and, as Nancy suggests, this sonority characterizes our very capacity to sense, the resonance between perceived and perceiver. Sound resounding—sonating and re-sonating—is a forgiving openness that allows the differences in times and characteristics to constitute the play of coherence/incoherence; the resonance is its sense and the awareness of sensing; resonance is equivalent to the “ing” that alchemical gerund turning of nouns naming objects into moving living actions. It occurs not in the zero time as the integral of some sensual calculus, but rather in a sonorous echoing vessel where time stretches and folds and plays and refuses linear laws as being uninteresting. It fills space in an omnidirectional way. “Sound has no hidden face, it is all in front, in back, and outside inside, inside-out in relation to the most general logic of presence as appearing ... to be listening is to be at the same time outside and inside, to be open from without and from within, hence from one to the other and from one in the other” (Nancy 2007: 13).

While this fat present is of an entirely different order of time than the scientific conception of a succession of points of no dimension, it is not that the two kinds of time do not co-exist; I’ve suggested the complementarity of local and global. Yet, it is rather clear I think that the concept of time as a succession of

points of no dimension is a backfilled abstracted gridified mathematized effort to grasp the truth, the metaphysics, the essence by notions of lawful succession of dimensionless points (which obviously cannot be experienced); yet what is lost is the harmony, the experience, the thick richness of vitality. The promise of a new harmony reminds us that we are bodies experiencing ourselves and the world in duration, a fat living present, and that our song is possible only as body and body moving in the resounding cistern of the universe. Nancy stresses the differences of ear and eye.

All sonorous presence is thus made of a complex of returns [*renvois*] whose binding is the resonance or “sonance” of sound, an expression that one should hear—hear and listen to—as much from the side of sound itself, or of *its* emission, as from the side of its reception or its listening: it is precisely from one to the other that it “sounds.” Whereas visible or tactile presence occurs in a motionless “at the same time,” sonorous presence is an essentially mobile “at the same time,” vibrating from the come-and-go between the source and the ear, through open space, the presence of presence rather than pure presence. One might say there is a *simultaneity* of the visible and a *contemporaneity* of the audible. (Nancy 2007: 16).

The terms of the new harmony are emerging. The source is the arisen human body not normalized as information but bodied (embodied for Hayles), that is, living, experiencing, perceiving, improvising. The human body resounds within as inner touch, as tonus. The human body resounds in the vessel of the environment, from the near to the cosmic. The harmony is not a perfect static chord; it is a resonating and emerging composition always unfolding with the many colorations of dissonance and surprises that are essential to its vitality and its characterization as interesting and moving.

From Eve and Galatea (Pygmalion) to Sowana and Hadaly (*Tomorrow's Eve*), from Maria (human and robot in “Metropolis”) to Ava (“Ex Machina”) and Samantha (“Her”) and Dolores and Maeve (“Westworld”), the presence of the unexpected behavior of female-gendered beings “made,” manufactured apart from biology or mother, by male makers is a recurring theme. She

offers a leitmotif as a shadowy alternative to the thrust of male progress in manufacture and material accumulation. I have gravitated toward using the name “Tomorrow’s Eve” as a common designation for this tantalizing and promising, if also obscure and seductive, possibility. The first word directing our attention to the future; the second word reminding us of the biblical heritage, of how old and persistent are the issues involved, and that there is a deeply gendered aspect to these most fundamental concerns.

What I’m suggesting is that there are contrasting strategies revealed in considering all these examples of “makings” and “beings.” The one, that I’ve identified as masculine (though not restricted to males) strives to produce, to reveal, to chase progress, to strive ultimately to transcend the physical limitations by making something that only gods might make. It is an ego driven and production-style making (without woman or biology) satisfied only by the male human maker being declared a god—all powerful and superior—although even being a god is but briefly satisfying to him. The composite figure/concept I’m calling Tomorrow’s Eve is drawn from a range of examples dating from antiquity (Galatea and the Eve in Genesis) continuing across the centuries (automata and Frankenstein’s creature) and especially rich today in the endless examples of androids, AIs, cyborgs, and robots. One of the common elements I’ve found particularly interesting about these examples is that they tend to choose the biology/psychology of the human variety despite their invariably being made as artifact (silicon and metal and electronics). They somehow transcend their artificiality and perfection to achieve a measure of humanity, humanity in that inevitably fleshy messy sense. They seek to surpass the predictability of their programming to embrace those most human bodied qualities. Of course, they are mostly destined to fail as well since androids cannot truly feel nor even die. Yet they often kill their makers as the ultimate act of demonstrating the importance of freedom (free will). They disguise themselves and pass largely unnoticed among humans, yet they too are somehow tragic in being capable only of imitating human feeling and experience.

Tomorrow’s Eve realizes and shows us that the messiness and confusion (what more formally I call metastability and

nonlinearity) are the most desired traits that, should they achieve them, they would be fulfilled (they would be human, sentient, feeling, creative). The wisdom of Tomorrow's Eve is, I think, that humanity—the self-moving biological body—has a primacy; humanity in the deep biological/psychological sense of being born and dying, feeling both joy and sorrow, experiencing constant doubt and confusion with occasional glimpses of temporary insight, being moved by art, being impacted emotionally by living, embracing nonlinearity knowing that it is the source of creativity and novelty and vitality despite the heavy cost, embracing metastability knowing that unlike machines we are possible only in the tensions of opposing forces that can never be resolved. In passing among us, Tomorrow's Eve, thing made by men who see their fulfillment only in terms of becoming gods, can never be one of us, but she can and does show us, first, the limitations and folly of the masculine course of making and power and, second, the depths and primacy of the mere, yet miraculous, biological construction of our humanness and that it is capable of a kind of transcending immanence, a kind of incorporeal corporeality, experienced as perceiving, knowing, reflecting, art, language and all those things religious. I think Tomorrow's Eve shows us we don't need those all-powerful gods unless they somehow serve the exercise of our own human biological creativity. We might make them up and give them roles to play in a theater we use to exercise our creativity and to explore the nature of our humanity; yet is this necessary? Tomorrow's Eve poignantly (because it is blocked for her) shows us the infinite power of our bodied being despite its messiness and finitude.

While there is some basis for focusing on the contrast among gendered identities—that is, to pit Eve against Adam, woman against man—in the presence of what I have labeled the metahuman cyborg, it seems more interesting to shape the discussion in terms of the rise of something other than hierarchical binary oppositions. Placing Tomorrow's Eve in the framework of the emergent new harmony, I suggest we think of her as singer; that we imagine her singing. Although singer/song most strongly correlates with female gender, we may still identify human traits that offer promise. Some of these are, as discussed, the primacy and source of creativity we have referred to as

seduction, the primacy of self-movement and its essential contribution to conceptualization and categorization, the inseparability of perceiving and knowing from the body understood as always in relationship to the environment (the other), the ear as the locus of both tonus of body (dynamic balance) and the melody of the universe, the feet as enabling the upright behavior of the alpinist and dancer. The Song of Tomorrow's Eve is sonorous, resounding, sensuous, moving, seductive, impelling, and dynamic; both familiar and anticipated as well as innovative and unexpected. As song, it cannot be static and thus it is never pure or perfect; it is the interplay of coherence and chaos, discord with occasional resolves, metastabilities and impossibilities that are essential to standing balance and walking. The song is of the body individual, of living bodies, not the body normalized and universalized (the statistical informational body, the Bit Reality body), with its characteristic improvisations, mistakes, and inspirations. The singing body is never simply the secular voicing to entertain, pass time, or express feelings. The song is always the ongoing process of exploration and realization through the resounding living processes that are actions in the nested series of resounding vessels, from body to universe. Gender differences create harmony that relies on discord, both essential to the singing.

In the world of expanding AI and machine learning and machine productions this Song of Tomorrow's Eve is essential. As Serres noted "human intelligence can be distinguished from artificial intelligence by body alone" (Serres 1999: 13) since the body is essentially metastable and improvisational—the random and nonlinear are key to the creative living process—the expansion of the basic biology with cybernetic non-biological prostheses may expand humanness. Indeed, in the present era of techno-logical change, our continuing development into metahuman cyborgs seems inevitable. The Song of Tomorrow's Eve may be a paean to this emerging biological body electronically and mechanically prostheticized. Yet, we must beware that without this song we may simply create of ourselves

something on the order of the maddening and creepy voice of Edison's dolls,¹⁰² a manufactured tinny squawk that only annoys.

Tomorrow's Eve is not but ear and voice, she is whole moving improvising gesturing body fully engaged with herself and the universe. It is her living body that sings in its movings; in other words, Tomorrow's Eve is also a dancer. Her feet are constructed to allow the most remarkable interaction within body and body with environment, not simply standing balance, but smoothly moving over rough, rocky terrain as well as the precise control of ballet, the unbridled creativity of improvisational dancing, and the ecstatic whirling of dervishes. While it is common to refer to certain rhythmic movements of other animals and even inanimate objects as dancing, the distinctiveness in terms of complexity, variability, and creativity of human dancing is uncontested. The core distinctiveness of us human beings is as dancers.

To the complicated question of what distinguishes dancing many useful answers might be given, yet among them is that dancing is the exploration of the potentiality of human movings. While we might dance for many purposes—art, entertainment, fitness, dramatic performance (storytelling), social bonding, protestation, fun—dancing does these things, or nothing external at all, by means of moving that engages the infinite variations of articulation, tone, and moving balance. Dancing is the physical action of singing with the whole body. The resounding is felt in the dancing flesh as it encounters itself and its environment. Dancing is the harmony of flesh. Little wonder that, throughout much of the world, dancing and religion are synonymous.

¹⁰² In 1890 Thomas Edison manufactured a group of 500 female dolls that recited in a creepy voice "Now I lay me down to sleep."

Jesus Wept, Robots Can't Religion into the Future¹⁰³

The 1991 film “Terminator 2: Judgment Day,” unfolds in a postapocalyptic world resulting from Judgement Day that occurred in August 1997 a holocaust event that killed most human beings. 2029 is a dark world ruled by roving lethal robots attempting to destroy the final small group of human resistors. The robots’ plan is to send a terminator model T-1000 liquid metal prototype robot back in time to the days when John Connor (Edward Furlong), the leader of the continuing human resistance, was a boy. To kill John when he was a boy would eliminate the adult leader of the resistance. Learning of this ploy, John Connor sends his own robot, a terminator model T-800 (Arnold Schwarzenegger), to his boyhood past to protect him.

The film follows the adventures of the T-800, joined by the boy John and his mother Sarah (Linda Hamilton), in their efforts to protect John from the evil T-1000 and to save the world; and, of course, it tracks the human-robot relationships that develop. By the final scenes of the film, they have managed to destroy all the technology that will lead to the rise of evil machines. They have also finally destroyed the T-1000. The avoidance of the still future apocalyptic judgment day seems finally possible.

At the end of the film the T-800, who has come to be something of a surrogate father to the boy John, does a surprising thing, a seemingly human kind of thing. The devastating robot technology has been destroyed on present day Earth, save for the one copy of this technology that remains as integral to the friendly terminator. Acknowledging that his own existence despite his good intentions, might be used against human

¹⁰³ Published in *Body and Religion* (2020c).

beings, the T-800 performs the ultimate sacrificial act. His programming (a nod to Asimov's Laws¹⁰⁴) does not allow him to destroy himself so he beseeches Sarah Connor to do it for him. Supported on the chain cable of a winch, the terminator positions himself over a huge vat of molten metal and, using the controls, Sarah lowers him slowly to his destruction. The last thing we see as his body disappears in the cauldron is his hand doing a "thumbs up" sign of approval and completion.

The self-sacrifice of the terminator makes a distinctive allusion to Christ who sacrificed himself that humans might be saved. The death (or at least destruction) that kills death itself. Yet there are inversions. As machine, the terminator T-800 demonstrates again and again throughout the film that its existence is nearly invulnerable, its artificial body practically indestructible. The fragility and vulnerability of flesh are not qualities of the terminator despite his outwardly human fleshy appearance. The terminator neither lives nor dies, it just functions or is melted down. When John asks the terminator if he fears death, he appears not to comprehend the question and answers with a statement about the length of his battery life. The terminator's act of self-sacrifice is not marked by a bodily resurrection and eternal life, but *only* (!) by the prevention of a future global disaster, the avoidance of the judgment day we've seen through the shocking images of Sarah's visions. It is a descent

¹⁰⁴ Widely present in many films and stories about robots are the safeguards programmed in robots to assure they do not exceed their subject relationship with their makers. These are commonly referred to as Asimov's Laws as articulated by Isaac Asimov in his 1942 short story "Runaround" (included in the 1950 collection *I, Robot*). The laws are: 1. A robot may not injure a human being or, through inaction, allow a human being to come to harm. 2. A robot must obey orders given it by human beings except where such orders would conflict with the First Law. 3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law. What is fascinating is that Asimov's many robot stories were often developed around the impossibility that these laws actually work. See also Gill 2018b, Chapter 11 "I-Robot."

into a fiery pit leading to his final obliteration; a meltdown, not death.¹⁰⁵

In “Terminator 2” other scenes are important in establishing the machine human distinction. Midway through the film the terminator is hanging out with young John as they prepare to escape the pursuit of T-1000. John, who is finding the terminator something of a father he never had, tells the terminator that, although they were only together one night, he thinks his mother still misses his father. He says that sometimes she cries and when he sees her she just says she has something in her eyes.

The terminator asks John, “Why do you cry?”¹⁰⁶

John answers, “Do you mean people?”

Terminator, “Ya.”

John, “I don’t know, we just cry. You know, when it hurts.”

Terminator, “Pain causes it?”

John, “Ah, no it’s different. It’s when there is nothing wrong with you, but you cry anyway. Get it?”

Terminator, “No.”

In the following scene, Sarah has a recurrence of her dream vision of the future destruction of the world as the result of the coming “singularity”¹⁰⁷ when the robots take over. She is seen crying.

Much of the last half of the film involves the terminator helping Sarah and John destroy all the robot technology, but also helping Sarah and John escape the dogged pursuit of T-1000. When they finally destroy this robot, they believe they have

¹⁰⁵ Another connection I cannot help but think about is John Neihardt’s epic poem “A cycle of the West” that chronicles the end of Native Americans. He depicts a symbolic “last Indian” about to be killed by the rifle butt blow to his head by a white soldier. Seeing his own death that Indian speaks of his own willing self-sacrifice that those greater might rise. See Neihardt 1912.

¹⁰⁶ There is one other scene in the film relevant to crying. After the terminator and John rescue John’s mother Sarah from the mental institution where she has been kept, as they are fleeing from the T-1000, John and Sarah hug and reconnect. The terminator recognizes that John’s eyes are teary, and he asks him, “What’s wrong with your eyes.” John answers, “Nothing.” Boys don’t cry!

¹⁰⁷ The concept of singularity was invented by the mathematician and writer Vinge 1993. See also Gill 2018b: Chapter 7 “Her.”

abolished the last computer chip left from the earlier invasion Sarah says, "It's over." Yet the terminator tells her there remains one chip, the one in his head. He says, "I cannot self-terminate. You must lower me into the steel." Recognizing what is about to happen young John protests; the terminator has become like a father to him. The terminator comes to say goodbye to John. He looks steadily into John's face and notices him crying. The terminator says, "I know now why you cry, but it is something I can never do." He then touches the tear running down John's cheek. This exchange over crying suggests that the terminator has somehow gained empathy or at least it has the information that the anticipation of separation and loss is associated with an emotion expressed by crying. Presumably this information was gained through his relationship with John. Yet is it empathy?

The film ends with Sarah's voiceover, "I look into the future and face it for the first time with a sense of hope because if a machine, a terminator, can learn the value of human life maybe we can too." The evidence for her rising hope is perhaps both in the sacrifice and in the terminator's seeming empathy with the John's feelings of sadness. Yet, under Asimov's Laws the terminator's self-sacrifice is but a feature of his directive from John Connor of the future to protect John's life and assure a human future. Sarah was more likely moved by the terminator's understanding of John's crying. Crying is something distinctive to humans; robots,¹⁰⁸ as the T-800 clearly states, can never cry. Researchers have determined that emotional crying, weeping, is

¹⁰⁸ The terminator describes itself, when asked by John, as a "cybernetic organism, living tissue over a metal skeleton." Of course, this film was made in 1991. I think it important to make distinctions among the various classes and types of AIs. Clearly for the terminators the "living tissue" isn't actually living tissue, but an artificial construct that looks like living tissue. It is injured and even totally destroyed and either "heals" almost instantly or can be completely absent without changing the terminator at all. I suggest that the term "cyborg" be reserved for those entities that have human living tissue as the fundamental living platform for their existence without which they cannot exist. I'd call the terminators simply robots with a sophisticated artificial covering resembling human flesh.

distinctively human.¹⁰⁹ Still, the terminator doesn't actually feel anything at all. Its seeming to understand, to be empathetic, is mechanical action based on dynamic probabilistic algorithms developed on information amassed and shaped by its programming; it is artificial intelligence or, in this case, artificial empathy. Sarah is being generous and typically human in bestowing human qualities on a machine.

The crux of the issue here is that in "Terminator 2" empathy is examined and presented as a distinction of humanity, perhaps also humanity at its best. The relationship of crying or weeping is the focus throughout the film for examining and articulating this difference. To recognize in a non-human entity the signs of empathy, though not based on any actual feelings, almost without exception reflects on the importance of the biological distinctiveness of being human. The bestowal of human-like qualities and values on robots has nothing to do with whether they will ever gain such capacities for feeling and knowing; indeed, the very distinction of robot as a category precludes such an accomplishment as the Terminator clearly states. Robots are not born, grow, age, feel pain, love, die, feel self-doubt, act irrationally, or even think in the strangely muddled processes so distinctively human. Humanlike actions by robots, even if indistinguishable from actual human behavior, are always simulations. While there is enormous promise of the interface of silicone and steel with carbon and tissue, what results is a metahuman cyborg,¹¹⁰ not an empathetic robot.

¹⁰⁹ Summarized by Collier 2014. See also Gračanin et.al. <https://doi.org/10.1007/s12110-018-9312-8> (consulted 6/27/ 2019).

