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TRANSFORMATION

HOW TO SPUR RADICAL CHANGE

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When more than 150 world leaders met in 2015 to develop the United Nations 2030 Agenda for Sustainable Development, their key phrase was "transforming our world". The 17 Sustainable Development Goals (SDGs) they agreed upon represent nothing less than a "shared blueprint for peace and prosperity" for the world: an unprecedented agenda to end extreme poverty, fight inequality, and protect the environment, among other significant goals.

The SDGs mark a departure from previous attempts to influence how humanity responds to modern challenges. In the face of rapid environmental shifts like climate change, the rallying cry has mostly been about "adaptation and resilience" – the important tasks of altering our societies to be able to bear the brunt of changing conditions and adapt to cope with them. What is emerging now is a realization that adaptation simply isn't enough; humans don't want just to survive in the face of rapid change, but to thrive. Doing that means transforming societies altogether.

The term transformation has become a common catchphrase in international media and policy circles. The Intergovernmental Panel on Climate Change's special report on limiting warming to 1.5°C[1] mentions "transformation" more than 300 times – that's almost every other page of the report. The 2018 "Living Planet Report"[2] from the World Wildlife Fund (WWF) argues that we are "on the cusp of a truly historic transformation".

So, what does transformation really mean? It can be defined as "profound and enduring nonlinear systemic changes, typically involving social, cultural, technological, political, economic, and/or environmental processes".[3] In other words, the world as we know it changes in a big way. Importantly, transformative change goes well beyond incrementalism or reform, both of which allow existing practices, goals, and structures to stay in place. Transformation, in contrast, involves change in fundamental norms or assumptions. Unlike a "transition", which implies moving from one place or state to another, "transformation" is more about completely reinventing shape or form – like the metamorphosis of a caterpillar to a butterfly.

Sometimes transformations are unintentional – like climate change, or the ongoing extinction of up to a million species. Some technologies or societal changes – like the development of artificial intelligence – are likely to prompt transformational change, but no one is in the driver's seat deciding what that transformation should look like, or what its goals should be. Other transformations have been purposeful, like the ending of apartheid in South Africa and the fight to allow marriage across all genders.

The SDGs require purposeful transformation. We need to rethink how we design economies and do business; how we produce and distribute the food we eat – even what we eat; how we design and construct our homes, workplaces, and communities; and how we get from place to place. Importantly, we need to transform how we humans relate to each other and to nature. Transformation needs to bring human enterprise of all sorts back into alignment with the realities of what this planet can sustain.

Purposeful transformation is hard. The innate complexity of the world means that the course of a transformation cannot be entirely planned or driven; there are always unexpected events. System transformations are fraught, with multiple actors and multiple leverage points for change. Actions in one part of the system ripple, creating unintended side effects. The proverbial "tipping point" of change is much talked about, but very hard to determine in advance, and even, sometimes, in hindsight. Importantly, transformations literally break down existing systems in the process of creating new ones; the hard reality is that there is stubborn resistance by people unwilling to relinquish the comfortable and familiar.

The goal is finding a critical mass of change-makers to move a system forward in a variety of ways, while including all relevant voices in the process. Instead of rational and linear planning, these change agents have to "nudge" things in the right direction, recognizing the inherent complexity of the system and the transformation process. That is why a set of aspirations like the ones embedded in the SDGs is so important: it provides a guiding framework that helps keep change-makers moving in similar directions even while they are taking independent actions. How can change-makers orchestrate that, or help to guide the process?

The name of the game

This is where Transformations-systems (T-systems) come in. A T-system comprises all those initiatives nudging a status quo system – anything from an issue like healthcare to a geographic area like a watershed – in a similar transformational direction. These efforts may operate alongside a status quo system, such as the zero-carbon energy subsidiary of a traditional energy company. But T-systems are focused on change and innovation, compared with the status quo's emphasis on production and administration. They require their own distinctive identity, skills, and organizing space to operate. Smooth transformations have many connections between the two systems.

