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# HISTORICAL FUTURES

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## ABSTRACT

This article outlines the agenda of a collective research project that aims to explore modalities of historical futures that constitute our current historical condition. To present the collective work adequately, we have teamed up with *History and Theory* and initiated a long-term serial publishing experiment. In the coming years, each issue of the journal will feature contributions to this research endeavor. In our project-opening piece, we briefly introduce the experiment and the premises of the collective research agenda. We begin by recounting the many ways in which increasingly towering novel future prospects have begun to capture the scholarly world's attention across disciplinary boundaries. We then introduce the notion of historical futures. Crediting theoretical inspirations and paying intellectual debts to conceptual relatives, we define "historical futures" as the plurality of transitional relations between apprehensions of the past and anticipated futures. At the core of the article, we formulate our call for a collective investigation of modalities of historical futures and sketch three basic sets of concerns that the explorative works in this experiment may address: *kinds of transitions* from past to futures, *kinds of anticipatory practices*, and *kinds of registers* as interpretive tools that position such practices on a variety of spectrums between two poles (for instance, a value register with the poles of catastrophic and redemptive futures). Finally, we close with a brief note about the necessity of collective endeavors.

*Keywords*: historical futures, modalities of the future, transition, anticipatory practices, Anthropocene, technology, technoscience, time, temporality

## THE EXPERIMENT

Today's challenges increasingly lie with the future. The shadow cast over our present by the times to come has grown so immense in its scale and scope that we struggle to comprehend the predicament in which we find ourselves. To make things even more difficult, the cognitive challenge of grasping our situation is accompanied by a sense of urgency. Whether our prospects concern existential catastrophes or future dreamlands—be they related to technoscientific revolutions, anthropogenic changes in the Earth system, or sociopolitical transformations—the futures weighing on us seem to demand immediate action. Whereas Western modernity was assumed to be behind the wheel, steering the globe toward its desired futures (which were typically presented as desired futures for all), today's technoscientific, anthropocenic, and sociopolitical prospects seem to

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escape human control in several ways. This is not to say that there is no ambition to scale up the project of modernity and continue engineering nature, society, and even the human being. From climate engineering to human enhancement, the ambition is there, and so too are critiques of it. This is only to say that despite the survival of engineering ambitions, there is something that has changed immensely since the heyday of Western modernity, and that something is the future.

New futures—futures that the modern mind could not possibly have imagined—have emerged in the Anthropocene, in scientific and technological advancements, and in social and cultural practices. The new futures may not replace the old ones, but they may coexist with them in complex constellations that have yet to be explored. Most importantly, the new futures emerge together with their equally new ways of transitioning from past to future and new modes of configuring the relationship between past and future.

Against the backdrop of the emergence of such futures, we hope to design a collective research project under the umbrella term "historical futures." In using the term in its plural form, we intend to cover the many ways in which anticipated futures relate to apprehensions of the past, and we call for a broad exploration of these "modalities of historical futures." As we find such historical futures in our societal and cultural practices as well as in professionalized historiography, exploring them means exploring both their societal and historiographical occurrences. The explorative work concerns historical futures both in our present times and in the past, with a fully disclosed focus on the former. However, given that new historical futures constantly emerge together with the rise of new sociocultural practices that imply apprehensions of the past and visions of the future, and given that historical futures change over time as new ways of relating apprehensions of the past and anticipated futures appear and disappear within certain societal or cultural practices, we also hope to gain a broader understanding of the history of historical futures.

The exploration of modalities of historical futures—with their various kinds of transitions linked and cross-linked with multifarious anticipatory practices that work in several registers, and with all further possibilities we cannot foresee but hope to stimulate by developing this project—demands an endeavor that is both collaborative and experimental. Not one discipline and not one scholar has the expertise and vision needed to map the complex interrelations and interactions of historical futures that animate, structure, and guide a variety of anthropocenic, naturalcultural, sociopolitical, technoscientific, and environmental practices. At the same time, the conventional modes of collective work through research projects are constrained by and necessarily tailored to whatever can secure funding, and they do not usually allow for the freedom of research methodology or presentation of results that we hope to offer here.

