

A 21st Century Economics for the People of a Living Earth

*Our most prestigious universities continue to teach
economics principles that empower corporations in the service of money,
destroy Earth's capacity to sustain life, leave the many in desperation,
and drive humanity to self-extinction.*

*An economics for the 21st century will guide us
to an economy that empowers people in the service of life.*

Humanity is awakening to a grim reality. We have embraced an economic theory that ignores our fundamental nature. We are living beings born of and nurtured by the regenerative systems of a finite living Earth. Yet we have created an economic system that destroys Earth's capacity to sustain life in order to grow the fortunes of billionaires.

As the awakening spreads, voices from every quarter—from student activists to the Vatican—are speaking out in common cause.

Workers and their unions respond with the wrenching observation that “There are no good jobs on a dead planet.” Pope Francis condemns an economy devoted to the “[idolatry of money](#).” A global alliance of citizen movements has banded together under the banner of [WEALL](#) to work for an economy devoted to the well-being of people and planet. New Zealand has announced a new budget that shifts the focus from growing GDP to growing well-being. A youth-led political movement in the United States calls for a Green New Deal. Rethinking Economics, a global student movement demands reform of economics seminars that rarely mention poverty, climate change, or inequality. The Club of Rome, a global alliance of new paradigm thought leaders, has launched an initiative on a new economics in addition to its initiatives on the climate emergency, a new finance, and a new civilization.

These calls are born of a spreading awareness of the institutional failure that drives humanity toward self-extinction. As we confront the challenge of survival, it becomes apparent that the choices we must make to survive are the same choices required to achieve a long-denied human dream of a world of peace, equality, material sufficiency, and spiritual abundance for all.

There is nothing inevitable about the institutions that now so badly fail us. They are products of choices made over decades, centuries, and even millennia by our ancestors. We now have the knowledge and communications capabilities to make different choices through conscious collective processes with a speed that previous generations could not have imagined.

Our choices rest on our answer to a fundamental question. Are we financial beings whose well-being depends on growing money and aspiring to ostentatious lifestyles? Or are we living beings whose well-being depends on securing the health and vitality of a living Earth while aspiring to healthy, spiritually fulfilling lifestyles?

We have tried the former and we have the result. We may still have time to achieve the latter. It will require a transformation of culture, institutions, technology, and infrastructure guided by the intellectual insights and moral principles of, among others, indigenous peoples, the Earth Charter, the papal encyclical *Laudato Si'*, and the Parliament of the World's Religions'

Declaration on Climate Change. It will require that we prepare a new generation of leaders with the intellectual tools to navigate that transition. That will in turn require a serious update of what we currently teach as economic science in our schools and universities.

With few exceptions, economics, as it is currently taught, is grounded in the flawed theories and principles that bear major responsibility for the current human crisis. They value life only for its market price; use GDP growth as the defining measure of economic performance; assure us that maximizing personal financial return benefits society; recommend policies that prioritize corporate profits over human and planetary well-being; and ignore the natural limits of a finite Earth. A significant update of economics to align with reality, authentic values, and the environmental imperatives of our time is urgent and seriously overdue.

Humanity's Existential Challenge

By the estimates of the Global Footprint Network, the human species currently consumes at a rate 1.7 times what Earth's regenerative systems can sustain. Any level of consumption over 1.0 means we are destroying Earth's capacity to sustain life—thus putting the human future in peril. Our existence and well-being depend on the systems by which Earth maintains the health of the soils that produce the foods we eat, the water we drink, the air we breathe, and the stability of the climate that shapes the daily life of every living being.

As the environmental crisis unfolds, financial wealth and political power become ever more concentrated in the hands of fewer and fewer people. Twenty-six humans now hold personal financial assets greater than those of the poorest half of humanity. That is 26 individual humans vs. 3.9 *billion*. In consequence, billions of people face a desperate struggle to meet their daily needs for food, water, and shelter while a few lavishly indulge themselves beyond the dreams of history's kings and emperors.

Meanwhile, environmental and social breakdown render ever more of Earth's places uninhabitable and drive growing millions of desperate people to abandon their homes in search of refuge in the world's remaining livable places. The United States—a desired destination for many—has its own livability problems. For one, with more billionaires than any other nation, its richest 1 percent own substantially more wealth than the bottom 90% and 4 out of 10 U.S. adults don't have enough spare money to cover a \$400 emergency.