There has been little recognition or study of T-systems – it is a new field. That means that many transformational efforts simply muddle along without coherence or guidance, with fragmented efforts going in different directions.

One task of those studying T-systems is to identify productive ways to support intentional transformation. Pioneering environmentalist and lead author of the pathbreaking book *The Limits to Growth* Donella Meadows identified some key leverage points or "places to intervene in a system".[4] Meadows argued that the most powerful leverage point is the power to transcend paradigms or mindsets – the narratives we tell ourselves about who we are, why we do what we do, and what we consider normal *(see box "Changing mindsets about plastic")*.

Another powerful change lever involves reconsidering a system's goals, which is where the SDGs are extremely helpful. Purposeful transformations are enhanced when the players have a clear, shared aspiration, such as the ones laid out by the SDGs. There are other levers too, including how the system operates, that is, the rules of the game including who has power and how they wield it. For example, for many years tobacco companies controlled information about the harmful effects of smoking. It took action by the US surgeon general and, ultimately, many cities and towns, to defy the ubiquitous practice and begin banning smoking from public places *(see box "Leverage Points")*.

T-systems typically develop in stages. Early on, individual transformation initiatives include diverse stakeholders working on a relatively small scale. This early stage focuses on the creation of safe spaces or niches for experimentation with radical innovation. Effective niches allow for learning during these early stages without punishing failures.

In Germany, for example, the shift to renewables, particularly solar, is generally called *Energiewende* (energy transition). The term was introduced in 1980 by the Öko-Institut, which called for a full transition away from nuclear- and fossil-fuel-based energy sources. Energiewende is tackling a century-old production model, with all its entrenched interests, with mixed results. In 1991, German law established financing that helped move windmills and solar panels from niche experiments to widespread use; later legislation proscribed a nuclear-energy-free future. In 2010, Germany passed a law mandating 80–95% reductions in greenhouse gases by 2050 relative to 1990. This had numerous transformative ramifications. In 2011, for example, engineering company Siemens announced its complete withdrawal from the nuclear industry, and the top utility company E.ON claimed it would withdraw from both coal and nuclear power generation. Although some criticized Germany for weakening its commitments, the country generated 54.5% of electricity from renewable energy in March 2019.

Picking up on a word coined by American futurist Alvin Toffler, some energy companies began to label households and farms with solar panels or wind turbines as "prosumers" – producers and consumers combined. Experiments in financing prosumer-produced energy provided investment security for renewable energy that made it possible for many more households to adopt this new technology, which in turn made renewable energy the more cost-effective energy form in many places. By 2016, a German report noted that an enormous transition in the production of energy had begun to happen: by then, some 46% of renewable energy generation was from various forms of citizen (prosumer) participation. The transformation has not been without issues. Some observers criticize the subsidies involved with Energiewende. And there is still resistance from Europe's largest energy companies.

The case of marriage equality in the United States also highlights the different stages of transformation. In the late 1960s and the 1970s, action focused on gay pride parades and the promotion of gay rights. Later, activists aimed to shift the mindset around love and commitment, as well as rights for families, no matter what the gender of the people involved. In the early 2000s, T-system actors deliberately pursued policy changes through the courts, media, and other avenues that could shift the existing laws and regulations regarding marriage. Ultimately, Vermont instituted the first civil unions in the year 2000. Then in 2004 Massachusetts became the first state to legalize same-sex marriage. By 2015, many "nudges" later, the US Supreme Court ruled that all US states were required to recognize and allow same-sex marriages.[5]

ADAPTATION SIMPLY ISN'T ENOUGH

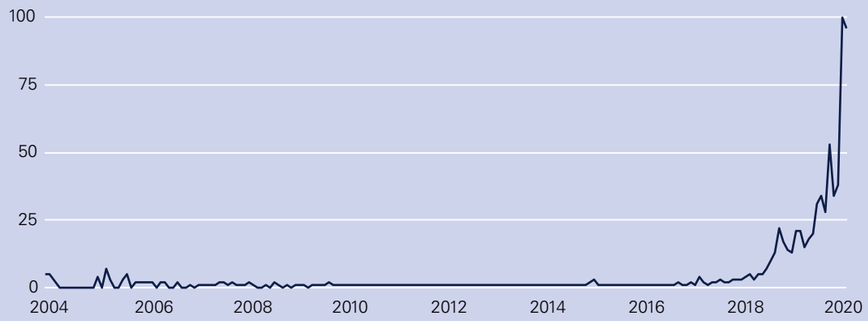
Solar panels have become common on residential homes in Germany.