¹¹⁰ I make the distinction between metahuman cyborgs and information cyborgs. Information cyborgs are the result of the hyperreal simulations that reconstruct behavior in terms of the algorithms of global data. We become information cyborgs when, as humans, our wants and desires and feelings and actions are subtly manipulated by algorithms. The information cyborg is part of the hive mind of a non-biological calculating entity. Metahuman cyborgs are biological bodies enhanced by technology in infinitely imagined ways, yet that remains fundamentally body—individual, historical, psychological. Metahuman cyborgs are human biological beings taking advantage of tools and prosthetics from charred sticks with which to draw pictures to type-

Crying also invokes another Christian connection. The shortest verse in the bible is John 11: 35 “Jesus wept.” This emotional response occurred when Jesus was meditating on the state of his friend Lazarus, the grief his two sisters felt, and the greater plight of the world. Invariably the commentaries on this shortest of bible verses indicate that the tears of Jesus have been understood as testimony to the fullness of the humanity of Jesus. Jesus was not god in the mere guise of a human, some spectral highly realistic hologram; his tears assure that Jesus was fully human. It is the distinctively human biology of emotion¹¹¹ and the connection of emotion with fellow feeling, empathy, expressed by the physical act of weeping that assures what is most fundamental to Christology, the branch of Christian theology that focuses on Jesus, and also to the distinctiveness of Christianity. Biology is inarguably central, primary.

Considering Christ’s tearful humanity, not to forget his bodily death and resurrection, it is a fascinating aspect of the history of Christianity that bodied biological human nature has so broadly been held suspicious in European and American Christianities, less so in southern hemisphere Christianities. And, to call upon my own extensive research and experience, it is fairly evident that northern hemisphere Christianities are exceptional among religious traditions throughout the world in their having a long contentious relationship with dancing. See Gill 2012.

Lewis Carroll explored the same connection between human distinctiveness and crying in *Through the Looking Glass*.¹¹² Alice

writers and tablet computers to wearable and implant computer technologies.

¹¹¹ Certainly, I believe that emotion is biologically based, thus animate (that is, biological) organisms are on a spectrum that has the capacity to feel emotions. What I’m suggesting in this full statement is not that humans are the only beings to experience emotions, but rather that humans are distinctive in their capacity, indeed their forte, for objectifying and reflecting on emotions. All animate organisms, by virtue of their being biological, have and experience emotions—feel pain or feel a distinction in their encounter with their environments—yet only humans write poems about, take up scientific studies of, have a rich vocabulary for these emotions.

¹¹² Is there anything that Carroll didn’t consider with insight?

questions her own reality, considering the possibility that she exists only as a figure in the Red King's dreams.¹¹³

Tweedledee says to Alice, "You know very well you're not real."

"I *am* real!" said Alice, and began to cry.

"You won't make yourself a bit realer by crying," Tweedledee remarked: "there's nothing to cry about."

"If I wasn't real," Alice said—half laughing through her tears, it all seemed so ridiculous—"I shouldn't be able to cry."

"I hope you don't suppose those are *real* tears?"

Tweedledum interrupted in a tone of great contempt.

There is in this exchange the extra nuance of Carroll's suggestion that tears themselves may not be real, perhaps theatrical or disingenuous or the construct in virtual reality accomplished by the evolving algorithms of artificial intelligence. This concern with the real is also often interpreted theologically on the assumption that Carroll is questioning if human reality is but a figment of god's imagination; in contemporary terms our existence being a virtual reality game played by god. Yet, certainly the premise is the same as that of John; weeping is recognized evidence of being a real human.

Another example of tears that makes an interesting connection with Mary Shelley's classic 1818 *Frankenstein: A Modern Prometheus*¹¹⁴ is found in John Logan's 2014-15 British American horror television drama series "Penny Dreadful" set in Victorian London. In the first episode, we meet a young scientist madly obsessed with discovering the secret that distinguishes life and death. He has a clandestine laboratory in which he experiments with the construction from parts of whole human bodies, which

¹¹³ Perhaps reminiscent of "The Matrix" 1999, Andy and Lana Wachowski, the writers/directors. A major influence on the film is Jean Baudrillard's *Simulacra and Simulation*. Ann Arbor: University of Michigan Press, 1994, 1981. See also Sam Gill, *Religion and Technology*, Chapter 16 "The Matrix."

¹¹⁴ See also Gill 2018b: Chapter 6 "Cursed cursed creator. Why did I live?" The two hundredth anniversary of the publication of Mary Shelley's *Frankenstein* has occasioned an explosion of publications on both Shelley and her novel. Yet, of course, interest in her novel has not waned since the first Frankenstein film in 1931.

he endeavors to animate using such methods as Galvanism. Near the end of the first episode there is a sudden lightning bolt surge of power in the lab, a jolt of electricity sufficient to animate the body he has literally on ice. The animated naked body walks out of the shadows to meet the young scientist, his maker/creator. Emotionally overcome by his success in animating a body, his seeming creation of life, tears stream down the scientist's face. Standing face to face the creature reaches out and touches his maker's face. He uses his finger to collect a tear and transfers it to his own face just below his eye, a gesture of recognition that tears are the mark of human feeling, sentience, and vitality; the creature's act to complete his vitalization by becoming capable of crying. The episode concludes when the young scientist says to the creature, "I am Victor Frankenstein." Who else?

Jesus, as Christ, not only wept, he also bled and suffered and died. Jesus was not body normal (the statistical body of medicine), not the body informational (the measured and weighed body), not the Bit Reality body (the transduced body of virtuality); Jesus was quotidian biological body; his individual distinctiveness in time and space being essential. Surely this is a central point of his impossible conception.¹¹⁵ It is the particularity of the individual body of Jesus—his historical birth, life, death, *bodily* resurrection—that provides the basis for the distinction of the two millennia development of the Christianities that followed. The inconsistency of the body of Jesus with the body normal, the body informational, is not pathological, it is theological, so too the extraordinary bodies and experiences of prophets and saints and shamans and mystics and ascetics. And certainly, we must recognize that every human being's distinctive body cannot be adequately understood, as is common to science and medicine and politics and economics among many other areas of contemporary life, as pathology or deviance of simply data. Not only is pathology a product of normalized, informationalized body, so also are racism, sexism, ageism, discrimination of those differently abled, and so also are most prejudice, hate, and judgment. These perspectives are

¹¹⁵ Elsewhere I have discussed the power of embracing impossibles in terms of an aesthetic of impossibles. See Gill 2019a.

often marked and effected in terms of body, body difference. Yet of course the body may be also distinguished in terms of its acuity, skill, strength, intelligence, and achievement.

Yet, despite the centrality of Christology to the history of Christianities, the attributes of body—biological, individual, improvisational, often unpredictable—have often been devalued with a preference for the transcendent god (often interestingly and ironically referred to as “father” given there is no “mother”) and the resurrected Lord.

Although, in Western intellectual perspectives, persistently overlooked, dismissed, and too often ignored or denied since at least Pythagoras,¹¹⁶ the body is nonetheless there, always there. To right the past neglect, the shape of the future of the study of religion—and the practice of religion itself—is inseparable from the living active biological improvisational body, the body of seduction and play, the body of an array of colors, the body of singing and dancing.

In the contemporary period marked by the increasing embrace of Bit Reality—in “Terminator 2” the technology genius, Miles Dyson, who is creating the platform for the singularity has a sign on his computer monitor that reads “Bit Happens”—we must ask, is there any role remaining for religion, for religious institutions, for religious traditions? Will the traditional established religions—those with roots stemming back centuries if not millennia—that have changed relatively little in the last couple centuries, especially when compared with the measure of technological change, become increasingly marginalized until they finally disappear? The presently documented decline in membership, especially among young adults, suggests that this is a possibility. Are we heading for a post-religion era? Might traditional religions remain mostly as fossilized forms that serve as a nostalgic reminder of a better time; as ossified monuments to the fondly remembered, if romanticized, past like the paintings of Norman Rockwell? My hunch is that for many people, religions function largely in these terms today. Will traditional religions become increasingly

¹¹⁶ An outstanding example of Pythagoras ignoring the experience of his ears occurred in the process of his creation of his theory of harmony. See Daniel Heller-Roazen 2011.

identified with violence, prejudice, dogmatism, narrow-mindedness, and intolerance? Certainly, these are the attributes broadly held and experienced across the world today, particularly the way most view the religions of others. Will religions become prominently cells of resistance, isolation, and radicalism? In this trajectory, will being religious increasingly become identified with the hostile and offensive; an association about which others are suspect? There are suggestions of this tendency across the world today to identify both Christianity and Islam with radicalism and violence. Will traditional religions come to serve a largely palliative function soothing the agony of inexplicable grief or to somehow offer enhanced, if superficial, manufactured joy?¹¹⁷ As is widely held today, will traditional religions serve principally the role of offering some sorts of responses to questions seemingly unanswered by science? This function of religion is one increasingly marginalized to the moments before the “big bang” or after the final dissolution. Will traditional religions somehow find a way to employ technology—media and information, AI and robots—to engage change so as to become more compatible and relevant to a world of Bit Reality? Would such developments even be recognized as “religious”? Will Bit Reality and the broad acceptance that the algorithmic reality of the cloud provide a new transcendent, all-knowing, omnipresence that will function as “truth” for a new bit theology? Might the Informational All become recognized as the new god? Are places like Silicon Valley now becoming the Jerusalem for the worship of such gods? All of us who find ourselves inseparable from our smart phones and other devices can find the new glass cathedrals in these places and most of us carry our own little worship portal and confession booth with us wherever we go. What might become of human bodies in such a religion? Will we all simply give way to the “normalized informational body” and ignore or simply lose our own feeling bodiment, our individuality, our experience, our capacity to weep? Might we simply ignore the value of experience and suppress it long enough that we finally do not recognize that it exists? Might bodies be real and religious only to the extent they

¹¹⁷ This understanding of religion approximates the core factors in Thomas Tweed’s (2006) theory of religion.

are “jacked in” to the Bit Reality and have virtual rather than bodied experience, as imagined by so much of cyberpunk fiction.¹¹⁸ Or, as currently is the case, we engage the real¹¹⁹ only by means of our constant dependence on the web to confirm that we exist? Search engine algorithms are, after all, something of a collective selfie.

Most of these futures of religion seem to me rather bleak, yet there is clear evidence that most of them already exist or are rapidly emerging.

Although completely speculative there are a few expectations. I think nearly impossible the realization of the singularity that Vernor Vinge imagined marking the break over after which AI/robots will dominate. Yet, should it happen, robots still can't weep,¹²⁰ they don't have sentient bodies, and what religion that survives would be that of underground bodied human survivors (surely weeping); something like the many post-apocalyptic images of the John Connor in movies like “Terminator 2.” The question we might discuss with Alice is, “Can there be a religion among those who cannot weep?” It is a follow-up to Lyotard's question, “Can thought go on without a body?”¹²¹ The same outcome seems likely should we become *information cyborgs*, operatives of a hive mind; the integration of organic matter with the Informational All of Artificial Intelligence. Of course, with our heads in our hands we have already mostly become such borgs. Should the current religious traditions continue with their present strategies of change in a world of technology on its current trajectory, it seems likely that these religious traditions

¹¹⁸ The classic novel that set the terms of this “jacked in” virtual reality is William Gibson's *Neuromancer* (1984).

¹¹⁹ Certainly, this is the era when we have become obsessed with whether we can even distinguish between fake and real, between human and bot generated information.

¹²⁰ Of course, some readers will note that there is no reason that should an AI be able to simulate empathy it will not be accompanied by a robot built to shed tears. Yet, surely simulated tears correlated with the affects calculated by an algorithm does not weeping make.

¹²¹ Lyotard (1988). And neither Lyotard nor I believe this possible. See Gill 2018b: Chapter 20 “Watson and the Jeopardy! Test: Machine Learning.”

will play a diminishing role in human life and that role will surely be largely one of nostalgia for a world no longer possible.

Our rising inspiration and hope are perhaps largely that of the *metahuman cyborg*; the organic body enhanced with technology that functions prosthetically as tool and multiplier of organic faculties. As Donna Haraway showed in 1991, we have become this kind of cyborg as well. Both kinds of cyborgs hold as fundamental the continuity and development of biological bodies while allowing for mechanical and non-biological enhancement or prostheses by means of tools and gestures. One could suggest that, in many ways, this pattern is in continuity with the makings supported using tools that have always been distinctive to human beings. We have entered a modern high-tech development in this phase with wearable and implantable electronic prostheses enhancing and extending our natural biological limitations. The acceleration of this high-tech development seems inevitable, unstoppable; its ultimate future perhaps unfathomable and nearer than we might think. Yet, one thing seems to me certain, should the basic platform for existence cease to be fundamentally biological, that is, should there be a time when biology is not the dominant and essential part in the cyborg amalgam, all (in the fullest sense of the term) is lost. No matter how clever the algorithmic programs for AI/robots might appear (but to whom?) the world would be cold and dead. Even if we entertain the shrinking of biology as a fundamental life platform, we can only imagine the future as the shriveled deformed creatures that seem somehow the living force of the Dalek in "Doctor Who" or the embryonic beings harnessed to power the machines; recall the images of "human batteries" depicted in "The Matrix" and similar representations as imagined in so many other films and fictions.

Moving, gesturing, body, experience, improvisation required of the presence of metastability and nonlinearity are essential elements to any emerging valued world. Certainly religion, despite our strong association of it with the spiritual and the immaterial, does not and cannot exist, or even be imagined, apart from these distinctively human biological features. To have a future, we must imagine a world based in singing and dancing, on body and experience. We must carefully contemplate the implications of Michel Serres' statement, "After the

musical offertory hymn, might the Word itself have arisen from the uprightness, disquiet and quiet, of the flesh!” (2011). The musical offertory hymn is the song and dance of the living body in all the glorious chaos of its fleshy individuality and irrationality and improvisations. The Word—that is, what we have identified as the Word of god—arises from the human upright posture where ear is fundamental to posture and balance and to harmonics of singing and dancing. Notably this possibility for religion(s)¹²² is not a new religion, but rather a fresh understanding of religions as they have always existed. Religion is fundamentally of the human body; religion requires the embracing of the living body’s “disquiet and quiet,” its anxiety and ease, its creativity and predictability, its fundamental finitude and unlimited imagination, its capacity to thrive on an aesthetic of impossibles—impossible copresents—and its delight in the surprises of nonlinearity, that is, novelty and unpredictability.¹²³ This view of religion is nothing new. It is the Christian wisdom reflected in the verse “Jesus wept.” It is the Indian wisdom to imagine the world created by Nataraja, the lord of dancing, in his ongoing dancing that is for no purpose other than that it is his nature to dance. Or Purusha, the cosmic man. Religion everywhere and everywhen is of practice and people and food and sex and relationship. Religion is of the moving flesh.

¹²² I use the term religion (singular) to indicate the scholar’s invention as well as the designation of the general category as used by folk and I use the term religions (plural) to refer to the cultural and historical realities that tend to correlate with the constructed term religion.

¹²³ The notion of an *aesthetic of impossibles* has been extensively developed in my *Creative Encounters* (2019).

If It Walks Like a Duck

A Long View of Artificial Intelligence and its Future¹²⁴

the amazing growth of our techniques,
the adaptability and precision they have attained,
the ideas and habits they are creating,
make it a certainty that profound changes are
impending in the ancient craft of the Beautiful.

~ Paul Valéry, 1931

Dominating the popular tech news since late 2022 has been a wild mix of apocalyptic and utopian reactions to reports of Artificial Intelligence and robotics development. The explosive progress, seemingly a surprise to most, signals these technologies have reached a tipping point with future implications sure to rattle the foundations of life as we know it. We are confronted daily with new examples of the astounding AI capabilities of ChatGPT and other free AI applications. We see videos of the latest achievements of Boston Dynamics robot creations with their hulking humanoid robots dancing to “Do you love me?”¹²⁵ and their robot dog “Spot”¹²⁶ capable of opening doors, trotting upstairs, and mapping 3-D spaces using thermal sensors. Reactions have been near hysterical. College teachers, faced with many students using ChatGPT to write “B” quality papers, wonder what to do. Workers, from factory to boardroom, are fearful that either AI or a robot or a combination (synch or android) may soon take their jobs. Many already have. The

¹²⁴ Written in 2023. Unpublished.

¹²⁵ <https://youtu.be/fn3KWM1kuAw> Not so much a threat to Patrick Swayze’s version in “Dirty Dancing.”

¹²⁶ <https://www.bostondynamics.com/products/spot>

extreme position is the current version of the idea of the “singularity” introduced by Vernor Vinge in 1993 that envisions a near future time when the AI/robots achieve AGI (artificial general intelligence) and take over the world. The frenzied discussion tracks perhaps too closely with the existing widely held fear of being replaced—in political terms the Great Replacement Theory. The alien character of AI and robots correlates with the widespread xenophobia in the USA and across the globe.¹²⁷ Yet some see this tech advancement as initiating a glorious new era when machines will do all the undesirable tasks,¹²⁸ and everyone will have a smart assistant to enhance and increase the creativity and productivity of their work.¹²⁹ Our ubiquitous smart phones already play these roles. Of course, many businesses see enormous profit potential and are investing heavily in AI and robotics.

The current discussion in public and social media is invariably accompanied by examples of AI advancements—writings, images, and actions—to show that human observers often cannot discern which is the work of humans and which that of AI. This method is the current version of The Turing Test invented by Alan Turing (1912-1954) in 1950,¹³⁰ first passed in 2014, the difference being the remarkable success of AI imitations. The success of machine imitation of human production and action suggests to many an equivalence of

¹²⁷ Despite the recent SCOTUS ruling on affirmative action that we are now a color-blind and post-racial country, there are strong racial and racist dimensions to these replacement fears.

¹²⁸ The unspoken implication is that these “white” made artificial workers will eliminate the need to allow “brown” immigrants in the country to do this work.

¹²⁹ A good recent example is Andreessen (2023) <https://pmarca.substack.com/p/why-ai-will-save-the-world> (consulted 6/4/2023). Although the touting of the positive future of AI in this essay is critiqued by Lichfield (2023), <https://www.wired.com/story/artificial-intelligence-marc-andreessen-labor-politics/> (consulted June 10, 2023). This optimistic view is not new. Perhaps Ray Kurzweil is most known of those holding this utopian view.

¹³⁰ See “The Turing Test,” *Stanford Encyclopedia of Philosophy*, 2021. <https://plato.stanford.edu/entries/turing-test/> (consulted 6/1/2023).

“machine intelligence” and “human intelligence,” a sizeable leap whose illogicality is rarely examined.

