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Flourishing: Designing a Brave New World

Abstract To put Planet Earth on a sustainable trajectory, we need a new normative vision to guide the design of institutions and artifacts. Sustainability has failed. Instead, the positive image of flourishing has the power to reverse the course of environmental and social deterioration. Flourishing represents the realization of living creatures' biological – and for humans, existential – potential. The absence of flourishing can be explained by recent studies of the brain by Iain McGilchrist. His divided brain model explains the evolution of our "modern" culture, dominated by abstract science (left brain) and manipulative control, compared to cultures characterized by interconnectedness and empathetic care (right brain). Flourishing is possible only when the right brain hemisphere is the master, but balanced with the left. The ultimate goal of every designer should be to foster flourishing. But as an emergent property, it cannot be obtained directly by technological or institutional design. For humans, flourishing requires 1) restoring the supremacy of the right brain through direct practices, for example, mindfulness training, and 2) re-designing institutions and artifacts to enhance *presencing*: the perception of being connected to the contextually rich surrounding world. Design-for-flourishing must therefore pay attention to the larger social and environmental systems in which people live out their lives.

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Introduction

The vision of all things flourishing together is very compelling in a world that seems to be coming loose at the seams. The need for a new attractor to hold the global system together has been apparent for some time. Over human social history, there have been periodic calls for revolutionary new paradigms upon which to reestablish societies and individual lives, sometimes accompanied by bloody uprisings. Such a call was heard in the late 1980s with the emergence of sustainability as a new and critical normative goal for an Earth that was being threatened by many challenges. An examination of the current condition of the many factors that led to this call suggests strongly that we are no closer to achieving this goal, and, in many cases, are even further away.

In spite of government policies and business commitments to sustainability, the Earth system is more stressed, and tears in the social fabric are growing.[1] Business efforts have grown substantially in number, but show very poor results according to assessments by leading companies: only two percent of sustainability programs have achieved or exceeded expectations![2] The failure of sustainability to catalyze a change in direction toward stabilizing and improving the conditions of the Earth System can be traced to several misunderstandings:

1. The mechanistic (Cartesian) model of the cosmos, coupled to a reductionist epistemology;
2. The Smithian self-interested model of the human being;
3. The proper normative goal for human and societal aspirations and action; and
4. The meaning of the word sustainability.

The first three errors can, with new knowledge of the brain, be traced back to cognitive developments in the modern brain that began with the Enlightenment. The fourth arises from an improper use of the word sustainability. Sustainability is an empty word, devoid of meaning without an object – we sustain *something*. The implicit reference of sustainability is growth, a remnant of the so-called Brundtland report;[3] but growth is a big part of the problem.[4] I have been using and promoting an alternative way to think and talk about sustainability for nearly twenty years that makes the normative goal to be attained – and then sustained – explicit. Sustainability, as I define it, is the possibility that all life will flourish on the planet for generations to come.[5]

The outcome of the concatenation of the items in the list above has been a failure to identify the root causes of the constellation of negative effects and, consequently, an almost exclusive reliance on technological or technocratic remedies under the general rubric of eco-efficiency. With new understanding of how the brain functions, the root causes can be traced to an imbalance between the two cerebral hemispheres. Modern culture is the product of left-brain dominance, but flourishing can arise only from the opposite: the mastery of the right over the left. The challenge ahead is to reverse this through design and practice.

Defining Flourishing

Flourishing is related to the inherent purposefulness of life. Life is an emergent property of the cosmos. It is also a miracle, defined as "any event, the occurrence of which is so radically impossible as to be completely unbelievable."[6] Living is a process of constant conservation or self-reproduction. Living organisms express the emergent quality of viability. Thus, living has a directionality, a teleology. Biologists have given the technical name *autopoiesis* to the process whereby the structure of an organism continually changes through coherent interactions with the external

1 Johan Rockström et al., "A Safe Operating Space for Humanity," *Nature* 461, (September, 2009): 472–75, DOI: https://doi.org/10.1038/461472a; Will Steffen et al., "Planetary Boundaries: Guiding Human Development on a Changing Planet," *Science* 347, no. 6223 (2015): 1–10, DOI: https://doi.org/10.1126/science.1259855; Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon and Schuster, 2000); Richard Wilkinson and Kate Pickett, *The Spirit Level: Why Greater Equality Makes Societies Stronger* (London: Bloomsbury Press, 2009).

