Regenerative Capitalism
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Preface

This paper is a collaborative effort, and only a first draft upon which to build. I have tried to synthesize numerous insights from valued colleagues, with my own thinking informed by my experience in the world of finance, my years of study since leaving that world, and the wisdom and intuition of the entrepreneurs I’ve had the privilege of working with as an impact investor. Nevertheless, what is presented here is by no means a complete picture, only a direction. The intent is to continue integrating a diverse set of perspectives and ideas through the invaluable collaborative process.

I am indebted to far too many thinkers and practitioners for opening my eyes to the ideas in this paper than is practical to mention here. But I would like to single out my Capital Institute colleague Susan Arterian Chang for conceptualizing and writing the “Field Guide to Investing in a Regenerative Economy” as a way to learn from and distill the qualities of regenerative enterprises emerging in the real world, under the inspirational leadership of our Field Guide partners. Focusing on the concrete particular keeps our thinking grounded rather than getting lost in the abstraction of theory. Susan has also made invaluable contributions to this draft.

For their patient teaching and wisdom, I am particularly indebted to my thought colleagues in the development of the idea of Regenerative Capitalism. My work with Peter Brown, Bob Nadeau and the rest of the Steering Committee on the “Third Millennium Economy Project” at Capital Institute has been profoundly impactful in my understanding. In addition, the regenerative paradigm work only came together through generous sharing by Carol Sanford, Bill Reed, and Anthony Sblendorio. I am also particularly indebted to Herman Daly, Bill Rees, Allan Savory, Janine Benyus, Gar Alperovitz, Gus Speth, Fritjof Capra, David Korten, Ashok Khosla, Julie Schor, Peter Victor, Tim Jackson, Wendell Berry, Wes Jackson, Paul Hawken, John Elkington, Hazel Henderson, Marjorie Kelly, and Woody Tasch, who all have contributed more than they may be aware. This list is incomplete.

Finally, I am most grateful to all my colleagues and extended network at Capital Institute for their creative contributions and dedication to our work, and to my office colleagues/investment partners at Armonia who have had the vision and courage to expand, refine, and deploy these regenerative principles into their investment practice.

John Fullerton, June 2013
A Summary Call to Regenerative Capitalism

Mounting ecological, economic, financial, social, and moral crises, all connected in an incomprehensibly complex web, are converging into a global emergency that even the most entrenched denialists will soon be unable to ignore.

Science tells us that our economic system’s physical growth imperative, fueled by financial capitalism, is fundamentally misaligned with the finite boundaries of the biosphere. Notwithstanding all of its remarkable historical achievements, the global economy must now evolve not only to align itself with this scientific reality, but also to address other critical challenges, most notably the grotesquely inequitable distribution of wealth, intractable poverty in much of the world, and chronic unemployment.

Addressing these issues demands not merely problem solving, but systemic change that can address root causes. Dana Meadows suggested that the most important leverage point for enabling system change is to change the paradigm, or belief structure, within which a system operates. We will argue that we must evolve beyond the outdated mechanistic worldview and impossible exponential growth paradigm which defines contemporary economics and finance, to a regenerative paradigm grounded in the holistic ecological or living systems worldview of contemporary science.

Regeneration is the “continuous process of becoming” necessary to sustain life in the natural world. Now, as we shift from the ten thousand year old and stable Holocene to the human controlled and volatile Anthropocene, it is our evolutionary destiny and the creative challenge of our age to usher in the Era of Regenerative Capitalism, bringing the human economy into holistic balance with nature, and harmonizing with the core beliefs our many wisdom traditions that have stood the test of time.

Regenerative Capitalism, if it is to be truly regenerative, is a leap into uncharted potential. It is not incremental, but emergence into a new state. It will be characterized by:

- An expansion of the meaning of “capital” to include multiple forms of capital, and the vital patterns of their interdependencies, in keeping with a holistic understanding of true wealth;
- A recognition that the regenerative process that defines thriving, living systems, enabling many of them to be sustainable over the long run, must define the economic system itself.

Kinds of Capital: For simplicity’s sake, we recognize three forms of capital in our analysis: natural capital (upon which all life depends), social capital (family, community, culture, health, education, trust, spirituality and much more), and financial capital (broadly covering all assets that are convertible to money, from stocks and bonds to factories and machines). As we seek to harmonize these multiple kinds of capital we will
be required to make judgments about limits and to redefine and expand the meaning of wealth and well-being. Merely optimizing single variables such as financial return will no longer be seen as sufficient for decision-making in the Era of Regenerative Capitalism.

The Elements of a Regenerative Economy

We identify eight elements of Regenerative Capitalism, abbreviated here:

1. **Right Relationship:** Holds the continuation of life sacred, recognizes that the human economy is embedded in human culture and the biosphere.
2. **Entrepreneurialism:** Draws on the innate ability of human beings to innovate and “create anew” across all sectors of society.
3. **Wealth Viewed Holistically:** True wealth defined in terms of the well-being of the “whole,” achieved through the harmonization of the kinds of “capital.”
4. **Shared Prosperity:** Wealth equitably (although not necessarily equally) distributed in the context of an expanded view of true wealth.
5. **Real Economy Circularity:** A continual striving to minimize energy, material, and resource throughput at all phases of the production cycle.
6. **Edge Effect Abundance:** Creative collaborations increasing the possibility of value adding wealth creation through relationship, exchanges, and resiliency.
7. **Resiliency:** Long run ability to recover from shocks and adaptability to change valued over brittle concentrations of power and hyper-efficiency in the present.
8. **Honors Place:** Operates to nurture healthy stable communities and regions, both real and virtual in a connected mosaic of place-centered economies.

Regenerative Capitalism is already manifesting in a multitude of scalable real world projects, and enterprises on the ground. But Regenerative Capitalism must be relevant to large global enterprises as well, and this is a critical challenge. But even here, there is evidence of its presence striving to take root.

The emergence of Regenerative Capitalism, particularly within the present mainstream economy dominated by large-scale enterprises and State actors, is dependent upon a fundamental transformation of finance. We have identified Eight Elements of Regenerative Finance consistent with the shift from a mechanistic to ecological worldview.

The Elements of Regenerative Finance

1. **Means not Ends:** Understands finance is a means to a healthy economy, not the “ends” of economic activity.
2. **Ethical and In Service:** Behaves as an ethical profession, grounded in a culture of service to clients and service to the emergence of a regenerative economy.
3. **The Supremacy of Relationship:** Values relationships over transactions.
4. **Transparency:** Values transparency over complexity, while embracing genuine value adding innovation.
5. **True Wealth:** Seeks to generate long-term wealth creation (harmonizing “kinds of capital”) using a fair financial return as a constraint for investment decisions.

6. **Right Scale:** Appropriately scaled as a system embedded in the economy, which in turn is embedded in culture and the biosphere.

7. **Collaborative:** Values collaboration among values-aligned investors, financial institutions, and enterprises from multiple sectors (mimicking nature’s “edge” effect).

8. **Resilient:** Balances efficiency with resiliency at the system level through decentralization, diversity, and buffers within institutions and even within the money system itself, rather than dependence on central banks and too big to fail.

The road to Regenerative Capitalism is fraught with pot-holes. Entrenched ideology and the immense concentration of wealth and power in the top tenth of one percent of the global population ensures resistance to change from the politically and economically powerful who perceive their interests lie with the status quo. Violent conflict remains a very real threat as the physical limits of business as usual increasingly begin to bite. Indeed much conflict in the world can already trace its roots to escalating resource limits.

Managing the complexity ahead is an unparalleled, epic challenge, raising many political and practical questions beyond the scope of this paper. We dare not predict the unknowable. What we do know is that continuing on our present path leads most certainly to social, ecological, and economic collapse.