To stand even the slightest chance of living up to the potential that we think historical futures has as a concept and as a research program, we have joined forces with *History and Theory* to design and conduct an experiment. Instead of compiling a standard theme issue or edited volume, we have developed a long-term, continuous, serial, and relatively open-ended publication format. We plan to feature contributions to the historical futures project in each issue *History and Theory* publishes in 2021 and 2022, though there is the possibility that the project

will extend beyond those dates. The continuous exposure of research over a longer run makes visible and embraces the mixture of contingencies and plans, expectations and surprises, and constraints and liberties that characterize the formation of all forms of knowledge (as we know them). Although the experiment is unique in that it enables a glimpse—even if only a partial one—into research and knowledge production in-the-making, it must also be noted that there is an extent to which the project's direction is less visible, and there is a dimension of the endeavor that we will need to determine at a later date: its conclusion. We will close the project when we, together with *History and Theory*, think it has run its course, at which time we hope to reflect on its achievements.

The experimental character and the open-endedness of the publication format might be matched by an equally experimental attitude and openness toward the contributions and forms of collaboration that comprise the historical futures project. To kick it off, we invited contributors and collaborators from diverse disciplines to join our endeavor of mapping historical futures. Yet as we have left the door open for our contributors to introduce further innovations into the endeavor, it is likely that the project's internal dynamics will enable other fellow explorers to jump on board. Indeed, this is exactly what we hope for in designing an open-ended project.

Perhaps a good way to look at the experiment is to conceive of it as a television series format applied to journal articles.[2] Due to the serial continuity of publication over the long term, there is far more space and time for "character development." Meanwhile, the open-ended nature of the project's duration and its contributions offer the possibility that the "show" will be renewed for more "seasons" and that it will introduce new "characters" and "storylines" at any point in its "syndication." As "showrunners," we will keep track of thematic cohesion and oversee the creative process by reaching out to contributors and making the "show" run as a whole. Yet the most exciting part is precisely where the series analogy breaks down. For in the end, when we decide to conclude the endeavor, we hope to revisit our initial expectations and see if we can develop a typology or sketch a complex matrix that captures the modalities of historical futures that inform our current historical condition.

To inaugurate the larger endeavor, the coming pages of this project-opening piece will outline the collective research project's rationale in four parts. The first part provides a broad justification for the overall endeavor. It recounts the many ways in which increasingly towering novel future prospects have begun to capture the scholarly world's attention across disciplinary boundaries. The second part introduces the notion of historical futures. In crediting theoretical inspirations and paying intellectual debts to conceptual relatives, it defines "historical futures" as the plurality of transitional relations between apprehensions of the past and anticipated futures. The third part constitutes our call for a collective investigation into modalities of historical futures. It sketches three basic sets of concerns that the explorative works in this experiment may address: *kinds of transitions* from past to futures, *kinds of anticipatory practices*, and

2. Thanks to Sandra Holtgreve for the television series analogy.

*kinds of registers* as interpretive tools that position such practices on a variety of spectrums between two poles (for instance, a value register with the poles of catastrophic and redemptive futures). Finally, the fourth part offers a brief note about the necessity of collective work.

## THE FUTURE TODAY

Appearing simultaneously bright and cataclysmic, the future has overwhelmed us lately. On the one hand, there are the positively stated endeavors: advanced medical technologies promise to eliminate terminal diseases; transhumanism raises the stakes and puts forward a prospect of overcoming our biological limitations through biotechnologies; private and public endeavors aim at initiating a new space age and pointing onward to multiplanetary futures; ecomodernists propose to engineer the Earth system to our benefit and comfort; newly developed and developing artificial intelligence promise to enhance our intellectual abilities. On the other hand, these very same endeavors are perceived as launching potentially catastrophic futures: instead of paving the way to a more equal and just society, advanced technologies may be harbingers of societal collapse; a superintelligence unfathomable to our cognitive capacities may potentially make its own decisions; bioengineering and genome editing could easily be misused and revive the spirit of older eugenicist beliefs; the same technologies could also be used to create nonhuman beings who outperform us and render us obsolete; and rather than engineering the Earth system, our tinkering with natural processes is kicking off a human-induced (sixth) extinction of species and may push the planet beyond its capacity to support human life.[3]