2 Jenny Davis-Peccoud et al., "Achieving Breakthrough Results in Sustainability," *Bain & Company*, November 17, 2016, https://www.bain.com/insights/achieving-breakthrough-results-in-sustainability.

3 World Commission on Environment and Development, *Our Common Future* (Oxford: Oxford University Press, 1987).

4 For an expanded discussion dealing with the semantics of sustainability, see John R. Ehrenfeld and Andrew J. Hoffman, *Flourishing: A Frank Conversation about Sustainability* (Palo Alto: Stanford University Press, 2013).

5 John R. Ehrenfeld, *Sustainability by Design: A Subversive Strategy for Transforming Our Consumer Culture* (New Haven: Yale University Press, 2008), 49.

6 Loyal Rue, *Nature Is Enough: Religious Naturalism and the Meaning of Life* (Albany: State University of New York Press, 2011), 86.

world, all the while maintaining its organization.[7] Action in the present is determined by the structure that has been created by the past. Flourishing describes the condition of any living system in which the individual entities have achieved their potential. All living entities have a biological potential immanent in their genes. Humans have a second dimension to flourishing, an existential potential, arising because humans strive to live meaningful lives.[8]

In practical terms, the attainment of existential flourishing has two parts: personal wholeness and social coherence.[9] The two terms are needed to express the autonomous character of humans, but also the social nature of human life. Personal wholeness is a measure of the fullness of the expression of one's unique, historical self exhibited in action. It entails authentic actions – actions owned by the actor. Social coherence is a measure of how an individual's actions conform to existing institutional norms. It involves actions that have been shaped by past experience within institutional settings. Such actions are undifferentiated – there is no explicit ownership as is the case with authentic acts.

Like life, flourishing is an emergent property of living organisms, a possibility that may be realized when the proper systemic conditions are present.[10] Flourishing is not the same as a material output, like wealth, which is produced by a machine. Nor is it an ephemeral psychological state like happiness, even though feelings of joy, aliveness, peace, and so on may accompany it. As it is an emergent quality, it cannot be quantified nor managed directly. Its presence – or absence – depends on getting the system conditions right.

Flourishing, *eudaimonia* in Greek, was the centerpiece of Aristotle's ethics. He saw it as an objective property – hence observable – and also as the ultimate end, or good, of human conduct. Although often interpreted as happiness, Aristotle saw it not as momentary, but as a feature of a complete life, writing, "For one swallow does not make a summer, nor does one day; and so too one day, or a short time, does not make a man blessed and happy."[11] Given its emergent character and close connection to being, flourishing has normative power that our current goals of progress or material wealth sorely lack. It can create a pull towards a different kind of future.

But a shift to flourishing alone will not shift the current trajectory of the Earth System from its present dangerous path. Our modern world has been constructed on a set of basic beliefs (see items 1 and 2 in the above list) that are arguably inaccurate, incomplete, and misleading. The story we tell about modernity (our current social paradigm) is leading us astray. We are living within institutions based on flawed beliefs and norms – flaws that can be traced to the way we hold reality. The persistence of these ideas can be attributed to the strongly conservative nature of societal reproduction, and the lack of any serious intellectual revolt in the West. In my previous work, I have argued that the Earth System would produce sweeter fruit if those two ideas were replaced with 1) the cosmos as a complex system, and 2) the human being as a caring creature.[12]

The first can be taken simply as an observation that the mechanistic model is merely an approximation made to avoid the analytic problems that come along with complexity, but one that creates both big and small unintended consequences due to its departure from reality. The second can be found in the work of phenomenologist philosophers, particularly Martin Heidegger. Even Adam Smith, who is credited with embedding the idea of the self-interested human being in modern thought and institutions, wrote earlier that the key feature of human behavior was sympathy, or acting out of regard for others.[13] We would call it empathy or caring.

These ideas have worked their way into the (metaphorical) brain of modern societies and can be found deeply embedded in the substructure of every major social institution that, together, form the political economies of nations, education,

7 Humberto R. Maturana and Francisco J. Varela, *Autopoiesis and Cognition: The Realization of the Living* (Boston: Reidel, 1980).