We conclude with three declarations:

- An ecological worldview must replace our outdated mechanical worldview.
- The regenerative paradigm that defines life and enables it to sustain itself in dynamic steady-state in the face of its own persistent entropy production, must succeed the impossible exponential physical growth paradigm.
- A transformation of finance, both theory and practice, is essential for this shift to take place.

The emergence of this transformation in belief system is already happening, as demonstrated by the examples we explore within, and thousands more that will become apparent to us if we have eyes to see them.

What an amazing time to be alive!
I. Introduction

“It’s all a question of story. We are in trouble now because we don’t have a good story.”

– Thomas Berry

We find ourselves here, in the early years of a new millennium, at an inflexion point in the history of civilization. Climate change and, more broadly, the degradation of the life supporting systems of healthy ecosystem function, threaten life as we know it. Indeed our mounting ethical, economic, financial, security and environmental crises, connected in an almost incomprehensibly complex web, are converging into a global emergency that even the most entrenched denialists will soon be unable to ignore.

We are in trouble. Systemic trouble.

Our economic system today is built around the myth of Adam Smith’s “invisible hand.” Implicit in that myth is that the acts of individuals and firms in a market economy miraculously self-direct toward an optimal allocation of resources and therefore the highest level of well-being for society. The unquestioned goal of our modern economic system is perpetual, exponential growth as we pursue an ever-elusive prosperity through the fulfillment of our ever-expanding material needs.

Despite its many achievements, including a dramatic rise in the material well-being of a significant minority of a rapidly growing global population, science tell us that the current system’s growth imperative is fundamentally misaligned with the finite boundaries of the biosphere.iii Our modern economic system must now evolve not only to align with this scientific reality, but also to address other challenges, most notably the grotesquely inequitable distribution of wealth, chronic unemployment, and the oppressive poverty (real and persisting no matter how we choose to define it) of nearly half of the world’s population.

We humans are wired to solve problems within systems, not to transform entire systems. Fortunately, a growing interdisciplinary movement is beginning to understand the systemic nature of the challenges we face and that systems change is inevitable. It turns out, in fact, that the study of systems is a robust and growing field of inquiry.

Much of the current thinking about systems change builds on the work of Donnella Meadows, one of the preeminent systems scientists of our time and lead author of Limits to Growth, published in 1972. Meadows explained that the most important leverage point to change a system is to reimagine the paradigm, or belief system, out of which the system arises.iii We know this is not easy. Copernicus and Galileo spent uncomfortable lives trying to replace the outdated notion that the sun revolved around the earth with a heliocentric model of the universe. That isn’t to say that paradigm shifts can’t happen quickly. The end of Apartheid in South Africa, and the fall of the Berlin Wall are but two contemporary examples illustrating how the impossible can become the inevitable seemingly overnight when belief systems change.
This paper will explore what will be required to achieve a paradigm shift from the capitalist system of Adam Smith’s “invisible hand,” now morphed into a finance centered, parasitic^iv^ brand of capitalism, to a Regenerative economic system. We will see that this new model builds on and retains the many strengths of our present economic system, while addressing head on its failings. It will demand of us a shift from a mechanistic worldview to an ecological worldview, it will understand the use and limitations of markets, and demand a more complex and evolved understanding of wealth than what’s assumed in Financial Capitalism. It will be grounded in and aligned with the latest scientific insights into how the universe actually works, coupled with humanities enduring spiritual insights. It will show that in order to be sustainable in the long run, our economy must unlock the potential for regenerative true wealth creation. This begins with the restoration of vital ecosystem function and the stabilization of planetary life support systems, and carries on through to connection with an enlightened purpose and a realization of expanded collaborations never before manifested or even imagined.

We should begin by cautioning, as Meadows did, that no paradigm will ever represent ultimate “truth.” Indeed, as we shall see, Regenerative Capitalism is about adaptive change and the continual evolution of systems. We will, instead, present Regenerative Capitalism as a critical new paradigm that powerfully addresses the monumental challenges we face at this moment in time as we participate in the ongoing evolution of the human project. Only from such a new, shared belief system can we begin to intelligently tackle the political challenges ahead that economic transition will demand.
II. From a Mechanistic to an Ecological Worldview

“Like the biosphere, the global economy is a self-consistently co-constructing, ever evolving, emergent whole.” - Stuart Kauffman

Perhaps the most important intellectual few people have ever heard of is Jan Smuts, the South African general and the last Prime Minister to oppose apartheid before Nelson Mandela. Smuts introduced the idea of holism in his 1926 book *Holism and Evolution*, defining it as “the tendency in nature to form wholes that are greater than the sum of the parts through creative evolution.” For example, two molecules of hydrogen and one molecule of oxygen when joined chemically create water, a new “whole.” Similarly, the human body, including the human mind, is far greater than the sum of its parts. Smuts observed that this quality is constant throughout the natural world, and importantly, the tendency toward the creation of wholes drives the creative evolutionary process. “Holism, as the operative factor in the evolution of wholes, is the ultimate principle of the universe.” We suspect Smuts would question Kauffman’s assertion that the economy is in fact a “whole”, but rather an abstraction inseparable from human culture from which it arises and the from the ecosphere in which it is embedded. The word “economy” and “ecology” both come from the Greek “Oikos” meaning “household”. So economy, literally the “management of the household” is inseparable from “ecology”, which means the study of the household.

*The hypothesis of Regenerative Capitalism is that this principle of holism must be extended to our understanding of the human economy.*

Regeneration is the “continuous process of becoming” which is necessary to sustain life in the natural world. That’s biology, not opinion. As leading ecologist and co-creator of the “ecological footprint” concept Bill Rees explains, “a regenerative system is one which does not deplete or pollute its host and, at best, facilitates its host’s thriving. For this to be so, a vital condition of hierarchical far-from-equilibrium thermodynamics must be satisfied, namely: The rate at which a regenerative system extracts negentropy (available energy/matter) from its host must not persistently exceed the rate at which its host produces that negentropy.” As it applies to a regenerative human economy, Rees goes on, “The rate at which a regenerative economy exploits natural capital and life-support services must not persistently exceed the rate at which the ecosphere produces them. In simpler terms, consumption by the system must not exceed production by its host; waste production by the system must not exceed the assimilative/recycling capacity of its host.”

Since human beings exist in the natural world (and not separate from nature), it would be foolish to reject the possibility of a regenerative human economic system as a natural expression of the human creative potential. Smuts observed that it was the regenerative nature of life itself to evolve into higher levels of complexity, in the face of the powerful degenerating law of entropy. Here we will use the term “regeneration” to imply not only regeneration in the ecological sense, but also to imply the regeneration - the “continuous process of becoming” - of human potential, relying on the indivisible
connection between the physical human and the psychological and spiritual human. At this time, as we shift from the ten thousand year old and stable Holocene to the human controlled and volatile Anthropocene\textsuperscript{viii}, it is the logical evolutionary path of economic maturity and the creative challenge of our age to usher in Regenerative Capitalism, \textit{bringing the human economy into holistic balance with nature.}

How different holism is from the reductionism that informs our current mindset and upon which Newton’s mechanistic worldview is based! Reductionist logic was championed by the French philosopher Rene Descartes: to understand a complex phenomenon, he explained, you need to break it down to its component parts, but critically, this occurs \textit{at the expense of seeing the complex whole}. This mechanistic way of viewing the world is today so preponderant that most non-scientists (including many politicians and neoclassical economists)\textsuperscript{ix} actually equate scientific thinking with these analytical methods. Human agency and creativity has no place in this framework. It relies instead almost exclusively on discrete data and facts, with little reference to the patterns of relationships among “parts.” Reductionism denies the unknowable or unpredictable.