Developing an understanding of future prospects can hardly be done without addressing the role of history, for it was only with the birth of the modern Western idea of history in the eighteenth century that the future began to appear different from the past and the present.[4] It is little wonder that historical thinking can be

3. Without even attempting to provide a bibliographic overview of the above prospects, on the promises and perils of technology-oriented and anthropocenic futures, see, for instance, N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999); Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (New York: Farrar, Strauss, and Giroux, 2002); Nicholas Agar, *Humanity's End: Why We Should Reject Radical Enhancement* (Cambridge, MA: MIT Press, 2010); Steve Fuller, *Humanity 2.0: What It Means to Be Human Past, Present and Future* (New York: Palgrave Macmillan, 2011); Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2014); *Perfecting Human Futures: Transhuman Visions and Technological Imaginations*, ed. J. Benjamin Hurlbut and Hava Tirosh-Samuelson (Wiesbaden: Springer VS, 2016); Jean-Gabriel Ganascia, *Le mythe de la Singularité: Faut-il craindre l'intelligence artificielle?* (Paris: Seuil, 2017); Catherine Bliss, *Social by Nature: The Promise and Peril of Sociogenomics* (Stanford: Stanford University Press, 2018); Rosi Braidotti, *Posthuman Knowledge* (Cambridge, UK: Polity, 2019); *The Anthropocene as a Geological Time Unit: A Guide to the Scientific Evidence and Current Debate*, ed. Jan Zalasiewicz, Colin N. Waters, Mark Williams, and Colin P. Summerhayes (Cambridge, UK: Cambridge University Press, 2019); Eva Horn and Hannes Bergthaller, *The Anthropocene: Key Issues for the Humanities* (London: Routledge, 2020); Konrad Szocik et al., "Visions of a Martian Future," *Futures* 117 (March 2020).

4. Reinhart Koselleck, *Futures Past: On the Semantics of Historical Time*, transl. Keith Tribe (New York: Columbia University Press, 2004); Lucian Hölscher, *Die Entdeckung der Zukunft* (Frankfurt: Fischer, 1999); Zachary Sayre Schiffman, *The Birth of the Past* (Baltimore: Johns Hopkins University Press, 2011).

plausibly presented as fundamental to efforts to imagine the future.[5] History connects past and future in various ways, making apparent a basic dialectical relation between the two categories. In modern historical understanding, the future is typically fashioned by the conditions and constraints of the past, though the past is also continuously shaped by the future. Alberto Melucci explains: "Whenever we confront the possible—as in planning for the future—when we make a decision that anticipates the action to come, the past is re-examined, amended, and given a new meaning. We thus continually rewrite our own pasts and that of the world."[6] Put differently, our concept of the past derives from our ideas about the future; without a concept of the future, history as we know it is not possible—and the same is true of any new forms of history inasmuch as they necessitate the possibility of change over time in the future.[7] Moreover, inasmuch as we think that change has taken place between any given pasts and any given futures, we think of those futures as being "historical."

Our main contention in this project-opening piece is that, today, the future looks different than the past to an extent that was simply unimaginable in the modern period. New futures have emerged and have been emerging since the mid-twentieth century. These new futures are historical in ways other than scenarios of continuity—progress, development, or, for that matter, decline—that we have been accustomed to in the last two centuries or so. Instead of conveying a sense of how past and future are connected, new futures increasingly appear to us as disconnective—that is, as no longer connected to the past. Needless to say, this does not mean that such futures bear no relation to the past or that they cannot be compared to past states of affairs, conditions, and lifeworlds. It means only that we need to understand the specificity of these new disconnective futures within a complex web of historical futures, old and new.

But what exactly do we mean by "disconnective futures"? It has already become rather common to note that the Anthropocene—understood both as a broader cultural predicament of our times and as a proposed geological epoch when anthropogenic transformations alter the Earth viewed as one system of interacting human and physical subsystems—has uprooted our previously held beliefs and knowledge: "its advent as a scientific object has already altered how we conceptualize, imagine, and inhabit time."[8] With respect to potential Anthropocene futures, the way such anthropogenic planetary transformations happen is that an abrupt change pushes the Earth system to an entirely new condition that may no longer sustain human life, as best exemplified by research on how the transgression of "planetary boundaries" threatens to drive the Earth system out of what

5. David J. Staley, *History and Future: Using Historical Thinking to Imagine the Future* (Lanham, MD: Rowman & Littlefield, 2007).