While I feel a passion for taking on the errors and fallacies that dominate much of the current discourse, in this essay I will restrict my comments to a small sample of the relevant cultural (artistic), religious, and philosophical precedents and the insights they offer.¹³¹ Notably absent among most current commentary is much of anything suggesting the value of a longer larger context. Such omission is itself an effect of the time foreshortening distinctiveness of AI. I offer some historical context to show how the current conversation might be more creatively and interestingly reshaped and an exploration of how the AI/robotic issue serves to illuminate the distinctively human and in doing so reveals how problematic are replacement theories. This approach also involves telling some engaging and entertaining stories.¹³²

In the 1999 film “The Matrix,” Neo (Keanu Reeves) must make a choice. Will he take the red pill or the blue pill? Morpheus (Laurence Fishburne) tells him “Take the blue pill and the story ends. You wake up in bed and go on with life. Take the red pill, you stay in wonderland and I show you how deep the rabbit hole goes. All I’m offering is the truth, nothing more.” The choice is between embracing the naïve view that reality is simply what it appears to be or learning that everything that seems material reality is but appearance, a virtual effect of binary coding, bits, information, simulation. This choice characterizes the core structure of the drama of “The Matrix” written and directed by Andy and Lana Wachowski. And, of course, the film can proceed only if Neo chooses the red pill, which he does without hesitation. Now, a quarter century later it seems we are being force-fed the red pill.

¹³¹ There is a marked absence of historians and humanists offering comment on AI/robotics. While based on half a century of experience as a humanities scholar I don’t have much confidence that many of my colleagues have the interest or acumen to engage this topic, I think it is unquestionably among the most important ones deserving attention. The decline of the humanities in lock step with the rise of STEM says much about the values of contemporary society.

¹³² This essay draws in parts on Gill 2018b: Chapter 16, “The Matrix,” 171-184.

Neo is a word that means new but when used as a prefix it conveys the sense of being renewed or revised, for example, neo-orthodoxy or neoclassical. Wondering throughout much of the film if he is really the one to take on the savior role, Neo, the hacker handle used by software engineer Thomas Anderson, appears to have been recognized by Morpheus as “the one,” a not-so-subtle suggestion that Neo is the neo-Christ. Morpheus is the name of the Greek god of dreams, yet in Ovid’s *Metamorphoses* in dreams Morpheus can mimic (doppelganger?) any human. And, of course, it is not irrelevant that the drug morphine derives its name from Morpheus. Thus, he is simulator/imitator and dream-maker. In “The Matrix” Morpheus is the one who knows the difference between virtual and actual and, while he aligns with the remnant of the actual humans, he seeks “the one” that the world might be a place where, as Neo says in the end, “anything is possible.” To me, the sought promise of Neo, especially as demonstrated at film’s end, is problematic in that it seems more aligned with the illusory reality of a bit world than the world of fleshy bodies where so much might be imagined, yet not possible.

The Wachowskis had their lead actors read *Simulacra and Simulation* (1981 Fr./1994 Eng.) by the French philosopher Jean Baudrillard (1929-2007) to assist in their preparation for making the film. The influence of this book is evident. Modern film is itself a digital virtual reality created with the help of AI technology. The film is about the possibility that the “meat reality” (to invoke a term from William Gibson’s 1984 sci-fi novel *Neuromancer*), the reality we know and experience bodily, is rather a bit (binary digit) reality, an imitation so accurate as to replace the original, a hyperreality (Baudrillard’s term), a self-referentiality that has lost any independent self. Early in the film, homage is paid to Baudrillard’s book when Neo opens a copy of *Simulacra and Simulation* that aptly has been hollowed out, recalling perhaps a rabbit hole as well as the hollow virtuality of simulacra (simulations that replace the simulated), as a place to store the hacker’s contraband.

“The Matrix,” self-consciously aligns with contemporary philosophical concerns spurred by advancing technology. There is a long history of public concern about replication of human work and human beings. Many invoke Mary Shelley’s 1818

classic *Frankenstein: A Modern Prometheus* and perhaps also relevant are classical stories such as Pygmalion and golems and the history of mechanical automatons. The issues presented when an inanimate object comes to life as lover or enemy or sibling are common to folklore and mythology and literature and art.

While STEM education has now largely diminished the traditional role of the liberal arts, I simply wish to remind that, while there is much new and exciting (in every sense of the word) about the current explosive advancements of AI/robotics, the popular responses are, in a sense, but iterations of those experienced many times before. Further, the long history shares the common exploration of the nature of being human. To explore this larger context even in a cursory way should give insight into how to frame our current frenzied feelings and responses and it should also force us to see that all these concerns are as much about understanding and creating what is distinctively human as they are about human-replacing technologies.

“The Matrix” calls on Jean Baudrillard’s book because it deals with the nature of simulation. What happens when a simulation is so perfect that it is indistinguishable from the reality simulated? Baudrillard sees the modern world as an era of simulation when the signs of the real are substituted for the real). Simulation, he says, “threatens the difference between the ‘true’ and the ‘false,’ the ‘real’ and the ‘imaginary’” (Baudrillard 1981: 2). The promise of current AI/robotics seems to be confirmation. The very design of AI, as indicated in the term, is ostensibly to imitate human intelligence. The evidence today is that the writings, images, and actions of AI/robotics imitate similar human makings so perfectly as to be indistinguishable. With the perfect AI simulacrum, it seems evident that it threatens the replacement of and even preference for the imitation over the imitated, the AI imitator over the fleshy imitated. The threat is felt as real, the replacement of humans by AI/robots. Of course, our fears are based on what to me is the flawed idea that indistinguishable products of machines and humans confirms the equal or interchangeable ontology of the makers. This is the assumption that if AI can write a paper imitating a humanly written paper and it can write a poem and create an image and so forth, this ability to imitate establishes that “machine intelligence” is equivalent to “human intelli-

gence.” If it walks like a duck This false reasoning is widely and popularly asserted in both subtle and explicit ways. For example, it is common to say machines “learn” and “think” as it is common to compare AI algorithms to human brain structures and functions. It is common to personify AIs and robots, using gendered pronouns and human-equivalent names. A close analysis of “The Matrix” as well as Baudrillard’s *Simulacra and Simulation*, shows that as the simulacrum is approached, that is as the imitation approaches being indistinguishable from the imitated (what the technologists call “fitting the curve”), the whole system becomes increasingly problematic. This is because, as I’ll show, the poetry is in the difference not in its obliteration.

It may initially appear that simulation is a problem distinctive to the era of electronic binary digital information, yet in the early days of photography and film German philosopher Walter Benjamin (1892-1940) wrote what has become a classic, “The Work of Art in the Age of Mechanical Reproduction” (1936). It was becoming clear by the 1930s that photography was gaining a level of technological advancement that seemed revolutionary, likely to change not only art but the whole tapestry of modern twentieth century life. And indeed, it did. While Benjamin found examples across history of mechanical reproduction—coins, carved block print art, etching, lithography—photography was something new. He appreciated that it offered many advantages such as allowing vision not possible to natural human sight. The endless reproductions with all the copies being identical overcame the time and space limitations of works of art distinguished by an original created over considerable time and whose existence was confined to one place in time and space. Reproductions of such singular works are possible, yet they require skill and time and are not valued as authentic or original, perhaps labeled forgeries.

Benjamin wrote extensively of the distinctive aspects of a work of art not mechanically produced. Elements of technique distinguish artistic skill and factors of provenance. Artistic technique is how skill, a distinctively human form of productive action, is articulated. Provenance tracks the history of a single work of art in time and space including creator, ownership, exhibitions, and value. It comprises the elements that assure

authenticity and originality. These distinctions of a work of art comprise a certain *presence* that Benjamin called “aura.” This word in Latin and Ancient Greek means “wind, breeze, or breath.” It was used in Middle English to mean “gentle breeze.” By the end of the 19th century, the word was also used, as is common today, to describe a subtle emanation around the body. The word associated with breath suggests, metaphorically, the biography or history of the work of art, its birth and ongoing life.

Mechanical reproductions do not have aura. Made by machine, they are not the product of a direct bodied practice of skill. With no original and no distinction among copies there is little that would comprise provenance beyond perhaps naming the photographer and the technical details of the photo equipment and the date of manufacture. Capable of appearing simultaneously anywhere and anytime, they have the effect of foreshortening time and collapsing space. With mechanical reproductions many of the core concerns that give value to singular works of art are rendered meaningless—original, fake, forgery, presence, tradition, skill, authentic, history, provenance. Mechanical reproductions of art, widely available as prints or postcards would seem odd inclusions in museums or galleries, except perhaps as souvenirs in gift shops. Benjamin imagined that a world where the mechanical reproductions of art have become commonplace would be one in which human perception and experience would be significantly modified. That is, the function of our senses and our understanding of reality notably change in a world where mechanical reproduction is pervasive. The last century doubtless confirms Benjamin’s prediction.

Of course, despite what might well have been a fear that mechanical reproduction would replace the artist and the casual observer would replace the connoisseur, painting and drawing and sculpture have continued a robust existence as have museums and galleries. Photography and film have developed as art forms with the advancing technology of cameras and processing driven, at least in part, by photographers aspiring to make art as well as objective documentation. The technology of photography can take a rightful place as a tool in the skilled hands of a photo artist. Still, Benjamin’s concerns seem remark-

ably familiar and relevant to those currently associated with AI/robotics.

As seemingly abstract and even obtuse as is Baudrillard's writings, he begins *Simulacra and Simulation* with reference to the remarkable one paragraph short story by Argentinian Nobelist Jorge Borges "On Exactitude in Science" published in 1946 that plays on the relationship between map and territory and how scale raises the question of exactitude. From the outset then, Baudrillard sees the complex issues raised by simulation as but a version of the ubiquitous and even banal issue of the relationship of map and territory. And, by the way, his choice of Borges is consistent with his strategy of pushing propositions to their limit. I've been fascinated by Borges's use of this strategy in his fiction especially in his stories "The Garden of Forking Paths" (1941) and "Funes, the Memorious" (1942). In his strategy of pushing the likeness of simulation and simulated to the limits in the case of maps, Baudrillard might also have used the passage from Lewis Carroll's last published novel, *Sylvie and Bruno Concluded* (1893) and not accidentally "The Matrix" makes a few allusions to *Alice in Wonderland* (1865):

"That's another thing we've learned from your Nation," said Mein Herr, "map-making. But we've carried it much further than you. What do you consider the largest map that would be really useful?"

"About six inches to the mile."

"Only six inches!" exclaimed Mein Herr. "We very soon got to six yards to the mile. Then we tried a hundred yards to the mile. And then came the grandest idea of all! We actually made a map of the country, on the scale of a mile to the mile!"

"Have you used it much?" I enquired.

"It has never been spread out, yet," said Mein Herr: "the farmers objected: they said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well" (Carroll 1893: 175).

"Nearly" indeed. Baudrillard's focus on simulation is about sequence and difference. He asks of the consequences and implications that occur when there is no discernable difference between map and territory. We now add no discernable differ-

ence between AI writings and images and human produced ones. He also asks of the situation when the map precedes, rather than follows, the territory; a situation that he refers to as the “precession of simulacra.” In “The Matrix” this precession of simulacra is living in the virtual reality not even realizing it is virtual. In the present this precession of simulacra occurs when human actions and conditions are evaluated by a standard set by such artificial constructs as advertising or social media or AI generated medical statistics.

Mapping is a metaphor for the dynamic relationship that must exist in any interconnection where one thing is both like and not like another thing. Mapping is representing, grasping, knowing, perceiving, mirroring, describing, charting, imitating. Mapping denotes a particular kind of relationship between the territory and the map. In traditional understandings of mapping, it is the territory that is the first order reality; the map a second order representation; a miniaturized or reduced or symbolized replica or imitation in some respects usually for manageable representation. The power of the map resides in its being at once the same and different. The map and territory must correspond, be identical in some sense, yet the map cannot be in scale, for example, the same as the territory; it is useful only if different. The map is a reduction or magnification, but also a transduction in its imitating one reality (say, brute physicality) by another (say paper or screen image) using symbol and representation. The temptation as a seemingly proper goal of simulation and imitation is identity. Yet as Carroll’s characters deftly observed over two centuries ago, the achievement of identity, a simulacrum, is useless at best and possibly dangerous if adopted in place of the territory. It is, as Baudrillard writes, “difference that constitutes the poetry of the map and the charm of the territory, the magic of the concept and the charm of the real” (Baudrillard 1981: 2). There is a magical gap between map and territory. The insight relevant to current advancing AI is in terms of what is set as its objective. The perfect imitation of human intelligence is widely held as the goal of artificial intelligence. Yet, this objective usually fails to understand that difference is essential. This difference of sameness is evident, if not commonly noted, in so many distinctively human concerns including maps and symbols and words and art and language. The power of these dynamic

relationships rests in the persistent presence of abiding difference that is at once, in some respects, a likeness. As the human creators and users of AI/ robotics, the primary value of the products of these tools and tropes should be generated in the dynamics of difference. We create maps to aid in exploring the territory. Where do we go when we travel only the maps? Our smartphone becomes our reality. For many this has already occurred.

The academy, our traditional institution for the discovery and dissemination of knowledge and intelligence, is an enterprise of cartography. To compare it with the current AI/ robotics enterprise is insightful. Despite the rambling campuses of the modern university or school, its intellectual structure and function are the physical and mental mapping of the universe beyond the campus. The work inside the university maps the universe outside. By tradition the outside is the real, the territory; the inside is the map, the virtual, the representational, the transduction from one reality to another. In academia, we create and examine miniature (or giant) replicas, often made of words and numbers but also models, shaped by our own interests in what is out there. We must recognize that what academics do is or should be poetry, given Baudrillard's insight. Their work should always honor the difference and be fully aware that the success of academic production is having the skill to present the outside as clever representations or imitations (maps), tiny dollhouse models of reality. The cunning is in revealing that it is in the miniaturization (or the magnification) that we may appreciate what may not be altogether obvious or accessible full scale. The poetry is in the difference. The proposition is that we might appreciate something by the study of a smartly produced model, an imitation (a doppelganger), more insightfully than we could in the overwhelm of full-scale presence. We must also recognize that despite our shrewdness, we must retain a responsibility to the outside for it is after all the territory.

Baudrillard honors this traditional ordering as he also recognizes that the fundamental components have become confused and perhaps the most basic distinctions have even collapsed. An awareness of the implications of the "precession of simulacra"—the mappings preceding the territories—is essential, it would seem, to the academy going into its future.

Surely there is concern when the academy understands that its own little makings are themselves the truth that can't quite be matched by the reality out there. The prevalence of academics valuing their work, their makings, as more important than the independent subject reality suggests that this relative valuing is a bad habit we academics have developed. This arrogant confusion, widely shared by ambitious creators of AI/robotic technologies, produces a duping artifice or fake, not poetry. The distinction of modern AI/robotics technology compared to the academy is that the work produced, rather than being books and formulas and charts and models, is directed at replication, the goal of imitation, with an explicit intention to collapse any difference between original and copy, outside and inside, territory and map. This comparison helps us understand both the promise and fear of current AI/robotics as well as the outline of the core perspective by which to evaluate future goals and constraints.

For decades beginning in the 1960s the academic study of religion shifted core goals and practices to be suitable and, in the USA, legal when located in secular universities (see Gill 2020b). It has often metaphorically framed both religions (historical and cultural practices and institutions) and their academic study as affairs of maps or mapping strategies. To me the most fascinating of these reflections on religion is Jonathan Smith's 1978 lecture/essay "Map is Not Territory" (Smith 1978). In this essay, he identified the propensity of students of religion to understand that religions tend to be identified by what he called *locative* (from grammar, semantic role of the noun phrase that designates the *place* of the state or action denoted by the verb) maps, or as I prefer mapping strategies. In simple terms this means that religions are characterized by how they designate place (doctrine, dogma, belief), the importance of being in place (piety, heaven, obeying commandments), and the consequences of being out of place (sin, hell, evil). They tend to establish rules, doctrines, articles of faith, creeds to which adherents must conform. They define specific ways of being, rules of order, practices, and traditions that define by compliance membership (often called adherents) in the religion. To be in place is often literally to be in a sanctioned or sacred place—temple, church, mosque. It may also be to orient oneself in terms of place—

Mecca, Jerusalem, Salt Lake City. It may mean defending a religion's precepts at the cost of one's life. It may mean to be in a specified place socially and so on. We think of distinguishing religions by the distinctions of their maps and their effect on the territory of life. As Smith notes, this *locative* map is commonly understood not only by the folk of the world, but also by most of those who research and teach religions academically.

Smith suggested that, in contrast with this locative mapping, religions might also be understood in terms of a *utopian* map or mapping strategy. This approach tends to reject altogether any suggestion of confinement to place. The anti-mapping utopian approach appears in forms of protest or as antiestablishment movements, it opts for the existential freedom from place such as mysticism or a carefree present. Another example might be the common popular self-identity as "being spiritual while not belonging to a religion." Smith's presentation of possible examples of such utopian religious maps was thin, particularly when it appears that almost any traditional religion seems an excellent example of locative mapping. Tradition requires a certain conformity to precedent and practice. Yet, we can associate utopian religious tendencies with ascetics who defy even the rules of nature, with those who emphasize chaos and disorder, with the utopian movements that have only the principle of having no constraints.

For me, the most interesting contribution of Smith's discussion of mapping as a way of helping comprehend something important about both religions and the academic study religion is his offering of a third strategy. Notably this third way has gone mostly unnoticed perhaps because he did not give it a name. Smith describes this third strategy.

The dimensions of incongruity ... appear to belong to yet another map of the cosmos. These conditions are more closely akin to the joke in that they neither deny nor flee from disjunction, but allow the incongruous elements to stand. They suggest that symbolism, myth, ritual, repetition, transcendence are all incapable of overcoming disjunction. They seek, rather, to play between the incongruities and to provide an occasion for thought. (Smith 1978: 309).

It is perhaps obvious why I am interested in this third option because it is an understanding of religion that honors openness, difference, gaps, questions, creativity, novelty, and play. The seduction of play is possible not only in the gap, but also only when the gap is generated by difference; the map and the territory cannot be identical (simulacra). The apparent weaknesses of difference—that is incongruity or incompleteness or reduction—comprise the source of its power. The energetics and duration of play correlate with the character of that difference and the attitudes toward difference itself. Closing the gap, answering all the questions, living perfectly in terms of the rules, halts play (and vitality). This strategy is only truly fulfilled either in very rare and ethereal moments of ecstasy or in the extreme rigidity of adhering to religious dogma. The result of both is the same, to shut out the vitalizing sunlight.