CHANGING MINDSETS ABOUT PLASTIC

Plastics became wildly popular in the years following the Second World War and were touted as a utopian replacement for natural materials like steel, wood, glass, and paper. The famous line from the 1967 Dustin Hoffman movie The Graduate captured what proponents thought at that time: "Plastics. …There's a great future in plastics." The image quickly paled, however (as Hoffman's character recognized). Plastics soon took on an image of cheap, mass production. As early as the 1960s, plastic debris was discovered in the ocean. Today, of the 300 million tons produced annually, the vast majority ends up in landfills or waterways.

The continued business verve for plastics, thanks to its cheap price tag and flexible structure, has led to a boom in single-use plastics: things like disposable forks and spoons, plates, plastic bags and wrap, and drinks containers, particularly water bottles. One estimate is that about 500 billion plastic bags are produced annually – with an average "working life" of about 15 minutes each. More than 100 billion plastic beverage bottles were sold in the US alone in 2014 – about 315 bottles per person.

A mindset of broad awareness of the problems created by plastic waste is just now beginning to develop: Google Trends shows that searches for "single use plastic" have been climbing since 2017. The United Nations reported in 2018 that some 27 countries had enacted some forms of bans on single-use plastics. In June 2019, Vermont became the first US state to ban everything from straws to retail bags (to be in effect by 2020). Similarly, Canada announced a plan to ban such plastics nationally by 2021. The seeds for transformation have been planted.



Rising Awareness
Google searches for "single use plastic" are trending upwards. *Source: Google, 2019*

Four strategies
T-systems include four distinct strategies.[6] A key part of transformation is shaking up the status quo with a "warrior" strategy. Activist organizations like Extinction Rebellion (XR) disrupt and destabilize the current system, to create windows of opportunity for radical alternatives to become established and flourish. XR, founded by a group of academics in the United Kingdom in 2018, is attempting to reframe the debate on climate heating by declaring boldly "This is an Emergency!". XR draws its inspiration from past transformation efforts like those of Mahatma Gandhi and the Indian Independence Movement.

In 2019, British newspaper The Guardian reported that significant progress had been made on XR's three demands of telling the truth, zero emissions by 2026, and a citizens' assembly.[7] On telling the truth, for example, XR has influenced multiple British politicians to acknowledge that climate heating is the biggest challenge facing humanity. On zero emissions, XR has persuaded the UK's Committee on Climate Change to announce revised emissions targets, including a UK commitment to reach net-zero emissions by 2050, compared with the formerly agreed target of 80% reductions by that time. XR has (at the time of writing) been less successful on its third demand of having the government create a citizens' assembly; but it is early days.

A second strategy, a "lover" strategy, is associated with multi-stakeholder processes such as the Forest Stewardship Council (FSC). FSC is a global nonprofit oriented towards promoting responsible management of the world's forests, founded in 1993. Like many transformation efforts, it brings together unusual partners: in this case environmentalists, social activists, and businesses. Recognizing the power of markets in today's economies, FSC developed a new set of certification standards for managing forests responsibly. FSC ultimately gained the support of key environmental groups like the WWF, the Sierra Club, Greenpeace, the Natural Resources Defense Council, and the National Wildlife Federation, which pressured forestry companies into alignment with its standards. FSC used its certification and labelling approach to create a competitive environment in which companies had a new reputational incentive to gain a label certifying them as eco-friendly. The results are impressive: some 380 million acres of forest are now certified globally by FSC, with more than 2,500 companies certified in the United States.

