

# Transforming our economies from ego to eco

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## Introduction

This paper discusses how to transform the 21<sup>st</sup>-century economic system to become more just and sustainable. In a seminal study in 1999, the US environmental scientist Donella Meadows outlined a framework of leverage points for change, 27 years after publication of *The Limits to Growth*, which she co-authored. Here, I take Meadows' framework and combine it with methods of "awareness-based systems change" from the field of action research. As Meadows noted, the greatest potential for change lies in our capacity to "transcend paradigms" and I argue that we need to create a learning infrastructure to make this transformation collectively. Accordingly, the following five interventions would implement many of the most significant leverage points laid out by Meadows:

- **Economics:** reframe the paradigm of thought from ego- to ecosystem awareness
- **Governance:** upgrade the economic operating system from an ego- to an eco-logic
- **Big Tech:** shift from reducing to enhancing human flourishing and creativity
- **Politics:** make democracy more dialogic, distributed, direct and data-informed
- **Societal learning infrastructures:** democratise access to transformation literacy

## Moving from the what to the how

To date, discussions around these five essential leverage areas, the "five turnarounds", have focused primarily on the What of transformation. Clarifying the What is critical. But unless the What is complemented by a grounded strategy for How, we will be unable to find real pathways for transformation.

This paper focuses on the How. I explore the following questions:

- Why have efforts to transform capitalism over the past 50 years been less successful than their proponents had hoped?
- What are the most salient shortcomings in the capitalist market economy to implementing the five turnarounds?
- What are the key leverage points for moving the system towards planetary healing and wellbeing for all?

I investigate these questions using the methods and tools from the discipline of systems thinking, combined with my 25 years of experience in action research on building learning infrastructures for transforming systems. Specifically, I build on Meadows' identification of the most significant leverage points for intervening in or changing a system. Leverage points are "places within a complex system where a small shift in one thing can produce big changes in everything".

Meadows actually identified 12 different leverage points. She sees the following five as the most important (in increasing order of effectiveness):

- 5. The rules of the system (incentives, punishments, constraints)**
- 4. The power to add, change, evolve or self-organise system structure**
- 3. The goals of the system**
- 2. The mindset or paradigm on which the system is based – its goals, structure, rules**
- 1. The power to transcend paradigms**

With these in mind, we can see that until now much of the effort for achieving the five turnarounds has been absorbed by numbers five and three (rules and goals). Some attention has been given to number two (the paradigm) but significantly less attention has focused on number four (the power to evolve and self-organise a system). Virtually no attention has been paid to what Meadows considers the number one leverage point for systems change: the power to transcend paradigms.

Says Meadows: “There is yet one leverage point that is even higher than changing a paradigm. That is to keep oneself unattached in the arena of paradigms, to stay flexible, to realize that no paradigm is ‘true,’ that every one, including the one that sweetly shapes your own worldview, is a tremendously limited understanding of an immense and amazing universe that is far beyond human comprehension ... It is to let go into Not Knowing, into what the Buddhists call enlightenment ... In the end, it seems that mastery has less to do with pushing leverage points than it does with strategically, profoundly, madly letting go.”

Meadows’ description of the highest leverage point – the power of transcending paradigms – hinges on a deeper meta-capacity of letting go, of not attaching oneself to any single paradigm, which seems particularly relevant in our current context of liquid modernity and liquid organising (Bauman, 2013), and which I will discuss in more detail below.

This essay focuses on all these often-neglected variables (one, two and four) because all five leverage points are critical if we want to see a deep transformation of our economies.

## **Why have earlier efforts to transform capitalism been less successful than hoped?**

Since the publication of [The Limits to Growth](#), we now have far more evidence of the catastrophic implications of our current evolutionary trajectory and economic operating system – in simpler terms: business as usual is a very dangerous choice. Why have efforts to bring about the desired systems change not been more effective? What stands out is the disconnect between Meadows’ key leverage points and real-world efforts purported to bring about system change.

## Awareness-based systems change

What would a state-of-the-art approach to systems thinking look like that integrated all of Meadows' top-five leverage points?

Figure 1 visualises the top-five leverage points integrated into the framework of awareness-based systems change.