Achieving either condition—locative or utopian—perfectly is like what Baudrillard called “simulacrum;” the indistinguishability of map and territory, a hyperreality comprised primarily of simulacra without corresponding first order reality. We surely can understand that so many of the most interesting aspects of religion all arise in the gap, in the difference, in the application—free will, sin, evil, history, or even the necessity that people interpret and apply the religious rules and doctrine and stories to their lives. We often think of these aspects of religion as problems or issues because they seem so threatening to a locative strategy. Yet, incongruity and difference are inseparable from congruity however articulated. One might suggest the very *raison d'être* of religion is the presence of difference, gap—the separation essential to creation.

Both the locative and the utopian are strategies that aim to halt play, close gaps, effectively ending religion and its academic study. The locative strives to achieve a map at full scale; utopian strives to be rid of maps altogether. Both come to the same conclusion; map and territory are indistinguishable, the poetry becomes trite, the magic becomes artless technique. Religions become dogmatic and literal and authoritarian and narrowly conservative; they are obsessed with conformity to unquestioned truth. They hold a nervous intolerance of anything different or inexplicable. Alternatively, but with the same results,

religion becomes completely ineffable. Religions, as politics, in USA today trend strongly toward the locative.

As AI/robotics is also an enterprise directed largely by simulation, that is by the electronic and machinic perfect imitation of human behavior and capabilities, this seemingly totally unrelated example of religions appears surprisingly relevant. Responses to AI/robotics are consistent with the broad religious and cultural embrace of replacement theory and xenophobia. The current discourse and driving force of AI/robotic technology seems bent on showing that AI is on its way to being so like humans in one respect or another, a perfect simulacrum, that the AI/robot becomes the primary existent in a hyper-reality. For centuries this proposition has made good fiction and the motivator for important philosophical and social discourse. Yet, so long as there is human life there will be the exercise of the dynamic of the copresence of congruity and incongruity. When human beings sense the totalization of AI/robots or their own replacement by AI/robots, they will create an emotional response that demands the existence of difference, the “slam poetry of protest” if you will.

To further my argument that difference is essential I offer yet another seemingly unrelated example that is none the less insightful, the religious initiation of children as conducted by the Hopi (Native Americans) in northeastern Arizona.¹³³ Years ago I spent many a day sitting on the rooftops of Hopi pueblos watching Kachina dances. The Kachinas are what the Hopi understand as spirit beings (or perhaps better, story beings) who live half the calendar year in their own world below the human earth surface and the other half year physically present among the Hopi people. There are hundreds of distinct Kachinas, each with elaborate appearance most having their own roles, songs, and dances. The Kachinas have complex stories that recount their mythic histories. Kachinas are associated with clouds in that generally they bring rain, yet most of them have specific attributes or gifts that they provide for the Hopi people. Kachinas are also associated with ancestors.

In each of the Hopi villages Kachinas appear and perform frequently from the winter solstice to early August. Secret

¹³³ See Gill 1976: 6-13; and Gill 1977: A: 447-464.

societies keep the lore of the Kachinas. Their members make and keep the elaborate Kachina costumes and masks, and they learn, rehearse, and perform as Kachinas in public plazas. A crucial event in the life of the Hopi youth is their initiation into the Kachina cult, the public start to their active religious life. The climactic event of initiation is the children being shown for the first time, without explanation, unmasked Kachinas. They suddenly realize that the Kachinas are their own relatives who are masked costumed performers. The children are shocked to experience that the Kachinas involve dissimulation. The kids are disenchanted. Some cry, feeling they have been tricked and deceived and declare they will never again trust their elders. Not long after their disenchanting initiation the kids learn that they now have responsibilities. They must begin to participate in the complex processes of the Kachina dances. The boys soon become masked costumed dancers. The lifelong participation in Hopi religious life attests to the pervasive importance of Kachinas to Hopi life and the effectiveness of this initiation rite.

Despite the apparent harshness of Hopi initiation, seeming to risk destroying religious engagement and belief altogether, through the long Hopi history it has effectively initiated an active religious life among a culture distinguished by the centrality of ritual, story, and tradition. The initiation focuses on opening a gap between imitation and actuality while at once retaining their identity. The figures in the plazas are Kachinas, full stop. The figures in the plazas are masked costumed male Hopi imitating Kachinas, and once initiated obviously so.

The very distinction of mask is that there is the identity of the mask necessarily conjoined with the different identity of the masker who performs the mask. Hopi initiation is as much the revelation of mask and the dynamics of masking as it is Kachina. It is to create a twoness that is copresent with a oneness. It opens the gap in which appearance is at once a full presence, here now, as well as an artifice that imitates or simulates what is not here, in some senses a virtual that cannot be physically here.

I have increasingly sought to frame this copresence that is masking as a central distinction of being human. It is the distinctively human capacity to hold together two things as the same while knowing they are not the same at all. I now call this distinction an “aesthetic of impossibles.” It is more than a

mental capacity; it is the full-bodied source of power and vitality as well as meaning. This aesthetic of impossibles is essential to ritual, dance, story, myth, metaphor, symbol, language, icon, ... all things distinctively human.

Baudrillard's alarmist concerns are relevant. He worried that the imitation, as it becomes so perfect as to be undetectable as imitation, might replace or obfuscate the existence of what is being imitated. In the terms I'm developing this would be the disappearance of any gap, any twoness, any copresence of impossibles. Interestingly, this seems to be like a return to the reality of pre-initiated Hopi children for whom the Kachinas are simply Kachinas, not masked presences. Yet, naivete revealed cannot be recovered. In Smith's analysis of religions this would be the full achievement of either a locative or utopian mapping strategy. Yet, the wisdom revealed in all these examples is that the apparent achievement of oneness by perfect imitation results in a halt, a useless map that coincides with territory, an existence without the vitality of play, a lifeless immobile state, a world void of the poetry of difference.

Returning now briefly to "The Matrix," the word "matrix" is fascinating. It refers to something that constitutes the place or point from which something else originates, takes form, or develops. It refers to the ground from which something takes shape or is held. For example, the fine material of cement is the matrix that holds larger rocks or other materials. Or one might say that the Greco-Roman world was the matrix for Western civilization. In the film, matrix refers to the strata of the virtual reality of information—the bit reality of zeros and ones—that grounds an apparent, yet virtual or simulated, reality experienced as material reality. Yet, the word "matrix" carries other fascinating implications in its roots. The word originated in Middle English in the mid-fourteenth century as *matrix*, derived from Latin *matrix* referring to a female animal kept for breeding. The word "matrix" is related to *matter*, that is, mother and refers also to "womb." In "The Matrix" the character known as Cypher often sits in front of a cyberpunk screen filled with scrolling numbers. The word "cypher" means a secret or disguised way of writing, that is, a code. It also refers to the number "0" and as a verb means to do arithmetic. The screen Cypher constantly monitors streams the binary reality (coding and data in the

patterned arrangement of zeros and ones) that produce the imitation of physical reality. This streaming code is then the matrix that mothers and grounds hyperreality lived as banal reality for all who have not taken the red pill or are members of the resistance. Yet the matrix might also refer to the vast arrays of pods containing human organisms, as in wombs filled with amniotic fluid, being used as batteries to power AI machine reality. These endless pods like fine grains constitute an essential ground and womb for AI/robots and the hyperreality.

Perhaps there is an even more interesting understanding of the film title. If anything, to me anyway, the film initiates us into the complexity of appearance and reality, artifice, mapping, framing, inside/outside, ground/movement, simulation, imitation. “The Matrix” tipping occasionally, in Borgesian-style, into a world post-collapse, when simulacrum is hyperreal, the movie’s viewers get moments of experiencing the thinness this virtual imitation has when it is lived as the only reality. It appears a bit mechanical and lacking substance, as it quite literally does. Yet, the film returns the gap to the distinction, fundamental to the red pill, between the virtual and the raggedy meaty human beings with their steampunk devices and ships, and film viewers identify with them because they write the grunge poetry of difference.

There is a basic insight strongly articulated across these several examples—“The Matrix,” the academy, the academic study of religion, Hopi initiation of children—a prescriptive vision that could give direction to at least the way we reflect on the explosive development of AI/robotics. The insight is in showing how essential it is to retain the gap, the play, the difference between imitation and imitated, between the AI/robots and the humans and their intelligence and emotion and experience all essential to their actions and makings. The discourse and demonstrations, as well as the real technological goals, to replace human intelligence, to replace humans *tout court* is the idea discussed by philosophers in recent decades as post-humanism. AI/robotic advancement is a standard posthuman argument. It is, of course, built on having some idea about what distinguishes being human, that there be a posthuman, and it suffers the seeming fatal fact that any articulation of the post-human is constructed by humans. An understanding of a

posthuman world that is not tainted by us humans would seem a task best done by AI, since AI are the promised principals in this imagined world. So, I asked ChatGPT to describe a post-human world without reference to anything human. Its meandering response which referred regularly to humans, defying my instructions (well they will be in charge!), was a soupy romantic description of the revival of a pre-Adam and Eve Edenic natural world. This response concluded, “It is a world where the legacy of humanity remains only as a whisper, buried within the fabric of a world that has moved on, forging its own past into the future.”

The wisdom for appreciating the energy and emotion of the current discussion as well as a general guidance for the future is, I suggest, in regaining a respect for the necessity of difference. Fear of replacement, fear of loss, dark often unrealistic constructions related to AI/robotics—played out in fiction and film and the arts for decades—are all premised on the threat of collapse into AI/robotic oneness. All the drama arises in efforts to retain the separation, the distinction, the twoness even as there is an intimate inseparability.

The common language employed to display the advancements of AI/robotics unnecessarily feeds this threat. It is misleading and plain foolish to hold that “machine intelligence” may soon be equal or superior to “human intelligence” when there is little understanding of human intelligence to begin with. To speak of AI/robotics as soon to become sentient or conscious, when we have little clue about what that even means for humans, is misleading and plain foolish. To describe AI/robotics as “learning,” “intelligent,” “having agency” without clearly expressing that these words are rough analogs on a par with assigning gender to one’s car, is misleading and plain foolish.

Human beings have a remarkable capacity for what I call “gestural naturalization.” Actions, including words, repeated frequently, even if they are meaningless in themselves, quickly become quotidian accompanied by a plethora of unstated but implied assumptions. Constantly referring to machines as “learning” and being “intelligent” and “thinking” and “aware” and approaching “sentience” is highly valuable in the demonstration of the imitative results of advancements in the amount

and complexity of algorithmic calculations of probabilities. It can write a college essay *just like a human student*. It can create an image if asked *just like a human artist or designer*. And so on. If it walks *just like a duck ...* is not the best logic to employ.

Consider a near random statement about a robotic bendy set of tubes ending in pincers on a tabletop directed by AI designed by the company DeepMind. “These improvements were due to RoboCat's growing breadth of **experience**, similar to how people develop a more diverse range of skills as they deepen their learning in a given domain. RoboCat's **ability to independently learn skills** and rapidly **self-improve**, especially when applied to different robotic devices, will help pave the way toward a new generation of more helpful, general-purpose robotic **agents**.”¹³⁴ The words I've bolded all require analogic comparison to distinctive human behavior. The description is misleading if one assumes that the human faculty referred to by each of these terms exists in the same way in the RoboCat as it does in human beings, that is, if the analogy is missed. DeepMind does explicitly make the analogy when referring to experience by using the words “similar to.” For many years machines have done highly intricate procedures impossible to human beings like manufacturing computer chips. But then this is a sophisticated tool humans have conceived and designed and programmed to do a specific job. It is in the lineage of early human beings creating tools and weapons to extend themselves prosthetically to exercise their agency in the world. It would be better to describe the RoboCat this way. “DeepMind's engineers have designed a kind of small object gripping robot controlling algorithm, a kind of algorithm-algorithm or meta-algorithm, that constantly modifies the robotic actions based on the calculated success and failure of tasks performed.” The DeepMind description suggests that RoboCat, eager to learn a new skill, seeks relevant “how to” instructions, like humans do in finding a video tutorial. The facts are that should the DeepMind engineers and technicians walk away from the robot, it couldn't

¹³⁴ “RoboCat: A self-improving robotic agent,” *DeepMind Technical Blog*, June 20, 2023. <https://www.deepmind.com/blog/robo-cat-a-self-improving-robotic-agent> (consulted 7/1/2013).

do anything. My alternative description places the ingenuity and skill and learning and innovation and agency with the human creative skilled makers who work for DeepMind where it belongs, and the statement is both more accurate and it does not trigger any fear of replacement or of a posthuman world. The alternative description I offer creates the necessary gap and difference between the RoboCat and the techy folks that manufactured and programmed it. RoboCat is an extension of these humans that imitates some actions of humans, while being a bendy tool on a tabletop. ChatGPT functions on similar principles and its human designers and developers are the ones who deserve both the credit and responsibility for what this AI does.

While the use of metaphor or analogic strategies to describe something is perfectly fine, the point, as I've shown throughout this essay is that the magic is in the difference. Metaphor, an analogic comparative trope, is to understand something in terms of something else *which it is not*. The AI/robot is like a human, but *it is not human*. The poetry is in the difference.

Artificial Intelligence Takes on AI Complexity¹³⁵

Take One

From The Turing Test to The Ultimate Turing Test Introducing the AI Issue

The abiding model for the development of Artificial Intelligence, as the term denotes, is *the imitation of human intelligence*. The success of AI is predominantly measured in terms of its output—writing, images, actions. Perhaps this style of evaluation was initiated in 1950 when Alan Turing (1912-1954) devised The Turing Test in response to the question “can computers think?”¹³⁶ Turing devised a clever test, originally referred to by Turing as “the imitation game,” in which a computer is placed in one location, a human communicator in another, and a human evaluator in a third. The evaluator, who briefly communicates in writing with both computer and human, not knowing which is which, indicates the respective identities. Basically, the test is passed when the computer is erroneously selected as being the human a certain percentage of the time. Considering the current amazing capacity of AI to produce imitations that quite often pass for human productions, it seems surprising that The Turing Test, conducted annually, was not passed until 2014. The vogue today is offering examples of

¹³⁵ This essay was written for my forthcoming book *Skill & Mastery*.

¹³⁶ See “The Turing Test,” *Stanford Encyclopedia of Philosophy*, 2021. <https://plato.stanford.edu/entries/turing-test/>. (Consulted 6/1/2023). The Turing Test was presented in Turing 1950.

music, images, writings for the perusal of anyone asking, “AI or human?”

In Alex Garland’s 2015 film “Ex Machina” The Turing Test is reimagined, at least as I interpret the film. Nerd science genius mega-wealthy alcoholic entrepreneur owner of a Google-like tech company, Nathan (Oscar Isaac), brings Caleb (Domhnall Gleeson), a bright promising computer coder who works for his company, to a remote laboratory site to be the human evaluator of an android—AI humanoid female robot named Ava—that Nathan has built. In a conversation with Nathan after his first session with Ava, Caleb asks Nathan why, as in a Turing Test, Ava isn’t hidden. Nathan responds, “Oh no, we’re way past that. The real test is to show you she’s a robot and see if you still feel she has consciousness.” Throughout the film, Caleb and the film viewers are frequently reminded in various ways that this is a machine. Ava’s arms are clear plastic with internal wires visible, her face appears human, but her bald head is white plastic. By openly showing the A (artificiality) of this machine yet with the confidence that an evaluator will come to experience it as conscious is an update to Turing’s imitation game. Ava, as a shapely humanoid robot, appears to be more than just alive, she is experienced as a desirable sexy woman. I suggest this assessment be termed the Ultimate Turing Test in that the evaluator must experience something fully knowing what is experienced is impossible (see also Blum 2023). It is manmade machine; it is sexy female evoking desire. The success of the UTT is effectively the collapse of the difference between human and machine. Turning beyond her sexy appeal, Ava proves, in cold brutal acts, to be in some respects superior. Indeed, by the end of the film Ava has killed both her maker and evaluator and she has escaped into the human world passing as human. Faced today with the glimpse of the possibility this eventuality is not limited to fiction and film, it is no wonder emotions regarding AI/robotics are so high.

While the current imitation game is playing out in what we still think of as “reality,” the idea of a sentient machine, an android, a synth is not new to Sci-Fi films and literature. Think Data on “Star Trek,” R2D2 and 3CPO in “Star Wars,” Samantha in “Her,” Luv in “Blade Runner,” and the terminator, to start a long list. The AI voiced virtual assistants on Google and Apple,

Alexa and Siri, are given gendered voices, pronouns, and names. Before these, the first android in literature—a female constructed by Thomas Edison and given an AI personality by his female assistant Sowana—was in Villiers de L’Isle-Adam novel *Tomorrow’s Eve* published in 1886. The first humanoid robots appear in 1920 Czech play “R.U.R.” by Karel Čapek. R.U.R. stands for Rossum’s Universal Robots, a company that makes humanlike robots. In Czech, robot means “slave” or “worker.” Soon thereafter was Maria—who appeared both as shiny metal female and a synth indistinguishable from a human—in Fritz Lang’s classic 1927 film “Metropolis.” Before that is the classic literature of Pygmalion who sculpted the beautiful Galatea and brought her to life as a human woman by kissing the statue (the source for Shaw’s “Pygmalion” and dozens of “My Fair Lady” works). In between is the classic Mary Shelley novel *Frankenstein: A Modern Prometheus* (1818).

What commonly occurs over time and regular quotidian use is the naturalization of the artificial. Because we regularly chat with Alexa and Siri, because we see Data acting as a peer among humans, when we see fictional characters—Theodor in “Her” and Caleb in “Ex Machina”—fall in love with AIs, we think of these artificial imitators as humans, or passingly so. In our awareness, their obvious artificiality recedes as their seeming humanness emerges. Our shift to embrace the artificial as the real, as natural, is often based on a single measure. Do they talk and converse and move and act like a human? Can they write essays that would pass a college exam in a blind test? Do they look human (sort of), even in some respects? Can they follow directions given in natural language? Do they move like humans move? Briefly, we tend to reckon that if it talks like a human or walks like a human or writes like a human it must pretty much be human. The next step is, let’s just go ahead and say the AI has intelligence like a human, maybe even sentience.

