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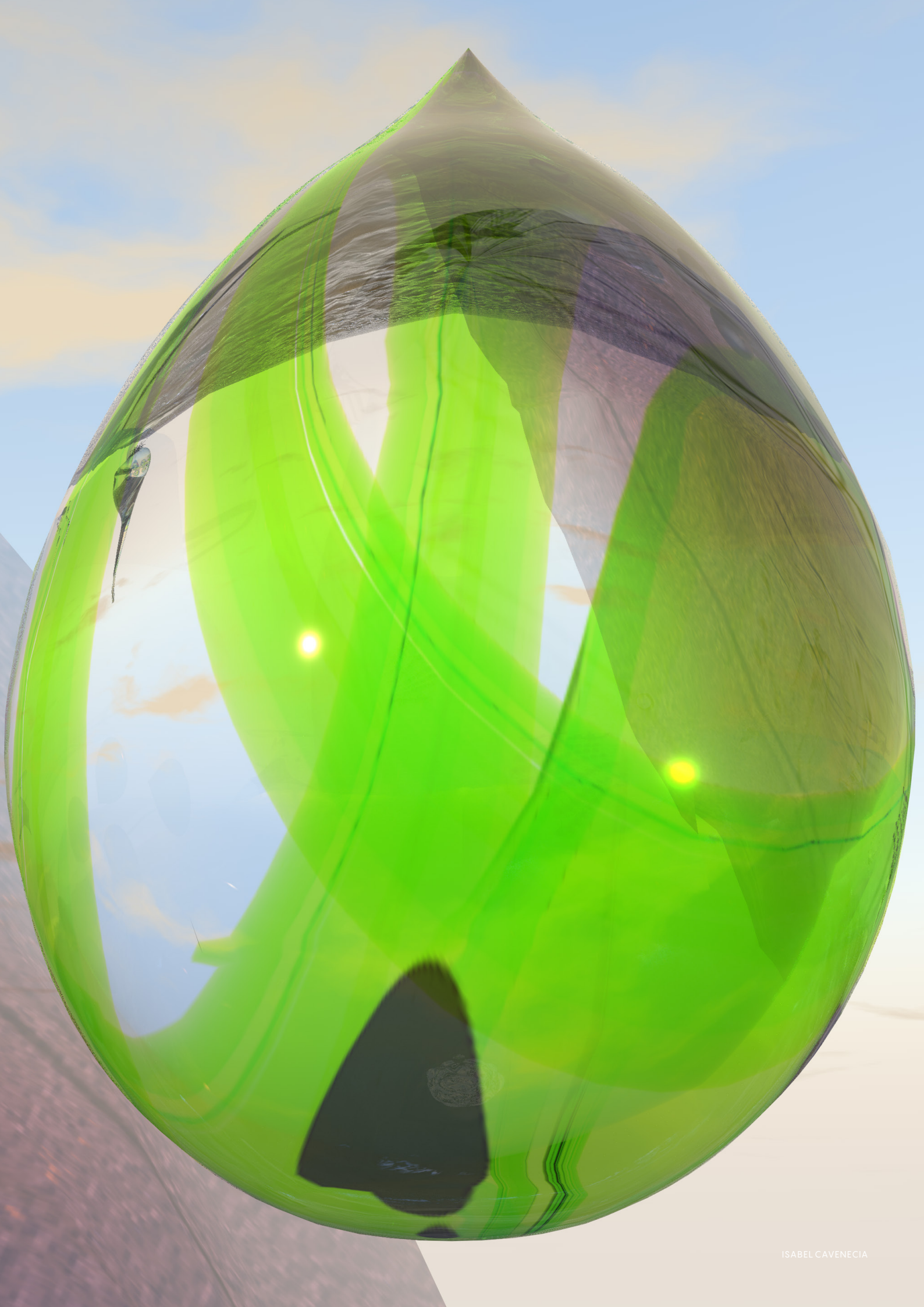
CONTENT



ISABEL CAVENECIA

Foreword

THE EDITOR

The meaning and practice of risk have changed over history, yet, in the context of late modernity, risk can be conceptualized as an estimation of future threats. This present-day understanding of risk implies a specific relation to the future, one that demands the monitoring of the yet-to-come and the development of specific tools and measurement systems that make the future legible. Indeed, today the future is everywhere; it is dystopic and must be "hacked" by actions and technological progress in the here and now. The global "risk society" is hence a reflexive modern phenomenon, in which the risks and hazards produced by modernity itself need to be prevented by more modern developments. In this regard, risk changed from a mere obstacle into a roadmap for action, giving rise to big data and other predictive technologies. Yet, Ulrich Beck explains that imaginations of a catastrophic future as *possibilities* dovetails with world-wide feelings of anxiety and uncertainty, as risks like global warming, nuclear disasters and novel diseases are simply not so easy to predict and avoid.[1]

Emphasizing the nexus of risk narratives, technology and embodied action, a Foucauldian understanding of risk and uncertainty suggests that risk management is more than a maneuver dealing with the reality of certain threats. Identifying the future as bearing with risk is linked to specific visions of order and the ways to shape, establish, and reproduce it. This perspective views risk as a *dispositif* for governance, where uncertain futures become vehicles of power that assemble individuals, institutions, bodies of scientific knowledge, and rationalities of security. As such, risk has become the central element of governance both in

the public and private sphere, as it allows for action and interventions outside of the own domain. As Kevin Grove has pointed out, "what constitutes 'risk' and 'uncertainty' changes as liberal government reflexively problematizes the amount and kind of government exercised over external domains such as the economy and society. From this perspective, catastrophe risks associated with, inter alia, climate change, terrorism, and global pandemics are less symptoms of modernization run amok, than ordering principles of a 'precautionary risk' that is a central component of *dispositive* neoliberal order."[2]

Whether articulating risks as tools for power or as the products of modern societies, established frameworks objectify risks as external structures created and utilized by the human race. How do landscapes of risk assemble when we rethink their ecological and social situatedness, their genealogies, the reality transforming actions that they animate, *their very own agency?*

TERA stands for Technology, Ecology, and Risk Assemblages and explores how speculations about the future affect societies in the present day. In its scope, it aims to offer new frameworks to understand risk as *ecologies*, rejecting the separation of technology and biology, narrative and matter, pointing to their very interlacing manner instead. The framework of ecologies of risk and resilience is also a means to shift away from a human-centered approach to risk, emphasizing that "we are in a knot of species coshaping one another in layers of reciprocating complexity all the way down."[3] It has to be noted that rethinking the human in the context of risk does not mean these assemblages are not political–quite the contrary. By pointing to relationalities, TERA investigates *how* assemblages are shaped, negotiated, and held together by visions of risk, and reframes their ethical implications. As María Puig de la Bella Casa emphasizes, "the purpose of exposing how things are assembled, constructed, is not to debunk and dismantle them, nor is it to undermine the reality of matters of fact with critical suspicion about the powerful (human) interest they might reflect and convey. Instead, to exhibit the concerns that attach and hold together matters of fact is to enrich and affirm reality by contributing further articulations."[4]

TERA journal: Issue 1

This first issue of TERA journal provides a curation of thinkers and practitioners who explore ecologies of risk and resilience in different yet, interrelated ways. All express the need to develop new ways of thinking, as established frameworks fail to capture the complexity of the present day. Yet in its scope, TERA does not aim to work towards a systemic explanation of risk as such. Rather, it triangulates a space to discuss the relation between speculation and structure, concepts and their matter, and to give voice to a variety of viewpoints relevant for contemporary debates. The contributions to the first issue of TERA journal are accompanied by the images of **Isabel Cavenecia**.

Ed Finn asks the important question that Ulrich Beck left unaddressed in *Risk Society*: if we cannot "calculate" catastrophic risks, how do we make sense of the future in general? He argues that humans make decisions largely based on narratives. In his words, "[w]e are storytelling animals, constructing models of ourselves and reality on the fly." Proposing the lens of narrative implies not only to rethink the concept of risk in itself but also the industries that developed around it. Insurance companies, advertising, media platforms, Finn argues that the markets that emerged are not so much specialized in certain risks, but rather in risk *narratives* that thrive on fear and anxiety. In order to tell better risk stories, Finn makes a case for the power of the imagination. A focus on the imagination helps to redefine the individual as an active agent, not as a mere figurant in the risk stories created by others in today's and tomorrow's worlds. Hence, cultivating both individual and collective imaginative capacity is a first step to imagine better futures.

In an interview by Krisha Kops, **Thomas Pogge** elaborates on the way how certain risks are identified, measured and termed, and translated into international policies. If people worldwide narrate risks differently, how do humanitarian programs designed elsewhere deal with these local differences? What ethical considerations are involved in global policies when risks are distributed unequally? And in general, how can we think about and act upon risk and justice in such a way that it does not reproduce undesirable power structures? Thomas Pogge discusses the theories of the philosopher John Rawls and others to argue for a theory of social justice that promotes the moral assessment of institutional arrangements and shifts the responsibility to institutional design. Emphasizing the role of the individual in institutional change, Pogge argues against the terminology of "goals" that disables actors to be held accountable when failing to avoid certain threats.

An empirical example of how risk narratives become vehicles of power is provided by **Groundhem Initiative**. In their essay "Managing Risk: Urban Redevelopment and State Violence in Turkey's South-East," the authors discuss how notions of risk are utilized by the Turkish state to carry out policies that reshape the architectural landscape. Groundhem Initiative takes the historic city center of the city Diyarbakir as a case to demonstrate the way the Kurdish population is being displaced under the guise of security. Working at the intersection of research and visual journalism, the collective developed methods to visualize the link between urban planning and military destruction, aiming to provide counternarratives as a strategy against the recent violent gentrification in that region.

In her essay "Rethinking the Risks of Rejecting Religion: Secular Speculations and the Construction of Nonreligious Risk Narratives," **Jacqui Frost** discusses the notion of uncertainty in relation to the presence and absence of religious beliefs. Modernity, she points out, is often associated with secularization and the loss of religious stability, and hence it is presumed that individuals in modern societies experience more existential uncertainty. Providing empirical examples from atheists, agnostics, and transhumanists communities in the U.S., Frost shows that many nonreligious people find meaning in uncertainty itself, embracing it rather than that they try to avoid it. The author discusses the way nonreligious beliefs influence narratives of existential risk, emphasizing that these imaginations are highly politicized as they fundamentally shape present-day debates and policies while proclaiming specific visions of a future world.

What does uncertainty sound like? Musician and sound-artist **Nicola Privato** developed W.E.I.R.D, a musical performance where the chords are translated Twitter feeds generated by a bot during the first months of the Corona pandemic. Privato found inspiration in Zygmunt Bauman's *Liquid Modernity*, in which the author raises questions on what characterizes modernity. "To 'be modern' means to modernize–compulsively, obsessively; not so much just 'to be', let alone to keep its identity intact, but forever 'becoming', avoiding completion, staying underdefined. [...] '[L]iquid modernity,' is the growing conviction that change is the only permanence, and uncertainty the only certainty. A hundred years ago 'to be modern' meant to chase 'the final state of perfection'–now it means an infinity of improvement, with no 'final state' in sight and none desired."[5] Similarly, the chords of W.E.I.R.D are ever-changing, reflecting societies worldwide that are always in becoming.

Building upon these notions of continuous change, the final four essays take the notion of risk as a starting point for ontological reconsiderations, adding complexity to the debate by emphasizing entanglements and anti-genealogy. **James R. Watson,**

Laura E. R. Peters and **Jamon van den Hoek** point to the inaccuracy of identifying separate risks in today's highly interconnective world. Whether speaking of transportation systems, ecology, or financial markets, the nominal boundaries that used to define world-systems do not actually exist, as all are spaces simultaneously political, social, cultural, and economical. Acknowledging that entanglements lead to "supersystems," the authors coin the term "supersystem risks" as crises in one system inevitably leads to crises in another. Supersystem risks can be hidden until the moment that world-systems change. Yet, as the economic incentives demand an evolvement toward even more connectivity, supersystem risks will likely increase in the years to come. While we continue through the Anthropocene, the authors argue that rethinking the notion of risk in complex ways also requires to rethink resilience. Emphasizing the ever-changing nature of our world, they make a case to embrace diversity, modularity, and redundancy and think through different timescales when it comes to decision-making.

In a similar vein, **Erik Bordeleau** borrows Timothy Morton's concept of "hyperobjects" to refer to risks so massively distributed in time and space that they challenge the very idea of what a thing is in the first place. More specifically, Bordeleau discusses uncertainty in the context of financialized capitalism, questioning how to work towards the invention of new leveraging practices, cooperative and implicated ways of world-making by which different species, technologies, and forms of knowledge generate their own loci of intensive commingling. He scrutinizes financial systems as fundamentally designed to invert uncertainty, not by finding ways to mitigate it, but by operating as closed structures that "loop" themselves back into existence. As such, systems are self-referential and circular mechanisms that disable any possibility for change. With this, Bordeleau offers important insights on the performative aspect of monetary systems, financial apparatuses, business models, and derivatives in their way how they not reflect but *shape* reality in presents and futures yet to come. Elaborating on crypto-economics, Bordeleau makes a case for speculation and uncertainty to make value structures "weird" again and disrupt the looping of extractive systems that results in their continuous self-fulfillment.

Loops are also discussed by **Shannon Lambert**, who takes Jenny Offill's novel *Weather* as a starting point to elaborate on the embodied aspect of patterned experiences and knowledge. The protagonists's repetitive feelings of uncertainty regarding future risks invites to rethink the relation between the individual and ecological, the future and present day. As such, the term "contractions" that is in the title of the essay explains Lambert in a Deleuzian way that considers the synthesis of human and more-than-human bodies. The author emphasizes the dialectical

relationship between the meaning of narratives and the way stories are being told and retold, how structure and narratives reinforce each other. As such, she shows how contemporary literature can provide the means to think differently, not merely in a thematic way, but how narrative strategies negotiate existing ontologies and conventions like linearity and individuality. Emphasizing the inherent material and temporal entanglement of the atmosphere and the human body, Lambert asks, "what does it look and feel like to read with a contracted body, with attention to contracted formal patterns like loops and synecdoche?"

Finally, **Tinna Grétarsdóttir** and **Sigurjón Baldur Hafsteinsson** present the Icelandic turf house in their "Pulses for Future Architecture" as a space where humans, soil, microorganisms, and other species' bodies become imbricated in one another. The turf house, a structure in between an object and a living being, shifts away from the traditional definition of "architecture," as it is a superorganism born out of a complex process of multi-species alliances. The authors argue that the turf house should be recognized and comprehended as a verb to acknowledge its constantly changing nature, not something that is "out there" but something that the inhabitants *become*. In their essay, Tinna Grétarsdóttir and Sigurjón Baldur Hafsteinsson demonstrate the turf house as a building without a blueprint, adapting to new economic and social needs for both humans, plants, and animals alike. Also, the turf house is embodied by processes started already billions of years ago, hence embedded in multiple temporalities that link the future and the past. As an example of speculative design, the Icelandic turf house is a guide in a quest to find better ways to live in the future and provides valuable means for ontological and epistemological reconsiderations in the present day.

All of the essays and artworks introduced above offer ways to rethink the notion of risk in speculative ways, foster complex and interdisciplinary perspectives and critically question the ethics they imply. As such, TERA does not take uncertainty simply as the relation between past, present, and future, nor as a product of society as Ulrich Beck and others have suggested in previous years. Rather we hope to add to its meaningful understanding by mapping the assembled structures and effects of risk, going beyond activist claims to see how we can *be* with uncertainty. TERA is an exercise to "stay with the trouble,"[7] an exercise that has just begun.

Endnotes

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ISABEL CAVENECIA

Imagining Better Futures

HARNESSING STORIES TO CONTEND WITH RISK

Ed Finn

We are not very good at risk. We are better at stories. In an essay from 1998 titled "Risk Society," Anthony Giddens responds to Ulrich Beck and argues that "the idea of 'risk society' might suggest a world which has become more hazardous, but this is not necessarily so. Rather, it is a society increasingly preoccupied with the future (and also with safety), which generates the notion of risk."[1] He points out that the risk society is a fundamentally modern phenomenon, emerging with the age of exploration and continuing to its intricate expressions today in the domains of finance, health, geopolitics, climate, and many more. Since the concept of the "risk society" emerged in the 1990s, our technical instruments for perceiving the future have grown more sophisticated: elaborate computer simulations, even quantum computing, backed by massive data troves. And yet the human brains contemplating these "futurescopes" are largely identical to those that navigated the Middle Ages, or the Bronze Age for that matter. To put it differently, we are not equipped

to handle the math, to properly value or discount remote or unlikely catastrophes, or to effectively correlate lived experience and mathematical abstractions. And when humans have occasionally pursued the rational, mathematically prudent course, it has not been because of widespread buy-in to the results of technical analysis.

Instead, we make our decisions largely based on narratives. We are storytelling animals, constructing models of ourselves and reality on the fly. This reliance on stories can make us vulnerable to misinformation, groupthink, and poor judgment, but the narrative engines in our heads are also our best tools for contending with the future. As the authors of *Homo Prospectus* (2016) argue, echoing Giddens, we are cognitively as well as societally oriented towards the future. However, unlike Giddens, they see this prospective orientation as a deeper evolutionary adaptation: "the deadliest predator on the planet is not the strongest or the swiftest, but the one with the longest horizon of anticipation, homo sapiens."[2]

Our unreliable memories and malleable interpretations of the present are best understood as narrative models, or humanistic simulations, of what could happen next. Like computational simulations, these stories about the world only work if we discard a lot of information for the sake of efficiency and consistency. But where computation depends on abstracting away from the particular, our narrative models gravitate towards it. Sometimes we can capture an entire history, a whole life trajectory, in a single gesture or phrase, using our innate capacities for narrative inference and extrapolation. Remember that very short story, sometimes attributed to Ernest Hemingway: "For sale: baby shoes, never worn."

Representing the Future

The deeply embedded narrative systems in the brain are designed to work with materials that are directly available: memory and experience, observations from the senses, and our finely tuned social awareness of how our actions will affect the feelings of those around us. For example, researchers in Japan have shown that asking communities engaged in long-term planning to select a spokesperson for future generations leads to deliberations that are more favorable to long-term sustainability and equity.[3] It seems that having someone literally represent the future in conversations has a powerful impact on our narrative capacity to navigate risk and trade-offs. Extinction Rebellion and other recent climate protest movements can serve the same purpose by using public action and nonviolent protest to voice the needs of the future.

A second way in which stories help us contend with the future is in their function as cognitive management systems for complex environments. A good story conveys foreground and background, ambiguity and dissonance, while maintaining a central arc of meaning and purpose. Also, the stories we tell over and over again manage to be both general and particular, transmitting archetypes and mythic plot structures while still remaining grounded in concrete details, like the color of the eye that twitched open in Victor Frankenstein's laboratory. Hence, a well-crafted story is a microcosm; a narrative experience that unfurls into a world in the imagination of its audience. In this way, a story becomes a kind of simulation itself, one whose rules are often implied by the rules of genre and narrative convention rather than explicitly stated. The details and conditions of the story are sketched out through characters, description, and plot, though often many of the crucial actions of the simulation are left to the audience to create on their own.

The stories we tell about risk follow these same principles. Stories of luck and superstition persist not just for gamblers and athletes but also for NASA astronauts and flight engineers, who religiously bring peanuts to the Mission Control room every launch, among other idiosyncratic traditions. The most impactful conversations we have about climate change pivot on the experiences of individual people and places weathering superstorms or rising sea levels, rather than detailed statistics on average temperatures or atmospheric carbon dioxide. As political scientist Manjana Milkoreit has demonstrated, even climate policy experts and decision-makers often lack a clear positive vision of the future they are working towards, focusing instead on statistics or negative outcomes to be avoided.[4] This absence of concrete positive visions for climate futures may explain why we continue to struggle to mobilize globally to contend with this existential threat.

In the absence of compelling, factually informed hopeful visions of the future, fear and anxiety dominate. A paradixocal result is that the risk society has led to the emergence of vast industries specializing in risk narratives. From credit cards to pharmaceuticals, the marketers and pitchmen of risk rely on the narrative techniques of foreground and background, elision and analogy, to maximize the benefits and downplay the negatives of their products and services. Many of their stories are about specifically packaged risks: a car crash, a burglary, a disease. Rather than presenting a statistically grounded narrative about what actions might be most beneficial to the individual consumer (eating healthier food, for instance, to reduce the likelihood of heart disease), they often market solutions to unlikely but potentially serious risks, like a house being struck by lightning.