8 Rue, *Nature Is Enough*.

9 Ibid.

10 For a discussion of the proper system conditions, see Ehrenfeld, *Sustainability by Design*.

11 Aristotle, *The Nicomachean Ethics* (Stilwell: Digireads.com, 2005), 8.

12 Ehrenfeld, *Sustainability by Design*; Ehrenfeld and Hoffman, *Flourishing: A Frank Conversation*.

13 Adam Smith, *The Theory of Moral Sentiments* (1759; Oxford: Oxford University Press, 1976).

business, and so on. The sociological structuration model of Anthony Giddens illustrates how such a foundational idea, once introduced into a society, becomes ever more deeply embedded in the course of normal activities.[14] Its truth is not questioned because it lies unseen, deeply buried in the substructure. Recent work on the functioning of the human brain provides what I consider a more compelling argument for reconstructing societal institutions on alternate views of the cosmos and human beings.[15]

The Divided Brain

Iain McGilchrist, a British psychiatrist, argues that the two hemispheres of the brain attend to the world in distinctly different ways with profound impacts on human behavior and societal norms.

> "My thesis is that for us human beings there are two fundamental opposed realities, two different modes of experience; that each is of ultimate importance in bringing about the recognizably human world; and that their difference is rooted in the bihemispheric structure of the brain. It follows that the hemispheres need to co-operate, but I believe they are in fact involved in a sort of power struggle and that this explains many aspects of contemporary Western culture."[16]

The crux of McGilchrist's model is that each hemisphere of the brain pays attention to the outside world differently and displays a different world on the inside, and thus empowers a different actor. One might say that humans are schizoid, but not generally crazy. Our individual character and that of the culture depend on which hemisphere dominates.

His explanation begins with the ways the two sides pay attention to the world—how they perceive or apprehend what is really there, independent of the observer. The right side's attention is broad, flexible, persistent, vigilant, and exploring; the left's is narrow, focused, and grasping. As a result, the right presents scenes as an organic whole while the left presents them as broken into separated parts that are removed from their context. Whichever form of attention is active determines the nature of the things we perceive and subsequently how we interact with them.

Table 1. Characteristics of the inner worlds.

	Left Hemisphere	Right Hemisphere
Overall Perceptual Field	Re-presentation of the past/known	Presentation of the now/new
	Emptied of meaning	Meaningful
	Impersonal/public knowledge	Personal/private knowledge (understanding)
	Decontextualized	Richly contextual
	Static	Changing/evolving
Individual Parts	Lifeless/objectified	Living/intersubjective
	Generic objects	Instantiated particular objects
	Disembodied in space and time/isolated	Interconnected
	Explicit properties	Implicit meaning

14 Anthony Giddens, *The Constitution of Society: Outline of the Theory of Structuration* (Berkeley: University of California Press, 2005).

15 Iain McGilchrist, *The Master and His Emissary: The Divided Brain and the Making of the Western World* (New Haven: Yale University Press, 2012).

16 Ibid., 3.

Each hemisphere of the brain leads to a different kind of world (Table 1) and, consequently, a different way of experiencing and acting out our lives (Table 2). The left brain is, in my terms, the Cartesian brain that captures discrete pieces of the images or information through the senses, objectifying the world in the process. The "whatness" of the real world is aligned with the left hemisphere. The left "re-presents" experience as isolated chunks. Conversely, the right side cognizes in terms of organic wholes, relationships, and temporal change. It "presents" the immediate world to a person, leading to a sense of being connected to it and to the objects in it. The master half, according to McGilchrist, is the right brain. It provides meaning, a key facet of human beings' cognitive powers, and one that differentiates us from other species. The two halves are interdependent, each acting as a control to limit the reach of the other. Both are necessary to embed a normatively proper consciousness of the external world.

Table 2. Characteristics of the actor, or self.

Left Hemisphere	Right Hemisphere
Rational/purposeful	Concerned about
Homo economicus	*Homo caritativus*
Undifferentiated/inauthentic	Authentic
Outside of/disconnected from the world	Between/connected to the world
Individualistic	Social
Focused on self	Focused on others
Self-interested/willful	Empathetic
Controlling/manipulative	Collaborative
Instrumental	Creative
Needs certainty	Tolerates uncertainty
Wants to know future (probability)	Open to possibility
Optimistic/realistic	Hopeful
Analytic/reductionist	Pragmatic
Emotionally neutral/negative	Emotionally positive

Flourishing is possible only when the right brain is the master, balanced out by the left. Both sides are always working. The character of the historical flow of individual and cultural experience reflects the dominant half. Authenticity and connectedness (right) are critical to flourishing. Caring requires being connected to the immediate reality, not to some abstract re-presentation of the past. A quick look at the modern world of today indicates the dominance of the left side.