The stark contrast between the promise of economic progress and the reality of growing hardship on a dying Earth explains the failing legitimacy of humanity's most powerful institutions and the widespread appeal of political demagogues to a disillusioned public.

The Failure of Mainstream Economics

The economic theory known as neoliberalism became the global standard in the mid-20th century and is currently taught in most of the world's universities. It has had a major role in guiding humanity to its current existential crisis and poses a major barrier to navigating a global course change.

Economics lost its way as an intellectual discipline in the mid-19th century when a group of influential economists sought to raise the field to a stature comparable to physics. To that end, they borrowed a mathematical model from physics as the foundation of future economic theorizing and chose money as a readily available metric. They based their theory on a number of key assumptions: that humans are by nature individualistic; money is wealth and a storehouse

of value; growing money creates wealth; there are no limits to growth in human numbers and consumption on a finite Earth; and we all do best when we each pursue our individual financial advantage without concern for the impact on others.

Building on these assumptions, generations of business and governmental leaders have been taught to believe that financial assets can and should grow perpetually. Furthermore, if we each focus on maximizing our personal financial returns, markets will assure that everyone will eventually get richer and all will benefit.

I don't care who writes the nation's laws, if I can write its economic textbooks.
—Paul Samuelson, whose economics textbook was the standard through the latter half of the 20th century.

By the mid-20th century, GDP growth had become humanity's defining measure of economic performance and making money had become the economy's defining purpose. Responding to this economic measure and purpose, politicians, judges, and international trade negotiators have crafted rules that give transnational corporations and financiers ever increasing control over the global economy and even subsidize their operations to secure their immunity from market forces.

In the real world, money is just a number. Growing it only creates a larger number. Storing a growing number does nothing to assure that tomorrow's air will be breathable, its soils will be fertile, or its climate will be stable. Earth is finite, as are the regenerative systems on which its well-being and ours depend. Markets can provide only what is available for sale. Profits serve only those to whom they flow.

Focused on money rather than well-being, 20th century economics also assumes that value is determined by market price. Gold therefore has value. Clean air does not. Market value is easily assigned to essentials such as food and water. Love, beauty, self-worth, and meaning, however, are beyond price. Their value increases when shared.

The new economics we need to address the realities of the 21st century will recognize that market price tells us only what the current market values. It tells us nothing about what is most inherently valuable and essential to the well-being of people and planet.

More than 50 years of public policymaking based on assumptions deeply divergent from reality has served well the interests of aspiring billionaires. For people and planet, it has been an act of suicidal insanity.

Corporate media focus on GDP growth to assure people that the economy is healthy, jobs are being created, average incomes are rising, and growth is getting greener even as people find it ever more difficult to make ends meet and experience the consequences of deepening environmental crisis.

This can obscure, only temporarily, the reality that GDP growth drives the devastation of nature and concentrates wealth and power in ways that violate the most foundational principles of justice, democracy, markets, and environmental health. The obscenely rich temporarily enjoy opulence and the desperately poor struggle to survive on a declining share of Earth's remaining regenerative capacity. There are no winners on a dead planet.

An economics grounded in intellectual and moral fallacies does not, cannot, serve people facing the realities of 21st century life. Daily reports of record-setting floods, fires, droughts, melting icecaps, violent storms, and massive displacements of people make it ever more difficult to hide

the reality of the crisis.

Deep change guided by an economics grounded in an authentic story is imperative. The journey ahead begins with recognition that *humans are a species born of and nurtured by a living Earth*. That is a foundational premise of 21st century economists. Peter Brown, Jon Ericksen, Joshua Farley, and Kate Raworth are among those framing a 21st century economics that begins with recognition that Earth's care must be a foundational human priority.

The Power of Moral Choice

The pioneering biologist Lynn Margulis once observed, “Life is matter with the power to choose.” Her observation is at once simple, self-evident, profound, and long denied by the mainstreams of Western science. We humans have the power to choose far beyond that of any other species known to us. We can choose our nature and future and even shape the future of Earth. Yet we take that power for granted and forget that it comes with distinctive responsibilities.

