



Towards a Regenerative Civilization: Reconnecting our Economics with Harmony Principles

By John Fullerton, Founder of Capital Institute

In *Harmony: A New Way of Looking at Our World*, HRH The Prince of Wales declares: “At the heart of the matter lies a crisis in our perception – the way we see and understand how the world works.”ⁱ

And Albert Einstein once said, “It is the theory which decides what we can observe.”ⁱⁱ

I believe these assertions hold both important truths and great wisdom. Together they offer critical insight into the root cause of the crisis in economics and, in turn, the crises facing civilization. More than bad behavior or selfish people, or some fatal flaw in human nature, I believe it is our failed economics and reductionist finance driving our decision making that is the source of our accelerating and interconnected social, political, and ecological crises. The institutions that run the world are directed largely by good people who are victims of this crisis in perception, failing, in Prince Charles’ words, to accurately “see and understand how the world works.”

That we subscribe to flawed economic theories may seem a trivial matter. But at a time when the all-powerful global economic system is running on a theory that no longer fits the cultural realities of what human beings value and the physical realities of how the natural systems of planet earth actually work, we are in trouble. *Now* is such a time. *We are in trouble.*

Because our flawed theories of economics blind us to our impending crises and are ill-suited to addressing them—and because economics has become, in a very real sense, the universal religion of modernity—the gospel of economics is leading us towards a cliff.

We are trapped, seemingly incapable of altering course for fear of collapsing the system that is leading us to collapse. We have created for ourselves, the ultimate prisoner’s dilemma.

Accelerating climate change and its consequences—from droughts and floods to a migration crisis, which then turns into political and social crises on top of the

humanitarian crisis, and accelerating inequality (with its own dire social and political consequences)—are symptoms of this systemic crisis in economics.

The so-called “practical people” who dismiss theory as being “academic” (by which they mean unimportant) have missed the critical implication of an economy designed around a flawed theory. Contrary to their rationale, it is outdated theory which constrains our perception that is the root cause of the cascading and interconnected problems we face.

We are in trouble now precisely because such “practical people” run the world today. They are, to a large degree, consumed – often unwittingly – in an illusion that defines their worldview. That reductionist worldview was developed and reinforced during centuries of genuine progress since the Modern Age began with the Scientific Revolution. Reductionism breaks down complex wholes into their component parts so they can be understood. Yet in the process, we too often lose sight of the all-important relationships between the parts that actually define the mystery and potential of complex wholes, including an economic system.

The opposite of complexity is not simplicity. The opposite of complexity is reductionism.ⁱⁱⁱ To quote Wes Jackson, “there is nothing wrong with the reductionist method, so long as we don’t confuse the method with how the world actually works.”

As we enter the twenty-first century, the context has shifted. *We are not simply living in an era of change. We are living through a change in eras!*

We now understand that we are in the Anthropocene, a new epoch in which Man, because of the technologies and scale of our economy and its impact on the natural world, has, for the first time in the four-billion-year history of the planet, become the single species that determines the future of the planet. In the past, planetary scale shifts were caused by natural events such as climate change, tectonic shifts, or meteorites, but never by the actions of a single species. Such a shift demands an accurate assessment of how the planet actually works as a biochemical system and an understanding that we are embedded in it, *in relationship*, as the precondition for

economic system design. Yet, our contemporary economics, whether liberal or conservative in orientation, ignores this context by design. Instead, our economics sees the human economy separate and apart from the living planet that it is embedded in—a clear and ultimately catastrophic limitation of our outdated human-centric perception. As a result, we are literally flying blind.

Now, I'm a practical person by training, a former Wall Street banker and still active private investor. But I have been obsessed for over a decade now with the many fundamental incongruities and paradoxes that inhabit our modern, highly reductionist, finance-driven, economic ideology (of both the left and the right). The list is long: the exponential function at the heart of finance-driven economic growth, yet on a finite planet; the primacy of shareholder-value paradigm still taught at most leading business schools and driving most corporate decision-making; the discount rate that discounts the value of a hospitable planet for our children whom we love more than life; Modern Portfolio Theory (really a theory of financial speculation) that is the basis for most investment allocation decisions; and Value at Risk as the guiding metric of financial risk management, despite the well-understood limitations and flawed assumptions of both, and their track records of failure. And then there is the ultimate paradox of modern capitalism: how to reconcile the “invisible hand” of Adam Smith with the Golden Rule that permeates all world religions in one form or another.