- Primary societal goal: economic well-being
- Objective universe composed of decontextualized abstractions – a big, complicated machine
- Science as providing certainty about the nature of the mechanistic world, including human nature
- Technological hubris
- Human nature: *Homo economicus* or economic rationality
- Focus on the individual.

17 McGilchrist, *The Master and His Emissary*, 461.

Alternatively, the world of flourishing would have the following characteristics

- Primary societal goal: flourishing
- Subjective universe composed of contextually interconnected parts – a garden
- Pragmatism as providing understanding about the nature of the complex world, including human nature
- Technological realism
- Human nature: *Homo caritativus* or caring
- Focus on relationships.

A careful examination of Tables 1 and 2 reveals a close connection between the features of the left brain and salient aspects of Western modernity. Any model with a high degree of explanatory power can be used to design new institutions or artifacts. The nearly perfect match is uncanny and lends power to McGilchrist's bi-hemispherical model to explain the origin and persistence of the fundaments of modernity. I find many categorical appositions are dichotomous, just as this model would predict: poetry/prose, pragmatism/positivism, thesis/antithesis (Hegel), Renaissance/Enlightenment. McGilchrist writes, "The divided nature of our reality has been a constant observation since humanity has been sufficiently self-conscious to reflect on it."[17] The structuration theory of Giddens fits the idea of a metaphorical societal brain, but one with only a functional left hemisphere working from a set of abstractions and re-presentations.

Re-engaging the Right Brain

Flourishing depends on restoring the balance of the brain hemispheres and recovering the mastery of the right brain. Only the right has the ability to gather in the world as it is, with its rich context, and thus minimize negative unintended consequences. Only the right connects to that world, and can produce empathy and enable authentic caring. Personal wholeness requires authenticity and a shift away from the trend toward inauthenticity fueled by the ubiquity of social media and the flattening of everyday behaviors. Institutional ideologies and norms have hardened over the centuries of the modern era and left little room for autonomy. Education, beginning at an early age, is focused more and more on training people for the maw of ever-larger global corporations. A sharper focus on STEM (science, technology, engineering, and mathematics) preferentially fills the left brain with abstractions and generalities.

Reversing the situation will be very difficult given the predominance of the left brain, but can be addressed along two axes: 1) rebuilding the right hemisphere's "muscle" by direct actions, and 2) designing institutions to include mechanisms to halt the transparent (left brain, undifferentiated) flow of activities and enable the right side take over. The following discussion includes a few examples of both approaches.

Mindfulness Training

A key to increasing authenticity is the ability to delay or stop the left brain from taking over – that is, to remain in the present moment. If the process were unstoppable, it would be very difficult to act in any way other than according to the institutional values and rules that have become embedded in the left brain. Mindfulness offers a possible way to maintain the attentional stance of the right. According to Mark Williams, Oxford University Professor of Clinical Psychology

> "Mindfulness is a translation of a word that simply means awareness. It's direct, intuitive knowing of what you are doing while you are doing it. It's a

> knowing what's going on inside your mind and body, and what's going on in the outside world as well.… Awareness helps because most of the time our attention is not where we had intended it to be. Attention is hijacked by our emotions, by our concerns, by our worries for the future and our regrets for the past. Mindful awareness is about learning to pay attention in the present moment and without harsh criticism. And that means that it's like training a muscle – training attention to be where you want it to be."[18]

His discussion follows McGilchrist's model quite closely, using awareness to refer to the right hemisphere. "Hijacked" is an apt metaphor for the propensity of the left side to take over. John Kabat-Zinn popularized an adaptation of several Buddhist traditions in the United States in his *Mindfulness-Based Stress Reduction* program (MBSR).[19] This program is being taught in almost all medical schools as an adjunct to standard medical practice.

Reflective Practice

Reflective practice is a general label for the interruptive process by which experience can be embedded to the brain as part of learning. Reflective practice in design is driven by direct experience (right-brain), rather than the mere application of abstract, general rules (left-brain). In terms of the divided brain model, reflection is the process that new experiences, under the control of the right brain, are passed over to the left hemisphere.