Even stepping back from the risk-themed caricatures presented in advertising, most of the stories we tell about risk are problematic at best. Our collective narrative response to the risk society has been to perfect the art of exquisite rationalization, spinning elaborate tales to justify our failure to make difficult decisions, take costly actions, or address uncomfortable realities. We continue to struggle with problems like food insecurity and extreme poverty even though scientific and logistical solutions to these problems are legion. Corporations like Fox and several other holdings of the Murdoch news empire have made a business out of terrifying and enraging their audiences, creating elaborate story-worlds around the risks of globalization, cultural pluralism, socialism, and so forth. The growing prominence of this narrative-driven, fear-based approach to risk has legitimized even more extreme risk stories, as QAnon conspiracy theories in the U.S. and the hateful rhetoric of white supremacists. Considering the increasingly perilous relationship we have with such risk stories, one might be forgiven for wondering if we're really very good at stories after all.

Failures of Imagination

The missing term we need to introduce at this juncture is imagination. When we bring a narrative to life in our minds, we are using the cognitive faculty of imagination to conjure up the characters and settings. Our brains model the optic and auditory circuits of sense perception when we imagine a story, and they even engage the emotional system so we can feel the story as well as envision it.[5] Imagination is like the holodeck of the mind, enabling us to conjure up an infinite variety of scenes and possibilities, involving not just novel places and scenarios but also identities and personae. For this reason, imagination is the cornerstone of our relationship to risk as well as narrative. We must imagine risks to make them real. We narrativize them, translating a statistic about air travel safety, for example, into a vignette about a plane crash or a safe landing.

To make clear, we are much better at imagining some risks than others. The slow, systemic disasters of climate change are hard to narrativize, and even the acute trauma of a forest fire can be rationalized away as a rare, catastrophic occurrence. Some of us place these misfortunes into the supernatural category of "acts of God" even though they are entirely predictable, and entirely predicted, by our models of a changing climate. Others exert narrative imagination to rationalize these risks within the comforting context of a status-quo reality. In any case, we embed those imaginative structures into laws, policies, and corporate structures,

which implicitly and explicitly reiterate and reinforce particular narratives about what risks are real and how to contend with them. For example, the State of California subsidizes fire insurance to encourage rebuilding in the same areas where fires will inevitably return, contributing to a shared imaginary that underplays the long-term likelihood of future catastrophe because it would require Californians to reimagine too many things differently in the present, from political constituencies and public utilities to urban zoning.

There is a shorthand for our impoverished cultural relationship with risk: a failure of imagination. One modern classic example is the 9/11 terrorist attack and the findings of the subsequent 9/11 Commission Report, which uses the term "failure of imagination" repeatedly to describe the multiple coincident mistakes that led the US intelligence and security apparatus vulnerable to such a simple yet horrific form of attack.[6] As with 9/11, the "failure of imagination" is not a vacuum, but a situation where the status quo and deep-rooted assumptions obscure facts and narratives that otherwise might be obvious.

In a similar fashion, the success of the Murdoch empire is a story of millions of people allowing their imaginations to be colonized (and monetized) by a corporation selling fear and anxiety sugar-coated as a narrative of resistance to fear and anxiety. The "economy of attention" that drives the multi-billion-dollar online advertising and consumer data markets are also fundamentally extractive of our imaginations. Zeynep Tufekci writes compellingly of how YouTube algorithms designed to maximize the number of hours a user spends on the site end up pushing ever more radical content to viewers, creating a catalyst for increasing polarization and warped perspectives.[7] These systems leverage our predilection for risk narratives that are exciting, tempting, or salacious in order to create something akin to risk addiction, drawing us ever deeper into a landscape of anxiety and fear.

Furthermore, because we are bad at risk, we are also bad at distinguishing responsible narratives of risk from irresponsible ones. We are cognitively equipped to judge these stories as stories, but find it much harder to judge them for veracity and responsibility to principles of verifiability and transparency. When MIT researchers conducted a study after the 2016 election to understand why fake news circulates so freely online, their findings suggested that malicious bots were not the biggest threat to fact-based discourse.[8] Actually, the problem was us: humans find fake news irresistible because it makes for more salacious, more compelling, more outrageous—that is to say, better—stories.

Imagining Better Futures

So what can we do? Imagination once again provides the answer. To craft better risk stories, we have to make the prudent pathways as compelling as the potential disasters that currently compel us. Rather than "doomscrolling" or scanning the headlines for news of fresh disasters, we have to cultivate our individual and collective powers to create and share stories of the futures we want. While dystopian visions and warnings will always have an important place in our shared imaginary about risk, we vastly underinvest our attention and energy in constructing positive visions of the future. It is helpful to think of risk narratives as a genre of stories. Like the mystery or the romance, the typical risk story we tell today has certain rules and expectations which express a causal model of reality. Sometimes these causal rules are borrowed from premodern narratives like fairy tales: being too ambitious or upsetting social norms will lead to a comeuppance; do not tempt fate by trying to improve your lot; obey your elders in all things. By recognizing the genre of risk, we can begin to ask what new rules and expectations we might want to use instead, and how we might disentangle our perceptions of the future from the genre we have already internalized.

From that starting point, we can begin to construct very different stories about the risks of the future that accommodate individual and community context. By redefining the individual as a co-creator of risk narratives, rather than as a pawn or powerless figure in a risk narrative created by someone else, we can change the stakes of the game. Most of us are used to telling such stories in more immediate contexts, such as deciding whether to run for the bus or wait for the next one. But we are rarely encouraged and poorly equipped to extrapolate beyond the familiar, to seriously consider, say, what life might be like in ten or fifteen years.

In his novel *New York 2140*, celebrated science fiction author Kim Stanley Robinson imagines such a future, one in which the process of revising the rules of the genre becomes a centerpiece of the plot.[9] The New York of the title is akin to Venice, with skyscrapers intersected by canals as sea-level rise destabilizes real estate markets and coastal communities attempt to adapt. At the beginning of this novel, the characters are adapting as we might expect, creating new financial instruments to monetize the risks of climate change. But by the end, they have done something remarkable, nationalizing major banks and reconceptualizing the financial instruments of risk as ways to protect individuals from the worst impacts of climate instability, rather than to profit from them. In essence, Robinson creates

a utopian vision of a new genre of risk.

To achieve something like what Robinson's characters do in terms of reinventing the genre of risk requires both imagination and efficacy. We need to cultivate individual and collective imaginative capacity to identify risks and obstacles, possible solutions, and to construct convincing narratives that bridge between the present and a possible future in which that obstacle has been overcome.[10] Doing this effectively requires a sense of self-efficacy, that the individual has the basic knowledge and cognitive skills to do this imaginative work, to assess the real validity of risks in a local and personal context, and to act on the results of such a narrative simulation.

Ed Finn is the founding director of the Center for Science and the Imagination at Arizona State University, where he is an associate professor in the School for the Future of Innovation in Society and the School of Arts, Media and Engineering. He also serves as the academic director of Future Tense, a partnership between ASU, New America and Slate Magazine, and a co-director of Emerge, an annual festival of art, ideas and the future. Ed's research and teaching explore the workings of imagination, digital culture, creative collaboration, and the intersection of the humanities, arts and sciences. He is the author of *What Algorithms Want: Imagination in the Age of Computing* (MIT Press, spring 2017) and co-editor of *Future Tense Fiction* (Unnamed Press, 2019), *Frankenstein: Annotated for Scientists, Engineers and Creators of All Kinds* (MIT Press, 2017) and *Hieroglyph: Stories and Visions for a Better Future* (William Morrow, 2014), among other books. He completed his PhD in English and American Literature at Stanford University in 2011 and his bachelor's degree at Princeton University in 2002. Before graduate school, Ed worked as a journalist at *Time*, *Slate*, and *Popular Scienc*e.

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[1] Giddens, A. (1998). "Risk Society: The Context of British Politics", in J. Franklin (ed.) *The Politics of Risk Society Order*. Cambridge: Polity Press, 27.

See also Anthony Giddens *The consequences of Modernity* (1990) and Anthony Giddens "Risk and Responsibility" (1999).

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[8] Vosoughi, S., Roy, D, and Aral, S. (2018). "The spread of true and false news online". *Science, 359*.

[9] Robinson, K. S. (2017). *New York 2140.* Orbit.

[10] This has been the intellectual project of the Center for Science and the Imagination at Arizona State University since its inception in 2012, leading to a range of projects and publications exploring the imaginaries of climate change, science in society, space exploration, and solar energy, among many other topics.

ISABEL CAVENECIA

The Ethics of Measuring Uncertainty

AN INTERVIEW WITH THOMAS POGGE

Krisha Kops

"Whatever we, as prospective participants unaware of our specific features, would desire society to be like is what, morally speaking, we ought to institute."
- Thomas Pogge

Within ten years from now, poverty should be ended in "all its forms everywhere." At least, that was the central commitment of governments proclaimed at the 2015 meeting of the United Nations General Assembly in New York when the 2030 Sustainable Development Goals (SDGs) where adopted. The successful implementation

of this plan has yet to be seen. Current governments and international agencies largely promote GDP growth while regarding the eradication of hunger and poverty as something that will eventually be realized by means of economic growth. However, as Thomas Pogge has pointed out, few realize that extreme poverty is not a mere economic condition, but a harm structurally inflicted upon the global poor. Pointing to the social component of poverty, he argues that its meaning is as diverse as the different people and contexts upon which it can be inflicted. Close contact between government and the governed is therefore essential for successful development policies. Hence, while econometric and political analyses have for long proceeded as if data were simply to be handed down, asking what poverty actually *means* could be a first step to effective aid and global justice.

Thomas Pogge is one of the leading voices in debates on health, poverty and human rights. He holds a position as Leitner professor of Philosophy and International Affairs at Yale University, where he is also the founding director of the Global Justice Program. In his work, Pogge is influenced by the thoughts of philosopher John Rawls (1921-2002), who supervised the doctoral dissertation Pogge completed at Harvard University. However, pointing to the difficulty of applying Rawls' theories to the international domain, Pogge worked on developing his own approach to questions of justice and humanitarianism throughout his career. His publications include *Health Rights* (2016) and *World Poverty and Human Rights: Cosmopolitan Responsibilities and Reforms* (2007). In his theories of justice, Pogge especially emphasizes the importance of negative duties (do no harm) over positive duties (provide aid), arguing that the rich must first and foremost refrain from imposing supranational institutional arrangements that foreseeably and avoidably reproduce severe poverty. He co-founded projects such as Academics Stand Against Poverty (ASAP), an international network that aims to enhance the impact of scholars, teachers and students on global poverty, and Incentives for Global Health, which promotes creation of a Health Impact Fund (HIF). This publicly pay-for-performance mechanism constitutes an alternative to patent monopolies by giving incentives to companies to develop pharmaceutics for those diseases that are not covered by market-driven initiatives. While the Health Impact Fund would reward innovators for the health gains they achieve with their registered pharmaceuticals, it would limit the price at which they could be sold to the costs of manufacture and distribution. Krisha Kops spoke with Thomas Pogge about the issue of measurements in global justice initiatives, Rawls, and questions around expert knowledge.

KK In the 2015 article *The Sustainable Development Goals: A plan for building a better world?* you openly criticize the SDGs that were adopted by the United Nations earlier that year. What are your main points of criticism?

TP The most important reason for my critique has to do with the shift in terminology from the language of human rights to the language of goals. When you talk about goals the idea is always that we are making progress towards something. We cannot be blamed as long as things are getting better; we might not get there as fast as we had envisaged, but we are getting there.

The language of rights is quite different. It suggests that when there are unfulfilled rights immediate full action must be taken. For example, if you think about slavery in terms of rights, you will say that the slaves must be freed right now. If you think about it in terms of goals, you may say: "let us see whether we can liberate half of the slaves by 2030 and the other half maybe by 2050." Of course, it is better to have a poverty-reduction goal than to have none. But given the alternative of the human rights language, I feel that the language of goals is the poorer alternative. It makes us feel comfortable with how far we have come, while the rights language stirs to urgent action against the injustice that remains.

KK In that same article you critically pointed to the way poverty is measured within the framework of the SDGs. Is there a way to obtain measurements correctly when it comes to poverty and other issues?

TP In regard to measurement there are two, maybe three different issues to distinguish. One is the questions of *who* is measuring. Here integrity is of particular importance. The second issue is related: *when* do you decide about *how* you measure? Measurement methods ought not to be changed midstream. In my essay *The Hunger Games* (2015) I recounted how officials were dissatisfied with stubbornly high counts of the undernourished. In order to report more progress in their final accounting Millennium Development Goals (MDGs), they changed their methodology in 2011 and decided to measure in a different way near the endpoint of the 1990-2015 MDG period. This is of course completely unacceptable. However, this is bound to happen with international agencies in charge, as they are funded by governments and their leaders are appointed by intergovernmental consensus.

A similar instance happened this past July, when the UN Food and Agriculture Organisation (FAO) announced that it had in recent years overestimated undernourishment in China by a factor of twenty. Measurements that bounce around

like this are obviously unreliable. International agencies are often obliged to accept numbers given to them by a government, if only because they need government support to do their work. Therefore, if we want to know what is really happening, we should entrust measurement to independent experts who lay down their methods in advance and then stick to them until the end of the reporting period.

KK Above-outlined examples of independent measuring seem to be objective at a first glance. Yet, how can it be assured that also those who are actually affected are included into the debate?

TP I was involved in the creation of the Individual Deprivation Measure (IDM), a new way of measuring poverty resulting from a large four-year project founded by the Australian Research Council. We started by talking to people in economically underdeveloped regions. For this purpose, eighteen locations were selected; one rural, one urban, and one with a disadvantaged minority from six different countries that included Angola, Fiji, Indonesia, Malawi, Mozambique and the Philippines. We went there very informally and talked to people about what poverty means to them. What are the characteristics of poverty? How do you recognize and rank 'poor people'? We got a long list of characteristics, developed it into a proto index and then went back to the same people to ask whether it made sense to them. With their feedback, we refined it some more and finally arrived with a fifteen-dimensional metric for measuring poverty.

Interestingly, violence was one of the dimensions. Initially I suspected a translation mistake, but when we thought about it, we realized that the people were right. Being poor means being vulnerable to violence. It means you have no home with a front door you can lock to protect yourself, no real access to police or judiciary. If people beat or rape you, you are essentially without recourse. As others know this you are treated as easy prey.

KK Speaking to the affected group is one way to create more inclusive measures. Are there additional ways to avoid reproducing certain power structures in humanitarian practices and policies?

TP Any serious research on poverty must prominently involve poverty-affected people themselves because they know it first-hand, and because they have most at stake in how poverty is measured and addressed. Still, we should not simply hand over the exercise fully to a group defined as being poor. There are sophisticated

methodological requirements for a poverty measure that supports diachronic and international comparability. Left to their own devices, affected groups could provide a vivid account in their local language of what it means to be poor in their community. This is interesting and important input into a poverty measure. Yet, experts trained in social science and statistics are still needed to construct the measure.

We tried to moderate the power and preconceptions of the experts involved through what we called 'deliberative participatory research.' Outside experts participated in group discussions with local community members and deliberated with them about how best to clarify and systematize their thinking about poverty. We did not simply record the views community members held, but rather invited them to reflect upon such initial views in conversation with one another and the experts. Such group exercises took four distinct forms, including guided group discussions, group exercises to generate poverty ladders that enable community members to discuss different levels or categories of poverty, group exercises to rank different dimensions of poverty in terms of their relative importance, and household mapping exercises to discuss how poverty may vary by gender and age within the household. These group exercises were followed by a final set of in-depth individual interviews to revisit any key points or themes from the group exercises that required further elaboration.

KK In 2007 you began to elaborate on the Health Impact Fund (HIF) with other researchers, aiming to encourage pharmaceutical firms to develop new remedies against hitherto neglected diseases and provide remedies at affordable prices. How does the HIF reflect upon the question of adequately capturing and measuring 'health'?

TP I do not think there is such a thing as correct measurement. The HIF assigns value to pharmaceutical treatments, an exercise that has a substantial normative component about which there can be reasonable disagreement. For example, one can argue about the inclusion of contextual and person-specific factors such as profession, lifestyle and location that influence how important a specific health gain is to a particular person. To arrive at a manageable measure of value we concluded that we must leave most of these interpersonal differences out. Instead, we rely on averages by asking how important specific health gains *typically* are. Here one can differentiate by factors such as age or gender or certain genetic traits

when these make a substantial difference, but not by factors such as profession or economic potential. In specifying the details of the metric and the methodology for data collection and processing, the HIF would be able to draw on decades of experience and debate involving different versions of quality-adjusted life years (QALYs) as for example deployed by the Institute for Health Metrics and Evaluation (IHME) in their periodic studies of the global burden of disease. For the specific purposes of the HIF this approach would have to be refined with the help of stakeholders, theorists and experts. The result will be a compromise that few will be completely satisfied with. Yet, we are confident that all will agree that the HIF achieves a vastly better value-reward correlation than the present patent monopoly system.

KK Academic practices and policy making are undercut by specific nodes and strategies of sense-making. In order to obstruct these systems of power, would it be preferable to include other, non-prevalent knowledge systems into existing structures?

TP We should definitely look at them. I doubt we would learn a lot about how to do quantitative social science from other cultures. We have done this for quite a long time and have come up against all sorts of different problems of measurement, comparability, statistic validity, and so on. Perhaps I am prejudiced, but these things are pretty hard and fast. There are no radically different ways of doing statistics. This does not account for qualitative research, which is a whole different thing. I am fascinated to see what goes on in other knowledge systems. There you often have very creative ways of illuminating something. Not with numbers, but with descriptions. Language matters here. It is intriguing to see in what terms other cultures describe a certain problem. Even in our Indo-European languages there are words that exist in one language and not in another. If you have this word, you can understand a certain phenomenon. A good example is the German word *Schadenfreude* ('enjoyment from the troubles of others'), which does not exist in other languages. It beautifully captures something you would not capture with the same clarity, if you had no word for it. We live and conceptualize our experience in language. Therefore, language influences how we think and feel. With richer language tools, we get a deeper understanding of what is happening in a social world; and we can really grasp the experience of others only by sharing their understanding of the terms in which they articulate their experience.

KK Your former teacher John Rawls created a theory of justice foundational in debates on global justice up until the present day. However, critics of Rawls point out it is exclusively embedded into the history of 'Western' thought. As an alternative, the economist Amartya Sen includes also Indian philosophy in his *The Idea of Justice* (2009). What is your view on the absence of non-Western perspectives in dominant justice theories?

TP Non-Western philosophy should certainly be included. However, Rawls self-consciously abstained from this. Citing from his work *Theory of Justice* (1971), he primarily wanted to systematize "one (educated) person's sense of justice. Here he started with himself, seeking to bring his own settled moral convictions and factual beliefs at all levels of generality into a coherent 'reflective equilibrium.' His hope was that other educated people of his time and culture would find this systematization compelling. This hope can reasonably extend to the Anglophone world of the latter half of the twentieth century, but not far beyond that. Rawls would have acknowledged that if people from another era or culture used his method of reflective equilibrium, they would probably arrive at quite a different theory of justice. Even when fully developed, our sense of justice remains bound to the considered convictions of our own culture and era, even though we apply it far beyond this limited scope by making justice judgments about for example feudal France or present-day India.

Rawls leaves two openings for non-Western perspectives to enter. By seeking a *wide* reflective equilibrium, he is recommending that we try out several quite different ways of unifying our considered convictions into one theory. Thus, Rawls spent many years trying to work out the most compelling utilitarian theory. He felt he should accept the best specification of his own contractualist approach only after having compared it with the best specification of a utilitarian theory of justice. Developing the best versions of alternative approaches may in some cases change our considered moral convictions, and Rawls was quite open to this. I think he would have agreed to work through non-Western approaches as well, though in fact he did not devote significant time to this effort. As non-Western approaches are more remote from his own moral convictions, he possibly thought that their detailed study would not enrich or influence his theorizing about justice as much as closer-to-home approaches such as utilitarianism.

The other opening for non-Western perspectives exists in his international theory, *The Law of Peoples* (1999). Here he argues that an ideal society of peoples should have room for a wide range of differently organized societies. Some of

these acceptable societies would be organized according to some version of liberalism, including ones quite different from his own. Others would be 'decent societies' that perhaps lack a separation of church and state, full freedom of expression or a democratic political system. Rawls sketches the set of decent societies only in broad stokes, but clearly assesses them from the standpoint of his own liberal values. Although decent societies are to be accepted into the ideal society of peoples as 'members in good standing,' Rawls hopes that they eventually reform themselves into liberal ones. For our moral theorizing, he did not think that he or we have much to learn from the moral conceptions that organize the different decent societies.

KK Is this the contribution of your own work, as you attempt to elevate Rawls' theories to a global level?