My obsession with these incongruities led to the creation of Capital Institute in 2010. Since our founding, we have been collaborating on this journey with a determined and growing network of fellow explorers, including the courageous pioneers who have been on the case for decades.^{iv} Our work has culminated in a preliminary theory of Regenerative Economics that informs “Regenerative Capitalism: How Universal Principles and Patterns Will Shape Our New Economy”^v and our forthcoming “Regenerative Finance.”

We define Regenerative Economics as *the application of nature's laws and patterns of systemic health, self-organization, self-renewal, and regenerative vitality to socio-economic systems.*

This theory is more rediscovery, synthesis, and extension than it is genuinely original insight. But rest assured, this theory has also been experienced firsthand in working models on the ground, both through my own direct investment practice with Allan Savory in regenerative agriculture (specifically in what Savory calls holistic planned grazing) and then via our storytelling initiative, *The Field Guide to a Regenerative Economy*^{vi}, in which we've illuminated over fifty regenerative enterprises around the world. Theory informing practice, but also practice informing theory.

Our premise is that the history of economic thought did not end with Keynes and Hayek or Minsky and Friedman, leaving us nothing to do but shout our ideological beliefs across the public square. We believe this early stage of understanding regenerative economies is the natural next step in the evolution of economic thinking, bringing economics into alignment with our latest scientific understanding of how the universe actually works, building upon the profound advances of ecological economics as developed by Herman Daly, Robert Costanza, and colleagues. The potential and structure of regenerative economies must incorporate both ecological reality and humanistic values; it is not simply a “green” idea. We already see expressions of regenerative efforts emerging all around us, although they are often invisible to those observers still trapped in the outdated reductionist paradigm. Theory defines our perception, to paraphrase Einstein. Until now, this transition has been hampered by the lack of an effective story, a new narrative to shift our perception.

We believe Regenerative Economics — informed by practical experience, built around principles of systemic health, anchored in scientific rigor, and grounded in universal wisdom traditions and a common-sense moral framework—can provide the foundation for the new narrative we need at this critical juncture.

The centerpiece of this story is that systems that last in the real world—i.e., truly “sustainable systems”—are systems that are *healthy, regenerative energy flow networks*.^{vii} (Science now understands that everything, from matter to living beings and

even human consciousness, is all energy.) While highly diverse and context-specific, vibrant systems, it turns out, follow a consistent pattern, one in alignment with the eight principles summarized below and described in much greater detail in the 2015 “Regenerative Capitalism” white paper.

The observant reader will notice the similarities our Regenerative Economy principles described below have with the “principles of Harmony” as described by David Cadman based on discussions within the Harmony Programme at the University of Wales.^{viii} This is not a coincidence of course. A truly regenerative system, whether the human body, a natural ecosystem, a bioregional economic system, or the entire cosmos itself it would appear, must be in alignment with the same universal patterns that the ancients first discerned in their own quest for understanding.

It is simply extraordinary how much the ancients understood about such universal patterns, and how these patterns have stood the test of time, despite all our advances in science. In fact, our latest, more integral scientific understanding only seems to reinforce much of what the ancients understood about universal patterns and principles, with fractal structures abounding in the natural world, sacred geometry being perhaps the most notable examples.

Of course, any attempt to reduce the complexity of living systems (or a full understanding of humanity in the larger cosmos for that matter) to a linear list of principles is, by definition, impossible. Different observers in different contexts will choose to emphasize or prioritize certain qualities above others, organize the ideas differently, describe similar ideas differently, or even see the principles differently as a result of their own experience and exposure to the ideas of complexity. For example, our first principle of regenerative economics is “In Right Relationship,” derived from Peter Brown’s book by the same name.^{ix} This principle holds deep, multi-tiered meaning and is entirely consistent with the Harmony principle of “Wholeness and relationship between the whole and the parts,” as well as the Harmony principles “Interconnectedness,” and “Love and compassion.” What’s important is the

consistency of ideas, not whether there is one right list of principles, articulated in the same way.

Let us now turn to our theory of Regenerative Economics.

Regeneration is a process, not a goal. As Figure 1 below suggests, regeneration goes well beyond sustainability. In fact, sustainability as an outcome is only possible if the system is designed to be regenerative as a whole.