In contrast, the new scientific worldview, increasingly called an ecological or living systems worldview, embraces the unknowable and unpredictable. It seeks to explain the evolutionary process that began with the Big Bang and continues indefinitely into the future using the concept of “emergent” properties. These are properties that “surprise” us, that arise out of the interactions between systems but may bear little or no resemblance to those systems. As pre-eminent complexity scientist Stuart Kauffman explains, “We live in a universe, biosphere, and human culture (including economy) that are not only emergent but radically creative…. This is a central part of the new scientific worldview.”\textsuperscript{x}

Unlike what we find in the Judeo-Christian tradition, the ecological or living systems worldview places humans within nature, not separate from or above it. We are participants in the evolutionary process itself. In such a worldview, the environment is not an issue or a special interest. The environment is us. We are embedded in it. The ecological worldview is grounded in holism and holistic thinking.

We are in trouble because modern economic theory and the practice of finance remain dangerously grounded in a mechanistic worldview, in direct conflict with this emerging and more accurate ecological worldview.\textsuperscript{xi} Optimizing near term “shareholder value” at the level of the firm, as if it exists separate from the greater whole of society, and separate from the even greater whole of the Earth and its biochemical processes that provide the local and global life-supporting ecosystem functions upon which the firm and its employees and customers depend, is flawed reductionist thinking. Yet this is precisely how modern finance-driven capitalism operates, posing a clear and present danger to life on Earth.
III. The Regenerative Paradigm

_The first Copernicans had experienced a kind of inner conversion. Their epiphany was at once intellectual and spiritual, psychological and cosmological... Their intuition ran ahead far in advance of all the theoretical and empirical work that had to be done._

- Richard Tarnas

In the world of business and economics, we are inundated with ideas and initiatives around sustainability: sustainable development, sustainable growth, sustainable materials, sustainable economy, sustainable finance, and on and on. Intuitively, we detect a bit of hucksterism, if not hypocrisy. We are left confused and a bit cynical.

Here’s what we do know: nature is sustainable; indeed its survival strategies have been vetted over several billion years. Would we not then do well to look to living systems for models and metaphors in our quest for economic sustainability? We are fortunate to have as our guides cutting edge built-environment thinkers, whose Principles of Regenerative Design embrace the living systems worldview.

Regenerative design experts Pamela Mang and Bill Reed use the Levels of Work framework developed by systems thinker Charles Krone, who in turn drew from the work of theoretical physicist David Bohm. It depicts four levels of work that dynamic, complex, interdependent, living, and continuously evolving systems engage in that make them sustainable. Note that sustainability is the outcome of the regenerative paradigm, not a design principle itself.

**Figure 1. Levels of Work Framework**

The levels of work form a continuum in which the bottom two levels (“operate” and “maintain”) are focused on existence (what already is), while the top two levels involve work on potential (what exists but is not yet manifested). For example, the invention of the Internet in the 1960s created both an operating communications network (what is) as well as the possibility and potential of search engines and social media (before they existed). But despite this real but unseen possibility, it took years before that potential manifested with the creation of Google, Facebook, and Twitter. We will refer to the bottom two layers as “below the line,” and the top two layers involving potential as “above the line” work.
By definition, most work necessarily must be “below the line” and it is as valuable as “above the line” work. Seen in this framework, “greening” the economy through cradle to cradle recycling and reusing materials, reducing toxicity, and developing technologies for incremental energy and material efficiency is all the critical work at the “operate” level. Important efforts aimed at enhancing system resiliency (decentralizing production, shortening supply chains, increasing buffers or safety margins), whether voluntary or via regulatory fiat, can be understood as working at the “maintain” level. Resiliency enables the system to better recover from shocks that we must anticipate will grow in the more volatile years ahead but is also a “below the line” activity.

Complementing the critical “below the line” initiatives, we must see that enterprise work must not only mimic nature, but become part of nature with its ability to continuously improve, develop, and evolve. The regenerative qualities we see in nature at the cellular level as well as the ecosystem level and beyond, must also define our economic system if it is to be sustainable in the long run. In this way, the economic system joins the evolutionary process itself by becoming “value-adding”.

Even if difficult to imagine, the vast potential of such a switch to “above the line” thinking is hopeful and exciting! Rather than be constrained by a limiting reductionist economic paradigm whose contradictions and fatal flaws are becoming increasingly apparent, we are called to explore the vast unrealized potential of a regenerative paradigm that mimics the evolutionary process in the ecosphere/universe by tapping into the unending cascade of solar energy.” In doing so, we inspire and potentially transform all work to “above the line” work in an ever rising spiral of vast and unknowable potential. Figure 2 depicts the relative potential of our present economic system if viewed from the future, just as what is manifest today could never have been imagined fifty years ago.

Figure 2. Unlimited Potential of the Regenerative Paradigm
IV. Regenerative Capitalism

"The true nature of the international (economic) system under which we were living was not realized until it failed." - Karl Polanyi

We begin with an assertion: the modern economic model is unsustainable, with unethical and unacceptable consequences. The laws of thermodynamics tell us that exponential growth of material throughput (natural resources into the system, wastes out) is in inevitable conflict with the finite boundaries of a planet and its life supporting systems. Symptoms of this truth abound, most notably the recent milestone of 400 parts per million of CO2 in the atmosphere. Here we choose not to assume, until there is at least a shred of real supporting evidence, that technological breakthroughs will allow us to decouple material throughput from economic growth. Furthermore, we state our belief that the reckless, reductionist objective of Financial Capitalism, exclusively focused on optimizing short-term returns to financial capital, is guaranteed to lead us to collapse — ecological, social, and ultimately financial as well.

This systemic crisis is well understood in sustainability circles, and is slowly being recognized inside mainstream institutions and among policy makers. By and large, however, it remains heresy among both liberal and conservative economists whose thinking dominates policy debates. When it comes to sustainability, our leading business schools are primarily engaged in furthering the technology-enabled resource productivity “opportunity,” just as they earlier focused on the labor productivity “opportunity.” “Businesses can become more profitable through more intelligent operating practices (“below the line”) that reduce costs through better resource efficiencies,” is the current B-school mantra. Few dare question the accepted paradigm that assumes the limitless physical possibilities of growth.

What we need, then, is a new story.

Our hypothesis here is that the regenerative process that enables life in the natural world, and has been applied successfully in the built environment, can be applied as a model for the economy as a whole and to the firms and institutions that together make up the whole. In this way, the regenerative paradigm has the potential to evolve capitalism to a higher level of complexity, in keeping with the evolutionary process in which the human economy takes part.

Grounded in an ecological worldview, “Regenerative Capitalism” is characterized by:

- An expansion of the meaning of “capital” to include multiple forms of capital, and the vital patterns of their interdependencies, in keeping with a holistic understanding of true wealth;

- A recognition that the regenerative process that defines thriving, living systems, enabling many of them to be sustainable over the long run, must define the economic system itself.
Kinds of Capital
The definition of capitalism is “an economic and political system in which the country’s trade and industry are controlled by private owners for profit, rather than by the state.”

Capitalism is further characterized as a competitive market economy using the price mechanism to clear markets, where the goal is to maximize profits and the accumulation of wealth.

While such a system may have been a glimmer in Ayn Rand’s eye, it does not exist in what we call the modern capitalist economy. Instead we see in addition to genuine private control of the means of production, large multinational corporations with mostly passive shareholders who exhibit only very limited control. Instead control has been largely turned over to agents with little if any of the accountability or responsibility that we generally associate with ownership. In addition, the modern capitalist economy includes numerous enterprises with cooperative forms of ownership and democratic control, and numerous state-owned enterprises in countries ranging from China and Germany, to Brazil and the United States. In virtually all nations, government significantly influences and controls to varying degrees commerce, trade, and finance through regulatory processes, tax policies, and subsidies, if not direct ownership. In short, there is no pure capitalism, any more than there is pure, centrally planned socialism.