TP I follow Rawls insofar as I address people in the West, arguing that if we want to live up to our values we must stop designing and imposing supranational institutional arrangements that reproduce severe foreseeably and avoidably deprivations on a massive scale. But I am also going beyond Rawls by seeking supranational institutional reforms that can be justified in terms of the values of diverse cultures. Some of these reforms are the following: a Global Resources Dividend (GRD) would ensure that all human beings partake in the value of the planetary resources we consume or degrade, like metals and minerals, water and air. The HIF would reward new medicines and vaccines according to the benefits they bring to human beings, regardless of their socio-economic position, thereby incentivizing research into the diseases of poverty, resulting in new pharmaceuticals priced near cost of production. And a ban on 'national nepotism' would commit participants in supranational rulemaking to reason and decide impartially in light of justice and the common good, and without special regard for their home country. In a similar vein are national politicians expected to act for the good of the whole country without special regard for their home province, hometown, or family ties. These reforms can be justified from within diverse cultures and can begin humanity's advance toward a world-order based on shared values; a transformation urgently need to assure human survival in the face of the dangers of war and environmental catastrophe.

KK Who is responsible to bring these different theories and approaches into dialogue?

TP Academics and foreign-policy officials are best prepared to make a start. They can gain a rich understanding of the values and perspective of another culture. Such an understanding is required to appreciate members of another culture as moral persons. Not moral in the sense that they share our morality, but moral in the sense that they have a sincerely held morality that they are committed to honour even at substantial cost. Once we know this of each other across a cultural boundary, we can explore together what moral principles and institutional arrangements we can jointly commit to from our diverse respective moral conceptions. The key here is that each side understands in some detail where the other is coming from. Today, all too often, each side understands only its own values and happily uses them to condemn the other side for all their supposed crimes and failures. No firm moral common ground can be established in this way and all we then have are the ever-shifting international arrangements based on bargaining power and threat advantage, arrangements that are routinely abandoned or renegotiated with every major shift in the perceived power or interests of major states. Such a modus vivendi regime affords no long-term security for societies and their values and entails a perennial danger of major military confrontation.

KK We do not only face differences when it comes to cultures, but also concerning gender and ethnicity. Something Rawls ignores in his 'ideal theory,' which stands for a perfect societal structure based on idealised presumptions.

TP Rawls calls for building a social world in which his principles are fully satisfied. He thought of this as a two-stage process. First philosophers design the ideal, then some non-philosophers worry about how to get us there. This seems far too ahistorical. An ideal should be constructed in light of historical possibilities. Advocacy of an ideal is itself an historical event that depending on context may advance or impede progress toward this ideal. By developing a theory that said little about the monumental injustices associated with race and gender. It is quite possible that Rawls greatly diminished the historical impact of his theorizing. To be sure, a theory of justice is not a tool for use in everyday political contests. Still, a political theorist should reflect on the political and historical role of her or his own theorizing.

KK Understanding processes of domination and exploitation as the key forces that structure societies, some scholars suggest that we have to start ethical theory itself by analyzing these very dynamics. Hence, Marxist and other scholars would argue that your thoughts still do not go far enough.

TP The two concepts of domination and exploitation are quite difficult and weighed down by historical baggage. I rarely use them, but I do analyse in both explanatory and moral terms the phenomena they use to describe. For example, I analyse unequal opportunities to participate in collective decision making and to exert political influence; and I critique economic arrangements that distribute the collective social product in a way that foreseeably and avoidably leaves some participants unable to meet their basic needs.

KK John Rawls prefers in his justice theory the 'maximin rule,' meaning we have to make those decisions which optimise the outcome while taking the worst-case scenario into account. Do you agree with this approach, that aims to be of the greatest benefit to the least-advantaged members of society?

TP The maximin rule designates both a principle of distributive justice and a maxim for decision making under uncertainty. In the former meaning, the maximin principle requires that the distribution of benefits and burdens of a cooperative scheme be organized to *maximize* the value of the *minimum* share. How plausible this is depends in good part of how 'shares' are conceived. For example, do they include just those benefits and burdens of cooperation or also such personal endowments as talents, looks, health and cheerfulness? The details matter greatly and neither Rawls nor his followers have provided an account of relevant shares on which the maximin principle would be compelling.

In the latter meaning, the maximin rule requires that one chooses the option with the best (or least bad) outcome. As Rawls recognizes, such extreme risk aversion is clearly insane in most cases. But it may well be appropriate for a narrow set of cases where the rule rejects options that involve at least one very bad outcome whose probability is highly uncertain. It may also be appropriate in situations where the decision maker stands in a trusteeship relation to the person who will bear the decision's consequences. Imagine you are a trustee in charge of managing an orphan's inheritance. Arguably, in this situation you ought to be highly risk averse to ensure preservation of capital. Rawls draws on both these intuitions when he argues that the parties in his original position ought to choose according

to the maximin rule. Doing so, they would then be drawn to agree on a maximin principle of distribution, at least if they can formulate one that would ensure political stability.

KK How would you then treat risks in these situations? Unlike Ulrich Beck suggested in his *Risk Society* (1992), is it not the reality that risks are not fairly distributed in most cases?

TP This is right. Risk taking seems most acceptable when the decisionmakers themselves bear the consequences. By raising the speed limit, a society trades some degree of safety for greater convenience. This trade-off becomes problematic when many citizens are cyclists or pedestrians who will get most of the extra risk and none of the extra convenience. In such a case and even if they constitute a majority, the drivers ought to be risk-averse and also compensate the non-drivers through fuel taxes or in other ways.

Asymmetrical distribution of risks and benefits is a feature also of the two most prominent risks of the present era: major war and climate change. Politicians can often increase their power and standing by creating crises, tensions and hostilities. The risks of war they thereby create are borne by millions of people who had no part in political decisions and derived no benefit from it. Similarly, the worst emitters are imposing risks and harms mostly on people other than themselves. Communities in the tropics, for instance, and members of future generations. Such unilateral impositions of risk are deeply wrong paradigm injustices of our time.

KK These examples illustrate that risks evoke ethical questions. Traditionally, there are two dominant ethical approaches to deal with ethical issues in the 'Western' tradition. On the one hand utilitarianism, which judges those deeds to be ethical which create the maximal happiness for all affected individuals. On the other hand, deontological ethics focus not on the consequences, but on whether actions are intrinsically good or bad. Are these theories adequate for handling modern-day risks?

TP Kant's deontological ethics is based on the categorical imperative, which gives little guidance for how to deal with risk and uncertainty. A utilitarian or consequentialist ethics is well equipped to handle probabilities. However, it cannot be applied in practice as we cannot fully foresee all the effects of our decisions, even probabilistically, because these effects get comingled with the effects of the

conduct decisions of countless other agents.

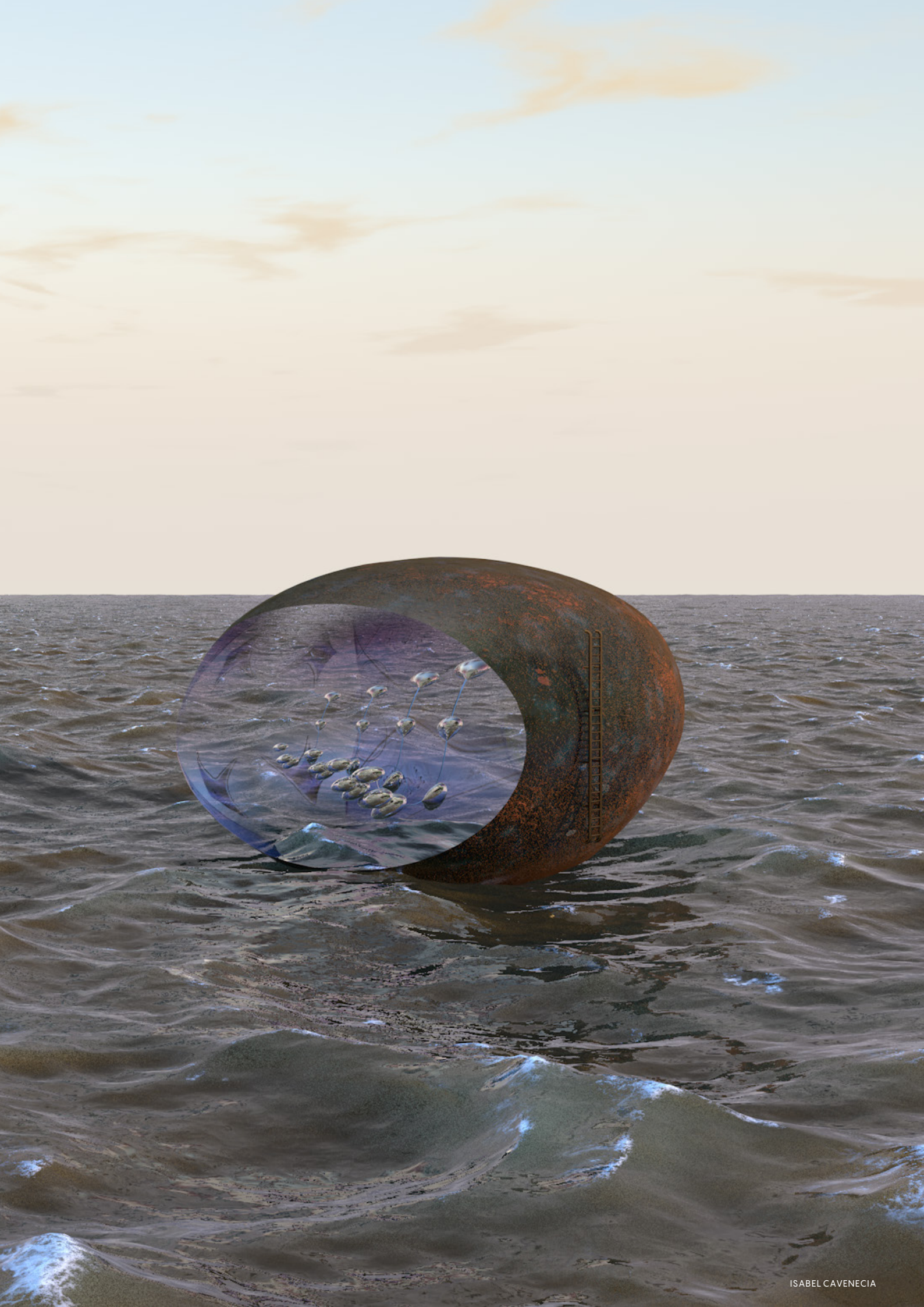
As John Rawls recognized, the best way forward is to shift emphasis from ethics to social justice, from the moral assessment of agents and their conduct to the moral assessment of institutional arrangements. In that way are the effects of such rules and procedures of a large social system more easily foreseeable than the effects of individual conduct. For example, we can adjust particular parameters of a country's tax system and then observe how these changes affect the distribution of income and wealth as well as opportunities for education and employment.

KK Does this not create the danger of people denying personal responsibility, while blaming the supposedly ethical institutions?

TP No. It merely shifts our responsibility toward institutional design. We bear a collective responsibility for the ground rules of our society, because as citizens we participate in shaping and imposing these rules. By living up to this responsibility we are more likely to achieve the desired change.

Suppose we are appalled by the poor wages and working conditions of coffee farmers. We can resolve to shift our coffee purchases toward fair-trade-certified products. This will benefit some coffee farmers, hurt others, perhaps motivate some entrepreneurs to seek fair-trade certification and some others to start a new free-trade certification business. It is difficult to be confident even *ex post* that our shift had an overall positive impact commensurate with the cost involved. Alternatively, we might mobilize in favour of a new law that requires coffee importers to monitor their supply chain and to make sure that every bean entering our country was grown by people who are paid a decent wage. Here we could realistically monitor the impact of the new law and be sure of its positive impact. This is the course of action I advocate. Whoever fails to help make our laws more just can blame the laws but remains co-responsible for their moral defects.

Krisha Kops received his Ph.D. in intercultural philosophy from the University of Hildesheim. His dissertation theorizes the modern philosophical receptions of the *Bhagavad Gītā* in Germany and India. Kops previously obtained degrees in philosophy and international journalism at London and Westminster University and works in Germany and India as a journalist for publications such as *Times of India* and *SZ-Magazin*. As a teaching and consulting philosopher, he focuses on questions of global justice, intercultural philosophy and exchange.



ISABEL CAVENECIA

Managing Risk

URBAN REDEVELOPMENT AND STATE VIOLENCE IN TURKEY'S SOUTH-EAST

Groundhem Initiative

Turkey is sitting on a complex structure of tectonic collision, causing it to be a highly seismic active area. Because earthquakes are Turkey's most common natural hazard, it has become a global "risk reduction leader"[1] over the last decades, according to the UN Office for Disaster Risk Reduction. Following the devastating Marmara earthquake in 1999, which caused the death of ca. 18,000 people and the demolition of ca. 113,000 buildings,[2] Turkey introduced major legal changes in order to enhance architectural earthquake resistance. As plausible as these adjustments may sound, "risk" has since become a driving factor of lucrative development projects throughout the country.[3]

Typically, such real estate projects involve Turkey's Mass Housing Administration (TOKI), which over the years has become a governmental profit-driven venture despite its positioning as a non-profit organization invested in social housing.[4] Between 2005 and 2012, various Laws were passed, giving the government, in cooperation with TOKI, the authority to expropriate and transform any area un-

der risk of natural disaster. These gradual changes culminated with the Law No. 6306, which allowed the municipalities to arbitrarily designate any area as a disaster risk area, irrespective of the officially defined risk zones.[5] This created a legal basis for the use of "risk" as a pretext to expropriate neighborhoods for real estate development. A striking example of the profit-driven urban transformation justified by a discourse of risk mitigation is the historic city center of Diyarbakir, called Sur.

Sur, Diyarbakir

Due to its geostrategic position in the south-east of Turkey, Diyarbakir has been an important location since ancient times. For around 2,000 years, it has been inhabited by a variety of civilizations and is therefore home to numerous cultural sites and a heterogeneous population.[6] In 2015, the old fortified walls of Sur and the adjacent Hevsel Gardens were declared a World Heritage Site by UNESCO. Apart from its historical significance, it has also been at the center of ethnic conflict throughout the history of the Turkish Republic.

Throughout the 1980s and 90s, the Turkish state initiated rural counterinsurgency campaigns in order to suppress the support for the Kurdistan Workers' Party (PKK), a Kurdish guerrilla group founded in 1978.[7] The state violence against Kurdish communities resulted in the displacement and dispersion of nearly half a million people. Many of them were detained and tortured, others completely disappeared. The destruction of up to 3,000 villages, carried out to prevent their residents' return,[8] forced many to settle in cities, such as Diyarbakir.

In Sur, internally displaced people (IDP) created a communal neighborhood culture, shaped by the old city's traditional narrow streets and multi-family houses.[9] They also transformed Sur's traditional fabric by building additional, unlicensed structures called *gecekondu* in Turkish.[10] Because this built environment existed on the margins of the formal institutions, residents often relied on an informal economy and solidarity networks, which fostered support for radical Kurdish politics.[11]

In the recent years, the population and urban fabric of Sur has become the target of the intertwined processes of urban renewal and military operations. The project of urban redevelopment, legitimized by the rhetoric of natural disaster risks, was facilitated by the 2015-2016 military operations. The narrative of terrorist threat,

used as a justification for the military campaign, functioned as the final catalyst for the destruction of almost half of Sur's built environment and the repeated displacement of around 24,000 people

Courtesy Groundhem Initiative

The Uncivil Object

The project of urban redevelopment, affecting several neighborhoods in Sur, was initiated in 2008 by the centrally appointed governorship of the Diyarbakir province in partnership with TOKI.[12] The proclaimed objective was to turn Sur into a trade and tourism center by replacing the informal *gecekondus* with standard TOKI multi-storey buildings and relocating its residents to the outskirts of the city. Faced with local contestation against these plans, the state declared the entire Sur an earthquake risk area[13] based on a photographic survey that, according to local practitioners, did not live up to the standards of a technical examination.[14] This was followed by an expropriation decision for the neighborhoods to be redeveloped.[15] Thus, the conjunction of geological contingency and irregular building stock was instrumentalized to convert the inhabited built environment into a potentially dispossessed object of transformation.

Gecekondus, from the state's perspective, are "uncivil objects"[16] and are therefore extremely vulnerable to the enforcement of expropriation and transformation. Unlicensed and "unplanned," their legitimate status as property is tenuous and their civilian construction is often cited as risky. In the case of Sur, the *gecekondus,* mainly built by the displaced Kurds who fled to urban spaces in the 1980s and 90s, are deemed by the state to be unhygienic, unsafe, and noncompliant with the historical texture of Sur.[17] These are politically-charged characterizations that tend to be levelled against those built forms that express opposing political histories and form spaces of civic practice unassimilated into projects of national development. The pronouncement of such characterizations claims the bureaucratic right to dispossess and transform the troublesome "irregularity" of the spaces they designate. Similar to the processes described by James Scott in his influential *Seeing Like a State* (1998), the Turkish state acts to reorganize an asymmetrical landscape into a readily legible and programmatic one.[18] The dispossession, demolition, and transformation of Sur's *gecekondu* are justified as a service to civil society and the common good, which by definition do not extend to those forms of life on whose erasure they are predicated. Due to the residents' opposition to being moved to the outskirts of the city, as well as the contestation by local institutional actors, the Turkish authorities were unable to complete the project of urban redevelopment.[19] However, the situation of forestalling the demolition of the *gecekondu* housing changed drastically in 2015.

Changing the Risk Narrative to Terrorist Threat

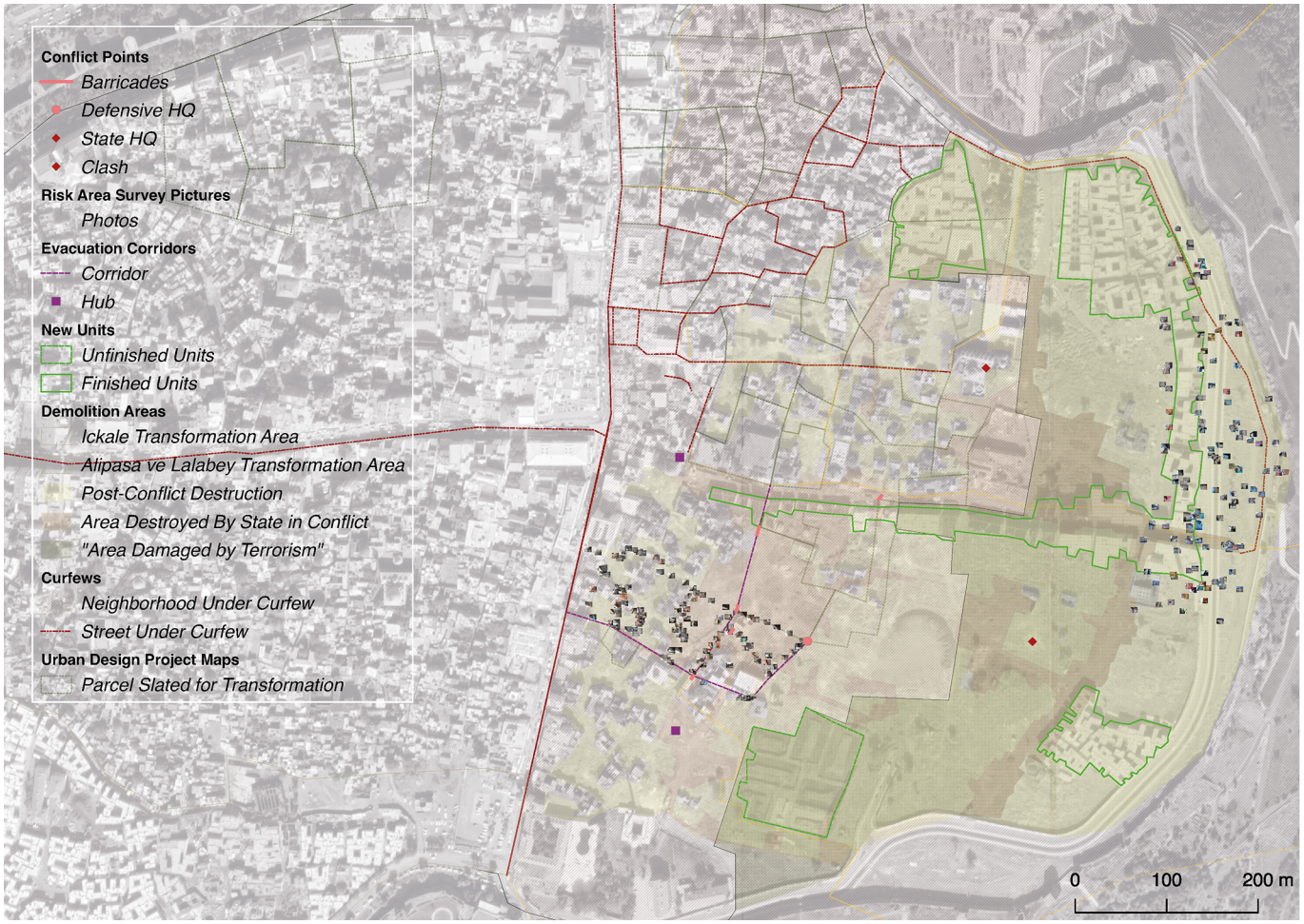
After a long history of violence, peace talks between the Kurdish movement and the Turkish government began in 2013. However, when two years later the pro-Kurdish People's Democratic Party (HDP) surpassed the 10% parliamentary election threshold, the Turkish state shifted its discourse of ending the armed conflict back to the designation of the Kurdish opposition as a national security threat.[20] As the clashes between the PKK and the Turkish army resumed, the armed Kurdish youth declared autonomy across the predominantly Kurdish cities of the south-east.[21] This was met with a large-scale urban campaign by the Turkish military. In contrast to the past conflicts, which led to the displacement of rural communities, the 2015 operations affected the urban sites that housed many of the same population who had fled to Diyarbakir and other cities in the 1980s and 90s. As a result, urban landscapes were destroyed and turned into war zones. Diyarbakir's Sur was one of the most severely affected sites.