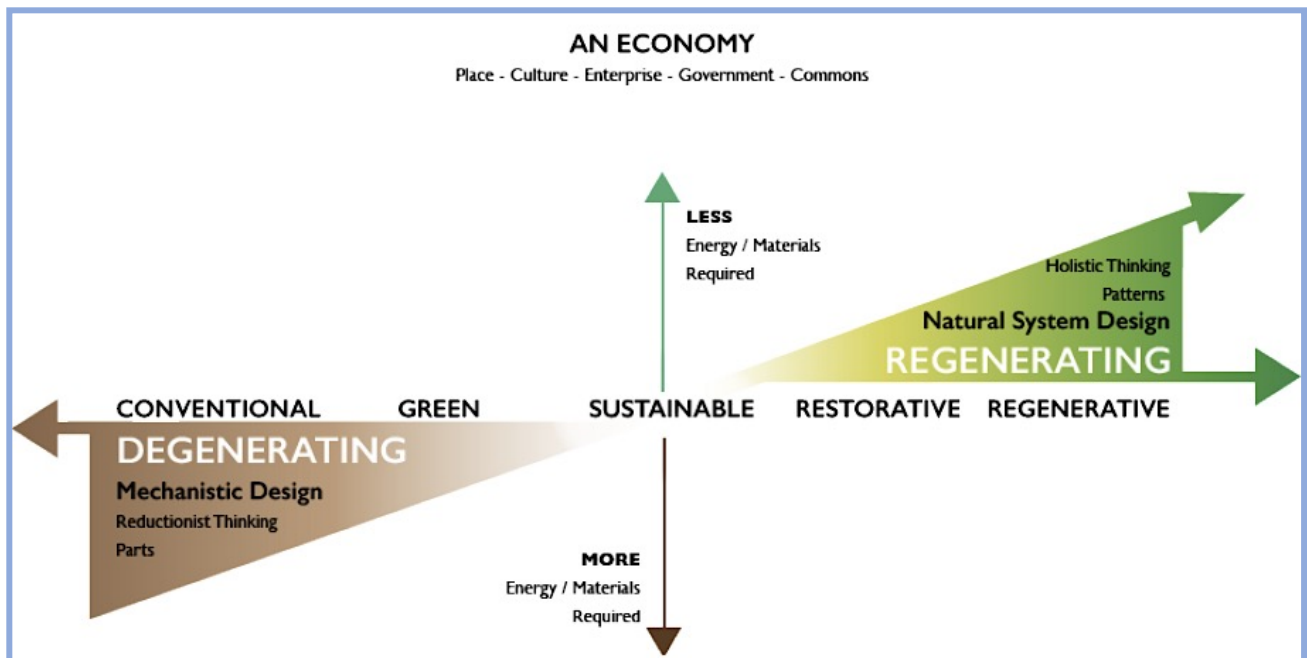


Figure 1 - Adapted from Bill Reed's "Trajectory of Ecological Design".

In summary, our regenerative story starts with a single core idea:

The universal patterns and principles the cosmos uses to build stable, healthy, and sustainable systems throughout the real world can and must be used as a model for economic-system design.

We have identified eight key interconnected principles that underlie systemic health. Note that *it is in the pattern*, the relationships among all eight (and more) principles, operating coherently within one whole system, distributed fractally across all scales of

the system from local to bioregional, to global, that the ultimate power and potential can be found. In this sense, regeneration is an all-or-nothing proposition. Either a system is healthy and vibrant (regenerative) or it's not. It is either regenerative or it is degenerative in some way. And it is only as healthy as its weakest link. Fortunately, our planet and the human species are both remarkably resilient, so it's not too late to embark on systemic transformation.

Aligning the modern global economy with these principles is NOT incremental tweaking around the edges. Applying these principles all together further suggests we need to alter our perception of the optimal units of analysis from Nation States (a reductionist political concept that ignores biophysical realities) and corporations (a reductionist capitalist concept that often ignores biophysical realities and cultural values) to bioregional economies, rooted in the unique context of culture and place. The "global economy" on the other hand is more of an abstraction than a true "whole."

Such a shift in economic principles guiding our system design represents profound change (threats and opportunities) for many enterprises, entire industries, and public policy. Anything less profound would simply not pass the credibility test given the enormous challenges we face.