The range of human possibility is truly extraordinary. We have irrefutable evidence of the human capacity for ruthless deceit and violence. These are traits of psychopaths who are commonly motivated to compete for positions of power. Their visibility may create an appearance that these are defining human traits. Emotionally and mentally healthy humans are honest, caring, empathic, and get pleasure from helping other living beings. They get less attention, but they are the majority, which is a cause for hope.

The economics we need to guide our path in a 21st century world will remind us of the choices available to us and our responsibility to care for one another and Earth. It will shine a light on what is most essential to our well-being and help us explore pathways to its achievement.

To this end, it will challenge us to put cooperation before competition and community well-being before corporate profits. It will draw from every source of human knowledge and understanding to guide us to the culture, institutions, technology, and infrastructure of a new civilization—an ecological civilization—that secures the well-being of people and Earth in spiritually fulfilling ways.

Imperative as Opportunity

Hope lies in embracing the current existential crisis as opportunity. Far from calling for sacrifice, even the requirement to reduce the total human burden on Earth's regenerative systems by at least 40 percent presents an opportunity to fulfill a long-denied dream of a world of peace, beauty, material sufficiency, spiritual abundance, and creative opportunity for all.

The Quechua peoples of the Andes call this dream *sumac kawsay*, a community-centric, ecologically-balanced, and culturally sensitive way of life. It translates into Spanish as *vivir bien* and English as *good living*. Bolivia and Ecuador have written this concept into their respective constitutions. Similarly, China has written a commitment to ecological civilization into its constitution. In 2015, the Parliament of the World's Religions issued a Declaration on Climate Change, which calls on all peoples to embrace “a new ecological civilization and a world of peace, justice and sustainability, with the flourishing of the diversity of life.”

Labor as the Source of Wealth

Evolutionary biology is moving beyond its established frame of survival of the fittest to a new frame focused on symbiosis. This new frame recognizes the fundamental interdependence of living beings that has long been part of indigenous understanding. It is captured by the African term *ubuntu*, often translated as “I am because we are.”

Twentieth century economics ignored this reality. But for 21st century economics, interdependence is a defining foundation. We are in this together—and that is not just humans.

Over billions of years, the choice-making ancestors of Earth’s countless living species brought life to Earth and Earth to life. Life’s evolutionary progress was achieved through the constant labor of Earth’s many organisms in complex symbiotic relationships that together created and maintained the conditions essential to their mutual existence. As we unpack the evolutionary history of planet Earth, we begin to see more clearly the critical and distinctive role of labor as an inseparable part of living and the source of all that is essential to our well-being. Beyond the planet’s original nonliving wealth, all subsequent wealth is the product of the labor of living organisms. Indeed, life exists only by dint of its constant labor to counter the forces of entropy and thus to create and maintain conditions favorable to life on planet Earth.

Our most immediate experience with life’s symbiotic self-organization is with our own body—the vessel of our consciousness and the vehicle of our power to choose. Our body’s existence and well-being is a product of the labor of tens of trillions of individual cells and microorganisms. They work in complex symbiotic relationship with one another to create a superorganism we know as our body with abilities far beyond that of any individual member cell.

Through their labor, these cells and organisms manage the active exchange of nutrients, water, energy, and information essential to the life of all. Together they create and maintain the heart that pumps blood throughout our body and the diaphragm that fills our lungs with air. Their labor is continuous, even as we sleep, constantly adapting to ever changing food and water intake and external temperatures, while simultaneously distinguishing between toxins and nutrients and between beneficial and invasive microorganisms. This constant management occurs with no known equivalent of money, markets, casting of ballots or central authority. When the cells of the body no longer labor to the benefit of the whole, we declare the body dead.

When we look at a landscape, it may often appear to be silent and inactive. But here too the exchanges of nutrients, water, energy, and information are constant—much of it the work of cells and microorganisms we can see only with a microscope. We have barely begun to understand the details of how it all works. Clearly, however, it does—and labor is at the heart of it.