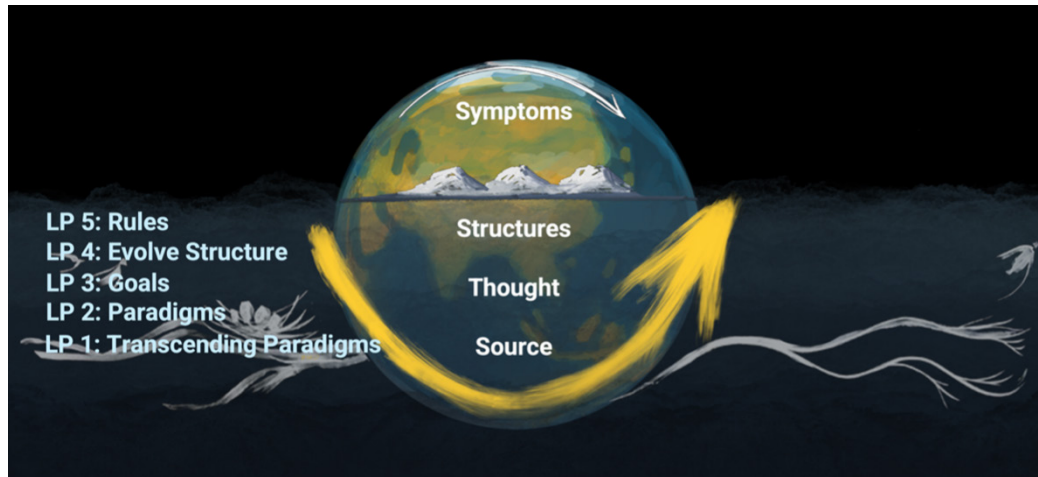


Figure 1. Awareness-based systems change: five leverage points (LPs) (Scharmer, 2018)

As in all systems thinking, the framework of awareness-based systems change includes the root issues that lie below the surface: structures, rules, goals and paradigms of thought. But it also includes one additional layer: a “source” that we need to access to transcend a paradigm, when we need to let go of the old and embrace the new.

People and systems respond to change on different levels. We may see *reactive* change (level 1), redesign of structures and processes (level 2), *reframing* of thought paradigms (level 3) or regeneration of the respective systems from the Source (level 4).

Often, as a civilisation we try to respond to level-4 problems (i.e. planetary, social and human emergencies) with level 1 and 2 behaviours. But these are never effective at addressing the root issues. The key lies in better understanding the cognitive processes that allow people and social systems to access and navigate the underlying issues. Figure 2 summarises the theory my colleagues and I arrived at in that regard (Senge et al., 2004; Scharmer, 2009).

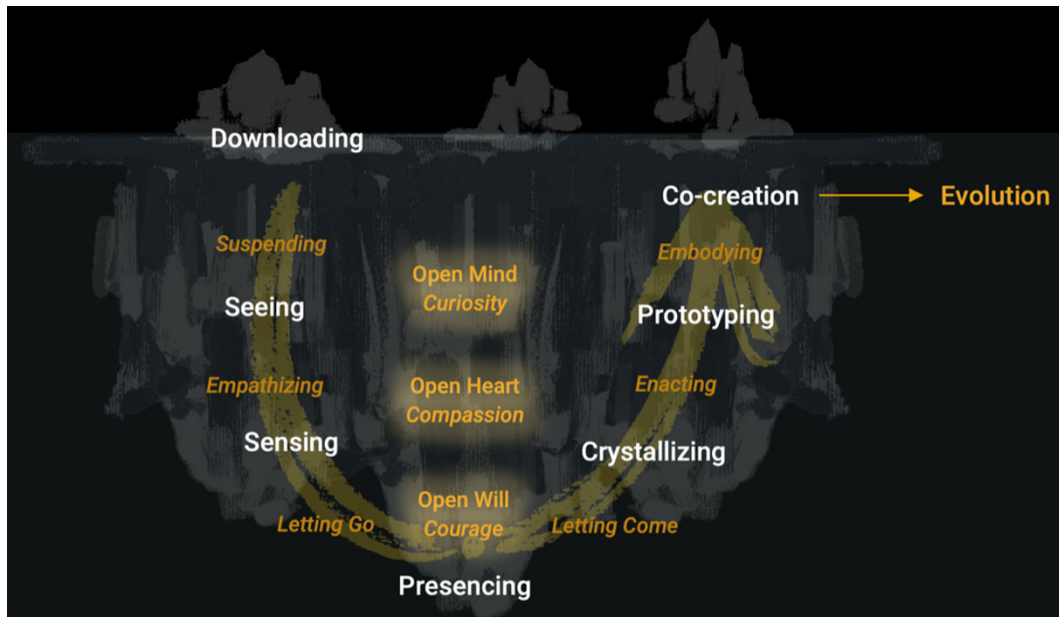


Figure 2. Theory U: Three core capacities for moving beyond downloading (Scharmer, 2018)