We will use the term “capitalism” more liberally and democratically, to refer to a market economy in which the private sector is the primary, but not exclusive owner of the means of production, while control of the economic system, regardless of its serious shortcomings in the real world, is subject to governance by the democratic process and managed for the common good.

Rather than get into debates about definitions of capitalism, we prefer to focus on the need to elevate the multiple kinds of capital into our understanding of wealth in a healthy and functional system. This of course is not new, with ideas about social or human capital and natural or living capital now quite common. Some in the permaculture community have even identified a very useful breakdown of eight kinds of capital as presented in Figure 3.
Undoubtedly, many would suggest even further delineation. While we acknowledge that a more complex understanding of the kinds of capital is needed, for simplicity’s sake, we will use three forms of capital in our analysis: natural, social, and financial capital (broadly covering all assets that are convertible to money, from stocks and bonds to factories and machines). What’s important for our purposes is to recognize the multiple essential parts that make up the whole of our true wealth – wealth is not money as the simple utility maximizing assumption of economics presumes. Equally important are the relationships of these parts to each other, and the relationships to the whole. These are not random, nor freely substitutable or exchangeable for money, despite how we treat them in economics.

As with any living system such as the human body, the component parts can be seen as nested, interconnected, and to some degree inseparable from the health of the whole. There is no healthy human without at least a healthy heart and mind. Similarly, while we can debate how much happiness money can buy, we know community relationships are essential to human well-being. Equally, we cannot deny that healthy ecosystem function is the foundation of a viable and sustainable economy for rich and poor alike, and particularly for the poor who tend to be more vulnerable to the symptoms of ecosystem decay such as floods and droughts.

Managing this complex web of capital – natural, social, and financial, and all their subsets – demands a harmonization process that is both analytic – measuring what matters —and subjective – seeing patterns, making judgments based on values and principles. Harmonizing the management of a complex whole is not an optimization process dependent upon measurable metrics alone. Harmonizing multiple kinds of capital utilizing holistic decision making leads us to making judgments about limits and managing weakest links, rather than optimizing single variables such as return on investment.
Holding and managing the complex web of interconnected forms of wealth is hard and new to us. Investing in such wealth represents the next stage in evolution of “capitalism,” yet we lack the knowledge and tools to manage it. We know for sure that healthy ecosystem function, from which all life flows, i.e., preserving our stock of natural capital, is at the top of the hierarchy. We should see that Financial Capitalism’s reductionist driving force of maximizing short-term financial returns is dangerous as it significantly exacerbates the difficulties of managing the challenges ahead.

The Elements of a Regenerative Economy
Regenerative design architect Bill Reed explains, “Without adding value – with a conscious awareness of the ongoing, co-creative, and emergent processes of life – life shifts to a degenerating state.” As we have acknowledged earlier, natural systems thrive because they are regenerative. If the human economy and its institutions are to thrive, they too must operate regeneratively, and, in accordance with the principle of holism. This means that “below the line” activities must be increasingly inspired by “above the line” regenerative purpose, manifesting the natural pull up into living in alignment with true essence as regenerative paradigm thought leader Carol Sanford suggests.

Source: Adapted from Bill Reed’s diagram at Regenesis Group
The good news is, that at its core, the entrepreneurial spirit at the heart of capitalism is inherently regenerative. Indeed we see this process happening all around us, in the fields of technology and healthcare, in micro-enterprises in the third world, in the slow food and re-localization movements around the world, in the surge in social entrepreneurship and impact investment, and in the burgeoning NGO sector that Paul Hawken calls “the largest movement in the world that no one saw coming”.

While we suggest that we have much to learn from the evolutionary processes of nature we must acknowledge that natural selection is not always pretty. With immense diversity creating the basis of a regenerative system, comes inevitable winners and losers. It would be dangerous hubris to assume that the survival of the human species is preordained. To paraphrase environmental leader Gus Speth, all we need to do is keep on doing what we’re doing to all but ensure our demise. Our challenge, at this moment in history, using our best insights from both modern science and from the wisdom traditions that have stood the test of time, is to influence the evolutionary process in a positive way through the systemic interventions we make. Some will call that “planning.” Yes, we are in desperate need of intelligent planning, a road map grounded in the realities we face.

A paradigm shift to Regenerative Capitalism, grounded in an ecological worldview and looking to nature as a model (“biomimicry”), is at the heart of such a plan. Regenerative Capitalism will contain the following eight elements:

**The Eight Elements of Regenerative Capitalism**

1. **Right Relationship:**\(^{xxii}\) Holds the continuation of life sacred, respects the finite boundaries of the planet and the sanctity of healthy ecosystem function, and recognizes that the human economy is embedded in human culture and the Earth’s biochemical processes.

2. **Entrepreneurialism:** Draws on the innate ability of human beings to innovate and create anew across all sectors of society.

3. **Wealth Viewed Holistically:** True wealth defined in terms of the well-being of the “whole,” achieved through the harmonization of “capital,” recognizing the prerequisite of healthy ecosystem function that sustains all life.

4. **Shared Prosperity:** Wealth equitably (although not necessarily equally) distributed in the context of an expanded view of true wealth.

5. **Real Economy Circularity:**\(^{xxiii}\) A continual striving to minimize energy, material, and resource throughput at all phases of the production cycle, grounded in what Peter Brown calls an ethic of “entropic thrift.”

6. **Edge Effect Abundance:**\(^{xxiv}\) Radical and creative collaborations actively sought among a diversity of firms and sectors—(public/private/NGO/philanthropic)
increasing the possibility of value adding wealth creation through relationship, exchanges, and enhanced resiliency.

7. **Resiliency**: Long run ability to recover from shocks and adaptability to change valued over restrictive yet brittle concentrations power and hyper-efficient functionality in the present.

8. **Honors Place**: Operates to nurture healthy stable communities and regions, both real and virtual, as currently manifesting in the localization movement, but also extending to a global, connected mosaic of place-centered economies.

Let us now shift from the abstract to the concrete to see how Regenerative Capitalism is already manifesting in the real world.
V. Regenerative Capitalism in Practice

“The universal dwells in the concrete particular. Neither is real nor true apart from the other.” — Jan Smuts

Capital Institute’s *Field Guide to Investing in a Regenerative Economy* tells the story of the emergence of the regenerative economy through in depth field studies of transformational and replicable enterprises, or more accurately, enterprise ecosystems, that demonstrate the elements of Regenerative Capitalism outlined above. We must recognize that these are only the early “green shoots” of a regenerative economy. The hurdle of true net regeneration, both in the ecological sense, and in the human sense is a long reach from the present economic system. In ecological terms, the Global Footprint Network estimates that we presently use up 1.5 times the earth’s natural ability to regenerate natural capital each year, meaning we are in severe ecological overshoot. And the present economic crisis alone has taken an immeasurable toll on our stock of “human capital” broadly defined. Nevertheless, we can point to the qualities of regenerative capitalism emerging in the real world as beacons of hope and inspiration.

**Grasslands, LLC and Reversing Desertification**

Right Relationship (the first element of Regenerative Capitalism) demands that the restoration of damaged ecosystem function and its perpetual preservation be a precondition, not an incremental objective, of a regenerative economy. Led by CEO Jim Howell, Grasslands, LLC is a for-profit ranch management partnership with the Savory Institute (elements two, three, four, six, seven, and eight) in support of the latter’s mission to reverse desertification on the world’s vast grasslands. Desertification causes numerous ecological, social, and economic crises including drought-induced human suffering and related conflict (elements three and four), as well as biodiversity loss that threatens systemic resiliency (element seven), and accelerates climate change (the most urgent element one issue of our time) due to the degradation of the earth’s second largest natural carbon sink after the oceans.