The eight principles are summarized in Figure 2 and then described individually below. Remember, when they work together in one coherent whole, the magical potential of regenerative systems that enable life itself is unlocked.

Consider, for example, the potential of our first principle, "In Right Relationship." Whether it's the relationship between two molecules of hydrogen and one molecule of oxygen—in right relationship—creating water and with it the potential for life itself, or, the regenerative potential of a female egg and male sperm—in right relationship—or even the right relationship between the Earth and the sun, unimaginable potential flows from this one principle.

We believe immense, not yet manifested potential is waiting to unfold if we align our economies with these universal principles. It is our fundamental source of hope,

grounded not in wishful thinking, but rather, in an understanding of the dynamics and forms of healthy living systems.



Figure 2 - The eight principles of a regenerative economy grounds our understanding of why integrity, ethics, caring, and sharing lead to socially vibrant communities and healthy economies – while at the same time making perfect practical and scientific sense.

In Right Relationship

Humanity is an integral part of an interconnected web of life in which there is no real separation between “us” and “it.” The scale of the human economy matters in relation to the biosphere in which it is embedded. We are all connected; damage to any part of that web ripples back to harm every other part as well. There is much work to do here in disconnected, atomized finance in which speculation-dominated capital markets and extreme complexity in mortgage lending have severed the critical relationship between owner and enterprise, lender and borrower. But the principle also applies at the macro scale, the imperative that the aggregate material throughput of the economy be in right relationship with the scale of the biosphere within which it is embedded.

Views Wealth Holistically

True wealth is not merely money in the bank. In fact, money is not real wealth at all. Money is merely a tool, a social construct, that must be understood as a means, not an end. It must be managed in terms of the well-being of the whole, achieved through the harmonization of multiple kinds of real wealth or “capital,” including social, cultural, living, and experiential. Even beauty is part of true wealth, holistically understood. It must also be defined by a broadly shared prosperity across all of these varied forms of capital. The whole is only as strong as the weakest link.

Innovative, Adaptive, Responsive

In a world in which change is both ever-present and accelerating, the qualities of innovation and adaptability are critical to health. It is this idea that Charles Darwin intended to convey in this often misconstrued statement attributed to him: “In the struggle for survival, the fittest win out at the expense of their rivals.” What Darwin actually meant is that the most “fit” is the one that fits best (i.e., the one that is most adaptable to a changing environment). Entrepreneurs and change agents of all types play a vital role in a regenerative economy.

Empowered Participation

In an interdependent system, fitness and purpose come from contributing in some way to the health of the whole. The quality of empowered participation means that all parts must be “in relationship” with the larger whole in ways that not only empower them to negotiate for their own needs but also enable them to add their unique contribution to the health and well-being of the larger wholes in which they are embedded. In other words, beyond whatever moral belief one has, there is a scientifically grounded systemic requirement to address extreme inequality which limits empowered participation, not just for those disempowered. It is equally vital for the health of the whole. For example, a human body cannot be healthy if the feet are not empowered to participate in the circulation of oxygen, enabling the feet to contribute their vital part to the health and potential of the whole.

Honors Community and Place

Each human community consists of a mosaic of peoples, traditions, beliefs, and institutions uniquely shaped by long-term pressures of geography, human history, culture, local environment, and changing human needs. Honoring this fact, place becomes the critical unit of analysis for a regenerative economy, rather than the firm or the State, each with unnatural boundaries. A Regenerative Economy nurtures healthy and resilient communities and bio-regions, each one uniquely informed by the essence of its individual history and place. This principle poses a profound challenge to the modern global corporation, but forward-thinking leaders are already moving toward a more distributed management structure connected to place.

Edge Effect Abundance

Creativity and abundance flourish synergistically at the “edges” of systems, where the bonds holding the dominant pattern in place are weakest. For example, an abundance of interdependent life exists in salt marshes where a river meets the ocean. Edges are also where risk lies. At those edges, the opportunities for innovation and cross-

fertilization are the greatest. Working collaboratively across edges—with ongoing learning and development sourced from the diversity that exists there— is transformative for both the communities where the exchanges are happening and for the individuals involved. Increasingly, progressive business leaders understand that the boundary of the firm is no longer the relevant “whole” under management. If only Wall Street analysts understood too.