The 2015 military campaign came on the heels of Turkey's tightening of its National and Public Security Laws. Just a few months before the operations, the controversial Package Laws No. 6638 and 6639 were implemented, extensively enhancing police powers and governmental media regulation.[22] Some argue these new laws were prepared in response to the 2014 Kurdish protests against Turkey's refusal to protect the Kurds in the Syrian city of Kobani against the Islamic State and were intended to prevent such protests in the future.[23] The so-called "Legal Package to Protect Freedoms" has been severely criticized by human rights organizations[24] as marking a further development towards a police state in Turkey.[25]

With the declaration of autonomy by the Kurdish youth, the state used the long-standing discourse of terrorist threat[26] and declared curfews in the majority-Kurdish cities of the south-east, which sometimes lasted months. With the cities under a virtual blockade from the outside world, the military operations involved the use of heavy artillery and tanks. Despite the claims of "neutralizing" the terrorist threat and restoring public safety, the state forces deemed all residents a potential security risk and committed severe human rights violations against civilians.[27] Ultimately, the curfew-evacuation dyad functioned as an instrument of forced displacement and dispossession, resulting in the eviction of 40,000 residents in Sur alone.[28]

Violent Gentrification

In Sur, the mass displacement set the stage for the erasure of the built environment once the operations were over. While the state blamed the "terrorists" for the destruction inflicted during the blockade,[29] a new line of justification was produced for the continuation of demolitions afterwards.[30] The post-war destruction was justified by the presence of explosives, allegedly planted in the buildings by "terrorists"; yet, the demolitions were also carried out in the neighborhoods far



Courtesy Groundhem Initiative

beyond the conflict zone.[31] In order to give the dispossession of the displaced residents an appearance of legality, the state issued another "urgent expropriation decision" for the entire city center after the end of the operation, based on the same natural disaster law that served as the legal basis for the previous expropriation of the *gecekondu* housing.[32]

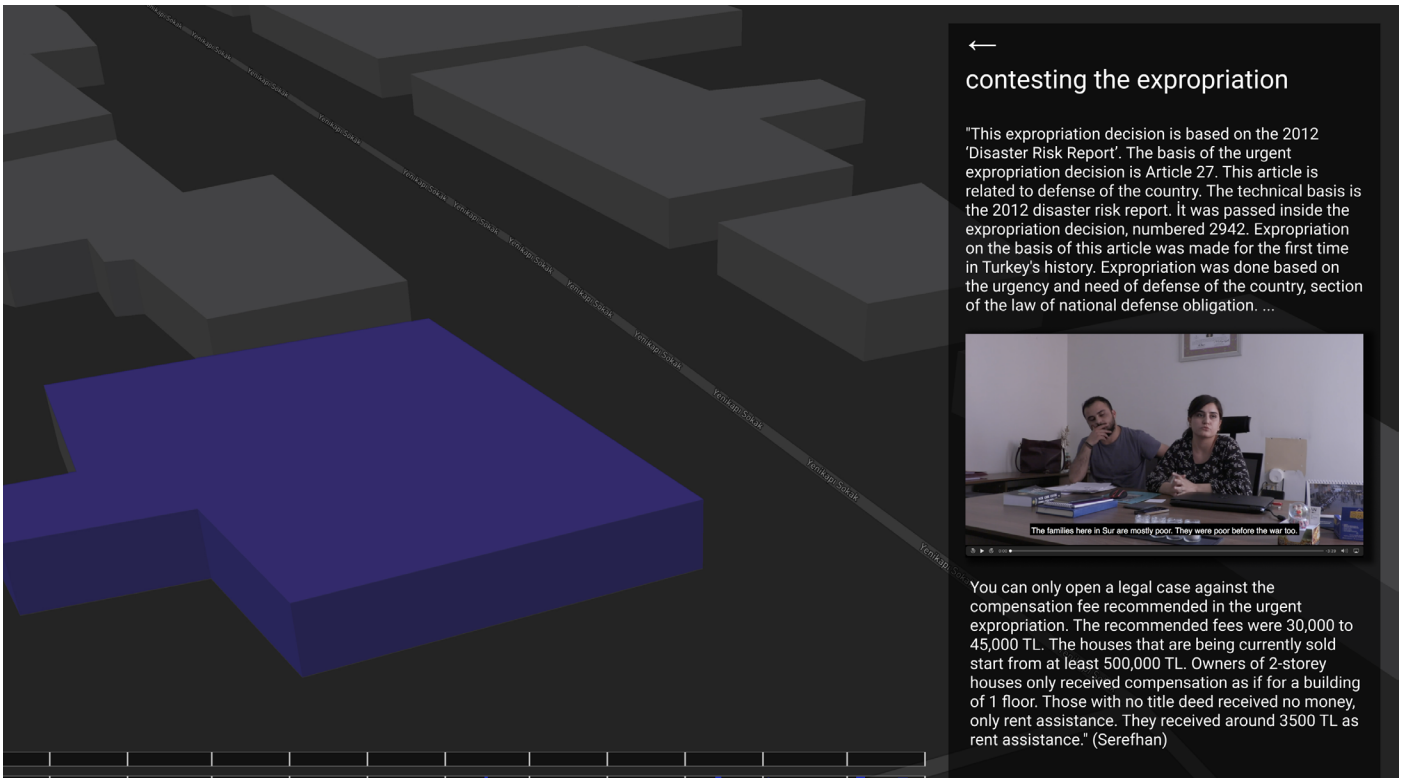
The post-war risk narrative also underlies the ongoing process of reconstruction, unilaterally implemented by the centrally appointed state institutions. Guided by security considerations, the new urban design functions as a defense tool against any potential political resistance in the future.[33] The widening of Sur's traditional narrow streets has been, for example, justified by the need to enable the passage of security services, fire department trucks, and ambulances. This new discourse is strikingly reminiscent of the period of urban regeneration before the operations; the state is securitizing the city, while at the same time restoring its historical features to turn it into an "attraction center."[34] Seizing the opportunity presented by the military incursion, the state also completed the unfinished urban transformation plan from the pre-operations period that had begun in 2008, even though those neighborhoods were not affected by the military operations.[35] Besides serving the state's political agenda, the reconstruction of new houses also satisfies its profit motive; the market price of new houses, owned by TOKI, is estimated to be several times higher than the cost of the destroyed housing.[36] The case of Sur is thus a striking example of both politically and economically-driven urban transformation, centrally imposed and justified through several intersecting discourses of risk.

Counter Narrative

Under these circumstances, the irony of Turkey's designation as "International Risk Reduction Leader" becomes clear. As we sought to show in this article, the state instrumentalized two discourses of risk to carry out a large-scale urban redevelopment that would leave thousands of people displaced, expropriated and traumatized. The way safety and security risks are being politicized and instrumentalized suggests an underlying strategy to legitimize the reinforcement of national institutions. Intertwined with the Turkish state's long-standing policies of ethnic marginalization and oppression, profit-driven projects of urban regeneration have particularly affected communities already exposed to systemic violence.[37] Thus, risk narratives have contributed significantly to an increasingly authoritarian system capable of arbitrarily dispossessing any land and criminalizing any person.

The aftermath of this 2015 conflict is still ongoing as the process of displacement and urban transformation continues to threaten more neighborhoods in Sur, and the displaced residents have not been allowed to return to their neighborhoods. There is, therefore, an urgent need to bring to light the counternarratives that challenge and undermine the risk narratives produced and instrumentalized by

the state. Toward that end, our team is developing an open-source web platform that will counter the information provided by the state and visualize the link between urban planning and military destruction, demonstrating how various risk narratives converged to enable real estate marketization at a massive and otherwise unachievable scale. We seek to reveal the contradictions in the state's discourse by visualizing in space and time the interactions between the narratives of the state, opposition actors, and victims. Working between visual journalism and research, we are developing a set of methods and procedures to enable new ways of approaching the interrelated dynamics of contemporary urban warfare, population displacement, and urban planning.



Courtesy Groundhem Initiative

Groundhem Initiative is an independent collective of eight members working between research and visual journalism to examine the correlation of asymmetrical warfare and planned urban regeneration. In response to the 2015 military conflict in Diyarbakir, Turkey they have developed a set of methods, which are designed to enable new ways of approaching the dynamics of war and its aftermath.

Endnotes

[1] United Nations Office for Disaster Risk Reduction - Regional Office for Europe. "Turkey tackles earthquake risk", 6 April 2017, https://www.undrr.org/news/turkey-tackles-earthquake-risk: ‚Underscoring the political importance Turkey gives risk reduction, AFAD [National Disaster Management Authority], formed in 2009, is part of the prime minister's office. [...] In 2000, Turkey launched a sweeping retrofitting program for schools. It has vowed to make all 80,000 of the country's schools – 4,000 in Istanbul – disaster-proof by 2018. It is also a driver of the Worldwide Initiative for Safe Schools, unveiled in 2014. [...] Istanbul also has a 15-year program launched in 2006 with two billion euros of funding from international development banks. Known as the Istanbul Seismic Risk Mitigation and Emergency Preparedness Project, or ISMEP, it focuses on enhancing the capacity of rescue services, reducing risks to public buildings, and enforcing building codes through public awareness-raising and expert training. Underscoring the megacity's efforts, the Istanbul Metropolitan Municipality Directorate of Earthquake and Ground Research last week won the Damir Cemerin Award for Local Change, a pan-European honor for innovative approaches to reducing disaster risk."

[2] ibid.

[3] Lovering, John, and Hade Türkmen. "Bulldozer Neo-liberalism in Istanbul: The State-led Construction of Property Markets, and the Displacement of the Urban Poor." International Planning Studies 16, no. 1 (2011): 73-96.

[4] Isikkaya, Ali Devrim. "Housing Policies in Turkey: Evolution of TOKI (Governmental Mass Housing Administration) as an Urban Design Tool." Journal of Civil Engineering and Architecture 10 (2016): 316-326.

[5] According to the NGO Beyond Istanbul, the newly designated Risk Areas in Istanbul differ significantly from those identified in ‚The Study on A Disaster Prevention / Mitigation Basic Plan in Istanbul including Seismic Microzonation in the Republic of Turkey," which was conducted by the Japan International Cooperation Agency (JICA) and Istanbul Metropolitan Municipality (IMM) in 2002. Beyond Istanbul. "The Disaster Before the Disaster: Building Resilience in Istanbul", 17 Aug 2017. Retrieved on 10 November 2020 via https://beyond.istanbul/the-disaster-before-the-disaster-building-resilience-in-istanbul-41e74b61bf5f#_edn6.

[6] Ercan Ayboga. *Destruction of the old city (Suriçi) of Diyarbakır since fall 2015*. June 2017. Retrieved on 10 November 2020 via http://ercanayboga.blogspot.com/2018/01/destruction-of-old-city-surici-of.html

[7] For an analysis of the PKK, see Mesut Yegen's "Armed Struggle to Peace Negotiations: Independent Kurdistan to Democratic Autonomy, or The PKK in Context." *Middle East Critique*, 25:4, 365-383. For the counterinsurgency campaigns, see Proceedings of İç Göçün Kentlere Etkilerine Yönelik Çözüm Önerileri Konferansı, Ankara, Turkey." https://www.tepav.org.tr/upload/files/haber/1262790144r7786.Fahrettin_Cagdas__Yerinden_Edilme_Sorunu.pdf

[8] Human Rights Watch. *Still Critical. Prospects in 2005 for Internally Displaced Kurds in Turkey*. 2005. Retrieved on 10 November 2020 via https://www.hrw.org/reports/2005/turkey0305/turkey0305text.pdf

[9] Ronay Bakan argues that "the physical characteristics of the place are another important socio-spatial dynamic which both is the 'concrete' reason for the strong communal ties and also an important facilitator of the urban warfare. Courtyard-type houses which were made of basalt contributed to formation of strong ties among different families, and also protected the young Kurdish militias from bullets as well" (2018, 123). Bakan, Ronay. *Rethinking Urban Transformation and Contested Spaces: The case of Diyarbakir*. Dissertation. Bogazici University, 2018.

[10] *Gecekondu* is the word in Turkish which literally can be translated as "built overnight." It refers to shanty houses which are put up quickly without proper permissions and infrastructure, usually by rural migrants in cities who then become de facto, and sometimes de jure, owners of the property (Lovering and Turkmen, 2011).
11. SAMER documents a high rate of support among Sur's residents for the pro-Kurdish party People's Democratic Party (HDP), and the Kurdish movement in general, especially in two neighborhoods where redevelopment was supposed to initially take place (2017). SAMER. *Sur İçi* Ali *Paşa ve Lale Bey mahallelerinde başlayan kentsel dönüşüm projesine ilişkin gözlem ve araştirma raporu*. 2017. Retrieved on 10 November 2020 via https://hakikatadalethafiza.org/wp-content/uploads/2017/06/2017.06.01_SAMER_Sur_Kentsel_Donusum_Raporu.pdf

Ronay Bakan argues that the unique "socio-spatial mechanisms which were reproduced through everyday life practices also contributed to the emergence of the urban warfare in 2015." See p. 152ff, 2018.

[12] Bakan, 2018. The municipality, governed by a party connected to the Kurdish movement, also entered the project, allegedly to minimize the detrimental effects of dislocation for affected residents and to ensure that the construction complies with Sur's traditional architecture (Bakan 95ff, 2018). At the same time, activists from the movement working in different organizations as well as local people continued to criticize the project (98).

[13] As Bakan argues, "the engagement of the Kurdish national movement and their contestations through institutional politics over the methods and implementation of the project unintentionally slowed down the project. Therefore, the central state took another step and declared Suriçi as a whole a risk area, thus accelerating the implementation of large-scale projects in Suriçi faster than before" (101, 2018). See the official declaration of Sur as a risk area: https://www.resmigazete.gov.tr/eskiler/2012/11/20121104-8.htm./

[14] Our team's interview with a representative of TMMOB, July 2019. See also SAMER's *Sur içi ali paşa ve lale bey mahallelerinde başlayan kentsel dönüşüm projesine ilişkin gözlem ve araştirma raporu*: "In the Suriçi [Sur] Disaster Risk Area Master Plan prepared by the Ministry

of Environment and Urbanization in 2013, after the announcement of the city as a risk area, the number of buildings with high earthquake risk was determined as 464 and the ratio was 6.04%. Although it is stated that only 6.04% of the buildings in the region are risky, the entire region is declared a risky area." Retrieved on 10 November 2020 via https://hakikatadalethafiza.org/wp-content/uploads/2017/06/2017.06.01_SAMER_Sur_Kentsel_Donusum_Raporu.pdf

[15] See the expropriation decision: https://www.resmigazete.gov.tr/eskiler/2013/01/20130126-10.htm

[16] We use the term *(un)civil object* to mean urban fabric that blocks and undermines the stabilizing historical space of the state with an irregular, politically charged and living urban memory. See more in William Scarfone's *Civic War: Sur, Diyarbakir* [unpublished].

[17] See the official response of the Prime Ministry to questions posed by Selahattin Demirtaş regarding the collaboration between TOKi and the Diyarbakir Governorate on the Alipasa and Lalabey transformation project, prior to the Municipality's involvement. https://www2.tbmm.gov.tr/d23/7/7-7880c.pdf

[18] Scott, James. *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven: Yale University Press, 1998.

[19] As local actors suggest, the reason why the project was thwarted lied in the difference between the state's and municipality's visions and methods regarding the project of urban renewal; at the same time, people's reaction to the displacement played a crucial role in halting the project and alerting the municipal actors to the detrimental effects of the process (the team's interviews with representatives from Sur Platform and TMMOB; see also Bakan 2018, 98). Bakan suggests that "infrastructural problems such as not having enough TOKİ houses for the residents and uneasiness among them, coupled with the escalation of the tension between the central state and movement in the national scale, stalled the project" (2018, 169; also 103-104).

[20] See for example Martin 2018; Yuksel-Pecen 2018.

[21] https://www.middleeasteye.net/news/kurdish-neighbourhoods-take-arms-they-declare-autonomy-turkey. For an analysis, see Harun Ercan's "Is Hope More Precious than Victory?: The Failed Peace Process and Urban Warfare in the Kurdish Region of Turkey".

[22] Zeldin, Wendy. ‚Turkey: Recent Developments in National and Public Security Law". The Law Library of Congress, Global Legal Research Center. November 2015. Retrieved on 10 November 2020 via https://www.loc.gov/law/help/national-security-law/turkey-recent-developments-2015.pdf.

[23] Özcan, Gülden. "Neoliberalism, national security and academic knowledge production in Turkey." In *The University and Social Justice: Struggles Across the Globe*, edited by Aziz Choudry

and Salim Vally. London: Pluto Press, 2020.

[24] Human Rights Watch. *Turkey: Security Bill Undermines Rights*. December 11, 2014. Retrieved on 10 November 2020 via https://www.hrw.org/news/2014/12/11/turkey-security-bill-undermines-rights

[25] Idiz, Semih. *Is Turkey becoming a police state?* Al-Monitor, 2015. Retrieved on 10 November 2020 via https://www.al-monitor.com/pulse/originals/2015/02/turkey-becoming-police-state.html.

[26] See for example the state's claims in an official statement issued by Ministry of Interior in response to Amnesty International's report on displacement and dispossession in Sur: https://www.icisleri.gov.tr/uluslararasi-af-orgutunun-raporuna-iliskin-basin-aciklamasi

[27] "Civilians who stepped outside or even leaned from their windows could be legitimately fired on or gassed. This was done in the interest of "public safety" to clear the streets of civilian life, opening them up for the all-out intensification of military operations. In occasional temporary evacuation corridors, the surrendering civilians were treated as potential combatants, invasively searched and questioned, often detained and arrested for their remaining within the realm of terrorists. ... Those who remained saw their basic services cut. Ambulances and healthcare providers were denied access to the curfew areas under the pretext that they would be unable to work safely due to terrorist presence. If they tried to enter, they would come under fire from the security forces and occasionally lose their license to practice for 'treating terrorists.'" (Scarfone 2019). Killings of civilians was documented by various institutions. See Amnesty International, *Turkey: displaced and dispossessed: Sur residents' right to return home, 2016*, https://www.amnesty.org/en/documents/eur44/5213/2016/en/; OHCHR, *Report on the human rights situation in South-East Turkey: July 2015 to December 2016*, 2017: https://www.ohchr.org/documents/countries/tr/ohchr_south-east_turkeyreport_10march2017.pdf; HDP's *Sur Raporu*: https://www.hdp.org.tr/images/UserFiles/Documents/Editor/Surraporu.pdf; Göç Izleme Derneği's *Report on human rights violations against women and their experiences during the curfews and forced migration* https://www.academia.edu/41266354/REPORT_ON_HUMAN_RIGHTS_VIOLATIONS_AGAINST_WOMEN_AND_THEIR_EXPERIENCES_DURING_THE_CURFEWS_AND_FORCED_MIGRATION; and https://stockholmcf.org/chuv-report-people-sheltering-cizre-basement-first-killed-burned/.

[28] A similar process took place in other cities where the military operations took place. In total around 200,000 residents were internally displaced in 2015-2016. See on dispossession Amnesty International's *Turkey: displaced and dispossessed: Sur residents' right to return home, 2016*. See also OHCHR's *Report on the human rights situation in South-East Turkey: July 2015 to December 2016*: "OHCHR sources claim that families who were compelled to abandon their destroyed homes during the period of the security operations in late 2015 and early 2016 were also forced to sign away ownership of their dwellings without being allowed to take their personal belongings or to return to their homes after the security operations."