And in human society, we depend on human labor to acquire and process the products of nature to meet our basic needs. We gather from the fields and forests. We hunt. We sow. We harvest. We prepare, cook, and serve. We shape the stone and the timber. We mine, refine, and forge the metals. We manufacture, build, and construct. And all the while we care for ourselves, our young, our elderly, and our incapacitated. We increase the yield to our labor through our talent at learning new skills and inventing new tools.

Stories and the Power to Choose

As with all living beings, humans are children of Earth. We are also a species with a distinctive cognitive ability to create and live by stories that represent our collective understanding of

creation, our human nature, and our human place in creation's continued unfolding. This gives us a capacity for choice far beyond that of any other species. And that capacity bestows on us a profound moral responsibility for the well-being of the whole and a distinctive reason for our existence.

That we bear such responsibility helps to explain why mentally healthy humans experience a sense of spiritual fulfillment when caring for a garden, child, pet, neighbor, or stranger in need.

The dysfunctional consequences of our fealty to a 20th century economics that instructs us to abandon these responsibilities are legion. We strip the living soil of the nutrients on which its health and ours depends. We subsidize profit-maximizing global corporations in ways that make it nearly impossible for more community-oriented businesses to survive. Our universities indoctrinate young people in the idolatry of money in preparation for lives in service to profit-maximizing corporations and to governments dedicated to growing GDP and the financial assets of the wealthiest among us.

We design our cities and towns in ways that make us dependent on cars to fulfill our daily routines. We divide our lands into discrete parcels that disrupt nature's cycles as the few take control of our access to food, water, and shelter to reduce the rest of us to serving ends detrimental to our own well-being.

The result is a society that strips us of the ability as individuals to make many of our preferred moral choices and assures that the moral choices we do make—like recycling or taking public transportation—are difficult and of little beneficial consequence.

As inherently social beings, our most important choices are collective, shaped by the institutions we create. These institutions, like our stories, are purely products of the human mind. Therefore, we have both the right and the means to change them.

Institutions Born of Stories

Human institutions, including the institutions of money, business, government, religion, and the nation state are all distinctive to humans. Although these institutions have a decisive influence in shaping our behavior and are treated almost as if they were natural phenomena, they are solely our mental creations and have no reason to exist other than to serve us.

Yet to our extreme peril, our most powerful institutions now rule us. Hope lies with our ability to shed or transform dysfunctional institutions, a process that begins by changing the narratives that sustain them.

Flawed narratives and the institutions they sustain can hold sway long beyond their useful life. Yet seemingly invincible institutions can quickly crumble once the story that sustains them loses credibility. Think of the sudden disintegration of the Soviet Union and the collapse of apartheid in South Africa.

Replacing failed institutions with beneficial institutions is a far more difficult process than exposing a failed narrative. Success begins with a compelling new narrative that conforms to the lived reality and true nature of the vast majority of the world's people.

One component of such a narrative is the recognition that healthy living systems depend on the distribution of power to achieve constant adaptation to local circumstances to meet their needs. Healthy human communities must organize in similar ways.

Currently, however, the dominant human institutions are structured to achieve the opposite. They

centralize and concentrate power at the top. Periodic centrally scripted elections to choose a few elected officials for top positions does not fulfill society's essential and primary need for self-organizing local adaptation.

Nearly all humans now depend for their living on institutions of business and government that centralize power and place it largely beyond human accountability. Even well-intentioned leaders find that their power depends on maintaining the structures of centralized power contrary to the interests of healthy community life. Such leaders may appear to be in control, yet they are not.

We urgently need a new economics to guide us in transforming the institutions of both government and business to distribute power locally and equitably to support holonic structures that organize from the bottom up for the well-being of all.

The institutions that currently empower money and corporations cannot and will not of their own volition transform from within to empower people and community. The transformation can occur only as we the people empower ourselves through bottom up social movements, change our shared story, and grow new institutions to serve the future we seek in alignment with the values we share. The conceptual foundation of a 21st century economics will be a story in which supporting life is the central purpose and money is considered only a useful tool.

Money as a Tool

The neoliberal embrace of money as the defining measure of wealth and economic performance gains credibility based on our daily experience in which we depend on money for most of life's essentials. We can all see that those who have it live well. Those who lack it experience desperation.