Donald Schön pointed to the importance of the concept of reflection-in-design in his groundbreaking book, *The Reflective Practitioner*. His notion of "reflection-in-action" has been described as a form of thinking on our feet.

> "The practitioner allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomenon before him, and on the prior understandings which have been implicit in his behavior. He carries out an experiment which serves to generate both a new understanding of the phenomenon and a change in the situation."[20]

> "When the practitioner reflects-in-action in a case he [she] perceives as unique, paying attention to phenomena and surfacing his [her] intuitive understanding of them, his [her] experimenting is a once exploratory, move testing, and hypothesis testing. The three functions are fulfilled by the very same actions."[21]

Controlling Mood

In his work *Emotional Intelligence*, Daniel Goleman argues that people can control their emotional states or moods. He claims, by controlling emotions, people can develop five skills: self-awareness, self-regulation, motivation, empathy, and social skills.[22] All correspond to right brain activities. Another possibility can be found in the relatively new field of positive psychology, especially in the work of Barbara Fredrickson.[23] She claims that intentionally maintaining positive emotional states enhances the strength of relationships and has positive effects on health. Her instructions on how to practice positivity – be open, kind, appreciative, curious, or real – all fit the right brain set of attributes.

Music, Poetry, and Art Exercises

Art, broadly, falls in the dominion of the right. Poetry depends on the ability to discover meaning beyond the mere semantic content of a poem. Metaphor is essential to understand the words of a poet. Poetry is created in and is apprehended by the

18 Mark Williams's comment to Claudia Hammond, "The Stress Special," June 22, 2011, *All in the Mind*, radio program, BBC Radio 4, MP3 audio, 17:25–17:40, https://www.bbc.co.uk/programmes/b011zmsk.

19 John Kabat-Zinn, *Coming to Our Senses: Healing Ourselves and the World through Mindfulness* (New York: Hachette, 2006).

20 Donald Schön, *The Reflective Practitioner: How Professionals Think in Action* (New York: Basic Books, 1984), 68.

21 Ibid., 147.

22 Daniel Goleman, *Emotional Intelligence: Why It Can Matter More Than IQ*, 10th Anniversary ed. (New York: Bantam, 2006).

23 Barbara L. Fredrickson, *Positivity: Groundbreaking Research Reveals How to Embrace the Hidden Strength of Positive Emotions, Overcome Negativity, and Thrive* (New York: Crown Archetype, 2009).

right-brain. Taking poetry literally (left brain) destroys its artfulness and leaves a lifeless collection of words on the page. Similarly, other art forms are "art" because their meaning comes from the seeing the whole, not simply the parts. Not surprisingly, beauty is an emergent property, coming from a gathering in of the whole of the artistic work. Emotions are involved in appreciating masterful works of art.

In *Drawing on the Right Side of the Brain*, Betty Edwards argues that learning to draw, using exercises designed to actuate the right brain, can in essence shift the balance between the hemispheres.[24] She sees this as an important antidote to the current, left brain oriented pedagogy of secondary education in the United States:

> "Perhaps now that neuroscientists have provided a conceptual base for right-brain training, we can build a school system that will teach the whole brain. Such a system will surely include training in drawing skills – an efficient, effective way to teach thinking strategies suited to the right brain."[25]

Place

Place has an important role to play in activating the right brain and so can help bring forth flourishing. Place is more than a physical space – it provides meaning to human beings. Christian Norberg-Schultz, a Norwegian architect who brought phenomenology into the field, wrote

> "The spaces where life occurs are *places*.... *A* place is a space which has a distinct character. Since ancient times the genius loci, or spirit of place, has been recognized as the concrete reality man has to face and come to terms with in his daily life. Architecture means to visualize the *genius loci* and the task of the architect is to create meaningful places, whereby he helps man to dwell."[26]

His work was inspired by Heidegger, who thought man-made structures influence our mode of being.[27] Buildings can be more than mere places where human activities take place. Buildings, for Heidegger, are more primal places where humans "dwell" – express their unique being-in-the-world. Importantly for flourishing, they are spaces where authenticity may emerge. Dwelling, again in this sense, is an expression of relatedness or connection to the world, and extends beyond the physical space of conventional buildings. Place is someplace where one belongs, and this can even include a truck driver at home in his cab on the road.