[29] "On 4 September 2016, the Government announced a reconstruction and economic development package for south-east Turkey. According to the plan, Turkey would spend USD 21 billion in the regions 'destroyed by the PKK since July 2015'... OHCHR is concerned that the Government's development plan may be implemented in the absence of any investigations and accountability measures for the allegations pointing to the massive and unnecessary destructions. ... According to human rights organizations from South-East Turkey, the Government has conditioned financial compensation for destroyed housing upon the signature of a declaration by owners that their property was destroyed by 'terrorist activities'. Families who have reportedly been forced to sign such declarations see this as an effort to falsify the historic record of the 2015-16 events, which could impede future efforts for accountability" (OHCHR, *Report on the human rights situation in South-East Turkey: July 2015 to December 2016*).

[30] See for example the press statement by Diyarbakir governor from February 15, 2016: http://www.diyarbakir.gov.tr/vali-aksoy-basin-mensuplarina-onemli-aciklamalarda-bulundu

[31] Ayboga, Ercan. SUR: *The Turkish state's systematic destruction and commercialization of a World Heritage Site*. Retrieved on 10 November 2020 via https://komun-academy.com/2019/03/25/sur-the-turkish-states-systematic-destruction-andcommercialization-of-a-unesco-world-heritage-site/

[32] TMMOB, *Destroyed Cities Report: 2015-2016*, 2019. Retrieved on 10 November 2020 via http://www.dimod.org.tr/sur/english.pdf

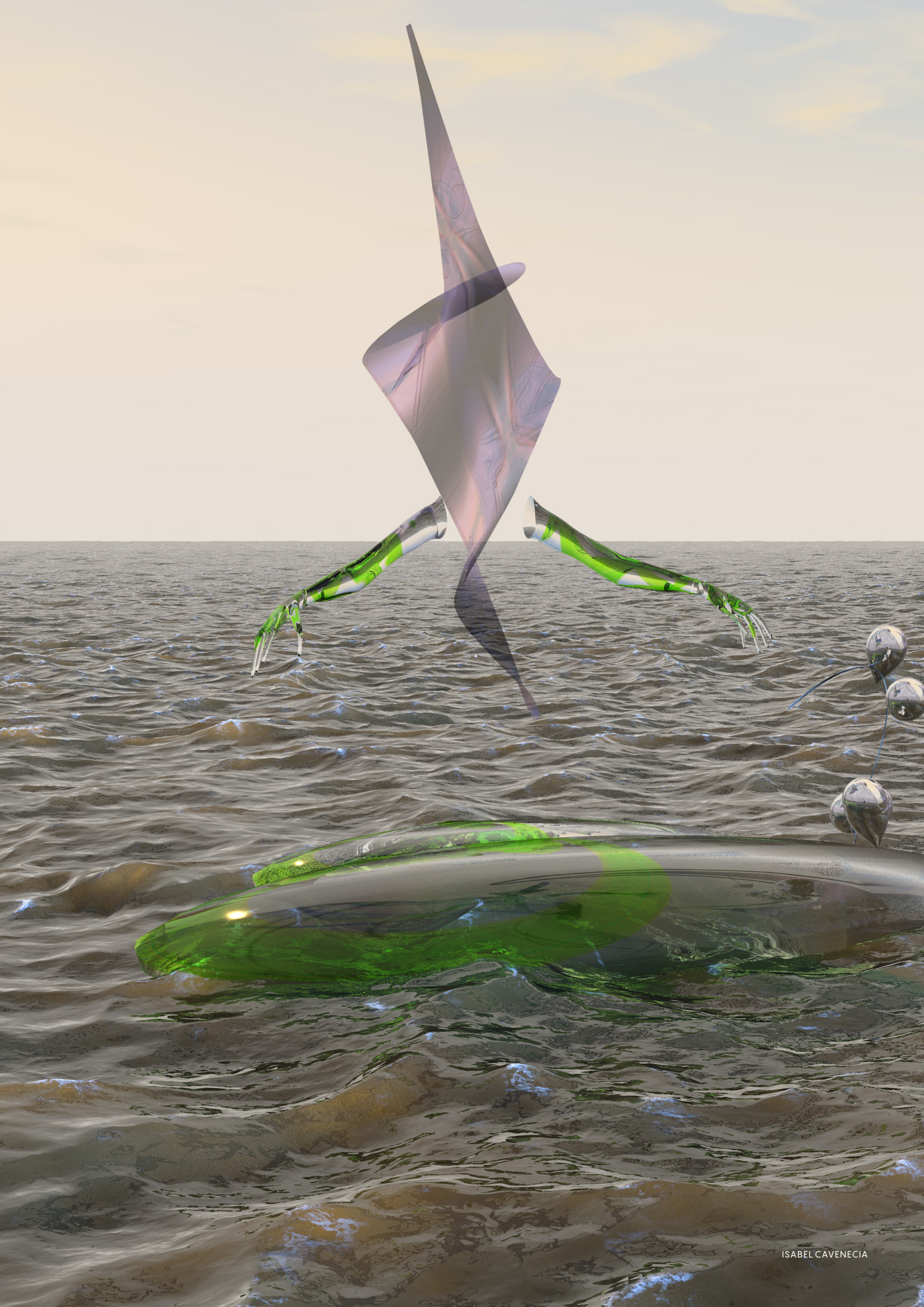
[33] ibid.

[34] See Firat Genç's *Suriçi in destruction-regeneration dialectic.* Retrieved on 10 November 2020 via https://tr.boell.org/en/2016/04/15/surici-destruction-regeneration-dialectic

[35] More specifically, urban redevelopment resumed in Ali Pasa and Lala Bey, two neighborhoods where eviction and demolitions were thwarted before the operations. See more in SAMER's *Sur İçi* Ali *Paşa ve Lale Bey mahallelerinde başlayan kentsel dönüşüm projesine ilişkin gözlem ve araştirma raporu*.

[36] The market price of the new homes is assessed as 500,000 TL (Turkish Lira), while the compensation given to former residents averaged at 30,000 TL, with the highest being 150,000 TL (the team's interview with a representative of TMMOB).

[37] See for example Ergun, Cem and Gül, Hüseyin. "Urban Regeneration and Social Segregation: The Case of İstanbul." *Toplum ve Demokrasi* 5, no. 11, (2011): 155-172.



ISABEL CAVENECIA

Rethinking the Risks of Rejecting Religion

SECULAR SPECULATIONS AND THE CONSTRUCTION OF NONRELIGIOUS RISK NARRATIVES

Jacqui Frost

"A sky empty of angels becomes open to the intervention of the astronomer and, eventually, of the astronaut."
- Peter Berger, *The Sacred Canopy*, 1969

While social theorists have raised concerns about a variety of risks and uncertainties in modernity–including risks related to economic instability, climate change, political polarization, technological advancements, and global pandemics–one of their longest standing concerns relates to the risks related to secularization and the presumed increase in *existential* uncertainty that comes with modernity. To be existentially uncertain means to question one's beliefs about the purpose or meaning of life, which includes uncertainty about whether or not there is an afterlife or some kind of creator or god.[1] And it is often argued that individuals are more existentially uncertain in modern societies because modernization is typically presumed to be associated with secularization and the loss of once taken-for-granted religious certainties.[2] While there is plenty of evidence that religion has maintained a strong presence in the modern world, there *has* been a notable increase in religious disaffiliation in once highly religious countries like the United States, Canada, and the U.K.[3] And the growth of these newly nonreligious[4] populations has raised a host of concerns among academics, politicians, and religious leaders about the risks that are presumed to come with rejecting religion.[5]

In this essay, I will briefly describe these risk narratives surrounding secularization and then I will draw on my research with atheists, agnostics, and transhumanists in the United States to suggest ways that we might reorient our thinking about the presumed risks that come with rejecting religion. Social scientists typically theorize religion as a key source of stability, certainty, and risk-reduction, and so they presume that the *loss* of religion that is theorized to come with modernization will result in a disorienting and anxiety-inducing existential uncertainty.[6] However, my research reveals that the loss of religion does not lead to a singular conception of risk or uncertainty. Instead, nonreligious people are constructing a variety of risk narratives, many of which embrace risk and uncertainty rather than avoid them.

I will also describe how these nonreligious risk narratives are contested and politicized. As nonreligious people speculate about a future in which they believe there is no god or afterlife, their perceptions of the "riskiness" of modernization often clash with religious-based risk narratives. Using nonreligious transhumanists as an example, a growing movement of people who are seeking to extend human lives and "hack" evolution with technology, I show how these contested conceptions of existential risk are shaping important debates about more this-worldly risks like climate change, genetic modification, artificial intelligence, and political polarization. And I argue that scholars of risk need to pay more attention to perceptions of existential risk and uncertainty, as they are key factors in how risk narratives are produced and politicized in modern contexts.

Pascal's Wager and Reducing Existential Risk

The loss or rejection of religion is believed to be risky for a variety of reasons. For one, there is the risk of punishment or eternal damnation. A key aspect of many of the world's dominant religions is that a failure to conform to the tenets of a religious belief system will result in punishment. Depending on one's religious belief system, one could be punished by being sent to an eternal hell, being placed in a temporary purgatory, or being reincarnated into a lower form of being. In order to avoid this risk, many people choose to be religious and do their best to follow the rules of their chosen religion in order to avoid punishment. While many religious people do sincerely believe in the supernatural forces doing the punishing, it is also the case that religious people often do a sort of risk analysis when considering whether or not to be religious. This relates to what is known as Pascal's Wager, a philosophical argument put forth by philosopher Blaise Pascal in the 17th century. Pascal argued that we are unable to determine the existence of a god based on reason alone, so rational people should act *as if* a god exists just to be safe. If a god ends up not existing, then there is no real loss aside from perhaps missing out on some worldly pleasures, but if a god does exist, then one risks divine punishment if they are not properly religious. From this perspective, then, rejecting religion is existentially risky because nonreligious people are risking a potentially unpleasant afterlife.

Another reason being nonreligious is considered risky is because it is commonly assumed to be associated with a disorientating and anxiety-inducing existential uncertainty. Religion continues to be one of the primary mechanisms through which individuals reduce uncertainty and find meaning,[7] and so it is often assumed that nonreligious people are in a constant state of anxiety and uncertainty about their futures because they no longer have certainty-filled religious explanations for existential questions about the purpose of life and what happens when we die. And this uncertainty has been found to be detrimental for individual and social well-being. When compared to the nonreligious, people who are actively religious are often found to be healthier, happier, and more embedded in identity-affirming social networks, which is often attributed to the existential certainty provided by religious belief systems.[8] Thus, being nonreligious is not only considered risky because nonreligious people risk having an unpleasant afterlife, it is commonly assumed that nonreligious people are *currently* leading unpleasant lives due to the existential uncertainty that can come with rejecting religion and that this is putting their mental, physical, and social health at risk.

Politicizing Uncertainty and Embracing Risk

In previous work, I have shown how the common assumptions I outline above about the relationship between risk, uncertainty, and rejecting religion are not entirely accurate.[9] In an analysis of the identity narratives of 50 nonreligious Americans, I found that atheists and agnostics express a range of certainties and uncertainties surrounding their nonreligious beliefs and identities, as well as a range of positive and negative responses to those certainties and uncertainties. Rather than a constant and anxiety-filled search for certainty, many nonreligious people find meaning in uncertainty and prefer the uncertainty of their nonreligion over the existential certainty provided by religion. I show how this is in part because certainty has become part of a politicized narrative within the nonreligious community in the United States. There are influential atheist organizations and spokespeople that are espousing a certainty-filled identity politics that calls on nonreligious people to aggressively critique religious people and policies and to wholly reject anything that smacks of religion or the supernatural. In other words, many nonreligious people *are* certain about their nonreligious beliefs, and they are creating political identities based in that certainty. However, some nonreligious Americans feel misrepresented by these certainty-filled identity politics and instead seek out meaningful forms of uncertainty and ambiguity surrounding their existential beliefs. Many of my research participants told me that they find existential uncertainty comforting or exhilarating rather than anxiety-inducing or socially isolating, and they feel that approaching any belief system with certainty–including atheism–only inhibits progress and social change.

These findings have important implications for research on the social construction of risk and the ways that speculations about the future can influence present day cultures and communities. My focus on the nonreligious opens up new avenues for thinking about the kinds of futures that modern individuals envision, both in this life and after. Whether or not someone thinks there is going to be an afterlife, and the level of uncertainty someone has surrounding this question, plays an important role in their assessment of various risks and whether or not they experience uncertainty surrounding those risks as a positive or negative thing. For many, the risk of eternal damnation is too high to reject religion, but for others, rejecting a belief in the afterlife allows them to live the one life they are certain they have to the fullest. Relatedly, rather than constantly trying to avoid or resolve uncertainty and risk, like much of our research and theorizing would predict, many

nonreligious people embrace existential risk and uncertainty because they believe that uncertainty and risk lead to progress and positive social change.

Secular Speculations and Nonreligious Futures

An illustrative example of the ways that nonreligious risk narratives shape present day discussions and social policies is the growing cultural and philosophical movement of transhumanism. Transhumanists promote the development of new technologies that will allow humans to "hack" evolution and enhance or transcend the human form through the use of things like nanotechnology, artificial intelligence, and gene editing.[10] While very few nonreligious people are transhumanist, a majority of transhumanists are nonreligious.[11] This is because transhumanist beliefs are centered around a faith in science and technological advancement rather than a supernatural deity, and transhumanists' primary goal is to improve and extend human life on Earth rather than wait for eternal life after death. Some of the technologies that transhumanists promote include mind-uploading that would allow for our brains to survive without our bodies, "bio-hacking" or implanting artificial devices into the human body to enhance human abilities, cryogenics as a means of life extension, and gene editing techniques like pre-implantation genetic diagnosis that will allow parents to select embryos based on desired traits. Transhumanists believe that these technologies will one day allow humans to live longer, to evolve beyond the human form that we have today, and, eventually, to become immortal.

As you might expect, transhumanists have encountered a lot of resistance to their ideas, and much of that resistance is based on perceptions of the risks that transhumanist technologies might produce in the future. As sociologist Stephen Lilley (2013) explains, transhumanists and their opponents operate from different "rhetorics of risk" surrounding technological advancement and human enhancement.[12] Opponents of transhumanism are concerned about numerous risks that could result if transhumanist goals are realized, including technological disasters that could be incurred if humanity is too reliant on technology, social inequalities that could be created or deepened when some humans are enhanced and others are not, and environmental disasters that could result from overpopulation caused by life-extension technologies. There are also concerns raised from religious perspectives regarding transhumanism's devaluing of the human body and desires to improve it or transcend it entirely. Christians, for example, believe that humans were made "in God's image" and to tinker with that risks angering God, again going back to Pascal's Wager.

As a result, opponents of transhumanism are often considered to be operating from what many call a "risk management schema" based in the "precautionary principle."[13] The precautionary principle states that "when an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically."[14] Rather than create new, unknown risks by pursing human enhancement technologies, opponents of transhumanism argue that it is best to maintain the status quo and respect the limits that nature and/or god(s) have placed on the human form.

However, transhumanists believe that there are no rewards without risks, and that innovation, evolution, and risk-taking are central to human nature. Philosopher and transhumanist Max More (2005) developed the "proactionary principle," a risk management schema that accounts for both the potential risks of an activity and the potential risks of *inactivity*.[15] For example, proponents of the proactionary principle argue that without taking risks and having faith in scientific advancement, we would not have modern medicine, transportation, or communication technologies. For transhumanists, the costs of inactivity and stagnation are greater than the potential costs that might be incurred with human enhancement technologies. They believe that it is only through taking risks with technology that humans can solve pressing social issues like climate change, drought, food insecurity, and the threat of disease. Like many nonreligious people more generally, transhumanists' belief that there is no spiritual afterlife translates into an openness to risk and uncertainty and a felt urgency to take on risks in this life in order to reap the potential rewards before it is over. The global population of transhumanists is quite small, but the transhumanist movement has numerous well-resourced and influential members, including many academics, scientists, and tech workers, and they are making an impact on global conversations about the risks involved with technological advancement. Importantly, transhumanist risk narratives and visions of the future are shaped by their perceptions of existential risk and their (largely) nonreligious beliefs and values.

Transhumanism is just one example of the ways that nonreligious risk narratives are being produced and contested in modern contexts, and I encourage scholars of risk and uncertainty to explore the ways that religious beliefs (or the lack of them) shape modern risk narratives and the ways that people envision better futures, both for themselves and for society as a whole.

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Endnotes

[1] Landau, Mark, Jeff Greenberg, and Spee Kosloff. 2010. "Coping with Life's One Certainty: A Terror Management Perspective on the Existentially Uncertain Self." Pp. 195–215 in *Handbook of the Uncertain Self*, edited by R. Arkin, K. Oleson, and P. Carroll. New York: Psychology Press.

[2] Berger, Peter. 1969. *The Sacred Canopy: Elements of a Sociological Theory of Religion*. New York: Anchor Books.

Cassanova, Jose. 1994. *Public Religions in the Modern World*. Chicago: University of Chicago Press.

Giddens, Anthony. 1991. *Modernity and Self Identity: Self and Society in the Late Modern Age*. Palo Alto, CA: Stanford University Press.

[3] Lee, Lois. 2015. *Recognizing the Nonreligious: Reimagining the Secular*. New York: Oxford University Press

Baker, Joseph O. and Buster G. Smith. 2015. *American Secularism: Cultural Contours of Nonreligious Belief Systems*. New York: New York University Press.

Theissen, Joel and Sarah Wilkins-Laflamme. 2020. *None of the Above: Nonreligious Identity in the US and Canada*. New York: New York University Press.

[4] In this essay, I use the terms "nonreligion" and "nonreligious" as umbrella terms that denote identities and beliefs that are not religious but that are defined by their lack of religion or their relationship to religion. This includes atheism and agnosticism, but also nonreligious identities that are less clearly defined like "spiritual but not religious," "freethinker," and "nothing in particular." I draw on Lois Lee's (2015) definition of nonreligion as "any phenomenon – position, perspective, or practice – that is primarily understood in relation to religion, but which is not itself considered to be religious" (32).

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ISABEL CAVENECIA

W.E.I.R.D.

Nicola Privato

The project W.E.I.R.D. by Venice-based musician Nicola Privato is generated by a bot that turns Twitter messages into a musical score. All live tweets that contain a specific keyword are automatically downloaded by the bot, affecting the score in different ways. Hence, its structure and content remain undefined until the end. W.E.I.R.D. is meant as live performance with video streaming and consists of three different parts. 'Uncertainty' is the central term of the first of the movements, followed by 'emergency' and 'identity.' The versions below that include the parts 'uncertainty' and 'emergancy,' were recorded in the first half of 2020, midst the heavy outbreak of the Covid-19 pandemic in northern Italy. At the moment of writng, the third part is being recorded during the second wave of the Corona pandemic in the Fall of 2020. Privato plans to perform the full project with piano electronics and spatialized sound both on- and offline in 2021.

The choice of the keywords is influenced by Zygmunt Bauman's *Liquid Modernity* (1999) and is an attempt to address some of the main issues of modern society. W.E.I.R.D. especially questions the space between the individual and society, but also between the prerogatives of the artist and those of the audience; the role of creativity as a collective resource and synthetic experience rather than an individual asset of the performer.

Nicola Privato:
'Change is a crucial concept in Bauman's work and implies the continuous aging and substitution of technologies, ideas, values, and experiences for new ones that

again turn immediately old after. W.E.I.R.D. is as liquid as the society it tries to mirror; the changes in sound and structure of the music can be dramatic. For instance, I activated Uncertainty a few times during these months. In February, it worked more or less as in the video sample, but in April, it was basically unreadable. The number of tweets contained the word 'uncertainty' were so high that the composition changed at a pace that would not allow the musician to follow.

There are also sensible variations based on the time of the day the program is activated, which has to do with the title I chose for the work. W.E.I.R.D. stands for Western-Educated-Industrialised-Rich-Democratic. The acronym represents a specific social group, the one having access to social media, with a particular education and social status, and an uneven demographical distribution in different time zones and spoken languages that cause variations in the frequency of tweets.

In my general concept of the work, the interaction with the musician is a key element. The way the score changes affects how the performer will read it, probably causing mistakes or misinterpretations, which are very much welcome. It is the experience of the audience that will put together the final work, by freely combining the score and the performed music with the textual content of tweets they will choose to read among the flow displayed in front of them."