The "entrepreneurial" strategy aims to create small, niche examples of the transformed future. This strategy has been used by organic farmers, alternative schools, farm-to-table restaurants, local currencies, and more. They typically face a challenge moving out of their niche status.

The fourth, "missionary", strategy is represented by people in status quo organizations who are determined to transform them. Paul Polman, CEO at Unilever (2009–2019), was an archetypical example. He undertook a wide variety of actions to push the company and its production processes in a transformation direction, such as co-founding the sustainable seafood initiative the Marine Stewardship Council, changing company performance metrics to include measures of sustainability, rejecting quarterly report filings in order to focus on long-term goals, and buying entrepreneur companies like Ben & Jerry's ice cream that focus on community building and sustainability.

All of these strategies interact in a T-System such as the Wellbeing Economy Alliance (WEAll). Formally launched in 2018, WEAll targets the major underlying concepts behind today's dominant economic systems: that endless economic growth is always good, indeed necessary; that businesses have the core purpose of maximizing shareholder wealth; and that markets are "free", with a so-called invisible hand that will correct all problems. WEAll is helping to shift this mindset, by connecting and aligning many initiatives already working towards the same ends and rewriting the narrative of how we define a healthy economy. It aims to shift the rules of the game, the practices of business, and the metrics by which nations judge economic success. WEAll and its affiliates' alternative approach emphasizes what ecologist Hunter Lovins, one of the founders, calls an economy in service to life: one that provides dignity and well-being for all, including non-human beings.

TRANSFORMATION INVOLVES CHANGE IN FUNDAMENTAL NORMS OR ASSUMPTIONS

Perspectives – What is the desired mindset?

For example, transform thoughts of "this can be thrown away" to "waste is a problem".

Power relations – Who needs to participate?

For example, take power out of the hands of a top-down, centralized elite, and distribute it among all important stakeholders.

Purposes – What are we trying to achieve?

For example, shift from "How can I make a more efficient car engine?" to "How can fossil-fuel use be eliminated from transport?"

Practices, policies, and processes – How should the system operate?

For example, transform the production of goods from a system that churns out cheap products for high-volume sales to one that leases more durable products.

Performance metrics – How should we measure and reward progress?

For example, transform the metric of national progress from Gross Domestic Product (GDP) to a well-being index like the Genuine Progress Indicator (GPI).

LEVERAGE POINTS OF TRANSFORMATION

Simple steps

People often find transformation and large-systems-change work overwhelming. But it can be broken down into three manageable steps.

First, it is vital to really see the system undergoing transformation, often by mapping it. Seeing and mapping can be supported by technical means, such as data visualization, and more qualitative and soft techniques that bring stakeholders together. The next step is to connect those actors, many of whom may have different strategies and interests, into a powerful system that can identify radical actions and experiments to achieve their goal. The third step involves implementation of these actions – although the three steps are cyclical and interact.

In order for a T-system to be effective, stewards are needed to guide them through these steps. The Southern Africa Food Lab (SAFL), founded in 2009, is playing this "steward" role in developing a local T-system to address the problem of hunger. The Lab has analysed the local players in food systems from farmers to retailers, brought them together, and spurred actions such as encouraging food chains to diversify their purchasing networks to include small-hold farmers.

The lack of formal structure in T-systems can make them vulnerable and ephemeral. But it also makes them nimble: they have a loose and light institutional infrastructure. In contrast, the status quo system tends to resist change. Rapid transformation is resisted by attitudes like "but we've always done it this way", the benefits and power people receive from traditional ways of doing things, and existing infrastructure, bureaucracy, or processes. That is why transformational efforts often start in protected niches as a way of establishing their worth before tackling the broader institutional landscape or regime.

Purposefully transforming our societies is difficult, complex, and messy by its very nature. There is no cookbook approach or simple solution. Experimentation and failure are part of the process. But history provides evidence that it is possible to purposefully change deep-seated structures, mindsets, assumptions, and operating practices. Intentionally recognizing and understanding various actors as part of a T-system can help to promote this kind of change.