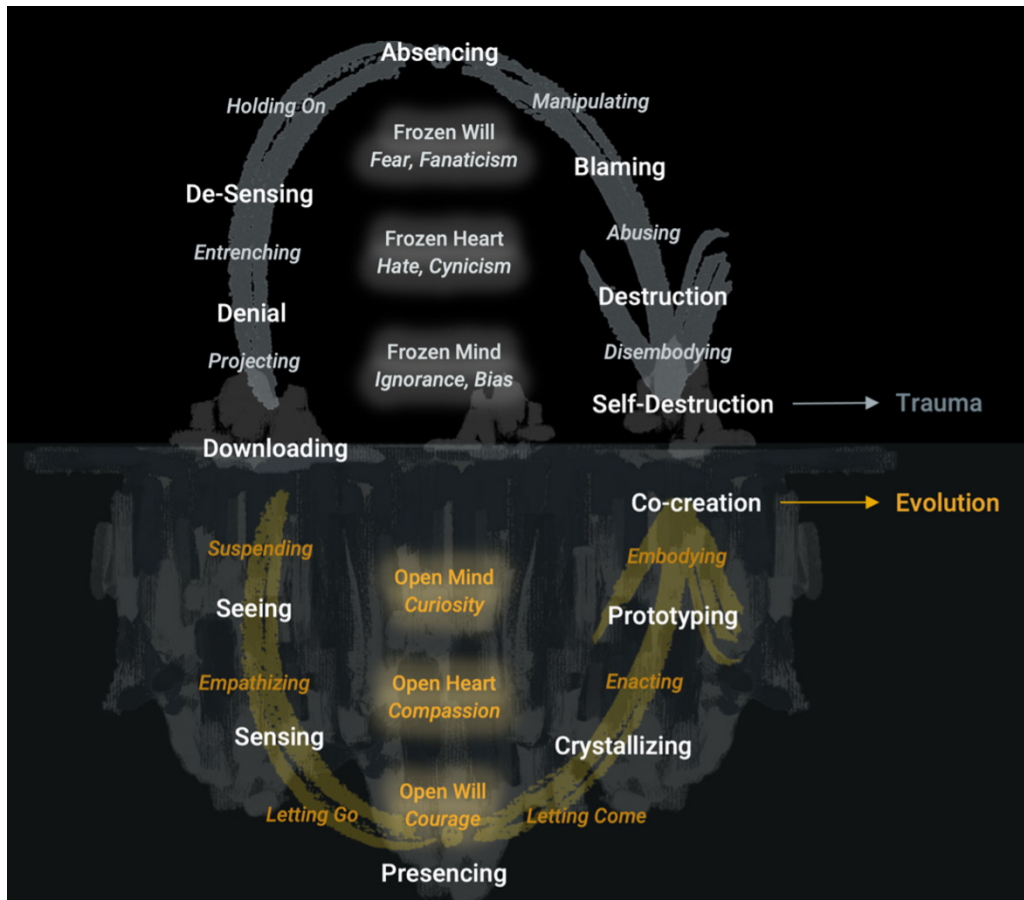
The U-shaped process depicted in Figure 2 shows the transformative mental–social evolution that teams and multi-stakeholder systems go through when working to transform a system. It can enable diverse groups with conflicting views and interests to move from old mindsets (siloes views) to new mindsets (based on a systems view). Stated differently, people move from an *egosystem* to an *ecosystem* awareness – that is, an awareness of the wellbeing of whole ecosystems.

That kind of shift is at the root of success or failure in most complex multi-stakeholder processes. Navigating the systems-change territory requires more than data and facts. It requires a *holding space* and a *v* that enable stakeholders to suspend judgement (have an open mind), to see a problem through the eyes of others (have an open heart) and to let go of the old so that the new can arrive (have an open will).

## Mapping our current moment

How can systems thinking help us to better understand the moment we are living in? Why, 50 years after the publication of *The Limits to Growth*, are we still in many of the same situations and predicaments?

In short: because of denial and disconnect. We are operating from a collective mindset of denial. When someone is in denial, how do you successfully get your message across? Not by shouting louder. Not by presenting even more data. From a systems perspective, you first need to build a relationship with the person (or group of stakeholders) and then help them to understand the barriers to transforming their relationships (see Figure 3).



**Figure 3. Two interior conditions give rise to two different social fields: presencing and absencing**

Figure 3 summarises two interior conditions, or social fields – presencing and absencing. A “social field” permeates both our external and internal worlds – it is a concept that illuminates the interior and relational dimensions of systems change (Scharmer, 2018). The lower half of Figure 3 shows that social action is enacted from an *inner state* based on curiosity, compassion and courage (opening the mind, heart and will), which gives rise to the social field of presencing. We see plenty of evidence for this type of social field in co-creative and regenerative initiatives and movements around the world.

Over the past six years, however, we have also seen a significant (even massive) uptick of the opposite social field: absencing. The ascent of Trumpism in the United States, the success of the Brexit campaign in the United Kingdom, and the lack of a truly responsible global response to the pandemic are ample evidence of the negative impact of this social field.

Two of the main drivers behind the rise of absencing are the socially destructive use of technology (specifically social media) and the increased influence of dark money on politics, particularly in the United States (Mayer, 2017). The success of both relies on an operating model that activates and amplifies ignorance, bias, hate, anger and fear (Figure 3).