This is a digital art piece. Please visit www.tera.institute/weird

Being educated in classical flute and jazz guitar, **Nicola Privato** received a degree in jazz music at the Conservatory of Trieste in 2010. As an independent musician and founder of the JPC Quartet, he collaborated with numerous national and international musicians and played at festivals like Veneto Jazz, Palermo Jazz and Villa Celimontana Jazz. In recent years he moved from mainstream jazz language to research into music, composition and technology, aiming to broaden the boundaries of real-time interaction. His work is characterized by involving the audience, systems of data and events into the performative practice through the use of digital platforms and modular synthesizers. His work was commissioned, published and performed nationally and internationally in the UK, Brazil, Korea, Italy, Canada and Australia among others.

ISABEL CAVENECIA

Supersystem Risk and the End of the Anthropocene

James R. Watson, Laura E. R. Peters
and Jamon Van Den Hoek

Introduction

As we continue through the Anthropocene, we are witnessing ever-greater connectivity within and among our "world-systems": financial markets, housing markets, social networks, transport systems, and ecosystems – all are becoming more and more connected through social, economic, and institutional links[1,2,3]. This connectivity brings with it greater economic efficiency (i.e. goods are produced at lower cost[4], better availability of goods and services, as well as more potential for cooperation through larger social networks[5]. However, as many have noted, "connectivity is risk," and the increased connectivity in and among our world-systems has led to a greater potential for global-scale catastrophe and reductions in human wellbeing[6,7,8].

The connectedness of world-systems means that the nominal boundaries that we use to define a given world-system do not actually exist. For example, we think of

the financial system as involving certain actors (e.g. stock and traders, companies, etc.), but many of these actors have strong (economic, social, institutional) ties to other actors that comprise different world-systems[9]. When world-systems themselves are intertwined, there exists a "supersystem" that is essentially our global socio-environmental system. As a consequence, looking beyond systemic risk (where a perturbation is confined to a single world-system) we must address "supersystem risk". The 2020 pandemic is a case in point: transport systems enabled the rapid spread of the Covid-19 virus globally, the subsequent social distancing dismantled service industries, which due to the connectivity of financial markets, will likely lead to a global recession. The 2020 pandemic is creating numerous such knock-on events[10,11], another being changes in the social network and mental health of individuals as social distancing continues to be in effect[12]. Ultimately, these cascading impacts of the pandemic will have uneven local consequences, with some people hit harder than others, for example through increasing prices of food and goods, and even food shortages as just-in-time food delivery systems break-down and food production diminishes due to labor shortages[11].

Although vivid due to its recent and ongoing impacts, the 2020 pandemic is not alone as a global perturbation. The 2008 financial crisis occurred in part because of financial connections between the US housing and financial markets[2,13]; The Arab Spring revolution played out it in part due to prolonged regional drought and changes in grain prices[14]. These examples of supersystem risk being realized reveal aspects of our global socio-environmental system that must be recognized: 1) the socially produced risks we are facing are getting bigger, with larger impacts and greater reach, through increasing world-system connectivity – these emergent global-scale risks are termed supersystem risks 2) supersystem risks can be hidden: at any given instance they may not be structurally apparent, but as our world-systems change, they emerge; and perhaps most worryingly 3) these supersystem risks are being realized with increasing frequency, driven by an evolution of our world-systems toward ever-greater connectivity. Although the notion of the "Anthropocene" is still contested[15,16], we now accept that human domination of our planet's biosphere is in full swing. However, due to the economic incentives for increasing connectivity and the subsequent exposure to supersystem risks, perhaps our epoch will be short-lived. The production of hazards on massive scales is inherent to modern societies[17], not the least of which is the supersystem itself, potentially placing a hard limit on the extent to which any society can develop.

Bigger risks: supersystem versus systemic risk

It is well recognized that the connectivity within and among our world-systems is increasing[18]. For example, in 2008, three months before the Lehman Brothers filed for bankruptcy, a paper was published describing the growth in connectivity of the banking system, being driven by interbank loans amongst other forms of connectivity, resulting in growing systemic risk[19]. A similar conversation has been ongoing with regards to the risk of a pandemic: many publications and talks[20] have discussed in great depth how the globe was and continues to be (willfully) unprepared for a pandemic, and in particular the role of geographic connectivity driven by air-travel in promoting the likelihood of a pandemic[21]. All these discussions bring an emphasis to systemic risk[7,22]: that is the risk of not just one node failing (e.g. one bank becoming bankrupt, or one state suffering an epidemic) but the majority of all nodes failing (i.e. all banks failing, or all countries suffering a pandemic).

In today's world it is almost impossible to think of a perturbation in one world-system being contained. Similarly, it is extremely difficult to predict where a perturbation that starts in one world-system may end up[23]. Not only does greater connectivity among world-systems mean that the impact of a perturbation has greater reach within and across systems[9], it also means that the resilience (i.e. the ability to absorb and recover from a realized risk) of the overall supersystem is diminished and the likelihood of the entire supersystem suffering some sort of large structural change is increased. In general, three structural elements combine to determine the resilience of systems: diversity, modularity, and redundancy[24,25]. Each element has a unique contribution to system resilience, yet they cannot be optimized all at once. Indeed, through the need to be economically efficient, imitation and the desire for greater interpersonal and geographic connectivity, we have gained network connectivity but lost network modularity (i.e. the opposite of connectedness) and diversity (i.e. only a handful of key actors dominate most sectors[3]), and consequently our world-systems are now primed for large-scale transformative change. Transformative change is not necessarily bad – if a socio-environmental system is built to be overly extractive and/or destructive, then a large structural change could bring immediate as well as long-term benefits[26]. However, taken as a whole, the large shifts in the structural organization of our world-systems that result from a supersystem risk being realized will likely be unexpected and unplanned and as a consequence, they will likely engender abrupt

drops in human wellbeing[27]. For example, recent work leveraging network theory[28] has shown that greater connectivity in global trade networks has increased the potential for large and abrupt changes in the provision of food[29,30]. Unfortunately, it is evident that our world-systems are now so strongly connected that perturbations can spread far and have major impacts.

Hidden risks: complex adaptive system dynamics

The importance of the growing connectivity among our world-systems is mirrored by the dynamics occurring within them. Each world-system is a complex adaptive system, with strategic actors interacting over a range of spatial and temporal scales, and levels of organization. The dynamics of all kinds of complex adaptive systems, for example ecosystems, power-grids, social-networks...etc., emerge from the interactions between the actors that comprise the system (e.g. animals, power-busses, people, financial trading algorithms), and also from feedbacks with dynamics happening at higher levels of organization (e.g. herds, power-grids, communities, financial markets). This means a supersystem risk is realized through the actions of the actors comprising the system. This is in contrast to certain forms of "existential risk" that often involve a large external perturbation such as a planet-killer asteroid. Another related concept is that of femtorisks[31]: these are threats that result from the actions and interactions of actors that exist beneath the level of formal institutions. The term "femto" highlights the apparent insignificance of the individual actor that might be a source of such a risk. But, when embedded in a complex and adaptive system, the actions these small-scale actors might take can end up creating a cascade of events that have large-scale impacts, and in the case of supersystem risks, global impacts.

Another problem associated with the complex and adaptive nature of our world-systems is that supersystem risks can be hidden. Hidden risks are those that are not yet apparent, but that emerge as actors respond (often strategically) to the actions of one another. In the standard model of risk, one examines the probability of an event happening and its potential impact on the actor/system. The challenge with hidden risks is that at any given instant they may have a probability of zero. Thus, they are perceived to be inconsequential and more wickedly; they may not even be known yet. However, in complex adaptive systems, these probabilities are not constant. Instead they change over time as a function of the interaction of actors[25,32]. Thus, a hidden risk can emerge as the system evolves over

time. The notion of hidden risks was captured by Donald Rumsfeld, the former U.S. Secretary of Defense, who described them as unknown unknowns, where we have no idea what the threat and risk actually are[33]. As our world-systems become more connected, the number of actors and links between them grow to such a point that it is almost impossible to identify when and how a supersystem risk might emerge. Those at the center of risk production are the only ones that can interpret the system well enough to propose solutions; but, where solutions are self-serving, they will not resolve the core of supersystem risk production.

More risks: the evolution of connectivity and the threat of collapse

Through increasing intra- and inter-connectedness, our world-systems have become more efficient locally, yet this has made them susceptible to supersystem risks. More importantly, they are continuing to evolve towards ever-greater connectivity, driven by the selection of actors and institutions that maximize economic efficiency. The problem is one of timescales. At relatively short timescales (e.g. from seconds to years) individuals, algorithms, businesses and governments are increasing the connectivity within and among our world-systems in order to increase economic efficiency. However, over longer timescales (e.g. decades and centuries), connectivity has increased to such a point that supersystem risks are now possible. Actors may realize that long-term viability requires resilience (i.e. through lower connectivity), but competition with their peers persuades them to focus their attention myopically and make decisions that maximize their near-term economic efficiency[22,34]. Indeed, in addition to growing connectivity, we have also witnessed a consolidation of wealth and influence among a small subset of actors that dominate any given world-system (i.e. transnational corporations[3]). This concentration of connectivity around a few major actors does not confer resilience. Quite the opposite: through a loss of diversity it makes the whole system more fragile.

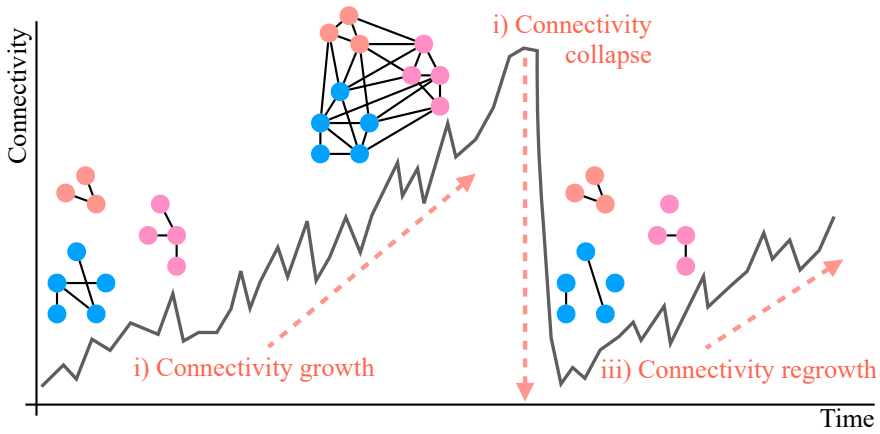

Figure 1. Schematic showing the possible growth and eventual collapse of world-system connectivity. World-systems — social, transport, financial systems for example — are identified by the colored modules in the different networks. Initially these world-systems include connectivity within themselves, but, i) over time (i.e. decades, centuries) these world-systems have become highly connected, driven by incentives for economic efficiency. With greater connectivity comes supersystem risk and ii) at some point a super system risk is realized, and the connectivity of our world-systems shrinks. Then iii) the process may start again as people rebuild world-systems.

What is the long-term consequence of increasing world-system connectivity? Unfortunately, this means that there is a growing non-zero probability of a supersystem risk being realized over a shortening time horizon. Indeed, the impacts of anthropogenic climate change mean that in the coming decades, shocks will be continually experienced over a range of spatial and temporal scales. One only need look to the increased frequency of 100-year floods or record setting maximum daily temperatures from city to city around the world. Eventually, a supersystem risk will be realized of such magnitude that the connectivity of our world-systems may actually shrink. In some way, the 2020 pandemic is one such example: for instance, global air travel has greatly reduced, and it may never recover to what it was. This whole process – increasing connectivity to maximize economic efficiency, the realization of a supersystem risk and an eventual reduction in connectivity due to the impacts of the supersystem risk – resembles a process of Self-Organized Criticality[35] (see Fig. 1 for a visual representation of this process). Self-Organized Criticality describes why some systems are attracted to catastrophe, and it has helped us understand the frequency and magnitude of forest fires, earthquakes and financial crashes to name a few examples. Perhaps a terrifying property of reflexive modernization is that the incentives we have created for ourselves will increasingly draw us towards creating supersystem risks[17], until the point at which catastrophic collapse is inevitable. Perhaps the Anthropocene will be short-lived[36].

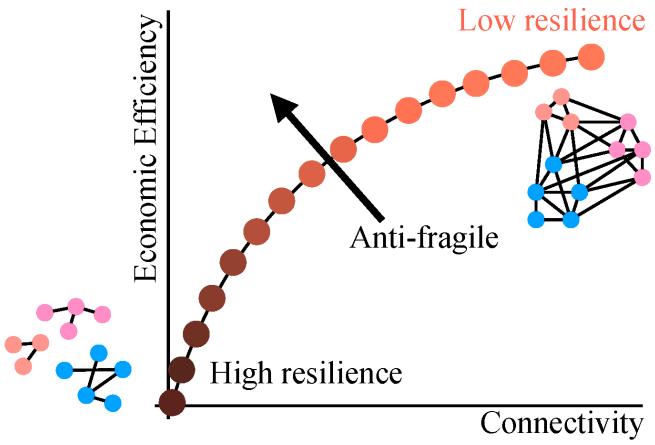

Figure 2. There exists a relationship between economic efficiency (i.e. the most revenue for the least costs) and world-system connectivity, which we suggest is positive and concave. However, there is a trade-off with economic resilience (i.e. the red markers; dark red is high resilience and bright red is low resilience). Over time our world-systems have evolved towards greater connectivity and economic efficiency but also lower resilience. To be anti-fragile is to bend this curve outward so that our world-systems can be highly connected and efficient, without the loss of resilience.

So What?

If the Anthropocene is on a collision course with catastrophe, driven by economic incentives for greater connectivity, what can be done? First, we must recognize that for a supersystem to be resilient, and indeed anti-fragile[37], then it needs to learn from the shocks it experiences[7]. However, owing to our preoccupation with the future and with risk, we have actually become very good at preventing shocks. Even though we have and continue to experience shocks, it has been argued (albeit in a highly specific manner) that since the end of World War II, even though we have seen the growing threat of weapons of mass destruction[38] and an increase in income inequality around the world[39], we have actually experienced an unprecedented period of international peace and economic growth[40]. But, just like forests and rangelands that naturally experience regenerative wildfires, our world-systems must use shocks as opportunities to transform (see Fig. 2 for a depiction of the tradeoff in economic efficiency and resilience, and how anti-fragility manifests). Institutions that are not "fit" in the face of these socially created shocks must adapt and/or transform to be resilient to them in the future, and not persist through temporary fixes. For example, many of the financial institutions that created the 2008 crisis were bailed out (i.e. in the US, the Emergency Economic Stabilization Act of 2008). These short-term fixes promote maladaptation and ultimately lead to the recurrence of certain types of supersystem risks. Similarly, the 2020 response to the Covid-19 pandemic revealed differences in nations' abilities to deal with the collective action challenge of limiting the spread of the virus through economic closures and social distancing; are we ready to learn from

these experiences in the case of another pandemic in the (near) future? It is perhaps unwelcome to imagine shocks such as the 2008 financial crisis or the 2020 pandemic as being good for our global supersystem. But there can be many great lessons to be learned from them, that ultimately improve the functioning of our world-systems so that the impacts of future crises are less severe. Resilience in our world-systems is possible. The socio-economic systems we are embedded in are continually changing, and there is a wide spectrum of possible configurations that better incentivize local/regional socio-environmental resilience over global economic efficiency[41,42] and the production of wealth. If we can recognize that the economic efficiency that currently provides us easy access to goods, services and jobs is also constructing supersystem risks, then we may be able to choose social, political and economic institutions that better serve the long-term prosperity of an Anthropocene that is socially and environmentally sustainable.

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ISABEL CAVENECIA

Notes on the Recursive Art of Capturing Value

Erik Bordeleau

1. In *Dark Ecology* (2016), Timothy Morton explains that the word "weird" comes from the Old Norse *urth*, meaning twisted, in a loop. He argues for a new kind of ecological awareness - something he calls an *ecognosis* - that challenges linear causality and opens up the aesthetic dimension, orienting us toward a "dark" and resonant place where myriad things loop themselves into existence:

> "Ecological awareness is weird: it has a twisted, looping form. (...) Ecological awareness is a loop because human interference has a loop form, because ecological and biological systems are loops. And ultimately this is because to exist at all is to assume the form of a loop.
>
> [T]here are layers of attunement to ecological reality more accurate than what is habitual in the media, in the academy, and in society at large. These attunement structures are necessarily weird."[1]

Morton's ecological rendition of the looping form is paradigmatic of object-oriented-ontologies' way of describing the withdrawal of objects away from cognition.

This mode of philosophical dramatization, however contested it might be, proves to be useful when it comes to foregrounding the *operational closure* of systems and things. By highlighting paradoxes of self-referentiality, especially in what he calls hyperobjects, i.e. entities so massively distributed in time and space that they challenge the very idea of what a thing is in the first place (think of global warming, or plutonium radioactivity), Morton's conception of ecognosis overlaps in different ways with Douglas Hofstadter's "strange loops"[2] or what Gregory Bateson called recursive or ecological epistemology.

2. Moderns have been so successful in drawing the line between what matters economically and what doesn't that we are now on the verge of civilizational collapse. As a mode of existence, economic recursivity is a carefully cultivated *insensibility* to the local and always transversal conditions of value production. From the weirding perspective of ecognosis, the economy appears as the place where different types of organizations and business models self-referentially loop themselves into existence. Business models weirdly capture value. They presuppose something like a planned return on investment – something that loops back unto itself for an in-come, for a profit (in French, the word for income is *revenu*, literally something that returned). Often, these self-enclosing operations are, as Deleuze and Guattari rightfully pointed out in *Anti-Oedipus* (1972), intrinsically unavowable.[3] They happen in the shadows. They take part in the formation of the positive unconscious structuring social life under algorithmic or cyber-capitalism.[4]

3. *"Capitalism only hangs on because it is the most secure way of securing value inside a container. So whatever comes "after" capitalism would simply be more of that: the only thing that can defeat capitalism is an even more secure way of securing value inside a container. i.e., even more capitalist."*[5]

4. Financialized capitalism uses monetization as a speculative looping mechanism by which social, cultural and ecological values are flattened out and made economically equivalent with one another. Obviously, its architecture is inherently hierarchical; the privileged few are allowed to *issue* money, while everyone else can only issue promises to *pay* money. As the political economist Perry Merhling reminds us, "the most real thing is money, but money is nothing more than a form of debt, which is to say a commitment to pay money at some time in the future. The whole system is therefore fundamentally circular and self-referential. There is nothing underneath, as it were, holding it up."[6]

5. 20th-century sociologist Robert K. Merton is credited with coining the expression "self-fulfilling prophecy" and formalizing its structure and consequences. In his 1948 article *Self-Fulfilling Prophecy*, Merton defines it as a false definition of the situation evoking a new behavior which makes the original false conception come true. *Fake it until you make it:* Merton was basically defining the (American) capitalist subjective regime of self-confidence as all-terrain technique of psycho-affective capture.

About 20 years later, his son, the duly and self-fulfillingly named Robert C. Merton, published a paper expanding the mathematical understanding of the options pricing model, and coined the term "Black–Scholes options pricing model." The Black-Scholes (and Merton) probabilistic formula is like a navigational device to cruise through the sea of derivatives. It provides a rational way to price a financial contract when it still has time to run. "It was like buying or selling a bet on a horse, halfway through the race."[7] The financial sector called it the Midas Formula as it turned derivative time into gold. The probabilistic model coincided almost perfectly with the course of the market until the Real kicked back in full contingent mode with the October 1987 crash.

6. If we want to turn the world into a swarm of living commons rather than self-abstracting, devouring corporate entities, we need to engage further into how monetary systems, financial apparatuses and business models actually work. *We need to make our economies weird again*. We need to design *otherwise* types of feedback loops and imagine other modes of capture that escape the tight grip of reductive economic abstractions and anti-social storing of value.

Considering the inherently speculative nature of economic value, the financial art of harnessing future value flows and derivatively looping them back into the present is probably a good place to start. Armed with complex derivatives, finance makes the future actionable in the present. It is, in many ways, a form of extractive and self-fulfilling planning that dispossesses us from a lived and vibrant access to futurity. How can we shift from the individual precarity predatorial finance generates to new forms of transindividual metastability and collective emergent attunements?