Savory Institute’s holistic planned grazing strategy, inspired by Jan Smuts’ *Holism and Evolution*, is to shift land management practice through the adoption of holistic decision-making. These practices, tailored to local ecosystem conditions (element 8), “biomimic” how wild herds and predators naturally interacted on the grasslands. At Grasslands, the entrepreneurial energies of ranchers are slowly “disarming” entrenched ideologies (element two) hostile to these holistic planned grazing methods. Indeed, Savory has shown over several decades that grassland health can be restored through these methods, with all the associated social and ecological regenerative benefits.
As human populations have expanded exponentially, natural grasslands have been converted into cornfields, and wild herbivores have been displaced across the globe. On the remaining natural grasslands in North America, cattle have now largely replaced the estimated 60 million buffalo that used to roam the Great Plains. Savory’s insight is that, using portable electric fences and cowboys, we can manage the cattle in herds that mimic how the buffalo roamed, rather than allowing them to overgraze in fenced pastures and then pollute in feedlots.

Recognizing the practical limitations of returning the range to the Bison and other wild species, the goal of holistic ranch management is to convert the entire global ranching enterprise to a regenerative value-adding symbiotic process between the grasslands and herbivores as once existed in nature. This process builds biodiversity and retains water in the soil (element one) thereby enhancing ecological, social, and economic resiliency (element seven), and systemically sequesters significant volumes of carbon (element one).

At the same time, and by design, holistic management socially regenerates the pastoralist human culture by enhancing ranching profitability in the process (elements three and four), since holistic management increases grass health and density and therefore potential animal stocking rates. Grasslands LLC, managing over 100,000 acres of partner-owned land in Montana and South Dakota together with third party ranches in Hawaii and New Zealand, is now demonstrating these benefits measurably at scale, through above the ground ecological monitoring and capturing soil carbon data.

Savory Institute’s work won the Buckminster Fuller Challenge in 2010, which recognizes strategies that have “significant potential to solve humanity's most pressing problems.” More recently Savory’s management process was selected as one of eleven finalists for the $25 million Virgin Earth Challenge. Allan Savory’s inspirational 2013 TED talk received a standing ovation. Grasslands LLC is playing a critical role in proving the commercial viability of the Savory Institute’s holistic management principles. But success on a scale that matters will only be achievable by working creatively “along the
edges” (element six) in close collaboration with private land owners, strategic NGO partners such as The Nature Conservancy and NRDC, and the numerous public sector offices that govern the world’s four billion hectares of grasslands.

**Evergreen Cooperatives**

*Regenerating Social Capital through Building Community Wealth and Resiliency*

Regenerative Capitalism must regenerate our communities and the multiple dimensions of social capital, not just the earth’s vital natural capital stock. In *The Nature of Economies*, Jane Jacobs articulated the regenerative (her word) processes that, according to Jacobs, “govern successful economic life as surely as they govern the rest of nature.” Capital Institute’s Field Guide explains how elegantly the entrepreneurial Evergreen Cooperatives in Cleveland, Ohio, are demonstrating these processes and the *value-adding* stakeholder model applied at an urban economy scale."xxix

Evergreen’s three-part business model begins with leveraging the procurement power (potential energy) of what Jacobs calls “anchor institutions”—the local hospitals and universities, and other institutions that have a long-term stake in the health and resiliency of their local economy. Second, Evergreen borrows from the $21 billion Mondragon Cooperative model in Spain to catalyze the formation of a collaborative network of mutually enhancing community-based, worker-owned businesses that address the needs of the anchor institution procurement. Third, each new business established is designed to be the “greenest” in its sector, creating an added dimension of long-term competitive advantage grounded in entropic thrift.

The first three businesses launched are a solar and energy efficiency installer, an energy and water efficient industrial scale laundry service, and an energy efficient hydroponic greenhouse creating a locally grown, healthy food supply. An Evergreen financing vehicle has been created to serve the cooperative businesses and a land trust is envisioned to secure real estate for future expansion. The long-term goal is a resilient network of potentially hundreds of place-based businesses that not only create “green jobs,” but also transform job creation into shared ownership in what Evergreen conceivers Gar Alperovitz and Ted Howard call “democratizing wealth.”
It’s still early days, but Evergreen is now expanding organically beyond the initial three businesses, unlocking the previously unseen potential for regenerative work. Hospitals and Universities see themselves increasingly as place based anchor institutions, and have accelerated the emergence of regenerative capitalism through a mindset shift from “outsourcing to save costs” to a more holistic “co-create shared well-being among place based stakeholders.” The model is now being replicated by entrepreneurial partnerships in cities across the country.

**Manufacturing Renaissance and the Edge Effect**

“The edge effect,” which we referenced earlier as an element of Regenerative Capitalism, is a commonly used ecological term for the phenomenon of creative destruction, rich biodiversity, and ecosystem rebalancing that occurs at the boundaries between contrasting natural habitats—a forest and a grasslands, or a wetlands and an ocean.

Regenerative enterprises and projects invariably arise out of the failure of diverse constituencies to solve intractable societal problems because they have been working in isolation, and often at cross-purposes. Out of sheer desperation, they decide, tentatively, to lower the barriers of mistrust and work more collaboratively. Not surprisingly, these unlikely collaborations transform what appeared to be, from a reductionist viewpoint, problems without solutions, into projects of boundless possibility—the edge effect at work.

The Manufacturing Renaissance is perhaps one of the best illustrations among our Field Guide studies of both the regenerative power and the creative tensions that characterize the edge effect. This initiative, the brainchild of an historian and former turret lathe operator, Dan Swinney, brings over 60 small private business owners, many of them vocal union and public sector critics, together with labor leaders, public educators, policymakers, philanthropists, and an initially skeptical inner city community—to support Austin Polytechnical Academy, a new high school educating inner city students to secure fulfilling, value adding jobs and eventually to assume leadership positions in the advanced manufacturing sector.

As is the case in any transitional ecosystem where the edge effect is at work, encounters among Manufacturing Renaissance collaborators are often rich and rewarding, just as they are sometimes tension-filled. “I think the most powerful thing about the Manufacturing Renaissance is the cast of unlikely characters that have been put together to focus on the sole issue of improving the manufacturing climate,” says Jim Wall Executive Director of the National Institute for Metalworking Skills, “To my mind that is the best aspect of this model that we can replicate in other parts of the...
country—getting that consortium of diverse stakeholders to focus on the importance of manufacturing to the local economy.”

Swinney takes the view that the “first industrial age” was dominated by the old reductionist worldview, which enabled low-road, speculative interests to exploit the environment and social systems. That age is now transitioning into a second industrial era where the focus is on acknowledging the centrality of place-based manufacturing to a truly sustainable society. This new era will be characterized by broader and more holistic value creation and rich collaborations between the public and private sectors, not just private financial wealth accumulation.

These rich collaborations are already bearing fruit at Austin Polytech, where an increasing number of students are graduating each year with national credentials in advanced manufacturing processes and going on to college. This spring, four female Austin students launched Mech Creations, a student-run cooperative that is designing and manufacturing trumpet mouthpieces to be sold commercially online and in music stores.

“We are looking to create a large swathe of the inner city population that has the technical and management skills required to assume ownership and then we can create a variety of ownership models that optimize democratic values,” says Swinney. “The opportunity to do something socially significant within the corporate structure is what we should be looking to achieve, whatever that structure may be.”