The reality-based story of 21st century economics brings to light the reality behind the illusion. The value is not in the money, which is just a number. That number has value only because we accept it as a token of exchange for things of real value. It is a tool, not a purpose. Creating more money creates more claims against whatever is available for sale. It does not increase the quantity of that which is needed or desired. Any country with its own currency can create money with a computer keystroke. But simply producing more money does not make society better off—and can be deeply harmful.

In the imaginary world of 20th century economics, money is much more than a number, it is *capital*. Capital is an ambiguous word that is most useful when we want to sound sophisticated but have no idea what to do. The statement, "We need capital" most likely means, "I have no idea what we need, but I assume that with enough money we will be able to buy it." This, of course, assumes that what we need exists and that if we have enough money, we can outbid our competition to obtain it.

Useful as a tool, money can also be a source of deeply misleading illusions, as noted above. Our individual dependence on money leaves us vulnerable to the illusion that societal well-being grows as GDP grows. Our individual well-being may increase as our paycheck or bank account grows, even as society becomes collectively poorer.

Take farmland as an example of this paradox. As the amount and fertility of farmland declines, scarcity increases the market value of what remains. The individual landowner may prosper, yet humanity's ability to meet its needs for food and water declines. Or take the case of urban housing. Financial assets can grow as well-being declines. As housing prices rise, speculators

step in to buy and hold often empty houses and luxury apartments as opportunities to store and grow their financial assets. This drives prices even higher, thus affirming the wisdom of their purchase. Meanwhile growing numbers of people are forced into homelessness, possibly living on streets next to vacant apartments. Financial assets grow as relationships disintegrate and well-being declines.

Deep Transformation

A society that destroys its means of living to make money for a privileged few can hardly claim to be intelligent or civilized. Modest personal adjustments will not correct the failures of an inherently self-destructive cultural and institutional system. Our future depends on a unified human effort dedicated to driving deep system change. Key elements include:

- Going beyond stopping the use plastic bags, we can create an economy that produces only wastes that are recycled by humans or nature.
- Going beyond buying organic, we can create a food system in which all food is produced in ways good for Earth and healthy for people.
- Going beyond asking corporations to be responsible, we can break up concentrations of corporate power and render the pieces accountable to the communities in which they do business by converting them to worker and community ownership.
- Going beyond protesting a current or proposed war, we can dismantle the apparatus of war and the military-industrial complex.
- Going beyond buying an electric car, we can design neighborhoods and transportation networks to do away with most need for cars.
- Going beyond providing everyone a guaranteed income, we can provide everyone with work that meets their material needs with dignity and satisfaction.
- Going beyond accepting all migrants fleeing social and environmental collapse, we can seek to assure that every place is livable and that every person has a livable place.

Implementing these ideas will require institutional transformation, guided by an economics devoted to securing the well-being of people born of and nurtured by a living Earth.

Eight Principles of the Needed 21st Century Economics

The essentials of a 21st century economics can be distilled into eight action principles to guide our way to an ecological civilization.

Principle #1: Indicators. Evaluate economic performance by indicators of the well-being of people and planet; declare GDP irrelevant.

Be clear on the outcomes we want and choose our indicators accordingly. In the mid- to late-20th century, most nations made GDP growth the defining goal of economic policy. It might have been a good choice if we had strong evidence that the results would be beneficial to people and Earth. There was, however, no such evidence. It was an act of faith that became a bold global experiment lacking valid intellectual or ethical foundation.

The results of the experiment are now in. Growing GDP works well to grow the fortunes of billionaires, allowing them to [claim an ever-growing share](#) of the remaining real wealth of a dying Earth. It leaves much of humanity without secure access to food, water, shelter, and other basics. And it takes no account of the fact that our existence depends on the regenerative capacity of a finite planet that must be maintained and shared.

Managing an economy to maximize GDP growth is like flying an airplane in a dense fog with only an airspeed indicator and a goal to maximize airspeed. The pilot will put the plane into a steep dive and marvel at its growing speed—until it hits the ground.

Proponents of 20th century economics assure us that greening growth—which presumably means reducing its environmental burden—will solve the problem. But such reduction only slows the rate of destruction. It does not, cannot, address the imperative to reduce the overall human burden on Earth.