7. Many thinkers and activists have recently taken up the challenge of re-thinking the value form from the perspective of the financial, or more specifically, from the perspective of that which exceeds and overflows. In close dialogue with Economic Space Agency (ECSA), Brian Massumi argues in his *99 thesis on the Reevaluation*

of Value (2018) that as a self-abstracting and intensifying force, financial derivatives offer a privileged access to a post-capitalist and alter-economic future. For Massumi, derivatives run on affective intensities just as much or even more so than on economic "fundamentals"; the economy then appears as "the precarious art of snatching emergent order out of affect."[8] It would therefore be short-sighted to simply advocate for a return to the "real" economy. Rather, he writes, "it is in the speculative sphere of the financial markets that the processual engine of the capitalist economy shows its true processual quality (its ultimately unsustainable running after surplus-value fueling endless growth and uncurbed accumulation)."[9] The invention of post-capitalist alternatives thus depends for Massumi on how we conceive of the processual logic of what he calls *surplus-value of life*: "How can a creative process engine that stays true to its mission of producing surplus-value of life for its own sake at the same time style itself an economization process capable of interfacing with the dominant economy in self-sustaining ways?"[10]

Massumi's problematization of surplus-value production is original and compelling in many ways and would definitely deserve a much deeper analysis. The problem I see here, for now, is that if we follow Massumi too closely in pitting the qualitative life forces against their quantitative capturing, it becomes difficult to actually address the problem of interfacing with the "real" economy, that is, to take full account of the market as *medium of contingency*.[11] At contact with a future said to be radically uncertain, the market informs and determines, it *contingentializes* and monetizes states of fact - it produces forms-of-value that integrate a series of calculations and approximations to modulate exposure to risk and maximize profits. All this work of semiotic slicing and splitting, of collective anticipation and performative evaluation tensed on the tip of a present that is both intuitive and algorithmic; all this ends up taking the apparently unified and intelligible, i.e. rendered legible, shape of an "economy." Perhaps Gabriel Tarde's notion of "social quantity" could be of some help here, or even Klossowski's rendering of libidinal economy in terms of "living currency," as they both suggest procedures of contingentialization that precede monetization *per se*, eventually leading toward an updated, big data informed version of an insight allegedly from Stalin-as-Gesamtkunstwerk: quantity has a quality all of its own.

8. In *Capital and Time* (2018), Martijn Konings embraces a pragmatics of valuation that foregrounds the speculative powers of finance. He highlights the role of anticipation and expectation in value formation and how value capturing is always entangled with an active process of prospecting for potentialities. Capital isn't simply

a passive appropriator of what has already been produced, as we often imagine it a bit too hastily. Rather, argues Konings, "capital's measures and calculations are performative devices" that "play an active, constructive role in generating the very surplus value it is after."[12]

As it prospects for ways of generating surplus-value, the virtual body of capital generates a highly qualified relation to futurity that effectively structures contemporary societies – something often referred to as risk management. We live in what Ulrich Beck has famously called "risk societies." Risk is a guiding epistemological principle of modernity, around which articulates something like a *financial art of (non)knowledge*. Inherent to the venture-form, risk is the measurable expectation about the unexpected. Derivatives, for instance, are essentially contracts that price risk. The financial world can be conceived of as being shaped by those who "believe in their capacity to channel the workings of uncertainty to be winners in the game of risk."[13] But the reigning financial class certainly doesn't have the monopoly on risk-generating practices. How we leverage our own capacities to take risks and enter into metastable collective compositions, beyond what is deemed "possible" - or insurable? -, will be a determining element of any successful post-capitalist politics to come.

What if finance wouldn't primarily be about monetary value, but rather a mode of coordinating the future and its emerging possibilities, through the collective design of attractors and the distribution of flows of desire? Finance would then present itself as an expressive medium, that is: a practice of opening shared temporal intervals by risking and speculating together, in a spirit of deep mutualism and speculative generosity that redefines the neoliberal subject of self-interest and open up unto renewed practices of co-immunity.

This financial art of setting and designing attractors for shaping futurity, Konings describes it in terms of *leveraging*:

> "Leverage is the way we aim to give our fictitious projections a self-fulfilling, performative quality (...) leverage involves the effort to position oneself as the focal point of the interactive logic of speculation, as an attractor in the social field.[14]

I believe this understanding of the performative and speculative aspect of value capturing and the pragmatic logic of leveraging is crucial if we want to approach financial matters with a weirding poetics of experimentation. How can we transform the traditional modes of value capture – and exposure – embedded in the current economic infrastructures and re-engineer them for the benefit of the

community? How can we convert economic loops into social and artistic flows (and vice versa)? Could the emerging field of blockchain-based cryptoeconomics lead to the invention of new worlding and leveraging practices, that is, cooperative and implicated ways of world-making by which different species, technologies and forms of knowledge generate their own loci of intensive commingling?

9. Blockchains or distributed ledgers technologies (DLT) are most often associated with cryptocurrencies. But I believe it is more interesting to first conceive of them as *constitutional or institutional orders*, that is: a set of protocols by which individuals, firms or algorithms can make economic and political exchanges. Blockchains are scalable governance-making machines – *the protocol is the institution*. As such, they allow for the formation of all sorts of digital membranes, economic enclosures or digital commons yet to be invented. Thus, with cryptoeconomics, or so is the hope entertained by many collectives operating in this rapidly evolving space, *the economy becomes a design question*. What type of futures can be called into being through a reprogramming of social and financial protocols for interaction? What are the different techno-social components defining these new organizational forms that combine the immutability of a shared past with the programmability of a freely commonized future? In a world moving toward accrued social fragmentation, the way we generate scalable techno-social modes of coordination has become crucial. Could cryptoeconomics facilitate the formation of what Geert Lovink and Ned Rossiter have dubbed "organized networks" or "networks with consequences"?[15]

What is at play here, from a crypto-financial point of view, is the process of incorporation of forms-of-value as such, i.e. the legal or digital codification whereby an economic asset is enclosed, securitized and monetized. An economy founded on a blockchain makes it possible to issue tokens in which various governance and property rights, various pre-established circulation and transmission rules would be programmed - a new form of network-based value. These techno-social formations or legal and digital incorporations constitute what Economic Space Agency (ECSA) calls "economic spaces," meaning spaces within which it is the very organization of our ways of "risking and speculating together" that becomes the main vector of valorization. (Note that at this point, the very notion of risk becomes somewhat problematic and would require a decolonizing and ecologizing treatment in due form – something that, unfortunately or rather tenaciously so, ECSA has proven to be unable to provide.)

10. Engaging with the enabling constraints of derivative finance and cryptoeconomics is tricky and potentially problematic. At best, it can act as a *neganthropic pharmakon* as Bernard Stiegler puts it, that is: a perspective in which the economy works as a "general therapy for the biosphere," reversing the destructive course of the Anthropocene by favoring the always localizing slowing down generated by negentropic processes.[16] At worst, the proliferation of cryptoeconomics' modes of organization and its associated fantasy of automation, as well as the acritical use of risk management's conceptual framework might actually signify the destruction – the economic reduction that is – of countless other types of worlding practices, more subtle, more improbable, less calculable too. The quest for scalability, Anna Tsing reminds us, tends to banish meaningful diversity, that is, diversity that might make a difference.[17] Indeed, just as more traditional capitalist formations, cryptoeconomically-enabled modes of governance might be predating upon forms of transindividual sociality that have been militantly preserved away from for-profit capitalist computability. As of now, the jury is still out on determining whether blockchain-based initiatives will amount to anything other than the reinforcement of governance as "the extension of whiteness on a global scale" (and judging by the references mobilized in this essay, there is still some significant work to do...)[18]

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Endnotes

[1] Timothy Morton, *Dark Ecology: For a Logic of Future Coexistence*, Columbia University Press, New York, 2016, p.6, 159.

[2] "What I mean by "strange loop" is – here goes a first stab, anyway – not a physical circuit but an abstract loop in which, in the series of stages that constitute the cycling-around, there is a shift from one level of abstraction (or structure) to another, which feels like an upwards movement in a hierarchy, and yet somehow the successive "upward" shifts turn out to give rise to a closed cycle." Douglas Hofstadter, *I Am a Strange Loop*, Basic Books, New York, 2007, p.101-102.

[3] "It is with the thing, capitalism, that the unavowable begins: there is not a single economic or financial operation that, assuming it is translated in terms of a code, would not lay bare its own unavowable nature, that is, its intrinsic perversion or essential cynicism (the age of bad conscience is also the age of pure cynicism)." Gilles Deleuze and Felix Guattari, *Capitalism and Schizophrenia I: Anti-Oedipus*, Trans. by Robert Hurley, Mark Seem and Helen R. Lane, University of Minnesota Press, Minneapolis, 1983 [1972], p.247.

[4] Yuk Hui highlights how "the mathematical development of recursivity and its realization in the universal Turing machine during the 1930s witnessed the emergence of what we call an *algorithm*." Yuk Hui, *Recursivity and Contingency*, Rowan & Littlefield, London, 2018, p.100.

[5] The Sorcery of the Spectacle, "What is Ceptr?", 2017, https://www.reddit.com/r/sorceryofthespectacle/comments/5p817e/what_is_ceptr/ (consulted on Sept. 6 2020)

[6] Quoted in Martijn Konings, *Capital and Time: For a New Critique of Liberal Reason*, Stanford University Press, Stanford, 2018, p.1. Similarly, Elena Esposito notes that "(...) a derivative is a form of money (Xenomoney) that creates its reference by itself, a sign that creates itself out of the future." "The mysteries of Money", in Wilfried Dickhoff and Marcus Steinweg (eds.), *Inaesthetics #3 - Money*, Merve Verlag, Berlin, 2012. http://inaesthetics.org/index.php/main/issue/3/4 (consulted Sept. 6th 2020).

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[8] Brian Massumi, *The Power at the End of the Economy: Art Beyond Interest, Joy Beyond Reason*, Duke University Press, Durham, 2014, p.3.

[9] Brian Massumi, *99 Theses on the Reevaluation of Value: A Postcapitalist Manifesto*, University of Minnesota Press, Minneapolis, 2018, p.19.

[10] *Ibid,* p. 124. Or again: "But what of life's in-the-making proper, considered as such, vitally

instead of economically? (...) In other words, there is a qualitative surplus-value of life that provides the fuel for capitalism's quantifications." (p.20)

[11] "But I say the market is the incredible medium in which this movement between present and future in reality take place. (...) the reality of the true contingent event is the same as the reality of the market. They are made of the same fabric." Elie Ayache, "In the Middle of the Event", in Robin Mackay (ed.), *The Medium of Contingency*, MIT Press, London, 2015, p.33, 28.

[12] Martijn Konings, *Capital and Time: For a New Critique of Liberal Reason*, Stanford University Press, Stanford, 2018, p.11.

[13] Arjun Appadurai, *Banking on Words: the Failure of Language in the Age of Derivative Finance*, University of Chicago Press, Chicago, 2016, p.98.

[14] Martijn Konings, *Capital and Time: For a New Critique of Liberal Reason*, Stanford University Press, Stanford, 2018, p.13-14.

[15] Geert Lovink and Ned Rossiter, *Organizations after Social Media*, Autonomedia, Brooklyn, 2018. For a speculative foray into new scalable social formations and the provocative hope for a new "radical bureaucracy", see www.2038.xyz.

[16] Bernard Stiegler, "Le nouveau conflit des facultés et des fonctions dans l'Anthropocène", in *La technique et le temps*, Fayard, Paris, 2018, p.850 (my translation).

[17] Anna Tsing, *The Mushroom at the End of the World*, Princeton University Press, Princeton, 2015.

[18] Stefano Harney and Fred Moten, *The Undercommons*: Fugitive Planning & Black Studies, Autonomedia, Brooklyn, 2013, p. 56.

ISABEL CAVENECIA

"Contractions"

The Individual and Atmospheric in Offill's *Weather*

Shannon Lambert

Forms of Contraction

The weather taught us to "write funny," says poet Brenda Hillman, and "When it stops / being wrecked, we'll write normally."[1] Jenny Offill's recent novel *Weather* (2020) is an example of this "writing funny." A collection of fragments precariously held together by its curatorial narrator, Lizzie, *Weather* "wrecks" novelistic conventions like linearity and individuality. As Amitav Ghosh contends in his oft-cited *The Great Derangement: Climate Change and the Unthinkable* (2016), both of these are conventions that no longer reflect the complex realities of our current ecological crises. *Weather's* first-person narration is challenged by the protagonist's, Lizzie's, enmeshment in networks which, with their different pulls, destabilise a sense of individual autonomy.[2] Lizzie's day-to-day experience is made up of a collection of relationships with others; helping patrons of the University library, caring for her husband and son, acting as a support and pseudo-therapist for her brother as he re-

covers from drug addiction, and, as the novel progresses, replying to the climate-related questions of listeners of Sylvia's podcast. Increasing references to disaster psychology and adverbial repetitions like "soon, soon, soon, is the loop in my head"[3] typify Lizzie's growing concern with an uncertain future, with a world in which human-induced climate change has made the risk of human extinction–and the global suffering dealt on the *homo sapiens*' way out–a very real possibility.

Despite being composed of "phrases in micro-script" that span just over 200 pages, *Weather* gestures to the macro, colliding the scales of the local and global through various "contractions."[4] The understanding of "contraction" here is itself a collision of sorts, a running together of method and concept. In part, it draws on approaches to affect and form in the ecocritical work of scholars like Nicole M. Merola and Heather Houser. As Houser argues, "affects are attached to the formal dimensions of texts such as metaphor, plot structure, and character relations"–a phenomenon she abbreviates as "*narrative affect.*"[5] "Contraction" in this paper also draws on Astrida Neimanis and Rachel Loewen Walker's Deleuzian-inspired use of the term in their development of "weathering"–a concept they use to explain the mutual affectability of human and weather bodies.[6] In Deleuzian terms, contraction describes a synthesis of time where the present contains folds of the past and future.[7] As Deleuze explains, temporality is cyclical rather than linear; in its repetitions elements of life solidify into bodies, habits, and feelings:

> "What we call wheat is a contraction of the earth and humidity...What organism is not made of elements and cases of repetition, of contemplated and contracted water, nitrogen, carbon, chlorides and sulphates, thereby intertwining all the habits of which it is composed?"[8]

Neimanis and Walker use the concept of contraction to consider how human and climate bodies are materially and temporally imbricated in one another, and they seek moments of synthesis with questions like, "*How has the hot breath of the earth, the battering of its rain, the reprieve of its gentle snows, shaped my own sinews, my gait, the ebb and flow of my own bodily humors?*" And, how has human action shaped this meteorological breathing, battering, and reprieving?[9] While Neimanis and Walker explore contraction in everyday experience, this essay zooms in on its presence in literature. By playing with the flexibility of the term to describe both contagion and condensation, it is possible to ask: what does it look and feel like to read with a contracted body, with attention to contracted formal patterns like loops and synecdoche?[10]

Psychology with Ecology

On the levels of both content and form, *Weather* is preoccupied with loops. Amidst references to cycles of breath in meditation, reincarnation, scientific revision, the cycling of fashion, and descriptions of people "milling" about, the novel links form and affect through the words of a disaster psychologist: "in times of emergency," the psychologist says, "the brain can get stuck on a loop, trying to find a similar situation for comparison." Later, Lizzie's friend Will grounds this 'trying' in the body, describing how "The body kn[ows] things before your brain d[oes]. You start[...] noticing different things."[11] The psychologist's and Will's words prime readers for a body-based reading attentive to "different things"; yet, the body read with here is not the phenomenological human body, but a "contracted" one containing multitudes, a body which synthesises different temporalities and scales.[12] The two main devices the novel uses to create a cyclic reading experience are repetition and revision. By including textual echoes across fragments, Offill prompts readers to "flick backwards" to determine where exactly they've seen a similar word.[13] For example, an instance of the word "mesh" recalls an earlier use of "enmeshment."[14] In these moments, our (present) encounter with "mesh" is modified by the (past) echo, "enmeshment," and vice versa.

As well as repetition, the novel often uses micro-revisions, which encourage readers to back-track and reread fragments. For example, the anxiety-inducing phrase "I wake to the sound of gunshots" is belatedly modified by, "Walnuts on the roof, Ben says."[15] We find similar revisions with a "mouse skull" that turns out to be a knob of ginger and with the top of a tree that "is on fire. Or else it's fall again."[16] "Narrative patterns," Houser writes, "carry affective patterns," and with strategies like repetition and revision, readers engage with the novel in a nonlinear way, a cyclic mode of reading which troubles not only the teleological thrust of conventional realist novels, but also constantly undermines the reader's sense of affective stability.[17]

With its focus on a changing climate, the novel's micro-moments of uncertainty accumulate into a more identifiable form of eco-anxiety–a state which contracts the individual and ecological. For example, as Lizzie watches her son, Eli, test markers, "shadowtime"–"the feeling of living in two distinctly different temporal scales simultaneously"[18]–intervenes: "Ben brings him a bowl of water so he can dip them in to test. According to the current trajectory, New York City will begin to experience dramatic, life-altering temperatures by 2047."[19] Like this example, the novel frequently compresses the local and global into fragmented bursts of "mundane intensity."[20] These spatiotemporal contractions link the uncertainties and fragmen-

tations of meteorological and the mental patterns, and give the novel a synecdoche-like quality, where humans and weather are "enmeshed" parts of each other's wholes. Contractions, such as those briefly explored here, encourage "reading in [a] doubled way,"[21] or, reading for nonlinear patterns where the local and global coexist and collide, and where "organizational, grammatical, or lexical disorder" might evoke broader ecological breakdowns like "habitat fragmentation."[22]

Reading *Weather* with our quasi-therapist Lizzie and with attention to scalar contractions, encourages thinking beyond the bounds of the text to a 'psychology with ecology.'[23] Both psychologists and scholars from the humanities have drawn attention to the need for psychology to broaden the scope of its research and practices beyond clinical walls to better account for the impacts of environmental affect, for weather that will not "moderate."[24] As weather patterns become more erratic and unpredictable, health sectors—at least in the Global North—are preparing for an unprecedented increase in mental health patients.[25] For many, the impact of climate change on mental health will be indirect and vicarious; for example, "mediated and moderated by media representations and information technologies."[26] Literature is one of such mediums, and rather than didactically instructing readers on how to psychologically manage the impacts of ecological risk, Offill's novel affectively models the uncertainty of our current climate, suggesting a way of writing and reading literature which might better reflect how weather "wrecks" the "pattern of ordinary life."[27]

In the spaces between both textual fragments and bursts of attention, *Weather* seems to ask: How will we respond when the familiar fragments, when we lose not only our weather patterns, but our patterns of thinking, feeling, and importantly here, reading? How might we "channel all this dread into action"?[28] Will we pay attention to the contractions of our anxious weather-bodies, or will we seek to ease these disruptions with palliative suggestions like, "*Have you tried chamomile tea?*"[29]

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Endnotes

[1] Brenda Hillman, "En Niño Orgonon" (5) in *Cascadia.* Middletown: Wesleyan University Press, 2001. Cited in Laurel Peacock, "SAD in the Anthropocene: Brenda Hillman's Ecopoetics of Affect," *Environmental Humanities* 1 (2012): 91.

[2] In her article "The Centrality of the Trivial" *Alluvium* 8.2 (2020), Clare Fisher also remarks on this, observing how we are belatedly introduced to Lizzie (n.p.). https://www.alluvium-journal.org/2020/07/13/the-centrality-of-the-trivial/

[3] Offill, Kindle Location 955. Further references will be abbreviated as KL#.

[4] Offill, KL 1462.

[5] Houser, *Ecosickness in Contemporary U.S. Fiction*, Columbia University (2016): 3. See also Nicole M. Merola's "'what do we do but keep breathing as best we can this / minute atmosphere': Juliana Spahr and Anthropocene Anxiety," in *Affective Ecocriticism: Emotion, Embodiment, Environment*, ed. Kyle Bladow and Jennifer Ladino, Nebraska (2018): 25-50.

[6] Astrida Neimanis and Rachel Lowen Walker, " *Weathering:* Climate Change and the 'Thick Time' of Transcorporeality," *Hypatia* 29.3 (2014): 558-575.

[7] For more on Deleuzian syntheses and contractions, see John Protevi's, "Deleuze and Life" in *The Cambridge Companion to Deleuze,* ed. Daniel W. Smith and Henry Somers-Hall, Cambridge University Press (2012): 239-264.

[8] Gilles Deleuze, *Difference and Repetition,* Columbia University Press (1994): 75, cited in Neimanis and Walker 571.

[9] Neimanis and Walker, 559.

[10] "Contraction," *n.* 3 & *n.* 5a in the *Oxford English Dictionary Online,* Vers. 2 (1989).

[11] Offill KL 1417, 1454.

[12] See also Daisy Hildyard, *The Second Body* (London: Fitzcarraldo, 2017), and Marco Caracciolo, "From the Museum of Civilisation to *The Octopus Museum*: Curating the Anthropocene in Contemporary Literature" (forthcoming).

[13] Fisher 2020, n.p.

[14] "'What's the word?' 'Enmeshed'" (KL 520); "I put my earbuds in and listen to an episode about something called the 'mesh'" (Offill, KL 1620). A similar phenomenon occurs with words like

"loop," "hope," and "patterns."

[15] Offill, KL 1617.

[16] Offill, KL 192; 908.

[17] Houser 2016, 15.