Application of Pragmatism

Scientific facts are constructed by deliberately focusing, taking things out of their context, and creating abstractions. Science is the paradigm of the left brain at work. Conversely, pragmatism is based on paying persistent, broad attention to the whole system and creating new understanding; it depends on holding the left at bay. Meaningfulness, or pragmatic truth, is not to be found in the abstract, left-brain, self-consistent, world of science. It is to be found in the real, right brain, phenomenal world. The understanding of systems that come from pragmatic thinking and investigation is more like the Greek term, *phrónēsis*, or wisdom, than another Greek word, *epistêmê*, or its modern equivalent, objective, scientific knowledge.

Pragmatic inquiry is a method that keeps the right brain engaged over extended periods in order to capture the dynamic, context-dependent character of complex systems. Contrasted to the reductionist, decontextualizing methods of normal science, pragmatic inquiry preserves the context and keeps the system as a whole in view of the observers/inquirers. People involved in pragmatic inquiry normally have an interest in understanding the system beyond the conventional detached stance of those using the scientific method. Pragmatic inquiry does not necessarily privilege professional expertise in contrast to normal science. Key

24 Betty Edwards, *Drawing on the Right Side of the Brain*, revised and expanded ed. (New York: Tarcher/Putnam, 1999).

25 Ibid., 41.

26 Christian Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture* (New York: Rizzoli, 1980).

27 Martin Heidegger, "Building Dwelling Thinking," in *Poetry, Language, Thought*, trans. Albert Hofstadter (New York: Harper & Row, 1971), 143–61.

qualifications for involvement in any particular case are familiarity with the system and level of interest in the outcome.

Design for Presencing in Institutions and Artifacts

Found in the existentialist literature, *to presence* means to bring the world of the present moment, the now, into the foreground of consciousness and hold it there as the basis for action. Presencing is a form of attention, which exploits the right brain's attributes of breadth, persistence, and exploration/creativity. Presencing restores context to the external world that has been lost while the left-brain was dominant. Such context is necessary for flourishing. It is the context-rich, complex, real world that determines the outcomes of our actions; not the context-free, abstracted portrayal we carry around in our brains. If our design models do not accurately portray that world, outcomes will deviate from our intentions, producing failure and unintended consequences. Cartesian reductionist methodology always deliberately omits context; the menu, however, is not the meal.

Technological intermediation tends to reduce context in the perceptions of the user. Sherry Turkle, a professor in the Program in Science, Technology and Society at M.I.T., claims that smart phones, among other similar devices, diminish the richness of interpersonal conversations, the primary way we relate to other people. She writes, "Across generations, technology is implicated in this assault on empathy."[28] She observes that our conversations are context-poor (as I would say) although we may be more continuously connected than ever before in human history. These device-mediated conversations impede the right-brain's ability to incorporate context, like eye contact or posture, resulting in the lack of intimacy or empathy.

Presencing is an interruption in the flow of action (breakdown) during which

1. *Attention* shifts to the right-brain.
2. The immediate *world* shows itself.
3. Focal objects and their *context* show up.
4. The actor becomes *connected* to the scene and enters into a meaningful relationship with it.
5. The *authentic* actor takes over.
6. The active *concern and/or identity* of the actor are revealed and determine the next action.

Presencing is the opposite of the detached mode of the left brain. Presencing shows up in interruptions or breakdowns in left brain behavior – suddenly I start to notice the person I have been speaking with is alive, a distinct individual. This process goes on all the time, but we are usually unaware that it is happening. Questions invariably stop whatever the actor is doing and bring the immediate situation to the foreground. The transparency of the action disappears and my "I" shows up along with a consciousness of the concerns that were being addressed.

The present world is alive and unique. It is "mine" in the sense that whatever meaning I give to it in deciding what action to take, importantly, uses my own context-rich experience, as well as re-presented generalizations that are contained in the left brain. That "mineness" adds a core of responsibility to my actions that I cannot escape by invoking some abstract argument. It also induces emotions and feelings that are absent from left brain activities. When I meet with my family or close friends, I am usually filled with feelings of joy, empathy, connectedness, and other indications of flourishing. The "my" in the previous sentence is critical. It is not that I possess the others in a material sense, but own my relationship to them in an existential sense and am responsible for how I interact with them.