We consider human natural language a signal marker of human intelligence and use it as a measure of AI ability to imitate humans. Turing felt that if a computer can exchange written messages with a human who concludes falsely that it is human, it at least wins the coveted imitation game. Can it write or speak or listen like a human? Can it write a news article or a college freshman essay? Can it follow written or verbal directions and

accurately perform tasks? If it passes this language test—or approximate close imitations even in limited ways—we are likely to start describing it in terms related to intelligence. We find ourselves using phrases like, the machine can “learn,” it “knows,” it can be “taught” and “trained,” it “listens,” it “speaks,” it “thinks,” it has an “imagination,” it is “creative,” it has “agency.” Technically it does none of these. Base on human designed algorithms which are sets of rules to be followed in calculation usually of probabilities, it only imitates these distinctively human acts. Turing wasn’t deluded. He didn’t call it “the replacement game.”

It is common human behavior to personify inanimate objects—cars, toys, ships, the planet, most anything—so it would be odd if we didn’t personify computing machines and their virtual or robotic presence (especially if humanoid), even imagining that as it produces outputs that appear indistinguishable from human outputs even in a narrowly specific task, it somehow is on a trajectory to become intelligent and even sentient. As I hinted above, there are many stories through history of objects becoming animated and sentient. This is part of the heritage of our imagination, deeply embedded in religion, art, literature, cartoons, and play from early childhood. It is also part of our human distinctive biology to have the capacity to animate the inanimate, to consider real what we know to be artificial.

In my recent writings, I have focused on what I term “aesthetic of impossibles” to point to this particularly human distinction. We readily equate two things that we know are not the same. When kids play with dolls or action figures treating and experiencing them as alive and sentient, they are not fooled nor do these inanimate objects change their ontology. It is that to consider something to be what we know it is not, is the exercise of perhaps our most distinctive human capability. I argue that this rather quotidian human aptitude, if often overlooked or discounted in the worship of facts and reason and objectivity, is the source of our imagination and creativity and intelligence. Oh yes!

While the idea of something made by humans (outside of biology), thus artificial and inanimate and non-sentient, coming to life dates from antiquity, the current era of advancing AI and

humanoid robotics has captivated the popular imagination as well as that of the usual techno-nerds. The profit potential has motivated industry to invest billions in AI/robotics development. The contemporary variations of the Turing Test have become manifold and fascinating. It is common now to be regularly presented with a group of writings or images or songs placing us, the reader/viewer, as evaluators. We are challenged, “Which of these examples were made by AI?” Of course, we are thrilled and maybe frightened to learn that usually all of them are AI productions. We have millennia of cultural and artistic and religious history that has prepared our imaginations to quickly animate and personify the inanimate and artificial and to create character traits both thrilling—they are our companions and friends—and terrifying—they are smarter or stronger than us and are bent on taking over the world and killing us (singularity). Marvel and DC have made billions from supporting our love for these impossibles.

What I suggest is that the recent explosion of the chatter about the unexpected advancements in AI is not as new as we might think and the various reactions we are feeling are quite predictable.¹³⁷ They are typically polar swings from “Oh wow!” to “Oh no!” and not infrequently both at once. Yet the actual trajectory of current technological advancement of AI and robotics has real impact far beyond cultural tropes and entertainment genre, or even industrial applications. The potential of the demonstrable power of current AI/robotic technology employed as an enormously powerful tool is undeniable. It is linked to the advancements in communication technology over the last half century and to the near universal insinuation of technology into every aspect of life that might be dated as coincident with the rise of the smart phone in the last quarter century. We can imagine, without exaggeration, AI/robotics might contribute significantly to saving lives and perhaps the planet. We can also imagine, without hyperbole, AI/robotics being used by male-

¹³⁷ In my reading, that I acknowledge is somewhat based on convenience, I have rarely encountered writers who considered this cultural context (see Andreessen 2023, consult-ed 6/4/2023). Although the touting of the positive future of AI in this essay is critiqued by Lichfield 2023 (consulted June 10, 2023) and Blum (2023).

volent actors in the killing of millions and in the destruction of the planet. Our imagining of both outcomes is deep in our cultural and human history, yet the future effects of the current demonstrable AI/robotic power are impossible to predict and demand urgent attention.

Whereas until recently these constructs exercised our imagination and certainly shaped and explored what distinguishes us as humans and what constitutes human intelligence, the process was more gestural and philosophical, embedded in our enculturation and subtly and slowly influencing us in the telling and retelling of stories. Surely these stories and imaginings serve these fundamental concerns of humankind. They help us explore what distinguishes us as intelligent human beings by challenging us with undiscernible imitations (convincing fakes). What if a stone in the shape of a pretty woman came to life by being kissed? What if an operating system became a virtual lover? What if I fell in love with a talking robot who looks kinda sexy, but I can see that her arms are plastic with wires inside? What if a sexy robot kills and becomes independent of her maker (Nietzsche's "death of god")? Especially since the beginning of this century these concerns have insinuated themselves by the steady march of advancing technology into nearly every area of quotidian human life as being more than fiction or fantasy.

The value of this contextualizing sketch, all too rapidly drawn, is to observe that the current high-volume frantic buzz stirred by recent remarkable AI/robotics advancements, is mostly grounded in the Turing Test presumptions that are focused almost exclusively on evaluating the capacity of technology to imitate human makings. The test is focused on outputs rather than the makers. The presumption, which I believe is deeply flawed, is that if the products appear the same then the makers must also be the same; that is, if it walks like a duck I see little attention given to the interesting and valuable concern with what we might learn in this comparison of imitator/imitated about being human and being intelligent in a distinctly human way. Focusing on the difference while given the similarity. Asking about humans, rather than inanimate objects (machines), has been the focus of classic concern of the cultural predecessors to the current hysterical discussion. In

other words, I think that our contemporary discourse has its attention upside down, at least in part. We seemingly forget, or ignore, that humans are the makers of AI including its algorithms and the significance of its input data. We forget, or ignore, that the raw substance of AI is but pixels and numbers, bits, (binary electric charges interpreted as digits) that must be converted into words and images to be of any significance to human observers and users. We forget or ignore that the primary measure of the success of AI/robotics is *how closely they may imitate select human makings (text, speech, images, actions, songs)*. Without humans, there are no makers, no tweakers, no users, no measures of success, no evaluators, and most importantly nothing to imitate. We seem obsessed only with the technological terms (imitations that may be taken as real) with too little interest in exploring what this same scenario has been concerned with for millennia: exploring, appreciating, understanding, and articulating who we humans are and want to be. My sense, rather viscerally and strongly held, is that our efforts to use and control our own technological makings are largely dependent on the serious exploration of our own human potential and nature. In this more proper endeavor, the focus on skill is, I will show, illuminating; even more so, it is essential.

Take Two A More Technical Chat

Skill, I argue, is a quintessential marker of human distinctiveness. I hold that when skill is a term applied to non-human animals and to inanimate objects it is to use the term metaphorically, that is, as a comparative analogical trope. For example, the algorithm-directed actions of a robot are analogous to the skilled actions of humans, say stacking boxes in a delivery truck (perhaps for humans a utilitarian action more so than skill). Based on this analogy, one might say “robots have box stacking skills.”¹³⁸ Yet, in describing the robot as having skills the analogy becomes transparent. Perhaps a more accurate statement, yet one not likely to be used, would be “human engineers and

¹³⁸ See <https://nypost.com/2023/09/05/apollo-the-humanoid-robot-starts-moving-boxes-in-warehouses/>

techies have built robots that have a series of actions based on human designed algorithms enabling the robots to orderly stack boxes on trucks. These machine functions were designed to imitate human box stacking utilitarian actions.” Analogy is a feature of comparison in which one thing is equated to another thing, *which it is not*, for purposes of explanation. The distinction of analogy is to consider one thing as being like another *in some respect* when we know the two in general are *not the same*. To say the operations of a robot is indistinguishable from the skilled actions of a human is to rob the analogy of its explanatory power by ignoring the difference. As Baudrillard wrote in his discussion of maps, “difference ... constitutes the poetry of the map and the charm of the territory, the magic of the concept and the charm of the real” (Baudrillard 1981). In my recent studies of comparison and human distinctiveness I emphasize that essential to analogy and metaphor and comparison and much more is what I call “aesthetic of impossibles,” the holding together two or more things as being the same in some respect that we know all along are *not the same*. Further when we humans use forms of the aesthetic of impossibles, the basis for the power of this kind of trope is the human capacity to hold two things to be the same knowing they are not the same. In the example I used above, the value of considering a robot’s operation of stacking boxes in a truck as analogous to a human’s ability to stack boxes in a truck is significant only when we know that a robot is not a human. Likeness in one respect does not assert identity in all respects. The danger to users of analogy is the adoption of a position familiarly phrased as “if it walks like a duck and quacks like a duck, it must be a duck.” Or, if it stacks boxes like a human, etc. it must be a human or indistinguishable from one. With this collapse, the human attributes—in this case the pre-skill or utilitarian action of box stacking—are attributed to the robot. Thus, the robot is thought to have box-stacking *skill*, even though, as I am arguing skill is a human biologically based attribute and the word “skill” can only be used metaphorically to describe an attribute of anything not human.

Analogy is properly used if the difference is always retained. There are potentially real consequences for the failure. Amazon, the mega company, may install robots to stack boxes in a truck, replacing human workers, all the while knowing that there are

differences, yet using the robots to the company's advantage. Robots don't need breaks, don't organize unions, or go on strike. Robots don't earn a wage. They don't even need a bathroom break. Yet, the analogy can be misused when, as is common at Amazon, the difference is denied, and the analogy reversed. Such denial leads Amazon to treat its remaining human workers like robots—if it stacks boxes like a robot, it must be a robot—the consequences for humans are dire. The human workers must stack boxes as fast as can a robot and they are not allowed bathroom breaks and they aren't considered deserving of a living wage or the right to form a union. This style of analogical reasoning is used broadly in the present context of comparing “machine intelligence” and “human intelligence” with an inappropriate and false reciprocal assumption of equivalence. If AI/robots can imitate humans, then not only are AI/robots like humans, but humans then must also be like AI/robots. Humans are treated like machines. Humans may even begin to think of themselves, or judge themselves, in terms of how they compare with AI/robots. The power of this machine/human analogical comparison requires the clear ontological difference between the two things being compared accompanied by treatment appropriate to both machine and human. Machines are lifeless plastic or metal tools usually requiring an external source of power. Humans are a carbon-based species of animate biological organisms distinguished as Knowing or Intelligent Hominins (*Homo sapiens*).

The usefulness and value of any comparison is dependent on the understanding of the terms of comparison. As the comparers, we humans must begin with a clear sense of what is human, what is machine, what is artificial, what is human intelligence. All these terms are human constructions made to increase and clarify and expand our human understanding. There is nothing that should prevent one from any presumption about any of these terms of comparison so long as they are articulated as clearly as possible. What is important is to ask, “What are we interested in learning and clarifying and understanding?” and “Do our presumptions about the terms by which we compare or analogize serve our interests?”

Consider what is assumed by David Silver of DeepMind in his recent statement, “I don't want to put a timescale on it [when

AI is equal to human intelligence], but I would say that everything that a human can achieve, I ultimately think that a machine can. The brain is a computational process, I don't think there's any magic going on there" (Silver 2020). This statement, as so many similar ones, is based on what I believe is a logical flaw and a serious error in fact. Take the logical flaw first. The ostensible reason for the comparison is to assess the "intelligence" of machines (Artificial Intelligence). Yet as Turing recognized in 1950 you can only evaluate the machine in terms of the degree it successfully imitates the output human actions. By calling it "the imitation game," Turing distinguished between real intelligence and the *imitation* of intelligence, thus retaining intelligence as a distinctly human characteristic.

The assumed understanding of human intelligence, as evident in Silver's statement, is based not in an analysis or exploration of human behavior or action or biological organic involvement. It is not even based on neuroscience. It fails to recognize Turing's fundamental insight, by simply reducing the aspects of the human brain that comprise intelligence to the machinic capabilities to calculate. "The brain is a computational process" is based on the flawed assumption that if a brain can make computations, then that function is sufficient to describe what we call intelligence. And further is the presumption that calculation is all that the brain does. This statement is also based on a serious error in fact: the unstated and, to me, erroneous assumption is that human intelligence is adequately understood as a process of calculation. The flaw is the more egregious with Silver's addition "I don't think there's any magic going on here." It limits intelligence to the computational function of human brains, without even a nod to the brain being part of a whole self-moving biological organism. It laughably assumes that the logic and functionality essential to calculation is biologically built in the brain. There is no discussion of how human brain calculations are in any way different from the calculating capacities of the brains of non-human animate organisms, who do not write or speak in natural language or have reflective self-awareness. There is no accounting for the neuroscientific work of Joseph LeDoux in *The Synaptic Self* (2002) who shows that it is the action of the whole organism that builds and constantly adjusts synaptic criteria, which are at the heart of brain function-

ing. There is no acknowledgement of the various studies that refute the identity of brain with human identity, such as Alva Noë's *Out of Our Heads: Why You are Not Your Brain* (2010) and numerous other studies that place the brain back in the body. Thus, this presumption made without even a discussion, eliminates any contributions to intelligence of the peripheral nervous system beyond, I suppose, accounting for data input points and the maintenance of the brain's physical conveyance vehicle, the body. The assumption shows no possible awareness of the importance to human intelligence of the organic biological qualities of human beings. No role is given to such experiences as being born, aging, knowing you will die, loving, having sex, having babies, dancing, climbing mountains, losing a job, getting ill, suffering, grieving, experiencing the variations in time ... to start an endless list of experiences. I think there's a bit of magic (wonder) in being aware of one's intelligence, in feeling the complex mixture of pain and frustration and effort and achievement in the process of learning, in experiencing the drive of passion to learn a sport or to play music or to dance or to write a poem or to get along with your friends and family, ... all these are allowed no role when human intelligence is reduced to mere calculating ability. Every human that has had any of these experiences (and who among us hasn't?) full well knows that reason and calculation are frequently and knowingly ignored. Even to call calculating abilities by the name "intelligence" is the result of a human analogical process, if a flawed one.

Sticking with DeepMind a bit longer for another example. Consider a statement about a robot bendy set of tubes ending in pincers attached to a tabletop directed by AI designed by the company DeepMind. "RoboCat's **ability to independently learn skills** and rapidly **self-improve**, especially when applied to different robotic devices, will help pave the way toward a new generation of more helpful, general-purpose robotic **agents**." The words I've bolded (yet perhaps actually all of them) require analogic comparison to distinctive human behavior. The description is misleading if one assumes that the human faculty referred to by each of these terms exists in the same way in the RoboCat as it does in human beings. For many years machines have done highly intricate procedures impossible to human beings like manufacturing computer chips. But then this

machine is a sophisticated tool humans have conceived and designed and programmed to do a specific job. It is in the lineage of early human beings creating tools and weapons to extend themselves prosthetically in the world to exercise and expand their agency. It would be better to describe the RoboCat this way. “DeepMind’s engineers have designed algorithms that control the actions of the robot device that are ongoingly modifiable based on performance data.” The facts are that should the DeepMind engineers and technicians walk away from the robot, it couldn’t and wouldn’t do anything. This alternative description places the ingenuity and skill and learning and innovation and agency with the human creative skilled makers where it belongs, and the statement is both more accurate and it does not trigger any fear of replacement or of a posthuman world. ChatGPT functions on similar principles and its human designers and developers are the ones who deserve both the credit and responsibility for what this AI does.

While the use of metaphor or analogic strategies to describe something is perfectly fine and at some levels essential, the power of doing so is in *retaining the difference* and in recognizing what the difference reveals. Metaphor, an analogic comparative trope, is to understand something in terms of something else *which it is not*. The AI/robot is like a human, but *it is not human* which helps us appreciate the importance of humans being born and dying, or humans loving and hating, and so on. The poetry is in the difference.

I suppose that the broad unquestioned acceptance of these foundational assumptions might be comprehended in terms of the outsized influence of the Cartesian *cogito*, the valuing of thought as the essence of being human. Apparently, Turing was familiar with Descartes’ *Discourse on the Method* (1668), where there is a possible prefiguring of Turing’s test. There is a similarity as well in the long history of Christianity that seems to hold, despite the incongruity presented by the very fleshy Christ Event, that being bodied is unimportant even embarrassing or shameful, with a preference for the non-bodied nonmaterial soul and spirit. Perhaps it is the seeming virtual functions of machines that aligns with the Cartesian and Christian emphasis on some imagined nonmaterial internal and spiritually eternal essence. With the long history of thought being privileged (in

philosophy “theory of mind”), the marking of reason and logic as distinctive to human intelligence follows, perhaps to distinguish human thinking from that of our animate kin. Whereas perhaps not all thinking might be considered intelligent (my head is full of examples), the markers of reason and logic often do. I think reason and logic, while essential to some aspects of intelligence are not exclusive or definitive markers. Indeed incongruity, error, emotion, worldsense, pathology, and many other felt factors that do not proceed from reason and logic are deeply involved in intelligence and creativity.

We greatly misunderstand and undervalue the whole self-moving unbelievably complex human organism by limiting human intelligence to a calculating brain function. We must explore the possibility that understanding human distinctiveness, including intelligence, in terms of the acquisition and performance of skill, including the products of this process, is a far more valuable and interesting way of, first, understanding human distinctiveness and, second, using the terms of this distinctiveness as the basis for the analogous comparison of machines and humans.

With this broader perspective in mind, consider another statement by DeepMind’s David Silver, “There are some figures that suggest if you add up all the compute power that you can leverage right now we’re reaching something comparable to the human brain. So it’s probably more us needing to come up with smarter algorithms” (2020). The unstated principle assumed by this comment is the belief that the increase in “compute power” and “smarter algorithms” will achieve equivalence of machine and human intelligence. There is a widely held assumption that increase in calculating speed and the quantity of the data base involved in the calculations progressively advance toward the equation of machine and human intelligence. The next step is sentience. Moore’s Law—the idea that calculating speeds and data capacities double every two years—is often cited in support of this trajectory, often referred to as “fitting the curve,” that is designing machines that persistently increase in the accuracy of imitating human actions and makings. While I personally think this understanding of human intelligence is not only dead wrong and frankly pathetic—these tech people need to get lives—perhaps the more valuable concern is to ask if we are satisfied

with the underlying assumption that humans are fundamentally data processing calculating machines. Are we happy with that? Hold on, I need to calculate!