[18] "Shadowtime," *The Bureau of Linguistical Reality*. https://bureauoflinguisticalreality.com/portfolio/shadowtime/

[19] Offill, KL 903.

[20] Leslie Jamison, "Jenny Offill's *Weather* Is Very Emotional, Planetary and Very Turbulent," *New York Times,* 7 Feb, 2020. https://www.nytimes.com/2020/02/07/books/review/weather-jenny-offill.html

[21] Merola 2018, 33.

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[25] See Lise Van Susteren, "The Psychological Impacts of the Climate Crisis: A Call to Action," *BJPsych International* 15.2 (2018): 25.

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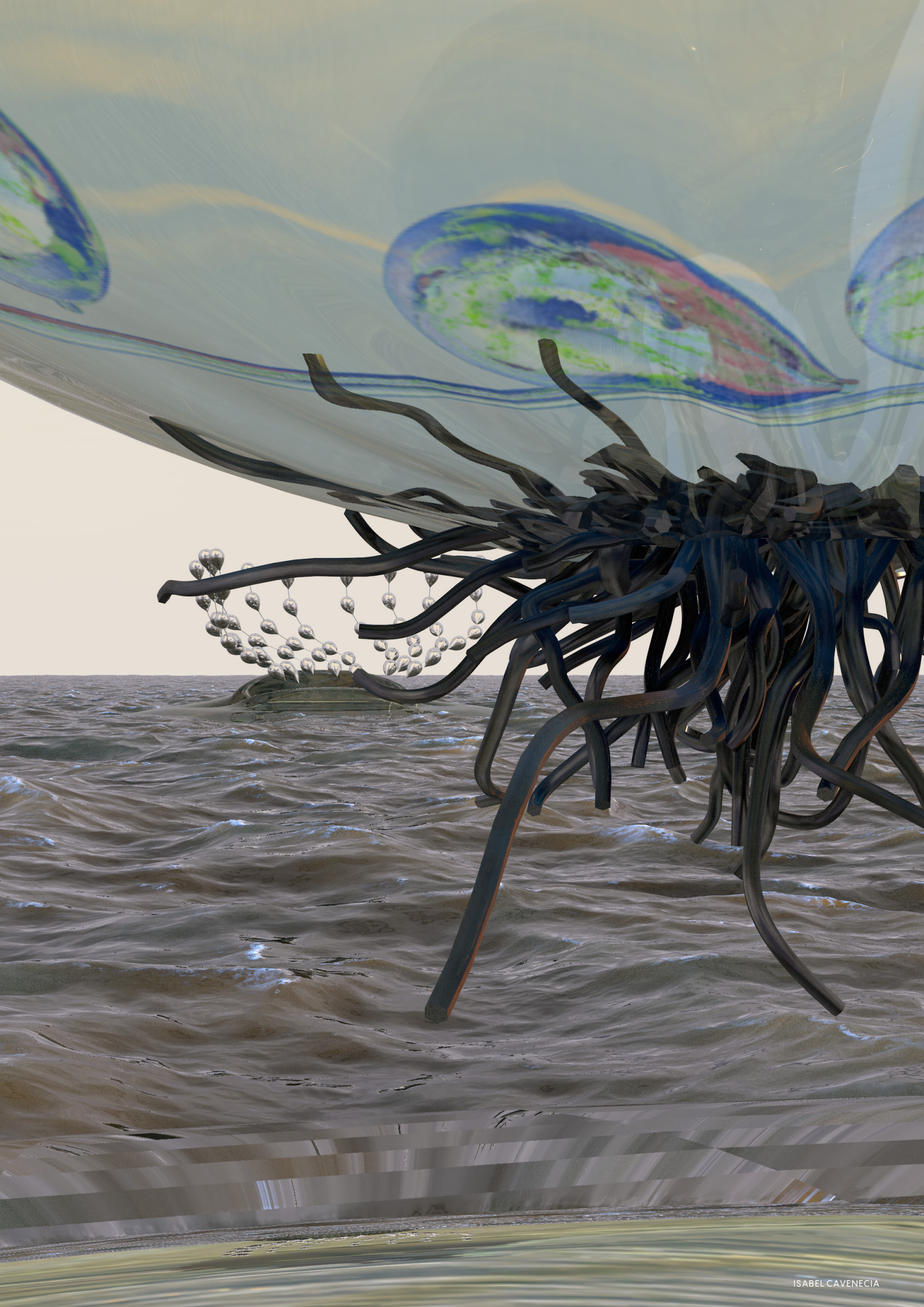


ISABEL CAVENECIA

Pulses for Future Architecture

Tinna Grétarsdóttir
and Sigurjón Baldur Hafsteinsson

"Humans are like insects that are transformed from one state to another in their evolutionary process. Some transform by going through other animals."

- HALLDÓR LAXNES[1]

Entering an Icelandic turf house opens a passageway into a super-organism. The turf house, built of wetland turf, stones, and timber, is a multispecies assemblage of entangled roots, soil, fungi, mycelium, microbes, plants, lichens, stones, wood, insects, mice, dogs, cows, sheep, and humans to name a few. While soil, microorganisms and rhizomatic root growth are the key builders of turf, the turf house architectonic space is also formed by interspecies collaboration. The *baðstofa* (the human communal space), for example, was occasionally built on top of the space that housed cows and sheep. This interspecies collaboration served to warm the *baðstofa*. The earthen passageway of the turf house connects all of the spaces of the turf house. The air is saturated with the smells of soil. The soil lends the space its hues of brown, and light and dark grey from volcano ash. The turf house is a form of architecture that is at once human and non-human, co-produced and co-habited.

Untitled. 2018. Hannes Lárusson, Hildigunnur Sverrisdóttir, Sigurjón Baldur Hafsteinsson and Tinna Grétarsdóttir.

The turf house may come across as a silent and static culture but it is indeed a moving and acting living being; a giant in terms of skill, intellect, and the power of fabulation.[2] Thus, conceiving the turf house as simply a noun or an object, as architecture is conventioally understood, is to distort the reality of the turf house as a living super-organism involved in eco-systemic acting including photosynthesis, respiration, signaling, and biogeochemical processes, to name but a few doings. The super-organism, which takes its shape from wise beings and matter, is a vital force in the process of world-making. On this ground we argue that the turf house should be recognized and comprehended as a verb, taking our inspiration from Robin Wall Kimmerer's sharing of Potawatomi philosophy and language. Kimmerer, an ecologist and a member of the Potawatomi Nation, explains eloquently how "grammar of animacy" reflected in the rich use of verbs in the Potawatomi language[3] makes perceivable "the life that pulses through all things."[4] For example, a bay, *wiikwegamaa,* is a verb – "'to *be* a bay'–releases the water from bondage and lets it live. 'To be a bay' holds the wonder that, for this moment, the living water has decided to shelter itself between the shores, conversing with cedar roots and a

flock of baby mergansers."[5] However, "a bay is a noun only if water is *dead*. When *bay* is a noun, it is defined by humans, trapped between its shores and contained by the word."[6]

The Turfiction (turf fiction) project moves in and out of the turf house as a way of engaging and articulating possibilities for architecture of the future.[7] There are two components in particular that will be discussed in this essay and are intrinsic to the turf house; the act of re-membering and diverse temporalities. Both are crucial to understand the political role of architecture as a practice of "making time"[8] opposed to "freezing time."[9] Such forms of architecture rest not only on "hold[ing] open space in the world for other living beings"[10] but on forming new relations by facilitating practices of caring for what other beings long for. We argue that the turf house contributes towards shaping human senses, transforming communities, and distracting predominant timescales, designs, and innovations.[11]

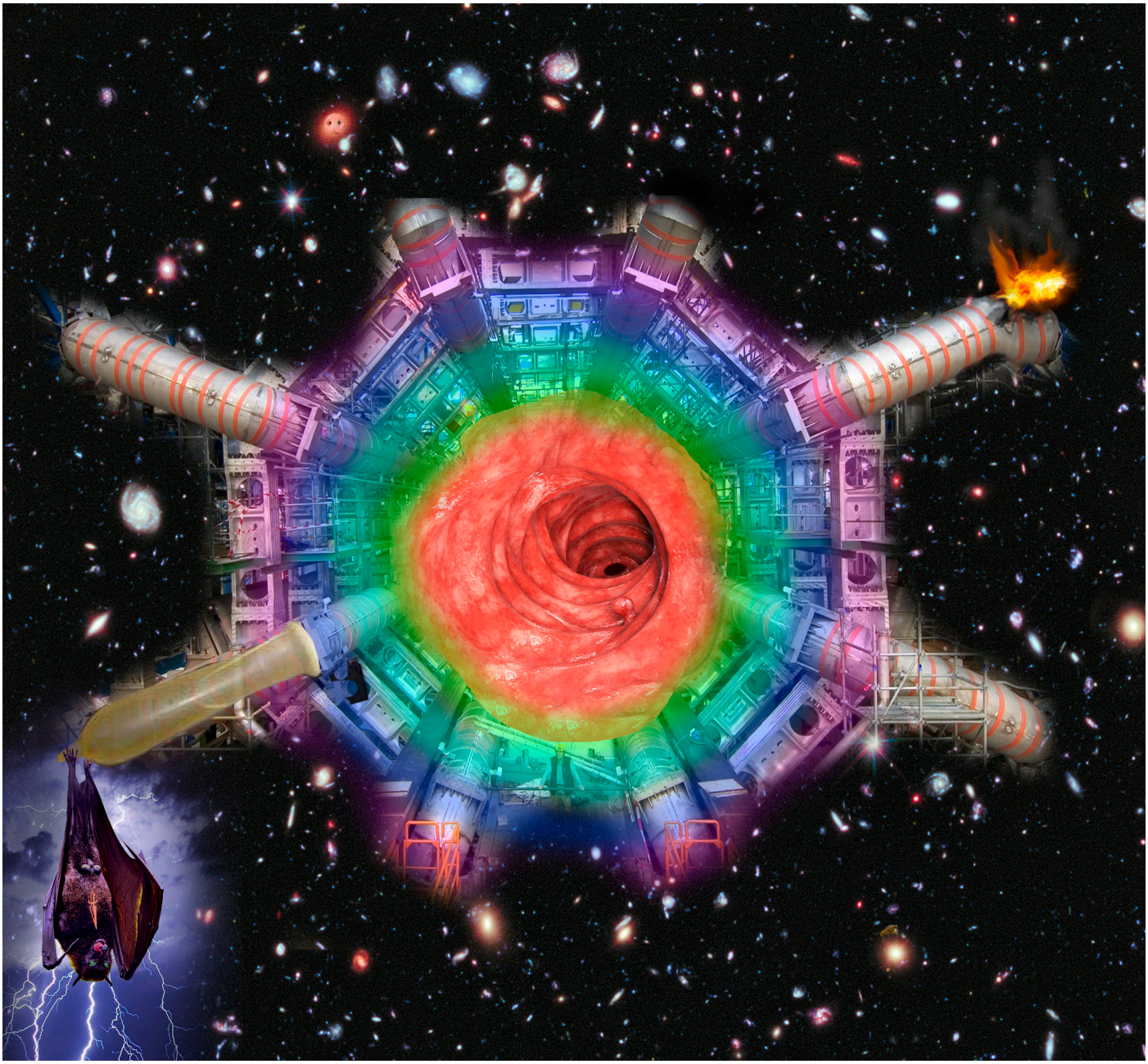
I

Architecture as an act of re-membering[12] refers to ways to sense, think, and engage in relations and with the abilities of non-human members intrinsic to human existence. It is an ethical commitment that involves "responsibility and accountability for the lively relationalities of becoming of which we are a part."[13] Humans are membered by non-humans in and out their bodies. "Human nature is an interspecies relationship" as Anna Tsing states.[14] So too is the turf house. The growth and well-being of the turf house hinges on multiple relations that occur in collaboration with and beyond human agency; no plant or animal is 'out of place.'

The legacy of modern architecture is grim with respect to the role of non-humans in built environments. Modern architecture dismembered non-humans in architectural practice. Forms of human collaboration and cohabitation with animals, plants, fungi, soil etc. were edited out on the basis of hygiene; even bacteria regardless whether they are harmful or beneficial to human lives were labeled as a threat to humans. Moreover, the history of architecture primarily presents narratives based on human methods of construction,[15] where the human reigns as a parameter for scales, aesthetic, and material attributes, and desired experiential and moral effects of building.[16]

Eduardo Kohn, author of *How Forests Think* (2013), states "that learning again to think with and like forests should be part of an ethical practice for the Anthropocene."[17] In this way, learning and thinking with the turf house is part of

an ethical practice that rests on "open ended performative exploration of alternative possibilities of collective existence."[18] The turf house, consisting of clusters of houses connected by a passageway, represents a building without a blueprint. The clusters differed in number and size depending on social need and economy. Moreover, every house is distinct and constantly transforming with the advent of future generations and new compositions of organisms. Organisms, such as sedges of the wetland body, retreat and aerobic microbes take over, replacing anaerobic inhabitants. A process of succession occurs as seeds and plants take root over time resulting in a total species turnover and the formation of new interspecies connections. Thus, the turf house is always in a process of becoming, making visions and relations with the future.



Untitled. 2020. Ásmundur Ásmundsson, Hannes Lárusson and Tinna Grétarsdóttir.

The future is made in architectural practices; if guided by the turf house the architecture speaks to the stories of beings, material force and relations to come. Such practices are to recognize non-humans *on their terms*, or as Natasha Myers argues, they will "dictate the terms of the encounter."[19] Furthermore, let us keep in mind, as Manuela Rossini and Mike Toggweiler note, "the human is not necessarily the maker of history and the future, and might not even have a place in it."[20] Committing to practice architecture that facilitates, carries, and relies on new kinds of human and more-than-human relationships rests on human heightened sensitivity of the non-human sphere and the power of creativity to make worlds on the grounds of "making-with."[21]

II

The turf house is at once impermanent and perpetually unfinished. It is unceasingly evolving, expanding, and retreating, existing in a state characterized by the need for constant concern and responsible repair. In this way, the turf house opposes conventional architectural approaches centered on material endurance and preservation in favor of constant change.

As opposed to "freezing time"[22] or "ignor[ing] temporality or to reduce it to the measurable and the calculable"[23] as architectural practice is often accused of, the turf house unfolds "a diversity of coexisting temporalities."[24] Moreover, the turf house, cultivated for over thirty generations of humans, hundreds of generations of lichens, thousands of generations of plants, and billions of generations of microbes, brings today's "bottomless instantaneity"[25] into conversation with other than human temporalities. As such, it involves revolutionizing perceptions of the anthropocentric timescale of the capitalist present, with progress as its pointer in its colonial quest. The diverse timescales of the turf house stretch from hours to a hundred thousand years. At once the turf house embodies the deep geological time of eroding stones and the shorter biological life cycles of protozoans, nematodes, arthropods, microbes, plants and many others measured in years, months, weeks, days, and hours.[26] On an evolutionary scale, the turf house elders have existed millions and even billions of years longer than humans. In other words, the turf house, "a world of many worlds,"[27] is embedded with multiple temporalities of non-human others and their diverse ways of existence, life history, and relations. Recognizing and relating to the temporalities of non-humans, including their different forces and ways of existing, has "implications for how we live together and how we belong in communities, that is, in creating 'temporal belongings' for both humans and

non-humans."[28] Relating to more-than-human temporalities obliges us to articulate time in a way "that can 'coordinate' us in a complex multi-species world, in which there are co-occurring and conflicting actions."[29] In this essay we have used a system of measure determined by minutes, days, or years to give insight into the diversity of turf house human and non-human timescales attempting to underline the importance to connect with the temporal range of humans and non-humans. Addressing time in units such as minutes, hours, days, however, fosters the idea of "moments exist one at a time, everywhere the same, and replace one another in succession."[30] Karen Barad reminds us that time is not absolute and the nuclear explosions of 1945 have still not passed. Temporality, as she argues, "is constituted through the world's iterative intra-activity".[31]

The turf house architecture rests on human and non-human coordination grounded in temporalities of care.[32] The turf house, where some species immigrate and others disappear, matter shifts as stones move, and organisms and plants decompose, is in constant need for attention, care, and repair. If not cared for, the turf house will collapse. Thus, the turf house, is an architecture calling for practices of sensing and caring for other-than-humans, not as a liability or to be reduced to moral basis.[33] It is an active and transformative engagement in making and sustaining livable worlds and thus enhancing all beings.[34] As Puig de la Bellacasa states, "ecological interdependency is not a moral principle but a lived material constraint–required and obliged."[35] Thus, thickening Kohn's statement above, recognizing non-humans is not simply an ethical exercise; it is an obligation, as without them, there is no turf house, no home, no future. What is needed in today's "one-reality world"[36] is an architecture nurturing complexes of pluriverse and growing coexistence. The role of architecture to "hold open space" for non-humans and their needs[37] when communities, ecosystems, and species are increasingly sinking in devastation has never been as great.

Coordination of humans and more-than-human worlds of the turf house presents a challenge as no determinate passage exists; temporalities of care unfold through embodied engagement, situated and intra-active practices, and rhythms.[38] Such practices rest on tempo that is not tuned to master narrative of architecture and predominant speed of capitalistic progress. Attending to a building that fosters human and non-human coexistence requires time, labor, and affection to adjust to the diverse temporal actuality, condition, and necessity of the cohabitants.[39]

Untitled. 2016. Ásmundur Ásmundsson, Hannes Lárusson and Tinna Grétarsdóttir

Relaying on the non-humans as co-makers demands knowledge of matter and species; to comprehend the many ways of life and the effort of each being in its web, such as pollinators, plants, moss, cyanobacteria, algae, soil, fauna, microbes, cows, sheep etc., in making a livable habitation. Thus, the involvement of humans and non-humans in the turf house can be both exhausting and pleasant and can involve prosperous and difficult togetherness, even death.[40]

Untitled. 2016. Ásmundur Ásmundsson, Hannes Lárusson and Tinna Grétarsdóttir.

The turf house, impregnated with the stories of multiple beings and narrators with no aspiration other than to live and die, is today at most an image in the minds of the Icelandic nation. After over one thousand years of existence, the turf house has become a site of ruination on Iceland's landscape. Seen as an obstacle to modern progress and associated with shame, foulness, and disease, turf houses were brutally bulldozed over in the early 20th century.[41] Consequently, very few turf houses remain standing. Still hostility towards the turf houses is ingrained into local language as an idiomatic expression for decline or regression. After the 2008 economic meltdown, the image of the turf house was frequently used to signify the country's setbacks, a potent symbol of the nation's struggle and decline.

The phrase “would you like us to go back to the turf house?” was used in public discourse against those who took a stand against neoliberal social and cultural restructuring schemes. “At least we are not going back to the turf house” stood as a reassurance of the status quo, a benchmark against which progress could be measured.[42]

With the Turfiction project, we advocate for renewed interest in the turf house, for the sake of future architecture and multispecies politics. We suggest that there is an urgent need to comprehend the loss of its ontology and understand the practices, dependencies, and relations embedded in it as a way to guide us in our quest to find better ways to live in the future. Specifically, we want to challenge current conceptions of architecture and instead explore how architecture can become accountable for presenting more than human temporalities, alternative ontologies, and “more ecological ways of encountering citizenship.”[43] Elements, webs of species and matter, from the turf house can enrich future architecture in terms of co-making and cohabitation of humans and non-human others. Reflections on the eco-systemic thinking of the turf house can guide us as we develop an imagery that reacts to the urgency of the present and the need to change the story and who belongs in it.

Untitled. 2016. Ásmundur Ásmundsson, Hannes Lárusson and Tinna Grétarsdóttir.

Tinna Grétarsdóttir is trained as an anthropologist and seeks new ways of combining research and art. She has researched, published and curated exhibitions on art and neoliberal cultural politics, competing discourses of creativity, human and nonhuman ecologies and death. She has done fieldwork in Canada, Iceland, Greenland and Finland. She is co-director of art-led research projects Turfiction and is currently co-writing a book on architecture as multispecies organism. She is a caregiver of four children, a cat, plants, grows red beets and has been a compulsive tree planter.

Sigurjón Baldur Hafsteinsson is a professor at the University of Iceland. He has engaged in fieldwork in Canada and Iceland on indigenous media, deep democracy, neoliberal cultural politics, heritage, and death. His books in English include *Unmasking Deep Democracy: An Anthropology of Indigenous Media in Canada* (2013) and *Death and Governmentality in Iceland: Neo-liberalism, Grief and the Nation-Form* (2018). His latest book in Icelandic is the edited volume, *The History of Art Museums in Iceland* (2019).

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[7] See the project website: www.turfiction.org. We like to thank Hannes Lárusson, artist and Hildigunnur Sverrisdóttir, architect who have nourished the project.

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