The transformations taking place at Austin Polytech are also inner ones, as the regenerative paradigm takes hold. Beyond financial support, private sector Austin Polytech partners expend countless hours in mentoring, organizing company field trips, offering summer internships, job shadowing, and ultimately offering permanent jobs to Austin graduates. For Austin Polytech students, the majority of whom have had no previous exposure to manufacturing, the experience is life-altering.

Austin Polytech’s manufacturing partners are also finding their engagement with a population they may never before have considered potential constituents of their workforce a consciousness-raising experience. “It takes a special individual in our partner companies to grab hold of what is going on here and to make a difference,” says Peter Schoedel, the school’s former engineering teacher. “They know they are going to
be committing themselves to a group of inner city high school kids from low income families that come to us with fourth and fifth grade level reading and math skills, but they sense there is value here.”
Regenerative Capitalism as Scale

As our Field Guide projects clearly illustrate, a burgeoning small scale, place-based economy is emerging from within economically stressed cities, towns, and rural communities across America, and indeed worldwide. Locally “place-based”, appropriate technology solutions show the most promise in the development challenges of the third world as well. Without doubt, one vital aspect of scaling regenerative capitalism involves intentional nurturing and replicating highly diverse, resilient, place-based enterprises in what David Korten and Judy Wicks call “local living economies” rather than succumbing to the Financial Capitalism view that “there is no alternative to extreme globalization,” regardless of its social and environmental costs.

Nevertheless, the multinational corporation is undoubtedly here to stay, and current trends point only toward more concentration of power and economic activity within and among the largest multinational corporations. In fact, the top one thousand firms now account for half the market value of the world’s sixty thousand public corporations, much more concentrated than a decade ago. Clearly these enterprises, which collectively have immense influence over the quality, scale, and terms of trade of the global economy, must be drawn into the regenerative economy. This is no small challenge.

Fortunately, early glimpses of regenerative capitalism are emerging even in large multinationals, and the possibilities abound. As we will discuss in the next section, fundamental transformation of finance is the critical enabler for the emergence of regenerative capitalism at scale within large multi-national corporations. But first, let’s review some early green shoots of this emergence.

Peter Bakker, the president of the World Business Council for Sustainable Development (WBCSD), shares his personal story about TNT, the Euro 6 billion Dutch postal and express delivery business he used to run. After witnessing a crying child outside her African hut, her mother dying of AIDS inside, a mere ten hours travel distance from the comforts of his own home in Holland, Peter experienced an epiphany about the regenerative potential of the large scale logistics business he managed. Soon he mobilized TNT’s physical and human resources to act as an emergency relief system partner for the World Food Program, working on global famine crises. While he acknowledged there were some modest enterprise-level financial costs, the added dimension of work at the company “transformed the soul of the business” (Peter’s very words) and gave new purpose to all of his co-workers.

Adding this “above the line” regenerative dimension to the business did not reduce the below the line imperatives of improving resource efficiencies of his transportation fleet. Nor did it make TNT a “net” regenerative enterprise viewed in isolation. But it did transform the company into a “value adding” regenerative enterprise, working collaboratively in an ecosystem that included the public sector and NGOs addressing...
some of the worst poverty alleviation needs in Africa. In the era of Regenerative Capitalism, we will find more global corporations redefining their purpose to include leveraging their vast resource bases to lead similar co-creative, natural and social capital value-adding dimensions, while continuously improving their below-the-line operations. Those that fail to do so will find their customers, and employees, turning to their more highly evolved competitors.

Starbucks Coffee may not be in alignment with all of the qualities of regenerative capitalism, but its recent job creating initiativexxxii in collaborative partnership with the CDFI industry in the United States is another example of regenerative capitalism manifesting itself through the creative vision of true entrepreneurial leaders. This value adding initiative leverages the footprint of Starbucks’ stores with a modest contribution from the corporate foundation. In this way, Starbucks has manifest the latent potential of its stores’ (some would say excessively large) footprint in a previously undiscovered valued adding way. Of course this is no substitute for the company’s vital “below the line” operational initiatives to secure fair trade coffee beans for example.

We can easily imagine a multitude of additional possibilities, once the mind shifts to regenerative paradigm thinking. But a shift to regenerative capitalism will demand some hard choices as well. Compromise of core principles and well-intended incrementalism guarantee failure.

For example, Walmart’s below-the-line sustainability initiatives focused on “greening” its global supply chain have sparked considerable controversy. Regenerative Capitalism will demand that Walmart, already the world’s largest corporation, mature beyond its adolescent appetite for perpetual growth with all the associated degenerative consequencesxxxiii Imagine the possibilities if Walmart declared no more physical expansion, but instead, a focus on qualitative improvements within its existing footprint. It could redirect its abundant cash flow to shareholders and other stakeholders, creating a highly attractive and resilient 6 percent dividend yield for perhaps a new class of investors, a fitting maturation of a global behemoth that has overrun its founder’s entrepreneurial vision to offer affordable prices to the masses and is now a value destroying predator (holistically understood). Remarkably, the decision to embark on such a regenerative transformation is in the hands of a single family.

As for Exxon, Peabody Coal, and Koch Industries’ fossil fuel energy enterprises, there can be no place for them as they exist today in the era of Regenerative Capitalism. The energy companies of Regenerative Capitalism will have seized the imperative to transition the economy to a solar-based (all renewables are solar based), regenerative energy system. Bridge fuels, be they highly regulated natural gas and or even distributed
nuclear, may be part of the difficult road to Regenerative Capitalism. Coal and Tar Sands oil will most certainly not.

VI. Regenerative Finance

“Our economy has become an anti-economy, a financial system without a sound economic basis and without economic virtues.” - Wendell Berry

We are in trouble because we are trapped in the Financial Capitalism paradigm. Finance will be transformed in the emergence of Regenerative Capitalism. Like the fall of the Berlin Wall once seemed, the fall of Wall Street would appear an impossible fantasy, with our mega bankers’ emboldened power and sense of entitlement seemingly more assured than ever. Don’t believe it. The emperor has no clothes. The bankers are scared, revealed by their increasingly anti-social behavior. Privately, a growing number of bankers, traders, hedge fund managers, private equity investors, and elite economists are to varying degrees, in some form of existential crisis. Insider traders have been run out of the business in disgrace and are even going to jail, while fraudsters of all stripes are on the run and under the gun (although many of the worst have gotten away). Prior geniuses and masters of the universe, from Alan Greenspan to Sandy Weill, have acknowledged the profound error of their ways. Quietly, many more are seeing the futility of pretending it’s just the way it’s always been. The holdouts have been discredited even if the system appears powerless to deal with them.

Change is in the air. But as we saw with the Apartheid regime, expect the old order to grow more brazen and entrenched in their denial, as their inevitable fall looms closer. New pathways are emerging for the many good people in finance away from the broken institutions, and increasingly they are walking away. Others within the mainstream are committed to reform from within and reaffirming the strong ethical standards that have always defined their professionalism. The pace appears frustratingly slow, but the direction and destination is unmistakable.

Many but not yet all too big to fail banks are shrinking and narrowing their focus. Most are buried under legal assault for their years of improprieties. Regulators are “embedded” everywhere. While earnings have bounced back as the government engineered recovery, and government subsidies continue to bail the banks out, the core business model of the too big to fail (or manage or govern) mega banks is not healthy.

Evidence of regenerative finance is emerging all around us. Microfinance is now a mature business. Responsible investment, utilizing environmental, social, and governance (ESG) factors in fundamental research, continues to penetrate the mainstream across asset classes, while impact investment (a new name for an old idea) shows transformational promise. Peer to peer lending and direct private offerings are leveraging the new “social” culture and filling a void left by the banking crisis. Community capital of many shapes and varieties such as RSF Social Finance’s loan fund targeting sustainable agriculture, renewable energy, and education is changing the landscape around financing placed-based regenerative economies. Led by Triodos Bank in the
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Netherlands, members of the Global Alliance for Banking on Values, a network of sustainable banks (we would call them regenerative banks), operate in twenty-five countries and hold over $60 billion in combined assets.