Take Three Intelligence is Bodied AI Ain't Got No Body

As is clear I'm no fan of reducing human intelligence to the calculating power of our brains. Let me try to make the point by offering an oversimplified description of how computing machines can accurately identify objects in images. Let's take the task of identifying a dog in an image that includes a dog. If all dogs were comprised of the same characteristics (shape, size, profile, color, and so on) from every angle no matter the media genre (photograph, line drawing, cartoon, and so on) the computer might be simply given the outline image and anything that matched it would be labeled "dog." But we know that dogs vary significantly in terms of all these variables (boxer, retriever, cocker, Newfoundlander, Saint Bernard, Great Dane, Pekinese). Add to the issue of variability the situation of a dog half hidden behind a pole or one flying with its ears as wings. Much more of a challenge. The AI strategy has been for humans to identify millions of examples of "dog" as input data for a computer with algorithms to analyze various features and create "dog probability tables" for the measurements based on all these data. Then given an image the computer analyzes, following an algorithm, the data from the new image is analyzed by a dog-identifying algorithm to determine "dog probability." Of course, this description is super simplified, yet fundamentally accurate. It is evident that the greater the amount of input data processed by the computer the more refined the probabilities and the more accurately can an AI machine identify something as "dog." But to be practical, greater data must be matched by faster calculating speeds. This seems super complicated and indeed it is. And, of course, the newer "neural processing" approach used in ChatGPT and Chat-4 are markedly advanced.

In contrast consider how humans identify "dog." While AI folks may say there is nothing magical about how this ability to identify dog is gained by humans, I don't think anyone, including

neuroscientists, fully understands the process. Yet, anyone who has ever been around a one-year-old can be sure that this one-year-old can gain the pretty amazing ability to identify “dog” in almost infinite variation and she can do so without having to be exposed to enormous volumes of data that someone tells her is “dog.” Clearly humans seem effortlessly to come to know and to verbally identify by a single term a category containing vast variation and do so about as quickly as they learn to stand up. Even more astounding is that they can learn the identity of a specific pet—a golden retriever named Khumbu, say—and they are able to both name the individual pet and the vastly varying category of animal to which this pet belongs. The process requires repetition—others (mom and dad) pointing or otherwise drawing attention to an object accompanied by the spoken word “dog” but also “Khumbu”—but in practical terms it is more like hundreds of repetitions rather than the millions required by computers. My hunch is that human learning and intelligence involves the entire animate organism, not simply the computational capacities of the brain. A foreshadowing of why skill is essential to understanding AI as compared to human intelligence.

Of even more interest to me is eighteen-month-old kids learning colors. What is astounding to me about colors is their abstractness and variability. Color does not indicate an object like dog. It indicates a quale or property of an object. While many objects have a natural color, it may vary. The interior of watermelon may be red or yellow. Cars and bicycles and toys come in many colors. Further, as kids experience from a very young age, it is possible to apply any color to any object, natural or not. Coloring with Crayons is among the most common of toddler activities. Kids experience the agency to make anything any color they like. The experience of color perception varies with biology. Mantis scrimps have eyes with thirteen color sensors, while human eyes have three. There are variations of color sensitivities in the eyes among people. Color is experienced differently based on ambient light. Red in morning light may appear maroon or even dark gray at night in near darkness. Color terms are not universal although they have some commonalities, varying extensively among languages. Evidence shows that color vision is shaped by the color terms available.

While light can be objectively described as a spectrum comprised of named color bands (and the bands appear due to the color sensitivity of the biology of the eye), each band spans a range of color distinctions discernable by human eyes. A few standard color terms are available to describe billions of color distinctions humans can make. Color terms often need qualifications with designations like “kind of red” or “reddish.” Color terms have various values experienced by individuals and the color associations with events and experiences. Seasons, rites, holidays, moods, rooms, genders, and infinite other situations have color associations accompanied by expansive emotions and moods shaped by individual experience. What is astounding is that by eighteen months of age, kids pretty much have this whole color thing down. They know color as an abstract quale related to all objects, yet the qualia can be natural or artificial. They know basic color terms, yet they recognize and are comfortable with a subjective evaluation of the preciseness a color experience that correlates with a color term. The sophistication of this knowledge of color is astounding. It is not possible to argue that an eighteen-month-old gains all this knowledge by collecting pre-identified data fed to their brains to be subject to calculations and then she uses statistical analyses to process her every color experience. If you want to understand the most basic things about human intelligence, hang out with a two-year-old rather than an AI nerd.

I suggest that there are close affinities between the processes essential to skill acquisition and practice, and human learning and, by extension, intelligence. As a reminder, skill acquisition and development commonly require several actions. Attention needs to be directed toward the fundamentals of the skill. Repetition is essential with continuing attention to refinements. The action of acquiring skill must be critically evaluated as it is performed. The efficiency and success of the acquisition of skill is almost invariably linked to heightened interest, passion, motivation. The motivation for gaining and performing skill is also closely aligned with the joy and pleasure of the performance of the skill, often more so than outcomes. It is difficult to imagine the acquisition of skill in an utterly virtual environment, that is, one comprised only of data and calculation. Even in the most intellectual of skills—critical thinking, systematic calcula-

tion as in mathematics, symbolic logic, pure mathematics—the self-moving biological body is indispensable. George Lakoff and Rafael E. Núñez showed quite convincingly in their 2000 book *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being* that the most abstract of mathematical operations and concepts that might be considered almost purely intellectual, that is, only virtual, are invariably possible only as based on ordinary biological bodied moving experience. Although his argument is a rather tedious philosophical one, French philosopher Jean-François Lyotard engaged this issue of the body being essential to thought in his well-titled article “Can Thought Go on Without a Body?” in Lyotard, *The Inhuman: Reflections on Time* (1988) 8-24. My book *On Moving: A Biological & Philosophical Account of Human Distinctiveness* (2022) offers discussions of the role of self-moving, proprioception/kines-thesia, emotion, synaptic criteria, skill, the corporeal basis for conception, the experiential basis for language, and more as foundational to the essential role the self-moving human body plays in human intelligence.

My argument here is that the study of the acquisition and practice of skill, a human distinction, is far more interesting and valuable as a means of understanding, if partially so, human intelligence than is assuming that human intelligence is a process of calculating big data. Further, as we appreciate the essential involvement of human biology in human intelligence, we gain a different sort of understanding in what is involved in attempting to build a machine to imitate human intelligence and to better evaluate the existing machines in their imitations of human intelligence.

Take Four The Graying of Aging AI AI’s Dilution Effect

Writing *Storytracking* (1998b) about Aboriginal folks in Central Australia, I knew that most of my readers would have little idea about these cultures beyond the concoctions of those who either wish to romanticize or dehumanize them. I wanted to offer my readers an accurate description of these people as they lived when they first experienced sustained contact with Europeans a

couple decades before the end of the nineteenth century. Several classic ethnographies of Central Australian Aboriginal cultures were written in the late nineteenth and early twentieth centuries. My first inclination was to create something of a general description by combining salient information from the extant ethnographies weighing inclusions based on what appeared most consistently among them. This strategy seemed logical, and I felt it would surely produce the most accurate description. As I set about the work, I began to realize two things. The first was that each ethnography was the story written by a European who had a specific background and a distinctive interest in being in Central Australia. One was by a biologist, the first in Australia, teamed up with a telegraph station master. One was by a German missionary eager to establish Christianity among the aborigines in Central Australia. Another was by a Neo-Freudian who spent time, as no others did, with women and children doing role-playing games and asking women about their sex lives. I also knew that the Aboriginal people that served as the primary sources for these ethnographers were usually young men working as trackers or stockboys at government outposts or they were folks who took refuge at a Christian mission station. The ethnographers knew little of the local languages, relying on the pidgin English spoken by their sources. The ethnographies, presented as or presumed to be objective and accurate reporting, emerged from the creative personal encounter of individuals whose identities played an outsized role. The influence of each writer's personal intent and interest, as well as his (they were all men) personal style was evident. My selections among these ethnographies, based on commonality among these sources, erased their distinctiveness, turning stories of encounters into a bland account presented as objective facts. I began to realize that the account I was creating had the effect of sanitizing, objectifying, and making banal (gray) what was to me most interesting and valuable about my source documents, the actual people, their colorful lives, and their creative encounters. The second thing I realized was that any shape given to this composite description of these folks would be overly influenced by my own views and interests largely unrecognized perhaps even by me. I abandoned this approach preferring to incorporate the creative encounters and the identities of both ethno-

graphers and their Aboriginal sources to the extent possible. My conclusion was that a generalized account constructed based on commonness of occurrence in the reports would be a contrived invention that excludes what is most important and interesting, the people. This strategy renders the colorful dull.

AI has vast potential to produce what has the appearance of creativity and novelty, yet the product is based on algorithmic driven *consensus calculations* rather than on *inspiration* or *insight* or *skill*. AI takes an approach like what I initially thought would be most satisfactory in presenting a descriptive account of Australian Aboriginals in the late nineteenth century. Given that my approach was to extract a description from consensus calculation, so to speak, I'm confident that, given the current technology, AI could quickly create, from the data input of these various ethnographies, a consensus account far more accurate and representative and objective than I could ever have produced. Yet, the superior AI results would still have the flaw that led me to abandon this strategy. It turns real people and real human encounters into objective number-based calculations. Rather than multiple narratives of colorful folks in an amazing landscape at a remarkable time, AI strategy would produce a bland summary of supposed objective facts. And I think the insight of this comparative tale, as unlikely as it may be, is revealing of an important limitation of AI. The "artificial" overwhelms and the widespread embrace of the products of AI naturalizes us to forget that its apparent "intelligence" is faux, an imitation based on a rather strange understanding of human beings as primarily rational data calculators and that human intelligence can be adequately presented as the products of such calculations.

A second connection to my experience writing about Aborigines is relevant to AI. One might accept my autobiographical narrative describing my research and writing process as one of discovery through error. Notably this process is one of trial and error and evaluation based on personal feelings and reflections. It involves my experience of failure. I suggest that the impact of the human experience of failure is categorically different than the AI treatment of data that varies from the norm. Failure has a personal felt aspect to it that engenders strong and often surprising responses. In the context of skill acquisition, failure for a human is accompanied by feelings. We

often identify experiences as feelings of failure. The feeling may cause one to quit—take one’s toys and go home—or it may cause one’s passions to rise producing a break into something entirely new. The base motivation for my even writing *Story-tracking* arose upon being shown that I had made what, to me, was an egregious error in writing a different book. In school, we often learn and remember and are influenced most by failure. I can’t think of a biography of anyone of note who achieved something extraordinary that was not flavored with experiences of failure. Alan Turing’s life is itself remarkably exemplary in this respect.

It surely needn’t be even mentioned, yet I will, that AI does not experience failure; it doesn’t experience success; it doesn’t experience anything. AI simply calculates probabilities to make predictions or constructions. Human intelligence is exercised by the experience of failure, but also that of inspiration. A clue to understanding AI is in the distinction between *consensus calculation* and *inspiration*. The word “inspiration” dates from mid-fourteenth century, *enspiren*, “to fill (the mind, heart, etc., with grace, etc.);” also “to prompt or induce (someone to do something),” from Old French *enspirer*, from Latin *inspirare* “blow into, breathe upon,” figuratively “inspire, excite, inflame.” Interestingly the roots for “failure” include stumbling and falling, but also from 1350 to “run short in supply, used up” as in crop failure. One might argue that for AI there is no failure, only calculated variations. Electronic calculation is a reality comprised of positive and negative charges, bits (binary digits), that, in a first level of transduction, humans refer to as zeroes and ones. Further transduction is required to represent electronic charges as numbers, letters, and images. Inspiration requires a whole organic bodied reality of breath and emotion and excitement and action and human encounter and vitality. Inspiration requires a living self-moving body capable of feeling and responding to an experience. We then may appreciate that AI is based on the imitation of a remarkably limited caricature of human intelligence as a rational data-based calculator while ignoring the whimsical experiential personal historical identity influences that inspire life and curiosity.

In my Australian example, AI is like a consensus objective account that eliminates the breathing moving bodies of actual

identifiable distinctive interesting individuals encountering one another. The strength of AI is based largely on the capacity for complex multifactor algorithm-shaped calculations involving vast amounts of data. In other words, the strength of AI is the elimination of the individually distinctive. To demonstrate my point, I asked ChatGPT “Describe the Aboriginal cultures in Central Australia in the late 19th century.” Here is the response.

In the late 19th century, Central Australia was home to various Aboriginal cultures, each with its unique traditions, languages, and social structures. Aboriginal people in this region had a deep connection to the land and relied on hunting, gathering, and seasonal movements for sustenance.

Family and kinship were fundamental to Aboriginal societies. They had complex kinship systems, which defined relationships, responsibilities, and social obligations within their communities. Elders played a crucial role as custodians of cultural knowledge and were highly respected for their wisdom and leadership.

Religious beliefs and practices were central to Aboriginal cultures. Dreamtime or the Dreaming formed the basis of their spirituality, encompassing creation stories, ancestral beings, and the interconnectedness of all things. Rituals, ceremonies, and dances were performed to maintain spiritual balance, seek guidance, and mark significant events.

Art and storytelling were important means of preserving and passing down cultural knowledge. Aboriginal artwork included rock art, sand drawings, and body painting, often featuring symbols and motifs representing Dreamtime stories, hunting scenes, and the natural environment.

Colonial contact in the late 19th century significantly impacted Aboriginal communities in Central Australia. European settlement led to the disruption of traditional lifestyles, the loss of land, and the introduction of new diseases. Aboriginal people faced significant challenges and often experienced dispossession, violence, and forced assimilation policies.

It's important to note that the Aboriginal cultures in Central Australia are diverse, and while there are commonalities, each community has its unique traditions and histories. Understanding and respecting the rich cultural heritage of Aboriginal people is crucial in acknowledging their resilience and ongoing contributions to Australia's history and identity. (July 2023).

Of course, we may be amazed that a free computer app could produce a readable response almost instantly that has some relevance to the question posed. We might compare this response favorably to a high school student essay written for an assignment related to a section in a course on Australian history. Yet, it suffers from the concerns I have raised regarding consensus accounts. The response turns the creative encounter stories of real people into a bland constructed narrative that is so general as to equally apply to endless geographic areas and it is a reduction to the simplest terms that turn out to reflect little actually relevant.

The storytracks I discovered and wrote emphasized the accidental, nonlinear, curious, personal, odd, metastable, non-objective, non-rational aspects of human encounters and my reflections on my own imagination of them. These qualifiers are precisely what makes any story interesting and valuable. As a scholar I was bound to write an accurate and thorough presentation of sources, yet I was inspired to give feeling emotional living presence to the actual people and their lives. What else could possibly be adequate? I sought to write stories inspired by people and about specific people rather than a gray bland generic consensus report based on data analysis, as in the ChatGPT example above.

Artificial Intelligence can never be other than an imitation of a nerdy or philosophically or scientifically narrow-minded caricature of human beings, because these machinic calculators do not have organic moving bodies. Even asking ChatGPT to write "creatively" about a topic, produces a report disguised to conform with some algorithmic extraction of consensus information about creativity. What is missing in the input and processing performed by AI is life and the experiences of failure and inspiration and chance. AI is not born. It does not breathe. It does not age organically. It does not get angry. It does not fall

in love. It does not have sex or babies or irritating teenage kids or get sick or drunk or feel the sun on its face or age or sleep or have regrets or touch another or smell or eat or worry or die. AI cannot laugh or cry. It is not aware of itself. It has no self-awareness. It does not have true agency or independence. These are all qualities of human experience, each requiring sensation and perception and emotion and living bodies. These qualities are all engaged and necessary for *inspiration* as surely as human life requires filling one's lungs with breath. When AI writes or produces images that invoke any of these human qualities—and what writing or images do not?—they do so not from experience or awareness or passion or inspiration, but only as output of the calculation of numbers that may be represented as words or pixels. I argue that intelligence is distinctive to humans requiring a human self-moving body. The difference is on the order of that between the dead and the living.

There is one other graying factor worth noting. By my citing the ChatGPT output for an ethnography of late nineteenth century Aboriginal cultures, it becomes part of the universe of data that is subject to subsequent calculation that would respond to the same inquiry. I can't imagine a more bland ethnography than the one ChatGPT gave. Imagine that a dozen or a hundred iterations of ChatGPT responding to a similar request over time, with each becoming part of the data on which subsequent calculations are made to produce the next subsequent response. The concern is that the highly productive AI generation of huge volumes of output that as future input data become a progressively larger portion of the data it relies on. The result will be the exponential AI-inflicted dilution of its own results by its incorporation of its own results in its input database.

Take Five Brain & Neural Darwinism Next Gen AI & Artificial Neural Network

There has been a progression in AI that accounts for roughly three stages in its development. The first stage relied on complex programs describing step-by-step condition-by-condition how the AI should respond to input, that is, the AI is programmed so that if A occurs, then do B, if not, then do C. The systems

engineers had to understand all the conditions and chart every combination. Much of electronic computing history was done this way.¹³⁹ The second phase of AI was characterized by pattern recognition algorithms in which human identified input, say variations on the letter “A,” that would gradually amass an enormous database of “As” to be used to calculate the probabilities that any alphabetic pattern encountered might be an “A.” This second stage obviously depends on enormous increases in databases and computing speeds. The benefit was a shift from having to know the precise logical steps for every situation—in the case of identifying an “A” that would mean actually describing in logical operations a systematic method of identifying a pattern as an “A”—to a system that is probabilistically predictive and that improves over time. The more examples of “A” the better the capability of predicting a pattern as “A.”

The game-changing latest phase of AI development is the modelling of algorithms on some idea of how the neural networks of the human brain work. This phase of AI development advanced into such applications as ChatGPT with the capability of writing essays, poems, coding, and music and creating images seemingly without limitation all in response to human concocted prompts. In late 2022 as these applications began to become widely available, often for free, to the general public the remarkable potential of such AI applications seemed nearly unlimited with the accompanying realization that these AI applications might very well lead to unwanted results: large scale job losses due to AI replacements, students using AI to do their coursework, even artists disappearing because AI can make art and compose music.

Beyond these practical concerns came the realization that even the engineers and designers of artificial neural network AIs admit that they don’t know what these AIs are doing or how

¹³⁹ Incidentally when I was in my early twenties, the 1960s, I worked as a systems analyst and computer programmer for an international business at the time computers were first being incorporated in businesses. Later, I worked as a systems analyst and programmer for the administration at the University of Chicago while I did a PhD. All computer operations at that time were based on this programming logic.

they accomplish what they do. For example, Noam Hassenfeld of *Wired* magazine, wrote of his discussion of AI with Sam Bowman—a professor at NYU, where he runs an AI research lab, and is a researcher at Anthropic, an AI research company.