6. Alberto Melucci, *The Playing Self: Person and Meaning in the Planetary Society* (Cambridge, UK: Cambridge University Press, 1996), 12.

7. See also Zoltán Boldizsár Simon, "History Begins in the Future: On Historical Sensibility in the Age of Technology," in *The Ethos of History: Time and Responsibility*, ed. Stefan Helgesson and Jayne Svenungsson (New York: Berghahn, 2018), 192-209.

8. Gregg Mitman, Marco Armiero, and Robert S. Emmett, preface to *Future Remains: A Cabinet of Curiosities for the Anthropocene*, ed. Gregg Mitman, Marco Armiero, and Robert S. Emmett (Chicago: University of Chicago Press, 2018), ix.

we as humans may consider our safe operating space.[9] Similarly, technoscientific futures have already been considered in a fashion of absolute alterity comparable to runaway Anthropocene futures. Take, for instance, the prospect of nanotechnology as it appeared more than a decade ago: if it "enables us to program matter as we would program software, then the world itself can be transformed, our lived realities made completely malleable, guaranteeing that the future will be radically and immeasurably different from the present."[10]

All in all, both Anthropocene and technoscientific futures gesture toward prospects that entail a disconnection of past and future to the extent that "the future ceases to be made of the same matter as the past."[11] To briefly hint at the nature of this transformation, consider the possiblity that even the future "we" may not be made of the same matter as the past "we." Humans are already increasingly being considered what Samantha Frost has called "biocultural creatures," embedded in a world-ontology of entangled "naturalcultural practices," to borrow Karen Barad's term.[12] At the same time, the cognitive and physical overcoming of human biological limitations, as postulated by transhuman scenarios of technologically enhanced beings, are accompanied by futures populated with alternative lifeforms ranging from machine superintelligence to a society of ems (brain emulations).[13] None of these futures can be understood within the framework of modern historical thinking, which considered human societal betterment as its ultimate horizon. Todays's futures are—technologically speaking, ecologically speaking, or both—more-than-human instead of human and planetary instead of global.[14]

Such previously unimaginable futures do not simply overtake and replace older historical futures of utopian societal design, visions of human progress, and projects of human emancipation. We believe that the emergence of new kinds of disconnective historical futures in the last half-century is not only a phenomenon that we must understand in its specificity but also one that, first, reactivates and interacts with older kinds of historical futures in profoundly complex ways that we struggle to understand and, second, calls into existence vigorous reflections on the future from all over the scholarly landscape.

The reactivation and flourishing of older kinds of historical futures due to the emergence of newer disconnective ones means that a multitude of coexisting

9. Johan Rockström et al., "Planetary Boundaries: Exploring the Safe Operating Space for Humanity," *Ecology and Society* 14, no. 2 (2009), 1-33; Will Steffen et al., "Planetary Boundaries: Guiding Human Development on a Changing Planet," *Science* 347, no. 6223 (2015); Will Steffen et al., "Trajectories of the Earth System in the Anthropocene," *PNAS* 115, no. 33 (2018), 8252-59; Steven J. Lade et al., "Human Impacts on Planetary Boundaries Amplified by Earth System Interactions," *Nature Sustainability* 3 (2020), 119-28.

10. Colin Milburn, *Nanovision: Engineering the Future* (Durham, NC: Duke University Press, 2008), 6.

11. Déborah Danowski and Eduardo Viveiros de Castro, *The Ends of the World* (Cambridge, UK: Polity, 2016), 26.

12. Samantha Frost, *Biocultural Creatures: Toward a New Theory of the Human* (Durham, NC: Duke University Press, 2016); Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), 32.

13. On ems, see Robin Hanson, *The Age of Em: Work, Love, and Life when Robots Rule the Earth* (Oxford: Oxford University Press, 2016). See also Arthur Kroker, *Exits to the Posthuman Future* (Cambridge, UK: Polity, 2014).

