GREAT TRANSITION INITIATIVE
TOWARD A TRANSFORMATIVE VISION AND PRAXIS

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The Question of Technology

Opener for GTI Forum Technology and the Future

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This **GTI Forum on Technology and the Future** explores a critical question: how might emerging technologies shape—and be shaped by—the global transition now underway? Our panels approach this knotty question at concrete and conceptual levels. In the first, contributors weigh the implications of *specific technologies*, for better or worse, for a Great Transition; in the second, contributors examine *theoretical frameworks* for making sense of the interplay between technology and society.

Disruptive Technologies

An astonishing array of potentially disruptive creations looms on the horizon. In this pivotal moment, what influence, for better or worse, might vanguard technologies have on the global trajectory? Which applications are inherently discordant with a Great Transition and should be resisted outright? Which have a legitimate place, in some form, in a Great Transition world and the struggle to get there?

Under prevailing Conventional World conditions, social change movements can oppose the adoption of specific technologies, advocate policies to regulate them, or, by ignoring them, cede the field to business-as-usual forces. Not surprisingly, given the diversity of environmental and social advocacy, controversy rages about such technologies as bioengineering, artificial intelligence, and the Internet.

To structure the discussion of this sprawling topic, panelists were invited to focus on the prospects of key technologies in three arenas:

Bioengineering: Will there be GMOs in a Great Transition? Surely we need to move from industrial agriculture to an agro-ecological model, but can this meet the nutritional needs of a growing population? Some see a role for regulated GMOs, while others passionately disagree.

Artificial intelligence: Will AI induce painful unemployment in the near term? By reducing socially necessary labor time, might it be the precondition for a post-scarcity society? What would a politically progressive AI strategy look like that balances such concerns?

Digital economy: Do blockchains and cryptocurrency merely foreshadow new financial and environmental burdens, or hold the promise, as some claim, of hastening a post-capitalist economy? Can social movements begin to coopt elements of platform capitalism to grow the infrastructure of platform cooperativism?

Interlocutors were asked to reflect on how different institutional contexts might shape the form each technology assumes and the function it plays, a consideration which segues into the discussion of theoretical frameworks, the theme of our second panel.

The Big Picture

How should we think about the interplay between technological and social evolution? Does technology drive history? Or the reverse? Or perhaps the logic of discovery defines a channel of possibilities for social evolution that delimits the scope for human agency?

Ask a professional futurologist (or a wonderstruck layman) what our grandchildren's world will look like, and odds are you'll hear a story about how disruptive technology inexorably will revolutionize economies and everyday life. For many, *technological determinism*—the idea that technology drives history—is a seductive lure that offers a through-line for explaining social change. We can resist, surrender, or adapt to the robots (and much else), but they are coming!

But in downplaying the other side of the equation—the ways history drives technology—technological determinism is reductive and simplistic. The robots and their ilk will not be dropped from the sky by technology gods; they will carry characteristics and functions congruent with the societies that spawn them. By insisting that the internal logic of innovation drives social evolution, technological determinism reverses that paternity. If technology marches to the beat of its own

drum, we can love it (*technophilia*) or hate it (*technophobia*) but not alter its essence. Both the techno-optimist gushing about cool gadgets and the techno-pessimist indicting the machine let the reigning political economy off the hook.

By contrast, the *social construction of technology* school rejects the idea of technology as an autonomous force, instead understanding it as embedded in society and subject to individual and collective choices. Social constructionism yields academic and policy insight into the regulation and management of R&D, but its granular focus cannot guide us in the big-picture challenge of shaping the social-technological culture of the future. Moreover, social constructionism's bias—history drives technology—obscures the objective constraints imposed by the state of technology and the laws of nature.

What are the contours of a systemic understanding of the technology-society dialectic? An adequate framework recognizes that technological and social conditions co-evolve at different spatial scales influenced by strengthening global forces. In stable times, the technological variants that prevail and become entrenched are those compatible with dominant interests and institutions. However, at pivotal moments of historical change like the present, techno-social systems can branch in myriad directions as disruptive innovations contribute to the stress on existing structures, helping to trigger and shape what comes next.

In our time of transformation, emergent technologies powerfully affect all future trajectories, whether of Conventional Worlds, Barbarization, or Great Transition varieties. The forms they assume and the roles they play are subject to choices yet to be made and struggles yet to be waged. If it is true that the robots will look like us, the prior question remains: what will we look like? Technology scenarios are subplots of the larger story depicted in the alternative narratives of the future.

With these general remarks offered as background for your critique and elaboration, our panelists examine tangible and theoretical dimensions of **Technology and the Future**.

About the Author

Paul Raskin is the founding president of Tellus Institute. His work has focused on visions and pathways to a decent future from local to global scales. He has developed widely used integrated assessment models for energy (LEAP), water (WEAP), and sustainability (PoleStar). In 1995, Dr. Raskin convened the international Global Scenario Group, whose valedictory essay—*Great Transition: The Promise and Lure of the Times Ahead*—became the point of departure for the Great Transition Initiative that he continues to direct. His most recent book is *Journey to Earthland: The Great Transition to Planetary Civilization*. He holds a PhD in theoretical physics from Columbia University.

About the Publication

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