Our goal is to meet the essential needs of all people while restoring the health of Earth's regenerative systems. That will require a dashboard of indicators that guide us in the complex processes of maintaining a balanced relationship between people and Earth while meeting the essential needs of all. To presume that we must simultaneously grow GDP, imposes a pointless additional burden.

If we are healing Earth and advancing human well-being, whether GDP goes up, down, or sideways is irrelevant.

Principle #2: Resources. Use available labor and natural resources only for purposes that enhance the well-being of people and Earth; eliminate uses that do not.

An obvious first step in reducing the human burden on Earth is to eliminate activities that, though they may generate profits, make no net contribution to—or diminish—the well-being of people and Earth. Such waste includes most everything related to war, advertising, and financial speculation. It includes shoddy products, planned obsolescence, most agricultural chemicals, and socially and environmentally destructive infrastructure.

We can eliminate most needs for driving cars and the social and environmental devastation wrought by [designing cities for cars and single family dwellings](#) by designing infrastructure to support people living close to where they work, shop, and play. We can eliminate most global movement of people and goods by keeping production and consumption local and relying on recycled materials. We can further reduce the need for travel by using communications technologies to share ideas, technology, culture, and learning.

These steps would displace workers. But there are many ways the people freed up can be put to work to advance the well-being of people and planet. These include caring for and educating our children, caring for the elderly, restoring the health and vitality of Earth's regenerative systems, and rebuilding infrastructure in ways that reduce dependence on fossil fuels and simultaneously strengthen our beneficial connections with one another and nature.

We also have win-win opportunities to reduce environmental burdens that weaken or eliminate family and community relationships. For example, the current trend toward single-person households isolates us from one another and eliminates opportunities for sharing shelter, tools, appliances, furniture, utilities, food preparation, and other essentials. The related disruption of family and community self-care reduces well-being and increases the need for government-funded social safety nets.

By eliminating harmful uses of labor and other resources while organizing to restore relationships with one another and nature we can restore the health and well-being of all.

Principle #3: Labor. Direct the rewards and assign the rights of ownership to those who provide beneficial labor in service to community well-being; reallocate the ownership rights held by those who exploit the labor of others for personal gain.

The recognition that most value comes from labor harkens back to the insights of classical economists such as Adam Smith, David Ricardo, and Karl Marx. Expropriating what others have produced is theft. We earn our right to share in the surplus of the whole through our paid and unpaid human labor in service to the community.

Public discourse generally assumes that society's defining economic choice is between capitalism (ownership by transnational corporations), or socialism (ownership by national governments). Neither directly empowers those who provide the labor.

A 21st century economics will recognize that the current economic system too often channels rewards to those who claim ownership to the exclusion of those who provide labor and places no limits on the concentration of those rights by those who seek only to exploit the labor of others. The solution centers on a transition to direct worker or community ownership combined with an ethical frame that recognizes our individual and collective responsibility for the well-being of the whole.

Such restructuring will end society's division between a privileged owning class and an indentured working class and assure that everyone who provides beneficial labor also shares in ownership and its rewards.

Principle #4: Money. Make the creation of society's money supply a transparent, publicly accountable process that serves the common good; not a secret process devoted to generating unearned profits for private bankers and financiers.

Money is a useful accounting token. It can also be a powerful instrument of control and exploitation.

The ability to create money is the power to create unearned buying power. It defies reason to assume that society benefits from giving this power to for-profit banks dedicated to maximizing profits for the already richest among us. It makes even less sense to give this power to transnational banks with no loyalty or accountability to any country or community.

That power must reside with institutions that are public, transparent, and accountable—namely public banks, supplemented by locally owned cooperative banks that aggregate local savings of local cooperative owners to finance local businesses and home buyers. Every citizen needs to understand how the process works so they can participate in holding their financial institutions accountable.

Principle #5: Education. Organize and manage education to support lifelong individual and social learning in service to the well-being of people and planet; end the isolation of the classroom and the fragmentation of disciplines.

Much of modern education isolates knowledge into narrow technical subjects. That process suppresses the ability to think and act as responsible members of an evolving, interconnected Earth community. Developing educational processes for a 21st century world begins with recognition that no one knows how to get where the human species now must go. Education cannot provide answers we do not have.