The fundamental difference between the social fields of presencing and absencing is how we respond to disruption: we can choose to respond by turning away and closing down, or we can choose to respond by turning toward and opening up. In essence, the social field of absencing is based on divorcing oneself from the planet, from each other and from ourselves. On the flip side, the field of presencing is based on a deepened process of reconnecting with the planet, with each other and with ourselves. Ultimately, presencing embodies what Meadows described as the most effective leverage point for systems change: letting go of the old and opening up to what is emerging around and through us.

## What are the most salient shortcomings in the capitalist market economy that prevent implementation of the five turnarounds?

The short answer is clear to all: political will. The lack of political will for real transformation perpetuates the destructive behaviour of the status quo, as mainstream politics merely co-opts green soundbites.

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For the longer answer all you need to do is look at the current condition of the United States, and you'll see all the most salient shortcomings on full display. They are:

- 1. Business and economics.** There is very little new thinking in executive boardrooms. The benefits of the old model (based on *egosystem* economics) are too seductive for the most privileged, and the pain that others experience is often not felt – because of the lack of ecosystem awareness.
- 2. Governance.** Existing governance mechanisms are clearly unable to effectively address the challenges at hand.
- 3. Technology.** The “[epistemological inequality](#)” that drives the business model of Big Data companies, such as Google/Alphabet and Facebook/Meta, allows a small group of tech people to manipulate the behaviour of the whole system. The resulting echo chambers have amplified societal polarisation and eroded the foundations of democracy to such a degree that we are collectively paralysed in the face of unprecedented challenges.
- 4. Democracy.** Special-interest groups have an outsized influence on the political process through dark money. For example, the fossil fuel industry changed public opinion on carbon tax (from pro to con) in the United States in the early 2000s by creating a massive, well-funded climate denial industry (Mayer, 2017).
- 5. Societal learning infrastructures.** There is a complete lack of transformative learning support structures in our educational and leadership systems at all levels.



## What are the key recommendations for transformative change?

As stated in my introduction, five key interventions are needed to build the collective leadership capacity to radically transform and regenerate the 21<sup>st</sup>-century economy. These interventions focus on: economics, governance, Big Tech, politics and societal learning structures. Crucially, my recommendations connect with the two most effective leverage points (according to Meadows): the mindset or paradigm on which the system is based and the capacity to transcend paradigms.

### 1. Economics: rethink core concepts from an ego- to an ecosystem awareness

The problem of transforming our economies – or being unable to transform them – starts between our ears, with our outdated paradigms of economic thought.

The problem of transforming our economies – or being unable to transform them – starts between our ears, with our outdated paradigms of economic thought. There are at least two important blind spots in mainstream economic thought. The first one concerns externalities – the unintended and unaccounted-for side effects that economic action inflicts on others and on nature. In recent years, this blind spot has become at least to some degree internalised.

There is another blind spot in conventional economic thought that gets significantly less attention: consciousness. In my view, consciousness may be the most important blind spot in economic theory today. Consciousness concerns the inner place from which actors operate. Conventional economic theory operates on assumed given preferences – that is, a set of interior conditions from which people act. But if I have learned anything in my 25 years of working as an action researcher in many sectors and types of institutions it is this: each actor and each social system

has not one but multiple interior conditions that they can choose to operate from. Which set of inner conditions stakeholders choose (say, egosystem or ecosystem awareness) has a profound impact on the outcome – and is largely dependent on the context conditions (the “container”) that leadership is able to create.

From the viewpoint of awareness-based systems change we can say the quality of results in a system is a function of the quality of relationships. In turn, relationships are shaped by the quality of the interior conditions from which we operate (awareness). In short: form follows consciousness.



The frameworks described in Figures 1–3 are grounded in four relational qualities that can be observed across scales (micro: individual; meso: team; macro: organisation; mundo: systems). Together they constitute one framework for illuminating the blind spot of consciousness (Scharmer, 2018).

With this context in mind, what exactly should the economic intervention focus on?

**The problem with our economy doesn't start in corporate boardrooms. It doesn't start on Wall Street. It originates in how we frame the key categories of economic thought – and how we teach them in business schools and schools of economics.**

It should continue what The Club of Rome's Transformational Economics Commission has already started. That is, to connect some of the most important approaches to rethinking economics – including Doughnut Economics, Green Growth, De-Growth and Wellbeing Economics – into an emerging framework for transformational awareness-based systems change.

The problem with our economy doesn't start in corporate boardrooms. It doesn't start on Wall Street. It originates in how we frame the key categories of economic thought – and how we teach them in business schools and schools of economics. Table 1 provides an overview. The eight listed concepts relate to the components of an updated production function (nature, labour, capital, technology/data, management) plus consumption, governance and ownership.