Robust Circulatory Flow

Just as human health depends on the robust circulation of oxygen and nutrients, so too does economic health depend on robust circulatory flows of money, information, resources (circular economy), and goods and services to support exchange, flush toxins, and nourish every cell at every level of our human networks. The reinvestment and healthy circulation of money and information and the efficient use and reuse of materials are particularly critical to individuals, businesses, and economies reaching their regenerative potential. This principle holds the promise of a whole new set of metrics to monitor (alternatives to GDP), and with them, supportive public policy options.

Seeks Balance

Being in balance is essential to systemic health. Like a unicycle rider, regenerative systems are always engaged in this delicate dance in search of balance. Achieving it requires that they harmonize multiple variables instead of optimizing single ones. A Regenerative human economy seeks to balance cultural factors such as feminine and masculine qualities, collaboration and competition, inner and outer knowledge, as well as structural factors such as systemic efficiency and resilience; diversity and coherence; and small, medium, and large organizations and to address critical needs. It runs directly against the (short-term) ‘optimize’ ideology that is at the root of modern financial logic.

The resulting theory shows us how to build vibrant, long-lived, regenerative economies and societies using the same holistic principles of health found consistently across widely different types of systems throughout the cosmos. This theory grounds our understanding of why integrity, ethics, caring, and sharing lead to socially vibrant communities and healthy economies— while at the same time making perfect practical and scientific sense.

It differs most from current approaches to sustainability in that, instead of focusing on social and environmental health using traditional reductionist logic to “solve problems,” it aims directly at building healthy human networks as the objective, drawing on universal principles and patterns, with “sustainability” becoming the natural byproduct of this process of systemic health. It is like (holistic) healthcare in contrast to (reductionist) disease care.

Because the theory focuses on building healthy human networks, it is not actually new. Instead, it has been discovered and rediscovered time and again over the millennia, appearing from the ancient Greeks’ invention of democracy (“empowered participation”), to the rules of mutually beneficial, give-and-take relationships that allow stake-holder-owned and managed enterprises to be effective today, in contrast with shareholder dominated enterprises trapped in the corrosive decay of short-termism.

Furthermore, instead of a political philosophy of the left or right, this rigorous form of holism^x specifically sees regenerative economies as a new stage of free enterprise economic systems built around an integration of the best of both political leanings. Consequently, instead of jettisoning capitalism wholesale, this holism uses the universal design principles underlying all systemic health to show us how to preserve and build on the many strengths of our free enterprise system, while addressing its failings head-on.

While we expect healthy debates among liberals and conservatives to continue, the scientific framework behind regeneration places them in a new context with sharp contrasts between regenerative perspectives and current assumptions. This integrated

approach offers the potential for polarized perspectives to find common cause in the best of both sides’ original ideals.

One can quibble with the designation and language of these eight principles—as we have said, it is impossible to adequately describe non-linear patterns in linear language—and one can always add principles to deepen understanding. Figure 3 below illustrates the high degree of overlap between the Harmony principles and our Regenerative principles described above, conceived independently.

Abundant Harmony in a Regenerative Economy				
Principles of a Regenerative Economy	Principles of Harmony			
Right Relationship	Wholeness and Relationship Between the Whole and the Parts		Interconnectedness	Love and Compassion
Views Wealth Holistically	Love and Compassion	Justice and Lawfulness	Right Being, Correct Practice	Variety of Cultural Expressions
Honors Community and Place	Collaboration and Community		Variety of Cultural Expressions	
Innovative, Adaptive, Responsive	Collaboration and Community	Diversity	Wholeness and Relationship Between Whole and the Parts	
Empowered Participation	Diversity	Variety of Cultural Expressions	Collaboration and Community	Love and Compassion
Edge Effect Abundance	Collaboration and Community	Diversity	Wholeness and Relationship Between the Whole and the Parts	
Robust Circulatory Flow	Interconnectedness	Right Being, Correct Practice	Collaboration and Community	Justice and Lawfulness
Seeks Balance	Order, Proportion and Balance	Interconnectedness		Justice and Lawfulness

Figure 3 - The observant reader will notice the similarities our Regenerative Economy principles have with the “principles of Harmony” as described by David Cadman.

Some may refute the assertion that all sustainable systems in the universe behave according to common patterns that exist across scales (fractal patterns). That’s a debate for scientists and perhaps mystics, not economists. For our thinking, we accept this growing understanding within the scientific community.^{xi} With that critical assumption, one either accepts our hypothesis that only when human economies are

brought into harmony with these principles and patterns will we have a sustainable economic system, or one needs to make the case as to why human economies are the only exception to the rule.