The first step is to recognize and confront the fact that many of our current answers do not serve. We need generalists skilled in asking the right questions and working together to find, share, and weave together insights from many disciplines as they engage in an evolving process of learning through doing on local, regional, and global scales.

We must become skilled in understanding and facilitating the social learning processes by which groups, nations, and our now global society advance their common understanding and ability to work together for the well-being of all. Social learning is itself a barely recognized area of study that merits priority attention and rapid development, as do the life sciences more generally.

Economics as presently taught bears major responsibility for humanity's current misdirection and presents a significant barrier to the needed transformation. It is deeply troubling that, to this day, our most prestigious universities feature economics courses that advocate societal psychopathology as a human ideal, give legitimacy to institutions that deny responsibility to or for the common good, and consider knowledge from other disciplines to be irrelevant to economic choice making. We must move on to a 21st century economics.

The new economics must build on a moral foundation that recognizes our responsibility to and for one another and Earth, favor cooperation over competition, draw from all sources of human understanding, and prioritize community well-being over corporate profits. It will likely need to be taught in programs beyond the control of established economics departments.

Principle #6: Technology. Create and apply technology only to enhance the well-being of people and planet; not to exploit, control, or displace people or nature for profit.

Technology must be life's servant, not life's master. Most technologies have potential for varied applications, some being beneficial to life and others harmful to life. To choose applications based solely on which will produce the greatest financial return to those who control them is collective madness. And the drive to eliminate the need for labor is deeply misguided. Life without work is life without purpose. The technophile's drive to create an economy with no need for humans should qualify as a crime against humanity.

Humans have the right and the means to favor the development and application of technology to reduce destructive environmental impacts, restore the regenerative capacity of Earth's living systems, and facilitate global understanding, cooperation, and learning as we transition to an ecological civilization.

Principle #7: Community. Organize economic life around self-organizing, self-reliant living communities and assure that all human institutions are accountable to and serve the well-being of the community in which they are located; break up concentrations of corporate power and root ownership in the people of the community in which each of the pieces does business.

Life exists only in community. Life in the natural world self-organizes everywhere as self-reliant, local communities that maintain constant cyclical flows of resources to meet local requirements with minimal need for the distant inputs. Except for toxins that nature sequesters and energy that the sun continuously renews, everything in nature is reused and recycled in perpetuity as the wastes of one become food for another.

The well-being of people and planet cannot be achieved in an economy controlled by profit-maximizing transnational corporations. Control of the economy must reside in inclusive, self-reliant, regenerative living communities of people committed to working with one another and nature to grow and secure the well-being of all. Government and business—indeed all

institutions—must be accountable to the people of the communities they exist to serve. Businesses should be human scale and worker owned consistent with Principle 3.

The creation of a corporation depends on a government issuing a corporate charter. The only reason for government to issue such a charter is to serve the community to which that government is accountable. If the corporation is not serving the community, it has no reason to exist and the community has every right to withdraw its charter and reallocate its assets. Furthermore, there is no reason why any community should feel compelled to recognize a corporate charter issued by a government not accountable to the community in which the corporation seeks to do business.

Only by having reasonable control of its own economy can a community achieve goals such as: enabling everyone to secure a livelihood through opportunities for useful and meaningful work; assuring the appropriate education of all their children; and providing for those who suffer disability from aging, accident, and illness.

Within a community economy framework, urban and rural dwellers can rediscover their interdependence. Cities can meet their needs for food, timber, fiber, and pulp from nearby rural areas, and rural areas can regenerate their soils with bio-wastes from nearby urban areas. Cities can provide cultural and educational opportunities for both urban and rural dwellers. Rural dwellers can provide urban dwellers with food, water, and nature immersion experiences, including summer vacation agricultural work opportunities during summer vacation.

Suburbs that now occupy massive tracts of land for low-density, low-interaction, energy-inefficient living can convert to either high-density, high interaction, energy efficient urban habitats, or low-density, high-nature intensive rural habitats. This will improve resource efficiency and quality of life while restoring natural regenerative capacity.