The framing of these core concepts in current mainstream economics is based on an extractive egosystem view and on what Polanyi (1944) called the "commodity fiction" of nature, labour and capital. We pretend that they are commodities (and therefore can be traded in markets), when in reality they are not. Nature is not a commodity. Neither is labour (human beings). And neither is the social institution of money (capital).

This fundamental critique by Polanyi is often forgotten today. We plaster over the cracks but fail to deal with the root issues, such as corporate sustainability.

But what the polycrisis of our time calls for is nothing less than a radical rethinking of these economic core categories around ecosystem awareness – that is, an awareness grounded in the wellbeing of the whole.

	<b>Egosystem Economics (extractive: commodity fiction)</b>	<b>Ecosystem Economics (regenerative: living systems)</b>
<b>Nature</b>	Commodity: resources <i>Take-make-waste</i>	Living systems/living beings <i>Circular</i>
<b>Labour</b>	Commodity: economics of dependency <i>Humans as resources</i> <i>Income as a cost</i>	Dignity: economics of dignity & self-direction <i>Human rights-based (basic needs)</i> <i>Universal basic dividends</i>
<b>Capital</b>	Commodity-based financialisation <i>Too much money in one place (speculative extraction), too little in another (regeneration of commons)</i>	Redesign the flow of money from places where we have too much (speculation bubbles) to those where we have too little (regeneration of our ecological, social and cultural commons)
<b>Technology/data</b>	Epistemological inequality <i>Manipulating behaviour of the collective</i> <i>Diminishing human wellbeing and creativity</i>	Epistemological equality <i>Making systems see themselves</i> <i>Enhancing human wellbeing and creativity</i>
<b>Management</b>	Top-down, traditional <i>Organising around given objectives</i>	Ecosystem leadership <i>Organising around emerging futures</i>
<b>Consumption</b>	Consumerism <i>Gross domestic product (GDP)</i>	Wellbeing for all <i>Gross national happiness (GNH)</i>
<b>Governance</b>	Hierarchies, markets, special-interest groups	Awareness-based collective action (ABC)
<b>Ownership</b>	State, private	Commons-based ownership

**Table 1. A reframing of eight core categories of economic thought from ego to eco (Scharmer and Kaufer, 2013)**

Alternative economic frameworks do exist. The problem is that they don't have anything like the support structures that enabled the rise of the neoliberal school of thought. Institutions such as The Mont Pelerin Society helped to establish the prevailing economic paradigm, and the Nobel Memorial Prize in Economic Sciences is an annual celebration of its "success".

We need a similarly strategic support structure for the new economic paradigm. That will help to shift the centre of gravity of economic thought from *egosystem* to *ecosystem* awareness.

## 2. Governance: upgrade the economic operating system from an ego- to an eco-logic

Rethinking economics is the first step. The second is to redesign the key economic institutions accordingly. One way of applying systems thinking to the evolution of our societal systems is by using the analogy of the smartphone. With our smartphones we can engage in two types of activities. First, we can download a new app. In economic terms, that's like horizontal development: adding a new skill that you can utilise. Second, we can upgrade the operating system. That's like vertical development: upgrading our awareness and consciousness, our qualities of connection.

To extend this metaphor, Table 2 differentiates the evolution of systems in four different operating systems: OS 1.0: input- and authority-centric; OS 2.0: output- and efficiency-centric; OS 3.0: outcome- and user-centric; and OS 4.0: regenerative- and ecosystem-centric. It plots the evolution of key societal systems against those operating systems.

Operating System	Health	Learning	Farm/Food	Finance	Development	Governance
<b>1.0:</b> Input & Authority-Centric	Traditional Doctor-Centric	Traditional Teacher-Centric	Traditional Farmer-Centric	Traditional Banker-Centric	Mercantilism: Gold Reserves	Visible Hand: Hierarchy
<b>2.0:</b> Output & Efficiency-Centric	Evidence-Based Medicine	Testing Driven: Fast In, Fast Out Learning	Industrial Agriculture: Monocultures	Extractive Capital: Externality Blind	Economic Output: GDP	Invisible Hand: Market
<b>3.0:</b> Outcome & User-Centric	Patient-Centric Medicine	Learner-Centric	Sustainable Ag: Reduce Negative Footprint	Impact Investing: Select Externality-Aware, ESG	Human Wellbeing: HDI	Organized Interest Groups: Lobbying
<b>4.0:</b> Regenerative & Eco-System-Centric	Strengthening Sources of Wellbeing	Whole Person, Whole Systems Learning	Regenerative Agriculture: Food as Medium for Healing Planet and People	Regenerative Finance: Transforming Systems; Externality-Aware	Human and Planetary Wellbeing: PHDI, GNH	ABC: Awareness-Based Collective Action

Table 2. Four stages of systems evolution, four operating systems

In many systems today the mainstream players operate according to OS 2.0; many are trying to move to some version of 3.0; and most of those innovators that operate in the 3.0 space are struggling now to move to the next frontier (4.0). As various senior officials in several UN agencies have put it recently in private conversations: “We are trying to solve 4.0 challenges with 1.0 and 2.0 response patterns.”