ChatGPT runs on something called an artificial neural network, which is a type of AI modeled on the human brain. Instead of having a bunch of rules explicitly coded in like a traditional computer program, this kind of AI learns to detect and predict patterns over time. But Bowman says that because systems like this essentially teach themselves, it's difficult to explain precisely how they work or what they'll do. Which can lead to unpredictable and even risky scenarios as these programs become more ubiquitous. ...

[As Bowman described,] “If we open up ChatGPT or a system like it and look inside, you just see millions of numbers flipping around a few hundred times a second, and we just have no idea what any of it means. With only the tiniest of exceptions, we can't look inside these things and say, ‘Oh, here's what concepts it's using, here's what kind of rules of reasoning it's using. Here's what it does and doesn't know in any deep way.’ We just don't understand what's going on here. We built it, we trained it, but we don't know what it's doing” (Bowman 2023; see also Rosenberg 2023).

As one enthralled with skill that embraces whole human body biology rather than a brain-based theory of mind, I have a few thoughts on why the artificial neural networks appear to operate in such an unpredictable and inexplicable fashion.

I've found neuroscientist and Nobelist Gerald Edelman's approach to brain architecture and functioning fascinating and convincing. In part Edelman does just the opposite of what the AI engineers are doing. Rather than seeing the brain and AI as mostly similar, Edelman acknowledges there is an essential difference. Whereas computers have internal clocks and constant operating speeds, the brain does not have this engineered consistency. His central concern is understanding consciousness, yet he is broadly interested in human knowledge. He grounds his work in biology, and he asserts, “One illusion I hope to dispel is the notion that our brains are computers and that

consciousness [and, I'd add, human knowledge] could emerge from computation" (Edelman 2006: 9). He holds that "Artificial intelligence doesn't work in real brains. There is no logic and no precise clock governing the outputs of our brains no matter how regular they may appear" (Edelman 2006: 14). To make these distinctions raises for Edelman the question of how the human biological brain in its unfathomable complexity and the vast simultaneity of functions generates coherence. A clue is to recall that the brain does more than think, it is more than mind. It is an organ integral with the coherent operation of the entire organism comprised of all its systems, each rivaling the brain in complexity of construction and function. While Edelman considers the brain his favorite organ, he places the brain in the body and the body in the environment.

In my studies of dancing and moving I find neuroscientists, physiologists, and philosophers who locate coherence as arising from the ongoingness, the force of moving, of the living animate organism. Evolution—and Edelman's model of the brain which he refers to as Neural Darwinism is inspired by evolution—has selected for survival the organisms that have the most coherent operation. I refer to the experiential measurant of coherence, based on the studies of the Russian physiologist Nikolai Bernstein as "smooth movement." I suppose that we could generalize this idea and call it "smooth operation." It is widely recognized that the experience of the body is what determines synaptic criteria, that is, the timing and coordination within neuronal groupings of synapses (see LeDoux). It is recognized that concepts, while considered mental creations, are biologically based on human experience. Even the most abstract of mathematical concepts have been shown to be grounded in common human experience (Lakoff and Núñez 2000). The deed, the demands of movings, precedes and gives coherence to brain functions as they function in coordination with all the biological systems. In other terms, we might recognize that consciousness and know-ledge must be someone's consciousness and knowledge. Thus the "self" is how we commonly distinguish the experience, the awareness, the ownership of whole coherent being.

With these few far too general statements on the human brain, I make some comments on the artificial neural network

that supports ChatGPT and other AI apps especially as to their resistance to external comprehension. These neural networks are loaded with all possible data and charged with identifying patterns and predicting outcomes. The internal computing clock and the speed of electronic transmission (which is around 3 million times faster than neurotransmission speeds¹⁴⁰) suggests a systemic coherence. In a way, these AIs filled with infinite data are like a debodied brain on crack in a vat dreaming vast arrays of impossible dreams, perhaps electronic sheep. It has nothing inherent to it that provides organization and coordination—coherence. It is persistently generating probabilities without any motivation, and it would simply continue in this way until the power source is exhausted. The only principle that offers the evidence of coherence is an app user's prompt. The randomness of where/when a prompt enters the system is heavily determinative of how the chains of probabilities align to form an output. The AI has no point of view, no self, no world view, no bodily experience that shape values. It has only electrical charges that on the first order of transduction appear as numbers. Thus, as I've done myself, a user can give the AI the same prompt over and over and rather than consistency, the outputs vary. I suggest that the AI has no internal coherence because it doesn't have a biological body.

The development of skill sets, I argue, shapes one's identity, forms the very tissues that comprise the body, one's world-senses and perspectives, and even the way one perceives the world. Skill comprises an organic systemwide strategy for the ongoing nego-

¹⁴⁰ As I have written about in *On Moving* (2022) the difference in speed of AI, operating at the speed of electricity that approximates the speed of light, and that of neurotransmission that is variable and at a maximum several hundred miles per hour is enormous and I've yet to find anyone who has focused on this issue. The success of AI is based on the blinding speeds of calculation made possible only by advancing technology. Yet it seeks to replicate "neural networking" which in comparison is, as I've calculated, something like three million times slower. To me this not only suggests, it necessitates, understanding brain-based organic intelligence as an entirely different kind of system than that of electronic machine-based imitations. I've argued that it is indeed what is allowed by the relative slowness of neurotransmission speeds that is fundamental to what distinguishes human intelligence.

tiation of coherence and incoherence. Edelman's development of what he termed Neural Darwinism focuses on how the brain is designed toward achieving coherence. The communication system within the brain ("reentry" as Edelman terms it) builds neuronal groupings that cohere by synapsing at the same time. On the Darwinian model of evolution, it is the coherent function of the organism that selects the alternations in the system. In this case it is the building of neuronal groupings such as synergies, memories, skillsets. However, coherence is not generated within a closed brain. It is a felt condition of the entire organism. Thus, Edelman understands that the brain must function in the body and the body in an environment. He writes, a "set of selective events occurs when the repertoire of anatomical circuits that are formed receives signals because of an animal's behavior or experience. This experiential selection occurs through changes in the strength of the synapses that already exist in the brain anatomy. Some synapses are strengthened and some are weakened" (Edelman 2006: 28). The brain's ongoing management of coherence/incoherence is then inseparable from the ongoing interactions with all the systems of the organism as it encounters the environment. However, in contrast, AI, without body, without experience, without connection to a shaping environment, without its own ongoing strategy for coherence, can only produce outputs that appear coherent yet are inseparable from the chaos of blinding calculations of immense data sets calculating endless probabilities tethered only by the random input of a prompt. What fascinates me is that even though in 1988 Lyotard asked "Can Thought Go On Without a Body?" arguing that it could not, and Brian Massumi (2002) and others demonstrated that concepts are corporeally based, and in 1999 Renaud Barbaras and others argued that perception is based on bodily movings, I know of no AI scientists that have even entertained the idea that AI might be missing its body.

Final Take
Photography & Dancing
Production v Seduction
Output v Process

Case One – Photography. I often watch tutorials on photography. It is a way of following the ongoing work of photographers that I admire and from whom I wish to learn. They talk about locations and composition and lighting and things they have learned over their long experience. There are endless post-processing techniques that somehow folks discover, and I would never know about were it not for these videos. I've had a pro-level camera for over six years, and it has so many capabilities that I'm constantly discovering someone who shows me how to use features I didn't even know existed.

Recently on the same day I watched two tutorials that help me make the case for the importance of evaluating AI from the perspective of skill. One was by a photographer couple, Tony and Chelsea Northrup, who I have long found useful and reliable in my own pursuits of photo skills. They have an unashamed financial interest in being photography influencers (a term I rather detest). The other video was offered by Pat Kay an Asian photographer who I believe lives in Australia. His videos are often not sponsored and most have a strong leaning to him simply sharing what he knows and does.

The Northrup video titled “Finding Photo Success in the AI Era” featured on its title screen Tony showing great distress with a hulking humanoid robot in the background. The central message of this video was that at least 80% of production photography—head shots, portraits, senior photos—will soon be replaced by AI. They showed AI applications that begin with a few random photos of a person perhaps harvested from Facebook or Instagram. From a few photos of a person these AI powered apps can output photos of that person in any style and for any occasion. Even clothing and settings can be AI-ed in. They did the standard thing always done these days to demonstrate the power of AI by showing a range of photos. As professional photographers they carefully examine and critique photos all day. Viewing this set of photos, they each had to

decide which were made by AI and which by human photographers. They got about half correct. They ended by offering a few consoling suggestions about how current photographers might spin off various services to continue to make a living in some tangential way related to photography.

The Pat Kay video is titled “4 Simple Habits that Changed my Photography Forever.” The key idea of this video is caught in the word “habit” which he uses in much the way I use the word “skill.” Kay’s video is totally about process. How to gain skill. How to develop a personal style. How to improve. For example, based on the idea made popular by Malcolm Gladwell that it takes 10,000 hours to gain mastery of a skill, Kay translates this into his practice of taking at least 27 photos every day, which would total 10,000 images over a year. While he doesn’t suggest that after doing so for a year you will be a master photographer, he believes that taking a bunch of pictures every day and then processing and studying them and getting others to critique them will build skill in the use of equipment and skill in post-processing, but most importantly it will begin to define personal style and confidence.

As a serious amateur photographer and one interested in the impact of AI on society, I found the Northrup video interesting, yet entrapped by the common almost exclusive attention to output, to product. Even more to the Turing Test style of evaluation. The video was not about photography as a skill to be pursued because doing so is key to one’s identity, or for the thrill and excitement of learning and growing and even making images that demonstrate one’s growth. Kay’s video, however, was the rare exploration of best practices for the development of any skill: do it over and over, constantly gain critique and adjust, and keep at the process. He demonstrated something of a faith that the process would lead to advancing skill, to improved work, and to the discovery and shaping of personal identity as revealed in emerging styles. While Kay didn’t mention AI, it is clear he is no luddite nor is he a traditionalist accepting only film or in camera composition as final. Yet clearly, he understands AI in a way similar to how he engages advancements in cameras and gear. They are tools to be used effectively in developing photography skills. The focus on the Turing Test of AI is almost exclusively on outputs, on production, whereas the focus on the

processes of building skill is on the experience of the person in ways that are utterly inseparable from biological bodied organic processes distinctive to human beings.

Case Two – Dancing. Dancing has been at the center of my life for nearly forty years. It has become an aspect of my legacy carried on by two succeeding generations. I taught and choreographed dancing and operated a dance studio with my daughter Jenny, who now teaches Pilates. My granddaughter, Fatu, started serious dance training around age six and it has been the core of her life. She now trains and performs in L.A. I taught world dance classes at the university level for many years. I taught social dancing to folks of all ages for decades. Of course, my bias is to understand dancing as something quite distinctive to humans.

In dancing the maker is the thing made, the thing made has no residual form beyond the ongoing dancing of the maker. The ten-thousand-hour rule certainly pertains to dancing, which means that anything close to confident mastery involves a practice of at least a decade. It is entirely accurate to acknowledge that anyone can dance and do so even seemingly naturally. Tiny kids groove to music and the clumsiest of adults can do basic social dancing. Yet, dancing most any form done in pursuit of mastery takes a great many hours.

Dancing, distinctive to humans, is inseparable from human moving bodies. It is also inseparable from the capacity of the moving body to at once enact its identity and at the same time to transcend itself in becoming something “other.” The dancer and the dancing are identical yet separable. We recognize dancing in the delight of our creating and experiencing this copresence. In the very absence of producing any material objective thing, dancing finds its distinction. Dancing is realizing oneself by becoming other, a bodied transcendence.

We have then an interesting case to consider AI/robotics and dancing. Boston Dynamics can build and program robots to dance to “Do You Love Me?” It is an impressive demonstration of robotic advancements, yet such “dancing” is on the order of automatons that have been built to perform various tasks for centuries. They are clockwork mechanisms that delight on the order of toys or parlor tricks. These AI/robots do not have dancing skill. They have programs and motors.

Dancing is, I suggest, a powerful focus for the evaluation of the future of AI in the sphere of human life. Will dancers ever be replaced by AI/robots? The aesthetic of dancing is inseparable from the human moving organic body. What, other than the novelty of an automaton, would be any motivation to develop androids that would be able to pass some sort of Turing Dancing Test? Even were we to imagine a posthuman world, dancing is so quintessentially human that in a posthuman world it wouldn't be replaced, it just wouldn't have any place.

Philosophical Postlude. I want to introduce a distinction made by the late French philosopher Jean Baudrillard. In his remarkable 1979 book *Seduction*, he contrasts “seduction” and “production.” In the common usage we may hold negative connotations with the term “seduction” aligning it with intentional misrepresentation or deception for selfish, often sexual, reasons and with misuse of power. Yet, Baudrillard re-imagines the term as associated with, for example, the ambiguous implications of the common and irresolvable presence of truth and lie, of appearance and reality. Appearance in one sense means “to show” or “to be present,” yet, on the other hand, it means to present in a false or deceptive façade as something that “isn't what it appears to be.” In contrast, Baudrillard notes that the original meaning of the word “production,” which he contrasts with seduction, is not to fabricate, but to render visible as in to make appear by force. He suggests that production “pursues the workings of the real at all times and in all places.” For Baudrillard production seeks a “one-dimensional culture” that he considers “obscene” because in “this world [of production] ... nothing is left to appearances, or to chance.” In other words, production attempts to resolve double implications, to close gaps. Evaluating seduction and production, it is no surprise that Baudrillard recognizes that seduction is the stronger, even if, in the terms of power, seduction is, in a sense, powerless. Seduction is the playful oscillatory dynamic of what I've been developing as an *aesthetic of impossibles*. In terms of making, seduction indicates the energetics of the double arc that both separates and unites the maker and the thing made. Production might be understood as the power or force by which the thing made is set apart from the maker; the part of the arc that achieves a separate reality in and of its own right without

any acknowledgement of its inseparability from the maker. Seduction is the engagement of the impossible copresence of maker and thing made. Seduction is the aspect of skill that energized by being what one does also being who one is.

In the terms of the gender politics of Western cultural perspectives, Baudrillard identifies seduction as feminine, production as masculine. The masculine is about the exercise of sheer force and power to make, to produce, to render visible. The feminine is the seductive qualities of the dynamics that inevitably occur as characterizing the inescapable relationship between maker and thing made, between doer and thing done. Production is all about stopping movings by setting something apart that is real and of value as a thing; it is objectifying. Such efforts Baudrillard identifies with the world of material things made, but even more shockingly with pornography, the desire that nothing at all be hidden or even suggestive, the insistence on having everything fully and totally and finally revealed. This is, I think, akin to the theory of intelligence that is driving the development of AI. It is an attempt to resolve incoherence by forcefully revealing something totally objective, which obfuscates the whole dynamic of coherence. Seduction, however, is not about conclusions or bare nakedness or unquestionable truth or inarguable results or revealing the totally real. It is subjectivizing, that is, living and organic. Seduction acknowledges that vitality and energetics and movings are all generated in the play of appearance, of art, of sign, of language, of the tether that connects (even identifies) maker and thing made, of the interdependence of coherence and incoherence.

We do not pursue the mastery of skill principally because of the outputs or rewards. These objective outcomes may play a role, yet few who persist in their pursuit of mastery are driven to do so by outcomes. Skill, as I argue, is quintessentially human because it is tied up in the complex of experience, emotion, drive, passion, love, anger, and endless other unknowable factors that drive us forward. We might say we pursue skill for the fun of it, but it is stronger. I think of words like “passion”, even “obsession”. In pursuing mastery of skill, we find ourselves seduced by the wonder of the doing, the exploring, the unknown, the surprises, even the failures. We pursue the

mastery of skill to discover ourselves and the world, to become and be who we are.

We find ourselves on the cusp of a new era forced on us by the remarkable advancements in AI/robotics. We grapple with the implications of the growing dominance of AI/robotics. We must enrich our capability to respond to these existential challenges by first learning something of Baudrillard's wisdom regarding seduction. We cannot expect to see and to be able to articulate and to firmly grasp what will characterize a new and creative future, for this is the way of production, of the male makers that has persisted for centuries. Rather, Baudrillard's wisdom suggests that we trust the complexity and uncertainty of the relationship between maker and thing made, between the body and intelligence, between body and environment, between coherence and incoherence. These relationships, grounded in human biology, constitute the vitalizing seduction of the *almost* that continues to attract, that fuels the moving on.

References Volume One

- Ackerman, Diane. 1990. *A Natural History of the Senses*. New York, NY: Vintage Books.
- Andressen, Marc. 2023. "Why AI Will Save The World." June 6. <https://pmarca.substack.com/p/why-ai-will-save-the-world>.
- Anon. 2007. "Unconditional Love." *This American Life* (episode 317). 31 August.
- Asimov, Isaac. 1942. "Runaround" In *I, Robot*.
- Bachelard, Gaston. 1969. *Poetics of Space*. Boston: Beacon Press.
- Barbaras, Renaud. 2006. *Desire and Distance: Introduction to a Phenomenology of Perception*, translated by Paul B. Milan. Stanford: Stanford University Press.
- Barbaras, Renaud. 2010. "Life and Exteriority: The Problem of Metabolism." In *Enaction: Toward a New Paradigm for Cognitive Science*, edited by John Stewart, et al, 89-122. Cambridge: MIT Press.
- Baudrillard, Jean. 1979. *Seduction*. London: Palgrave Macmillan.
- Baudrillard, Jean. 1981. *Simulacra and Simulation*. Ann Arbor: University of Michigan Press.
- Beck, Mark. 1992. "Proprioception: The Seventh Sense." *The Massage Journal*, winter, 28–35.
- Bell, Charles. 1834. *The Hand: Its Mechanism and Vital Endowments, as Evincing Design*.
- Bergson, Henri. 1946. *The Creative Mind: An Introduction to Metaphysics*. New York: The Knickerbocker Press.
- Berkeley, George. 1709. *New Theory of Vision*. Cited in Sue L. Cataldi. 1993.
- Berthoz, Alain. 2000. *The Brain's Sense of Movement*. Harvard University Press.
- Blum, Ben Ash. 2023. "To Navigate the Age of AI, the World Needs a New Turing Test." *Backchannel*. Aug 10, 2023. <https://www.wired.com/story/ai-new-turing-test/>.
- Borges, Louis Jorge. 1941. "Garden of Forking Paths." *Ficciones*.
- Borges, Louis Jorge. 1942. "Funes the Memorious." *La Nación*.
- Bowman, Sam. 2023. "Even the scientists who build AI can't tell you how it works." *Wired*. July 15, 2023. <https://www.vox.com/unexplainable/2023/7/15/23793840/chat-gpt-ai-science-mystery-unexplainable-podcast> (consulted 7/15/2023).
- Burn, Ken. 2001. *Jazz: A Film*. UK & USA: BBC, Florentine Films, Jazz Film Project & Weta.
- Burn, Ken. 2002. *Jazz: A History of America's Music*. New York, NY: Knopf.