As cities restructure to eliminate dependence on cars, people will walk, cycle, and use public transportation, meeting and greeting on the streets, in sidewalk cafes, and in parks with beautiful gardens. The largely car-free cities of an ecological civilization will feature multi-generational, multi-family living units that function as vibrant eco-communities sharing facilities, tools, resources, and labor—with residents looking out for one another and their children as intact tribal communities still do.

Principle #8: Population. Seek a healthy balance between species supportive of the well-being of all; shed the conceit that earth exists for humans.

Every species has its place, its role, and its needs. The health of every natural ecosystem depends on its ability to balance and serve the populations of its varied species. While we do not fully understand how these dynamics work in nature, we do know that populations are constrained by interactions among species and the limitations of the resources on which they all depend.

And just as healthy bodies mobilize against rogue cancer cells, ecosystems mobilize against rogue invasive species. This dynamic suggests that either humans will self-manage their reproduction and distribution to align with Earth's needs and capabilities in the place where they live, or Earth will define us as a rogue species and attempt to do it for us—which it seems nature is already attempting.

Voluntary limitation of our population numbers begins with providing educational and occupational opportunities for women and making reproductive management methods freely available.

Ultimately, the people of each place must balance their own numbers with the regenerative capacities of their place. Higher numbers will mean lower consumption. Higher consumption will mean lower numbers. Peoples who decide their place needs or can support higher numbers, best fill their deficit by inviting in-migration from places seeking to adjust their population numbers downward.

This involves complex moral issues and will be difficult to implement. We must acknowledge, however, that the larger the human population of each place on Earth, the lower the levels of individual consumption that place can support.

We are currently in crisis because the false promises of a flawed economic theory led us to believe that economic growth could solve our problems.

Economist Kenneth Boulding once observed, “Anyone who believes that exponential growth can go on forever in a finite world is either a madman or an economist.” You might say the same for anyone who believes that society is best served when we each concentrate on maximizing the growth of our personal stash of money. Yet, for lack of an established alternative, we cling to this deeply flawed economics and continue to teach it to the youth who will be tomorrow’s leaders.

Knowing that the current system leads to fatal consequences from which no human will escape is an essential starting point to the needed corrective action. That knowledge, however, leads only to debilitating depression and resignation absent awareness that the crisis creates an opportunity to bring into being a future far more attractive than the fantasy future that 20th century economics promises.

Framing a vision of opportunity and a path to its achievement is the work of the 21st century economics we are beginning to envision together. Education in 21st century economics will include instruction in ethics, institutions, culture, biology, politics, and much more. The reinvented discipline will seek fact-based objectivity while applying its knowledge and expertise to ethically grounded purpose-driven work to assist humanity in confronting its most essential and complex choices.

The basic frame of 21st century economics will be complex and nuanced. Yet it is likely that most people will readily grasp it because it will be logical, consistent with foundational ethical principles, and reflect the reality of our typical daily experience in which most people are kind, honest, and find pleasure in helping others.

Transdisciplinary and inclusive of non-specialists, the new economics will welcome the engagement and contributions of all who embrace the goal of a society dedicated to the well-being of people and planet. Ideally, we will all strive to be competent in 21st century economics and possessed of the moral commitment on which the well-being of people and planet in the 21st century depends. We will all learn to think and act as the people of a living Earth.

*This working paper was written by author, independent scholar, engaged citizen, and former Harvard Business School professor [Dr. David Korten](#) as a contribution to discussions framing a new economics for the 21st century. It picks up on the challenge of framing a new economics grounded in living system principles articulated in John Fullerton’s [Regenerative Capitalism: How Universal Principles and Patterns Will Shape Our New Economy](#) and seeks to take to the next level his suggested framing principles for an Earth centric regenerative economy. It also builds on Kate Raworth’s *Doughnut**

Economics: Seven Ways to Think Like a Twenty-First-Century Economist. It is undertaken as an input to the Club of Rome Reclaim Economics initiative and other related efforts.

The development of a 21st century economics is an ongoing process and this working paper may be updated from time to time, with new versions posted online at: <https://davidkorten.org/a-21st-century-economics-for-the-people-of-a-living-earth-2nd-revision/>. It may be freely reproduced and shared in whole or in part.

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