The main barrier (and leverage point) to evolving governance structures is that two crucial elements are missing. First, in most systems we are missing platforms that bring all of the relevant stakeholders together – the supply side, the users, the customers and the citizens who

are engaged in these systems. And second, once you bring together the right constellation of partners and players, there is no process and support infrastructure that helps them to move from debate to dialogue, and from a siloed to a shared view of the system.

When these two elements are in place, the system can move from its current state to a 4.0 mode of operating. In governance 4.0, a whole-systems leadership approach can create a shared awareness held by all the key players (ABC: awareness-based collective action). Where do we see ABC spontaneously evolving in society today? Many places: locally, in villages, in cities, in regions. Whenever people organise around a place-based commons we tend to see a version of awareness-based collective action (see Table 1). The reason that special-interest groups have such influence over larger systems is due to the lack of platforms and processes that provide the transparency and holding spaces for collective engagement.

When these collective governance structures are in place, they can deliver meaningful change: the power to evolve, or self-organise, a system's structure.

### **3. Big Tech: from reducing to enhancing human flourishing and creativity**

Just as the latter part of the 20th century was shaped by a global environmental movement in response to the unintended impact of tech on our outer nature, the beginning of the 21<sup>st</sup> century is being shaped by the unintended side effects of tech on our inner nature: our minds. The adverse impact of social media, particularly on younger users, is well documented and researched, but has changed little in the actual behaviour of these sectors and companies.

The leverage point that needs to be addressed here is the illumination and undoing of the commodity fiction. When did we agree to yield ownership of our personal data and life experiences to the likes of Facebook-founder Mark Zuckerberg? No one ever had this conversation. It happened in a collective blind spot of our awareness. But human-lived experience – like nature – is not a commodity. And if you treat it as one, then the results of this fiction will backfire on our human condition and our social wellbeing, just as the commodification of nature backfired on the wellbeing of our planet.

As a first step to transformation, we can co-create new arrangements in which data-based companies, their users and other citizens all sit around the same table. Collectively, we need to draw up a new social contract that includes using data for the wellbeing of all – by making the system see and govern itself.

### **4. Politics: make democracy more dialogic, distributed, direct and data-driven**

Three in every four citizens in G20 countries support the transformation of the socioeconomic system to better address the social and the ecological challenges of our time. But what is our current political system delivering on this aspiration? Very little. That's the problem; but it's also the opportunity. The five turnarounds are very unlikely to happen if we do not improve

decision-making in our political system. Politics is in crisis in most democracies today. Too often, decision-making is captured and hijacked by extremely small special-interest groups who compromise the wellbeing of all (case in point: the fossil fuel industry).

The intervention in this space should focus on innovations that make democracy more dialogic, more distributed, more data-informed and more direct. We need new civic infrastructures that create arenas in which direct, distributed and data-informed dialogues can inform and inspire the evolution of collective decision-making.

This intervention in politics and the intervention in data governance speak to Meadows' leverage point number four: the power to change, evolve and self-organise a system's structure.

## **5. Societal learning infrastructures: democratise transformation literacy**

The four interventions outlined above complement (and in part replace) competitive relationships with collaborative ones. This sounds great on paper. But it only works in practice if the new collaborative arrangements have a collaborative leadership capacity that infuses intelligence and intentional leadership into the governance of the system. Creating learning infrastructures that build this new collective capacity at scale is crucial to making the five turnarounds work.

Leadership, from a systems view, is the capacity of a system to sense and shape its future. It's the capacity of a system to let go of the old, and to let come the new: the future that wants to emerge. In other words, the new leadership capacities that we need to build have everything to do with the most significant leverage point for effecting systems change: the power and capacity to transcend paradigms.

From a systems view, we see two main evolutionary trajectories today that are reshaping the landscape of learning and leadership. One of them deals with broadening and the other one with deepening the conventional learning process. Figure 4 depicts the learning process where the vertical axis represents the stages of deepening, in the following order:

- Traditional formats that focus on the head (learning by memorising information)
- Learning by doing, which focuses on both the head and the hand (reflective learning)
- Learning by co-creating, which focuses on all three of the head, heart and hand (transformational learning)

The horizontal axis shows how learners – individuals, groups, organisations and ecosystems of cross-organisational partners – need to work together.

Where in this matrix are resources and institutional attention currently being applied? At the bottom-left. Almost all educational institutions and much of the training and capacity-building industry is focused on transmitting information to individuals, with some notable exceptions that incorporate team and reflective learning (learning by doing).