Objects can be designed to produce reflective moments and break the

28 Sherry Turkle, "Stop Googling. Let's Talk.," *New York Times*, September 26, 2015, https://www.nytimes.com/2015/09/27/opinion/sunday/stop-googling-lets-talk.html.

transparency of action deliberately. Speed bumps are a familiar example; the two-button toilet is another. When I first encountered one of these during a stay in Europe, the toilet's strangeness broke into the usual mindless flushing act and forced me to stop and think about what was going on. Meaningful objects, especially the artifacts we use, carry instructions coded into their design, intentionally or not. They tell us which end to pick up, which button to push, but only if we already have a sense of their language. Speed bumps warn us to slow down in a hazardous place by threatening the integrity of our vehicle, and raise concerns about the possibility that someone maybe be crossing the street. The two-button toilet, when first encountered, encourages the actor to think about the volume of flush in the context of his or her concern for the environment. Both of these examples break the flow of action and force the actor to confront the world and their connection to and concerns about it.

Conclusion

Design is a critical activity, perhaps the most critical of all the intentional activities that govern human life. It shapes the artifacts that we employ to realize our intentions. It shapes the structure of many of the key institutions that constrain our daily lives. At the broadest reach, nations are run by constitutions that have been designed by some process involving human beings. Organizations of all sorts exist according to some design process. Games exist only on the back of previously designed rules that constrain actions and also establish the features or powers of all artifacts involved. Rules of any kind, for example, those that control the flow of pedestrians and automobiles in a city are the result of a design process. Design is even behind rules established by the declarations of authorities, like judges or football referees. While their declarations rule, the authority to do this is the result of some design process that has legitimated their authority.

Every design process is driven by two factors: intention, and theory or model. The intention is clear to the designer(s) even if it is not met in practice. For large, complex entities like nations or even businesses, competing and conflicting intentions make design particularly challenging. In capitalistic nations, gross economic growth is linked to increasing inequality.[29] Economic growth is only a proxy for individual happiness, a goal that can be traced back to Aristotle and beyond. But, as I argue above, this proxy misinterprets Aristotle's ethics. Flourishing should be the ultimate goal of every institution and every artifact employed in them. But flourishing is an emergent property and cannot be obtained directly by technological or institutional design. Design for flourishing must pay attention to the larger system in which people live out their lives, all the way to the boundaries of nations, and, for some factors like environment, to the full expanse of Planet Earth.

Except in relatively simple cases, the models on which designs are based can never exactly reproduce reality. When human beings are involved, there is always a chance that they will act in some way, deliberately or not, to thwart the designer's intentions in spite of the designer's belief in the certainty of outcomes in use. Certainty is the result of the (left-brain,) mechanistic, scientistic mindset of modernity itself. Participatory design and pragmatic inquiry can minimize, but never completely eliminate, such error.

More directly, product designers should begin to use the goal of authenticity as a waypoint towards personal wholeness. This means incorporating the means to prolong or expand the time the right hemisphere is running the show, or introduce mechanisms for presencing (in the language I have been using). These features would seem to run counter to the popular concept of user friendliness, where the goal is to make the process as transparent as possible. Organizational designers

29 Thomas Piketty, *Capital in the Twenty-First Century*, trans. Arthur Goldhammer (Cambridge, MA: Harvard University Press/Belknap, 2014).

should, similarly, introduce processes that bring presence forth, so that the involved human beings show up as individuals, not merely as commoditized abstractions, such as employee, manager, teacher, nurse, and so on. Right-brain-oriented practices are not only good for flourishing, they offer direct benefits to organizations: employees gain stronger focus, and ability to remain calm under stress, improved memory, and good corporate citizenship.[30] While consumer-oriented businesses continue to focus on profit, product design can shift from need satisfaction to enabling authentic care.[31]

In many ways, design is at the heart of a move toward a flourishing world. The right-brain learns by doing, not by abstracting from that doing. And doing, other than those acts that use only the human body and the natural objects, always involves something artificial, something that has been designed. There's the opportunity. The theory is straightforward, the methodologies already exist – all it takes is action.

30 Daniel Goleman, "Here's What Mindfulness Is (and Isn't) Good For," *Harvard Business Review*, September 28, 2017, https://hbr.org/2017/09/heres-what-mindfulness-is-and-isnt-good-for.

31 Ehrenfeld, *Sustainability by Design*.

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