Consider an analogy to human health. The human body is a well-developed “energy flow network” that literally regenerates its cells every seven years on average. If you want to be healthy, you need to invest in the health of your immune system. This entails securing nutritious vital inputs, ensuring an ability to process waste effectively, exercising regularly, sleeping well, limiting stress, and having a purpose in your life.^{xii} Health (sustainability) is the outcome. If we live a stressed life, eat poorly, drink contaminated water, don’t get enough sleep or exercise, but then try to mitigate the decline of our health by treating the symptoms of our disease, we will never be truly healthy.

The same goes for an economic system. We need to understand the principles and patterns of systemic health rather than continue on with our degenerative system that is literally destroying the planet and people because there is a profit in it, and then attempt to mitigate the costs after the fact with policy interventions that merely address the symptoms of our “disease” (unemployment, inequality, rising violence in our cities, financial bubbles and malfeasance, toxins in our environment, climate change and the looming migration crisis that has already begun). These symptoms are the direct result of a system designed (unintentionally) to generate exactly these outcomes, built on a flawed theory, limiting, as Einstein warned, our ability to see genuine solutions. It is indeed, all a question of perception.

Therefore, since (we assert) human economies are also energy flow networks, we suggest that the best and likely only way to achieve lasting prosperity and well-being is to build healthy human networks following these same universal patterns, ones capable of generating widespread social and economic vitality across all levels of society. Today’s science of regenerative systems applied to economics (still in early stages of development) can show us how to achieve such widespread well-being by

both identifying the universal principles that support durably vibrant systems and giving us precise measures and targets to guide our steps.

The contrast between this story of how to build a healthy economy and today's dominant neoliberal theories is striking. While democratic, free enterprise systems theoretically promote widespread empowerment and well-being, today's so-called free market version of capitalism (or any socialist system for that matter) is failing because it promotes largely erroneous beliefs about how to create a healthy economy.

Conventional theory (whether of the conservative or liberal variety) sees undifferentiated economic growth as the path to prosperity, with debates over how much government intervention and redress is required to mitigate after the fact the negative consequences ranging from rising inequality to toxins in the environment to climate change and its many consequences. In other words, we debate how to deal with symptoms of ill health rather than designing into the system the incentives and feedback loops—effectively the immune system for an economy—that eliminate the undesirable outcomes in the first place. The latter is the way all self-organizing, self-maintaining, sustainable systems we know in the real world actually work. To quote systems thinking pioneer, Jane Jacobs, “It’s not how big you grow, it’s how you grow big.”

The broad shift in vision accompanying Regenerative Economics is part of a broad shift toward a more integral worldview transforming all fields of knowledge, for example, transdisciplinary education and integrated medicine. It will be just as profound as the one Copernicus precipitated when the revelation that the earth traveled around the sun undermined the infallibility of the Church-centric “God’s Design” perspective of medieval authorities. The Scientific Revolution ushered in the “machine as metaphor” reductionist worldview that rose up to displace the God-centered view and has since dominated Modernity in the Western world. Our next transition, to what many are already calling the Integral Age, will be chaotic, with the necessary shift in economic systems being the eye of the hurricane. It will be filled with profound and frightening challenges, but also no doubt, unimaginable possibilities. It’s already underway.

To help meet these challenges and opportunities, we have offered a new story, a synthesis of many thinkers' insights with the actions of intuitive entrepreneurs manifesting this change on the ground into a coherent and scientifically rigorous conceptual framework. It provides a hopeful and credible alternative to the pessimism our current, looming global threats can instill, the uncritical techno-optimism we are genetically wired to believe in, no matter how irrational, and the naïve head-in-the-sand denial that is all too prevalent today.

This rigorous and heartfelt theory of whole systems will enable us to perceive the vast unseen potential for cross-scale vitality lying dormant in human systems. When individuals tap into this latent potential, we say they have activated their innate genius. We are suggesting that a similar genius lies dormant in entire human networks, waiting to be activated on a systemic scale.

This is *the source* of great hope that the emergence of Regenerative Economics represents!