But given the massive challenges that are coming our way, where should our primary focus be right now? In the top-right corner. The blind spot of our current learning and leadership capacity-building systems could be filled by transformational ecosystem learning.

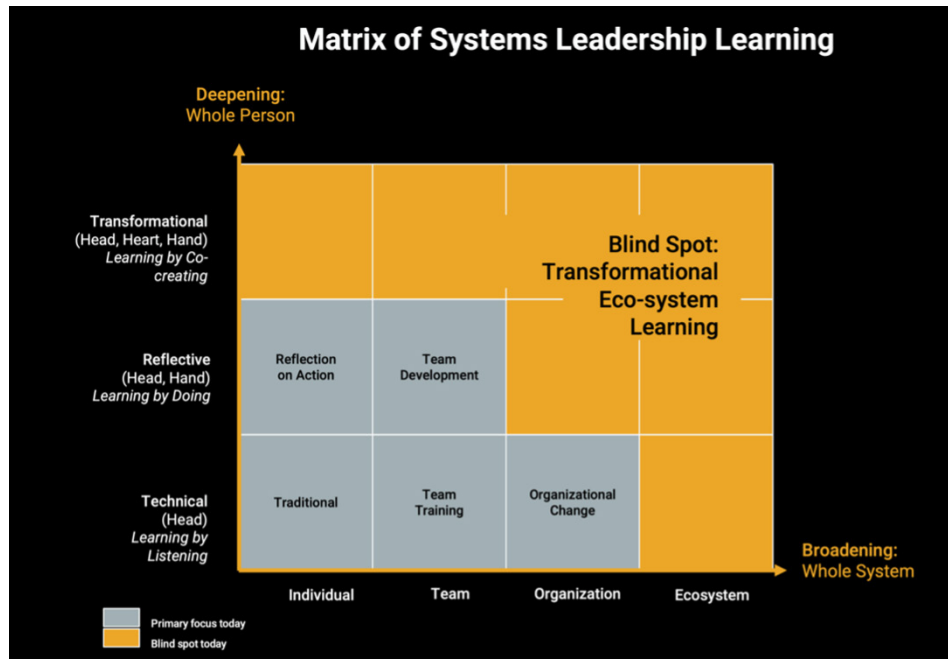


Figure 4. Systems matrix of learning and leadership

In terms of learning and leadership, this fifth intervention should focus on building transformational leadership capacities in society: in individuals, teams, groups and multi-stakeholder ecosystems. The goal should be to democratise access to transformation literacy (Schneidewind, 2013).

## Putting it all into practice

These five interventions – in the economic paradigm, in institutional governance, in data governance, in democratic evolution and in building societal learning infrastructures – would together address all five of the most important leverage points Meadows identified. Building collective capacity in systems learning and systems leadership is probably the most important leverage point.

I will end by sharing 10 pieces of practical advice for building transformational leadership capacity at scale. These come from the experience of action learning labs around the world co-sponsored and delivered by the Presencing Institute and other institutional partners: MITx u.lab, MIT IDEAS Indonesia and UN SDG Leadership Labs, and have involved more than 250,000 change-makers across thousands of initiatives and projects. You can find more information about these initiatives on the [u-school for Transformation website](#).

## 1. Making systems sense and see themselves

The key to making multi-stakeholder collaborations work lies in shifting the members' mindsets from a silo to a systems view, or from an *egosystem* to an *ecosystem* awareness. That happens when the system learns to sense and see itself.

## 2. Tools and practice fields

Getting a system to sense and see itself requires supporting methods and tools. But just dropping a new set of tools on people is rarely effective. Because new tools require people to engage with others in new ways, they also need safe environments where people can practise using them (practice fields).

## 3. Embodied learning and social arts

In these practice fields, the use of embodied learning practices – inspired by the social arts – has proven to be critical for moving from conventional (head-centric) to transformative learning environments (head, heart, hand).

For example, we use Social Presencing Theater as an intuitive way of mapping the invisible deep structures of systems change (Hayashi, 2021). The stakeholders vary with the context, but three roles are always present: the voices of Mother Earth, of the most marginalised (in each system), and of the emerging future (children or future generations).



Figure 5. Deep structure mapping with Social Presencing Theater

## 4. The power of listening and dialogue

The first and most actionable shift towards profound systems change is often at the interpersonal level – in how we listen and how we hold conversations. Workshop participants say consistently that the quality of their listening affects not only their leadership work but also their other relationships and their whole life experience – in short, everything.



## 5. Supportive infrastructures, or “containers”

To be transformative, learning infrastructures should help teams to meet their real-world challenges head on. A five-step process for building a supportive infrastructure is outlined in Figure 6.