**Regenerative finance displays the following eight elements:**

1. **Means not End:** Understands finance is a means to a healthy economy, not the “ends” of economic activity.

2. **Ethical and In Service:** Behaves as an ethical profession, grounded in a culture of service to clients and service to the emergence of a regenerative economy. \(^{xxiv}\)

3. **The Supremacy of Relationship:** Values relationships over transactions.

4. **Transparency:** Values transparency over complexity, while embracing genuine value adding innovation.

5. **True Wealth:** Seeks to generate true long-term wealth creation (harmonizing multiple forms of capital in right relationship with each other as described in “Kinds of Capital” above), using a fair financial return *as a constraint* for investment decisions.

6. **Right Scale:** Appropriately scaled as a system embedded in the economy, which in turn is embedded in culture and the biosphere.

7. **Collaborative:** Values collaboration among values-aligned investors, financial institutions, and enterprises from multiple sectors, in keeping with the value adding quality of “edges” in nature.

8. **Resilient:** Balances efficiency with structural resiliency at the system level through decentralization, diversity, and buffers within institutions and even within the money system itself, rather than dependence on central banks and too big to fail.

The Capital Institute’s *Field Guide to Investing in a Regenerative Economy* has focused on but a few of the leading practitioners and emergent ideas within the broad field of Regenerative Finance, which we will summarize here.

**Patient Capital Collaborative**

The Patient Capital Collaborative (PCC) is an early stage “impact investment” venture capital fund linked directly to the membership and investment opportunities cultivated by Investors’ Circle (IC), one of the oldest “triple bottom line” angel investor networks in the world. The PCC addresses several challenges of impact investment. It is a professionally managed fund, run by two seasoned and passionate venture capitalists, Sky Lance and Tom Balderston, with enough economies of scale to ensure full and proper
pre-investment due diligence and post-investment portfolio company engagement. Its limited partners are all IC members with a desire to participate in the investment process, but with varying experience and time availability to do so. It offers its limited partners an opportunity to build a diversified portfolio, leveraging IC’s deal flow screening system, without the time commitment doing so responsibility as individuals would entail. Finally, as the name implies, PCC offers truly patient and values aligned capital in service to portfolio companies whose mission entails managing the complexity of a “triple bottom line,” thereby walking the talk of impact investment, which unfortunately is often still too rare.

Impact investment is no panacea, and is easier to talk about than to execute in the real world where these primarily early stage, entrepreneurial companies must operate in the competitive marketplace. Furthermore, it would be a mistake to view “impact investment” as a new asset class, as some Wall Street institutions suggest. Instead, impact investment, and the many predecessor variations such as community development venture capital (CDVC) and community development loan funds, should be understood as the cutting edge of a new holistic approach to regenerative finance.

We don’t need a new fringe asset class; all investment has impact. The emergence of Regenerative Capitalism at scale demands that the practice of finance shift into alignment with the regenerative qualities outlined above. Capital Institute was created for the express purpose of tackling this immense, seemingly impossible challenge: the essential transformation of finance to serve a more just and regenerative economy.

Such a transformation will require the political will for global policy shifts not yet in evidence. Only once there is a shift to a regenerative paradigm will such policy shifts become politically feasible. But the transformation of finance will also demand creative interventions and innovations such as the PCC while getting back to first principles, modified for the new realities of urgent ecological breakdown, and unsustainable inequality.

**Evergreen Equity Split**

Another such finance innovation is the Evergreen Equity Split method of investing. It is now common knowledge that modern capital markets have become too short-term focused, leaving intelligent corporate decision-making that addresses the long-term ecological and social challenges we face all but impossible. It would seem that the
largest economic actors on the planet, the Global 1000 corporations discussed earlier and the many smaller imitators who collectively hold the fate of humanity in their hands, are trapped in the grip of short-term financial speculators and passive index investors, neither of whom are part of the intentional, regenerative financial system we need.

*We need to remember the vital distinction between real investment and financial speculation.*

Publicly traded shares, with all of the distorted characteristics that leave “ownership” a hollow word, need not be the only form of investment in large and medium scale enterprise. Likewise, large stewards of capital such as pension funds, endowments, and sovereign wealth funds, need not limit themselves to playing the short-term speculation game. As Tim Macdonald has suggested, institutional investors can take a page out of the institutional real estate playbook and invest directly in enterprise, using what he calls an “Evergreen Equity Split” partnership model.

Evergreen, signifies that the investment never need be sold, although it can be if circumstances change. Instead, the cash flows from the enterprise are distributed to investors, as in a real estate partnership, so that the initial investment is returned as a priority payout from the enterprise. After this risk mitigating return of capital is complete, residual profits are shared on a negotiated “equity split” basis – perhaps 80% to investors until they achieve a threshold return, with 20% going to management and a sponsoring entity. After the threshold return is achieved, the split could reverse, say to 20/80. In this way, the enterprise does not build up a “war chest” of cash. Management and owners can assess incremental investment needs as opportunities arise and respond accordingly. Critically, the initial investment becomes a true investment decision again, not a financial speculation about what the future market multiple will be for a company’s traded shares, and what near term reported (often manipulated) earnings will be. Incentives to cheat by trading on inside information are eliminated. In keeping with their fiduciary responsibilities, investors can better match expected cash flows from investment with the liability structure of their obligations, be they pension obligations or annual endowment draws. Sacrificing some much overvalued public market liquidity (for investors who never actually liquidate their holdings) is an easy choice when rationally considered.

In addition, long-term stewardship features, such as environmental and social responsibility, can be negotiated in advance, so investors can finally and directly influence the qualities of the enterprise they invest in, rather than leaving it to the whims of management of short-term speculators. Finally, unlike with stock option incentives, management and investors’ interests are fully aligned around long-term objectives.

Imagine a world where a large pension fund or endowment invested in and genuinely owned, in partnership with like minded steward investors, and with all the associated responsibilities and benefits, ten or twenty percent of a finite number of real enterprises
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over the long run. Such investments in enterprise would satisfy their financial obligations out of enterprise cash flows, rather than remaining dependent upon the “total return” of speculative portfolios of securities that increasingly appear to be at the whim of boom-bust cycles often brought on by the excess of (their own) speculative capital in the system. In such a world, there is no place for the self-serving interests of predatory Wall Street agents who extract endless and egregious fees though unnecessary and non-value adding transactions: trading shares in a speculative frenzy, and buying, selling, merging, leveraging, and recapitalizing companies.

Of course there are many other examples of innovative structures and institutions that together will usher in regenerative capitalism. Regenerative finance will also need to wrestle with new and enormously complex questions that our transition into the Anthropocene will entail. We will turn next to the most difficult challenge of all: scale.

Appropriate Scale

Appropriate scale, quality six of regenerative finance, is both daunting and essential. Herman Daly, Robert Costanza, and many others have introduced the idea of scale and specifically ecological limits to the study of economics through their “ecological economics” framework. Society is in peril because scale limits are not considered in the conventional economics framework.

This is not the place to delve into this well-worn debate about decoupling of material throughput from economic growth. For our purposes, we will simply consider the implications for finance if those warning about “limits to growth” and calling for an eventual “steady state” (dynamic, but in aggregate not expanding) economy are right, which we believe they are. Simply stated, if there are limits to growth, and real investment as we know drives growth, then logic would suggest that there are both qualitative and quantitative limits to investment. Rather than being an unqualified positive regardless of its makeup as we think of investment in conventional economics, a holistic understanding of true wealth implies that it matters what we invest in (a coal plant versus a wind farm for example), as well as the aggregate scale of investment. Too much real investment, depending on its quality, can initiate an expansion of aggregate material throughput beyond a “safe operating space” defined by the finite boundaries of the biosphere to process that throughput.