A new awareness of regenerative design principles and patterns coupled with accelerating pressure for change due to accelerating crises will make reforms that seem impossible today inevitable. When properly articulated, the new narrative will break down seemingly intractable barriers. For example, the new framework can help both left and right see that the ideological battle between free markets with little government and big government with regulated markets is largely a false choice. The real choice is between effective and ineffective tools and effective and ineffective system design.

This new Regenerative Economics framework holds the potential to change the debate and forge profound public policy changes around the world. For example, while conservative and liberal economists, Wall Street chieftains and central bankers, and mayors and labor union leaders currently argue over how best to foster ever-increasing yet undifferentiated economic growth, in the future economic debates will center on how best to enhance economy-wide immune systems and to foster regenerative development that is aligned with how economic flow networks actually work.

In short, this new narrative illuminates a pathway that transcends our broken national and global politics and gets us to a new space where we can grapple effectively with the urgent work at hand. Will we choose to follow it?

Only time will tell. Our long-run prosperity (and even our very survival) depend on nothing less than this once-in-five-hundred-years transformation in eras to a regenerative civilization based on a holistic worldview. This is the Great Work^{xiii} awaiting us in the 21st century.

"All our knowledge has its origins in our perceptions." Leonardo Da Vinci

This paper was originally published as a part of the Harmony Essays Project led by David Cadman, Harmony Professor of Practice at the University of Wales Trinity St. David and the Sustainable Food Trust, as inspired by Harmony: A New Way of Looking at Our World, HRH The Prince of Wales (2010). For more information about the project, contact Bonnie Welch at bonnie@sustainablefoodtrust.org.

ⁱ HRH The Prince of Whales. (2010). *Harmony: A New Way of Looking at Our World* (p. 87). New York, NY: Harper Collins.

ⁱⁱ www.aip.org/history/heisenberg/p07c.htm

ⁱⁱⁱ Bateson, N. (2016). *Small Arcs of Larger Circles: Framing Through Other Patterns*. Bridport, Dorset: Triarchy Press.

^{iv} Incomplete as it is, such a list would include E.F. Schumacher, Jane Jacobs, Dana Meadows, Thomas Berry, Hazel Henderson, Paul Hawken, Sally Goerner, Herman Daly, John Cobb, Robert Costanza, Carol Sanford, Peter Brown, Peter Victor, Tim Jackson, Paul Raskin, David Orr, David Korten, Wendell Berry, Gus Speth, Hunter Lovins, Stewart Wallis, Anders Wijkman, Bill McKibben, and many many more.

^v Fullerton, J. "Regenerative Capitalism: How Universal Principles and Patterns Will Shape the New Economy" (2015). www.capitalinstitute.org/regenerative-capitalism/

^{vi} www.fieldguide.capitalinstitute.org

^{vii} Goerner, S., Dyck, R.G., & Lagerroos, D. (2008). *The New Science of Sustainability: Building a Foundation for Great Change*. Chapel Hill, NC: Triangle System for Complex Systems.

^{viii} Cadman, David, "Principles of Harmony," 2017. In this paper, Cadman suggests discerning the principles of Harmony as follows:

- Order proportion and balance
- Wholeness and relationship between the whole and the parts
- Inter-connectedness
- Diversity
- A variety of cultural expressions
- Right being and correct practice
- Justice and lawfulness
- Love and compassion
- Collaboration and community

^{ix} Brown, P., Garver, G., Helmuth, K., & Howell, R. (2009). *In Right Relationship: Building a Whole Earth Economy*. San Francisco, CA: Berrett-Koehler Publishers.

^x Smuts, J. (1926). *Holism and Evolution*. New York, NY: Macmillan Company. *Smuts coined the term holism and defined it as "the universal principle that defines matter, life, and spirit."*

^{xi} Capra, F. (2016). *The Systems View of Life*. Cambridge, Cambridgeshire: Cambridge University Press. Additionally, Kauffman, S. (2010). *Reinventing the Sacred: A New View of Science, Reason, and Religion*. New York, NY: Ingram Publisher Services. *See also Alfred North Whitehead, Jan Smuts, Gregory Bateson, Rudolph Steiner, Buckminster Fuller, Nobel laureate (Chemistry) Ilya Prigogine, Nobel laureate (Economics) Elinor Ostrom, and even Goethe, Leonardo Da Vinci, and Aristotle.*

^{xii} Source: Hippocrates Institute research

^{xiii} Berry, T. (2000) *The Great Work: Our Way Into the Future*. New York, NY: Random House USA