Figure 6. The U Process: one process, five stages

## 6. Inner leadership

At the source of all great leadership work are two root questions: (1) Who is my Self? (2) What is my Work? Self with a capital S refers to someone’s highest future possibility. Work with a capital W refers to a person’s or organisation’s purpose, i.e. what they are here for. Offering quality spaces, methods and tools to explore these questions is essential for transformative leadership work (Ray, 2004).

## 7. Blended platforms

Blended online–offline platforms that allow participants to easily self-organise in small groups and to connect across geographies and systems is another key feature of a scalable learning infrastructure.

## 8. Arenas of activation

When collaborating with people in a context of collective anxiety and depression, it is not always easy to connect to a sense of profound possibility, to link people and potential change-makers with their deepest aspirations. To do so, highly accessible and scalable events that offer an initial experience of inspired connection in the context of first-person stories by, among others, the pioneers for profound systems change themselves, can spark and activate this dormant potential for profound change that currently exists around the world.

## 9. Evolving together

Try to establish a shared core process of co-sensing and co-creating emerging futures, which brings all the above to life and makes it possible for people to collaborate across multiple boundaries (see Figure 2).

## 10. Ecosystem leadership

The journey of transformation from 1.0 and 2.0 types of operating systems to 3.0 and 4.0 entails an evolution from egocentric to ecocentric ways of operating (Table 2).

## Conclusions

This paper began by asking what it would take to transform the current economic system from an egosystem into an ecosystem. I have argued that the most important leverage point for changing a system – our capacity to transcend an existing paradigm (Meadows, 1999) – is missing. Of the five interventions discussed, building transformational learning infrastructures is one of the most important because without that capacity many of the other interventions are not going to work. From real-world examples of transformative learning infrastructures we can take two lessons. Yes, it is possible to build transformational learning spaces at scale (and thus democratise access to methods, tools and spaces). And no, they are not as easily scalable as traditional learning environments are. Therefore, to help others put transformation into practice, I concluded by outlining 10 ways to build transformational leadership capacity.

## References

**Bauman, Z. (2013).** *Liquid modernity*. John Wiley & Sons.

**Hayashi, A. (2021).** *Social presencing theater: The art of making a true move*. PI Press.

**Mayer, J. (2017).** *Dark money: The hidden history of the billionaires behind the rise of the radical right*. Anchor.

**Meadows, D. H., Meadows, D. L., Randers, J., & Behrens III, W. W. (1972).** The limits to growth: A report to The Club of Rome (1972). *Google Scholar*, 91.

**Meadows, D. H. (1999).** Leverage points: Places to intervene in a system. <https://donellameadows.org/archives/leverage-points-places-to-intervene-in-a-system/#:~:text=By%20Donella%20Meadows~,produce%20big%20changes%20in%20everything.>

**Ray, M. L. (2004).** *The highest goal: The secret that sustains you in every moment*. Berrett-Koehler Publishers.

**Scharmer, C. O. (2009).** *Theory U: Learning from the future as it emerges*. Berrett-Koehler Publishers.

**Scharmer, C. O. (2018).** *The essentials of Theory U: Core principles and applications*. Berrett-Koehler Publishers.

**Scharmer, C. O., & Kaufer, K. (2013).** *Leading from the emerging future: From ego-system to eco-system economies*. Berrett-Koehler Publishers.

**Scharmer, O., Pomeroy, E., & Kaufer, K. (2021).** Awareness-based action research: Making systems sense and see themselves. *D. Burns, J. Howard, J. and SM Ospina (Eds.) The SAGE Handbook of Participatory Research and Enquiry*. SAGE Publications Ltd.

**Schneidewind, U. (2013).** Transformative literacy: understanding and shaping societal transformations/Transformative literacy: gesellschaftliche veränderungsprozesse verstehen und gestalten. *GAIA-Ecological Perspectives for Science and Society*, 22(2), 82–87.

**Senge, P. M., Scharmer, C. O., Jaworski, J., & Flowers, B. S. (2004).** *Presence: Human purpose and the field of the future* (Vol. 20081). Cambridge, MA: SoL.

**Zuboff, S. (2020).** Caveat Usor: Surveillance Capitalism as Epistemic Inequality. *Zuboff, Shoshana, "Caveat Usor: Surveillance Capitalism as Epistemic Inequality," in Kevin Werbach ed., After the Digital Tornado*, Cambridge University Press, Cambridge.



Earth4All is an international initiative to accelerate the systems changes we need for an equitable future on a finite planet. Combining the best available science with new economic thinking, Earth4All was designed to identify the transformations we need to create prosperity for all. Earth4All was initiated by [The Club of Rome](#), the [Potsdam Institute for Climate Impact Research](#), the [Stockholm Resilience Centre](#) and the [Norwegian Business School](#). It builds on the legacies of [The Limits to Growth](#) and the [planetary boundaries frameworks](#).

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