The implications of this relationship between investment and ecosystem function are staggering. First, for any given set of technology choices in an economy (most importantly, the energy system which can change only slowly over time), the stock of financial capital that can be invested is constrained by the (finite) stock and healthy ecosystem function of natural capital. And second, the quality of what is invested in will determine our prospects for the transition to a regenerative economy. And we know a multi-trillion dollar investment requirement is looking us in the face to transition our energy system alone. In this sense, the public (all global citizens) has a profound interest in the investment decisions taken in the global economy, particularly by the largest agents in the economy (Global 1000 firms, top 50 financial intermediaries, G-20 governments).
This new reality complicates enormously our governance requirements on a global scale. It also highlights the inescapable moral implications of the large investment decisions that are being undertaken, given their wide reaching and in some cases permanent impacts. In financial capitalism, such decisions are not subject to the democratic process we would demand for other public concerns such as who should lead a country. In fact, these decisions are often taken by agents of passive capital, like CEOs and hedge fund managers, both with huge self-interested financial conflicts, and with little if any accountability for the societal and planetary consequences of their decisions. Regenerative Capitalism, informed by the laws of quantum mechanics teach us that everything is connected, will emerge in the future only when we harmonize investment decisions, both in their quality and quantity, with the multiple forms of wealth creation potential and their interrelatedness.
VII. The Way Forward

“Once you have glimpsed the world as it might be, as it ought to be, as it’s going to be (however that vision appears to you), it is impossible to live compliant and complacent anymore in the world as it is.” - Victoria Safford

The road to Regenerative Capitalism is fraught with danger. Logically, one might conclude that the odds favor a reversion back into a fear-driven, self-centered, scarcity-dominated paradigm as resource limits and climate events close in on us. The immense concentration of wealth and power in the top tenth of one percent of the global population provides a sure path to conflict if we don’t choose a wiser course.

The idea of a transition to Regenerative Capitalism raises many enormous political and practical questions beyond the scope of this paper. We can say for sure that managing the complexity ahead is an unparalleled, epic challenge. What changes are required in our leading institutions? What new institutions are needed and how will they be governed? How will we make the complex and difficult choices ahead? Even choosing an appropriate holistic decision making framework within which to consider institutional design and policy recommendations requires significant thought.

We dare not predict the unknowable. What we will declare is that continuing on our present path leads most certainly to social, ecological, and of course economic collapse. A search for an alternative course will become the urgent priority of global political leaders within the next decade and possibly much sooner, when the reality of our decades-long choice to live in blissful ignorance comes to an end.

When this happens, it is highly likely that a new meme, now incubating in networks and communities like ours, will go viral, causing a rapid, perhaps tumultuous shift in the way we humans interact with one another and with our world. Seemingly out of nowhere, an alignment will arise among our political and business leaders and, yes, economists, in the belief that:

- Holism is the universal principal that defines the evolution of the universe,
- An ecological worldview must replace our outdated mechanical worldview,
- The regenerative paradigm that defines life and enables it to sustain itself in the face of ever increasing entropy must succeed the impossible exponential economic growth paradigm, and,
- A transformation of finance, both theory and practice, is essential for this shift to take place.

Of course the emergence of this transformation in belief system is already happening in plain sight, as demonstrated by the examples we’ve explored, and thousands more that will become apparent to us if we have eyes to see them.
Buckminster Fuller foresaw the need for regenerative design in the built environment, and no doubt, the need for a regenerative economy. Fuller understood holism and systems thinking, and was not one to settle for compromise or incrementalism, for he knew that would surely lead to failure.

As we explore the potential of a transition to Regenerative Capitalism, let us remember Bucky’s inspiration:

“We are called to be the architects of the future, not its victims.”

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1 Bill Rees describes the natural regenerative process as follows: All living things and all real processes within the ecosphere consume and dissipate low-entropy (i.e., ‘available’ or ‘usable’ energy and matter). However, the pre-agricultural ecosphere did not degenerate because it could replace (i.e., ‘regenerate’) the dissipated negentropy—mainly biomass and its derivatives—through photosynthesis. That is, the ecosphere is regenerative because it can assimilate solar energy and use it to self-organize and continuously self-produce. In fact, the negentropy of the pre-agricultural ecosphere increased slowly over time (as manifested in increasing organizational complexity, species diversification, biomass accumulation, etc.), even as the net entropy of the universe increased.


3 Meadows, D., “Leverage Points: Places to Intervene in a System”. The Sustainability Institute, 1999

4 A parasite is an organism that gains its vitality at the expense of the vitality of its host.

5 Jan Smuts, Holism and Evolution (1926) p.

6 ibid. p.

7 The entropy law is the second law of thermodynamics. Entropy is a quantitative measure of the amount of thermal energy not available to do work. For example, once a log is burned, its heat is dissipated and is no longer an available energy source. Low entropy signifies order; high entropy signifies disorder.

8 Wikipedia describes the Anthropocene as “an informal geologic chronological term that serves to mark the evidence and extent of human activities that have had a significant global impact on the Earth’s ecosystems.”


11 Nadeau, R., (2012)

12 Benyus, J., Biomimicry

13 Mang, P., Reed, B., “Designing from Place: Regenerative Framework and Methodology

14 ibid

15 Sanford, C., The Responsible Business, Reimagining Business and Success (2011)

16 See Regenesis Case studies at http://www.regenesisgroup.com/CaseStudies

17 In reality, there are no parts, only wholes. The separateness of parts is the core illusion of our reductionist way of thinking. Furthermore, while a cell, a person, a family, and the biosphere are all wholes, an economy is not a whole since we cannot separate economy from culture and nature. We use this language here as a crutch to bridge the two paradigms.

18 In this context, higher levels of complexity refer to a higher level of evolution, not the negative connotation of complexity we associate with a financial system that has become
unnecessarily complex. Not all forms of complexity survive the evolutionary process. Readers interested to explore this concept further are referred to http://pespmc1.vub.ac.be/Papers/Review_Complexity.pdf

xx Oxford Dictionary


xxiii McKinsey, “Circular Economy”

xxiv “(Edges) are about increased potential of relationship and exchange. The possibility of life happens at edges; they are the bridge and arbiter of relationships—the more edges we have, the richer the potential to improve the resilience of life.” - Bill Reed

xxv Roland and Landua (2013)


xxvii Grasslands, LLC is a partnership among Savory Institute, John Fullerton’s Level 3 Capital Advisors, and the Lunt brothers family office Armonia. The author is a director of Grasslands, LLC and Savory Institute.org.

xxviii The Virgin Earth Challenge seeks to award a $25 million prize to whoever can “demonstrate a commercially viable design which results in the net removal of anthropogenic, atmospheric greenhouse gases so as to contribute materially to the stability of the Earth’s climate system.”

xxix (cite evergreen FS)

xxx Khosla, A. “Leveraging Knowledge to End Poverty”, Brookings


xxxiv The author has witnessed this firsthand among numerous friends and contacts, both elite and ordinary, but chooses not to reveal names since it would serve no purpose other than to damage valued relationships.

xxxv Today, the most important “client” segment of the large Wall Street firms is the extractive and speculative financial sector – hedge funds (lending for leveraged speculation, and trading of securities and derivatives) and private equity funds (financing and advising on leveraged transactions) in particular. For example, JPMorgan’s loan growth to the “asset management industry” (essentially margin lending) was 40% in 2012 compared to only 10% for small business (check).


xxxviii Rockstrom, J., “A Safe Operating Space for Humanity, Nature (September, 2009)