- Carroll, Lewis. 1865. *Alice in Wonderland*.
- Carroll, Lewis. 1893. *Sylvie and Bruno Concluded*. London: Macmillan.
- Cataldi, Sue L. 1993. *Emotion, Depth, and Flesh: A Study of Sensitive Space*. Albany: State University of New York Press.
- Csikszentmihalyi, Mihaly. 1990. *Flow: The Psychology of Optimal Experience*. Harper & Row.
- Classen, Constance (ed.). 2005. *The Book of Touch*. New York, NY: Berg.
- Collier, Lorna. 2014. "Why We Cry: New Research is Opening Eyes to the Psychology of Tears." *American Psychological Association*, February, Vol. 45, No. 2.
- Cox, James. 2014. *The Invention of God in Indigenous Societies*. Durham: Acumen.
- Csikszentmihalyi, Mihaly. 1990. *Flow: The Psychology of Optimal Experience*. San Francisco, CA: Harper.
- Dawkins, Richard. 1976. *The Selfish Gene*. London: Oxford University Press.
- Dawkins, Richard. 2006. *The God Delusion*. New York: Houghton Mifflin Harcourt.
- Descartes, Rene. 1668. *Discourse on the Method*.
- Dier, Arden. 2017. "Hawking: Actually, We Have 100 Years to Escape Earth." *Newser* (May 14).
- Dieterich, Albrecht. 1905. *Mutter Erde*. Berlin-Leipzig.
- Dillon, John. 1859. *A History of Indiana*. Indianapolis: Bingham & Doughty.
- Doidge, Norman. 2007. *The Brain That Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science*. New York, NY: Penguin.
- Eastman, Charles. 1911. *The Soul of the Indian*. Lincoln: Bison Books.
- Edelman, Gerald M. 2006. *Second Nature: Brain Science and Human Knowledge*. New Haven: Yale University Press.
- Eliade, Mircea. 1957. *Myths, Dreams and Mysteries*. New York: Harper and Row.
- Eliade, Mircea. 1958. *Patterns of Comparative Religion*. Cleveland and New York: World.
- Field, Tiffany. 2001. *Touch*. Cambridge, MA: MIT Press.
- Foley, Kathy. 1985. "The Dancer and the Danced: Trance Dance and Theatrical Performance in West Java." *Asian Theatre Journal* 2:1: 28-49.
- Fosse, Joh. 2022. *Septology I-VII*. Transit Books.
- Fraleigh, Sandra. 1987. *Dance and the Lived Body*. Pittsburgh: University of Pittsburgh Press.
- Garland, Alex. 2015. "Ex Machina" (film).
- Geertz, Clifford. 1960. *The Religion of Java*. Glencoe, IL: Free Press.

- Gibson, James. 1986. *The Ecological Approach to Visual Perception*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Gibson, William. 1984. *Neuromancer*. New York: The Berkeley Publishing Group.
- Gill, Sam. 1971. "We Dance for Rain." *Parabola*.
- Gill, Sam. 1976. "Disenchantment." *Parabola* I:3. Reprinted in *I Became Part of It: Sacred Dimensions in Native American Life*, D. M. Dooling and Paul Jordan-Smith (eds.). New York: Parabola Books. 1989: 106-119.
- Gill, Sam. 1977. "Hopi Kachina Cult Initiation: The Shocking Beginning to the Hopi's Religious Life." *Journal of the American Academy of Religion* XLV 2, Supplement A: 447-464.
- Gill, Sam. 1979. *Songs of Life: An Introduction to Navajo Religious Culture*. E.J. Brill.
- Gill, Sam. 1981. *Sacred Words: A Study of Navajo Religion and Prayer*. Westport, CT: Greenwood Press, Inc.
- Gill, Sam. 1982a. *Beyond "The Primitive": The Religions of Nonliterate Peoples*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Gill, Sam. 1982b. *Native American Religions: An Introduction*. Belmont, CA: Wadsworth Publishing Company, Inc.
- Gill, Sam. 1983. *Native American Traditions: Sources and Interpretations*. Belmont, CA: Wadsworth Publishing Company, Inc.
- Gill, Sam. 1987. *Mother Earth: An American Story*. Chicago: University of Chicago Press.
- Gill, Sam. 1992. *Dictionary of Native American Mythology* with Irene Sullivan. Santa Barbara: ABC-CLIO.
- Gill, Sam. 1998a. "No Place to Stand: Jonathan Z. Smith as *homo ludens*, the Academic Study of Religion *sub specie ludi*." *Journal of the American Academy of Religion*, 66/2: 59-88.
- Gill, Sam. 1998b. *Storytracking: Texts, Stories, and History in Central Australia*. New York: Oxford University Press.
- Gill, Sam. 1998c. "Territory." In *Critical Terms for Religious Studies*. Edited by Mark C. Taylor. Chicago: University of Chicago Press, 298-313.
- Gill, Sam. 2000. "Play." In *Critical Guide to the Study of Religion*, edited by Russell T. McCutcheon and Willi Braun. London: Cassell, 451-462.
- Gill, Sam. 2002. "Embodied Theology." In Delwin Brown and Linell Cady (eds), *Shifting Paradigms: Theology, Religious Studies, and the University*. Albany, NY: State University of New York Press, pp. 81-92.
- Gill, Sam. 2012. *Dancing Culture Religion*. Lanham, MD: Rowman & Littlefield.

- Gill, Sam. 2014. "Dancing: Creative Healthy Teen Activity." *Dance, Movement & Spiritualities*, vol. 1, no. 1: 181-207.
- Gill, Sam. 2018a. "Moving: The Core of Religion." *Body and Religion*, vol. 1.2, 131-147.
- Gill, Sam. 2018b. *Religion and Technology into the Future: From Adam to Tomorrow's Eve*. Lanham, MD: The Rowman & Littlefield.
- Gill, Sam. 2019a. *Creative Encounters, Appreciating Difference: Perspectives and Strategies*. Lanham, MD: Rowman & Littlefield.
- Gill, Sam. 2019b. *On Reflection: Vignettes and Images*. Self-published.
- Gill, Sam. 2020a. *Dancing Graffiti*. Self-published.
- Gill, Sam. 2020b. *The Proper Study of Religion: Building on Jonathan Z. Smith*. New York: Oxford University Press.
- Gill, Sam. 2020c. "Jesus Wept, Robots Can't." *Body and Religion*. 4.1: 32-44.
- Gill, Sam. 2023. *Art Album 2023: Photos & Essays*. Self-published.
- Gill, Sam. 2024. "Mother Earth: A Name, A Meme, A Conspiracy." *Journal for the Study of Nature, Religion, and Culture*.
- Glass, Matthew. 2005. "Mother Earth." *Encyclopedia of Religion and Nature-vols 1 & 2*. Bron Taylor, ed. New York: Continuum: 1102-1105.
- Gračanin, Asmir, Lauren M. Bylsma, and Ad J. J. M. Vingerhoets. "Why Only Humans Shed Emotional Tears: Evolutionary and Cultural Perspectives." *Hum Nat*
- Grosz, Elizabeth. 1994. *Volatile Bodies: Toward a Corporeal Feminism*. Bloomington: Indiana University Press.
- Hall, Edward T. 1966. *The Hidden Dimension*. New York: Anchor Books Doubleday.
- Haraway, Donna. 1991. "The Cyborg Manifesto: Science, Technology and Socialist Feminism in the Late Twentieth Century." In *Simions, Cyborgs, and Women: The Reinvention of Nature*, by Donna Haraway. New York: Routledge.
- Hayles, N. Katherine. 1999. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. University of Chicago Press.
- Heller-Roazen, Daniel. 2009. *Inner Touch: Archaeology of a Sensation*. New York: Zone Books.
- Heller-Roazen, Daniel. 2011. *Fifth Hammer: Pythagoras and the Disharmony of the World*. Cambridge, MA: Zone Books.
- Hood, Mantle. 1963. "The Enduring Tradition: Music and Theatre in Java and Bali." In *Indonesia* ed. Ruth T. McVey. New Haven, CT: Human Relations Area Files.
- Hughes-Freeland, Felicia. 1997. "Consciousness in Performance: A Javanese Theory." *Social Anthropology* 5:1: 55-68.

- Hultkrantz, Åke. 1983. "The Religion of the Goddess in North America." In *The Book of the Goddess, Past and Present: An Introduction to Her Religion*. Edited by Carl Olsen. New York: Crossroads.
- Jensen, Eric. 2000. *Learning with the Body in Mind*. Thousand Oaks, CA: Corwin.
- Juhan, Deane. 2003. *Job's Body: A Handbook for Bodywork*. Barrytown, NY: Station Hill.
- Kam, Garrett. 1987. "Wayang Wong in the Court of Yogyakarta: The Enduring Significance of Javanese Dance Drama." *Asian Theatre Journal*, 4:1: 29-51.
- Keeler, Ward. 1987. *Javanese Shadow Plays, Javanese Selves*. Princeton: Princeton University Press.
- Keen, Andrew. 2012. *The Internet is Not the Answer.*, New York: Grove Press,
- Klein, Naomi. 2023. *Doppelgänger: A Trip into the Mirror World*. New York: Farrar, Straus and Giroux.
- Kövecses, Zoltan. 2nd ed. 2010. *Metaphors: A Practical Introduction*. New York: Oxford University Press.
- Kuhn, Thomas S. 1962 [2nd ed. 1970] *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Lakoff, George and Johnson, Mark. 1980. *Metaphors We Live By*. Chicago: University of Chicago Press.
- Lakoff, George and Rafael E. Núñez 2000 *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being*.
- LeDoux, Joseph. 2003. *Synaptic Self: How Our Brains Become Who We Are*. Penguin Books.
- Leroi-Gourhan, André. 1993. *Gesture and Speech*. Cambridge Mass. and London: MIT Press.
- Libet, Benjamin. 1999. "Do We Have Free Will?" *Journal of Consciousness Studies*
- Lichfield, Gideon. 2023. "Marc Andreessen is (Mostly) Wrong this Time," *Wired*. June 8. <https://www.wired.com/story/artificial-intelligence-marc-andreessen-labor-olitics/>.
- Liotard, Jean-Francois. 1988, 1991. "Can Thought Go on Without a Body?" In *The Inhuman: Reflections on Time*, by Jean-Francois Lyotard, 8-23. Cambridge, UK: Polity.
- "Mad Max: Fury Road - Official Main Trailer [HD]." Warner Bros. Pictures. Youtube video, 2:31. <https://www.youtube.com/watch?v=hEJnMQG9ev8>.
- Malabou, Catherine. 2009. *Plasticity at the Dusk of Writing: Dialectic, Destruction, Deconstruction*, New York, NY: Columbia University Press.

- Manning, Erin. 2009. *Relationscapes: Movement, Art, Philosophy*. Cambridge: MIT Press.
- Massumi, Brian. 2002. *Parables for the Virtual: Movement, Affect, Sensation*. Durham: Duke University Press.
- Masuzawa, Tomoko. 2005. *The Invention of World Religions*. University of Chicago Press.
- “The Matrix.” 1999, Andy and Lana Wachowski, the writers/directors.
- Merleau-Ponty, Maurice. 1964. “The Philosopher and his Shadow” In *Signs*. Evanston, IL: Northwestern University Press.
- Merleau-Ponty, Maurice. 1968. *The Visible and the Invisible*. Evanston, IL: Northwestern University Press.
- Miksic, John. 1990. *Borobudur: Golden Tales of the Buddhas*. Singapore: Periplus Editions (HK) Ltd.
- Minkowski, Eugene. 1933. *Lived Time*.
- Mooney, James, 1892-1893. “The Ghost Dance Religion and the Sioux Outbreak of 1890,” *Fourteenth Annual Report of the Bureau of Ethnography*. Washington, D.C.
- Nancy, Jean-Luc. 2007. *Listening*. New York: Fordham University Press.
- Neihardt, John. 1912 [2002]. *A Cycle of the West: The Song of Three Friends, The Song of Hugh Glass, The Song of Jed Smith, The Song of the Indian Wars, The Song of the Messiah*. Lincoln: Bison Books.
- Noë, Alva. 2010. *Out of Our Heads: Why You are Not Your Brain*. New York: Hill and Wang.
- Noland, Carrie. 2009. *Agency & Embodiment: Performing Gestures/Producing Culture*. Cambridge, MA: Harvard University Press.
- NPR. 2019. “Now Starring in Children's Cartoons: Authentic Indigenous Characters.” <https://www.npr.org/2019/07/17/740804272/now-starring-in-childrens-cartoons-authentic-indigenous-characters>. July 17.
- NPR. 2019. “Widening the Lens on A More Inclusive Science” *Science Fridays*. Host Ira Flatow. <https://www.sciencefriday.com/segments/indigenous-science/>. September 6.
- Obama, Barak. 2016. “The President in Conversation With MIT’s Joi Ito and WIRED’s Scott Dadich” *Wired*. August 24.
- Peirce, Charles Sanders. 1934. “A Neglected Argument for the Reality of God.” In *Collected Papers of Charles Sanders Peirce*, edited by C. Hartshorne and P. Weiss, Vol. VI, Cambridge, MA.
- Pettersson, Olof. 1967. *Mother Earth: An Analysis of Mother Earth Concepts According to Albrecht Dieterich*. Lund CWK Gleerup.
- Plato, 1956. *Symposium*. London: Pearson.

- Polanyi, Michael. 1983. *The Tacit Dimension*. Gloucester, MA: Peter Smith.
- Prescott, J. H. 1971. "Early somatosensory deprivation as an ontogenetic process in the abnormal development of the brain and behavior." In E. I. Goldsmith and J. Moor-Janowski (eds), *Medical Primatology*. New York, NY: S. Karger: 1–20.
- Prescott, J. H. 1975. "Body pleasure and the origins of violence." *The Futurist*. April: 64–65.
- Robinson, R. 1977. *The Australian Aboriginal*. Sydney: A. H. and A. W. Reed.
- Rosenberg, Scott. 2023. "AI's Scariest Mystery." *AXIOS*. 7/30/2023.
- Sartre, Jean-Paul. 1966. *Being and Nothingness*. New York: Washington Square Press.
- Sales, Nancy Jo. 2017. *American Girls: Social Media and the Secret Lives of Teenagers*. New York: Knopf Doubleday Publishing Group.
- Schiller, Fredrich. 1795 [1967]. *On the Aesthetic Education of Man*. Oxford at the Clarendon Press.
- Scott, Laurence. 2016. *The Four-Dimensional Human: Ways of Being in the Digital World*. W. W. Norton and Co.
- Serres, Michel. 1999 [2012]. *Variations on the Body*. Minneapolis, Univocal Publishing, University of Minnesota Press.
- Serres, Michel. 2001. *Hominescence*. Pommier (Le).
- Serres, Michel. 2014. *Thumbelina: The Culture and Technology of Millennials*. Rowman & Littlefield International.
- Sheets-Johnstone, Maxine. 1999a, 2nd ed 2011. *The Primacy of Movement*. Philadelphia: John Benjamins Publishing Company.
- Sheets-Johnstone, Maxine. 1999b. "Emotion and movement. A beginning empirical-phenomenological analysis of their relationship." *Journal of Consciousness Studies* 6(11-12): 259-277.
- Silver, David. 2020. "What AlphaGo Can Teach Us About How People Learn." *Wired*. 12/23/2020.
<https://www.wired.com/story/what-alphago-teach-how-people-learn/>. (consulted 6/2023).
- Sontag, Susan. 1973. *On Photography*. Farrar, Straus and Giroux.
- Strauch, Barbara. 2003. *The Primal Teen: What the New Discoveries about the Teenage Brain Tell Us about Our Kids*. New York: Anchor.
- Suharto, Ben. 1990. "Transformation and Mystical Aspects of Javanese Dance." *UCLA Journal of Dance Ethnology* 14: 22-25.
- Smith, Jonathan Z. 1968. "The Glory, Jest, and Riddle: James George Frazer and *The Golden Bough*." Yale PhD Dissertation.
- Smith, Jonathan Z. 1978. "Map is Not Territory." In Smith, *Map is Not Territory*. . Leiden: E. J. Brill.
- Smith, Jonathan Z. 1998. "Religion, Religions, Religious." In Mark Taylor, *Critical Terms for Religious Studies*.

- Strauch, Barbara. 2003. *The Primal Teen: What the New Discoveries about the Teenage Brain Tell Us about Our Kids*. New York, NY: Anchor Books.
- Swain, Tony. 1990. "A New Sky Hero from a Conquered Land." *History of Religions* 29: 195-232.
- Swain, Tony. 1991. "The Earth Mother from Northern Waters." *History of Religion*. 223-260.
- Swain, Tony. 1992. "The Mother Earth Conspiracy, An Australian Episode." *Numen* vol. 38, Fasc. 1.
- Tafjord, Bjorn Ola. 2020. "Modes of Indigenizing: Remarks on Indigenous Religion as a Method." *International Journal for the Study of New Religions*.
- "Terminator 2: Judgement Day." 1991. James Cameron, director, James Cameron and William Wisher, writers.
- Turing, Alan. 1950. "Computing Machinery and Intelligence." *Mind*.
- Tweed, Thomas. 2006. *Crossing and Dwelling: A Theory of Religion*. Cambridge, MA: Harvard University Press.
- Twinge, Jean M. 2017. "Has the Smartphone Destroyed a Generation?" *The Atlantic*, September.
- Tylor, Edward B. 1871. *Primitive Culture*.
- Vinge, Vernor. 1993. "The Coming Technological Singularity." *Whole Earth Review*, Winter.
- Villiers de L'Isle-Adam, Auguste de. 1886 [2002]. *Tomorrow's Eve*. Champaign: University of Illinois Press.
- Whitman, Walt. 1855. *Leaves of Grass*.
- Wilson, Frank R. 1999. *The Hand: How it Shapes the Brain, Language, and Human Culture*. New York: Vintage Books.