14. For more on this, see Marek Tamm and Zoltán Boldizsár Simon, "Historical Thinking and the Human: Introduction," *Journal of the Philosophy of History* 14, no. 3 (2020), 285-309.

historical futures pervades and structures our contemporary lives. In that respect, we rely and expand on Helge Jordheim's framework of multiple temporalities, which suggests that—behind its unifying and synchronizing impulse—even modern historical time harbors multiple temporal regimes.[15] Similarly, and with respect to what lies ahead, it seems reasonable to hold that a plurality of coexisting historical futures informs our lives from our everyday practices to the aforementioned grand social imaginaries of transitioning to transhuman futures. The various interactions of these previously unimaginable futures with the surviving multiple temporalities of modern historical time—that is, the interactions between the temporal configuration of different social and natural systems and the interaction of these with the also-interacting temporal experiences of different domains of human lives and endeavors—are increasingly difficult to grasp.[16]

It is precisely the complexity arising out of this profusion of new and old historical futures (and their interactions) that have sparked scholarly interest in the future from across the disciplines. We'd like to mention a few examples of how the last decades have set the human and social sciences on a future track. Although sociology and social theory have arguably been on this track for a while now,[17] we have recently witnessed equally ambitious efforts to establish an anthropology of the future that focuses on the anticipatory practices and future orientations of everyday life.[18] We have also seen efforts to link heritage practices with visions of the future;[19] to present archaeology as a form of futurology;[20] to

15. Helge Jordheim, "Introduction: Multiple Times and the Work of Synchronization," *History and Theory* 53, no. 4 (2014), 498-518. See also *Rethinking Historical Time: New Approaches to Presentism*, ed. Marek Tamm and Laurent Olivier (London: Bloomsbury Academic, 2019).

16. As a quick example of the complexities arising out of the interaction of new and old historical futures, think of the question of multispecies emancipation. Whereas the project of emancipation is arguably a modern phenomenon that entails a modern historical future, and whereas the recognition of anthropogenic changes in the Earth system that collides the human and the natural worlds (as captured by the notion of the Anthropocene) is arguably a novel occurrence that entails a new kind of historical future, multispecies emancipation could hardly be clearly aligned with either the old or the new. See *The Multispecies Salon*, ed. Eben Kirksey (Durham, NC: Duke University Press, 2014); Erika Cudworth and Stephen Hobden, *The Emancipatory Project of Posthumanism* (Abington: Routledge, 2018).

17. Barbara Adam and Chris Groves, *Future Matters: Action, Knowledge, Ethics* (Leiden: Brill, 2007); Barbara Adam, "History of the Future: Paradoxes and Challenges," *Rethinking History* 14, no. 3 (2010), 361-78; Elena Esposito, *The Future of Futures: The Time of Money in Financing and Society* (Cheltenham, UK: Edward Elgar, 2011).

18. Rebecca Bryant and Daniel M. Knight, *The Anthropology of the Future* (Cambridge, UK: Cambridge University Press, 2019). For more on anthopology and the future, see Samuel Gerald Collins, *All Tomorrow's Cultures: Anthropological Engagements with the Future* (New York: Berghahn, 2008); *Anthropologies and Futures: Researching Emerging and Uncertain Worlds*, ed. Juan Francisco Salazar, Sarah Pink, Andrew Irving, and Johannes Sjöberg (London: Bloomsbury Academic, 2017).

19. See Cornelius Holtorf and Anders Högberg, "Contemporary Heritage and the Future," in *The Palgrave Handbook of Contemporary Heritage Research*, ed. Emma Waterton and Steve Watson (Basingstoke: Palgrave, 2015), 509-23; Rodney Harrison et al., *Heritage Futures: Comparative Approaches to Natural and Cultural Heritage Practices* (London: UCL Press, 2020); *Deterritorialising the Future: Heritage in, of and after the Anthropocene*, ed. Rodney Harrison and Colin Sterling (London: Open Humanities Press, 2020); *Cultural Heritage and the Future*, ed. Cornelius Holtorf and Anders Högberg (London: Routledge, 2020).

20. Paul Graves-Brown, Rodney Harrison, and Angela Piccini, introduction to *The Oxford Handbook of the Archaeology of the Contemporary World*, ed. Paul Graves-Brown, Rodney Harrison, and Angela Piccini (Oxford: Oxford University Press, 2013), 11. See also Matthew C. Reilly, "Futurity, Time, and Archaeology," *Journal of Contemporary Archaeology* 6, no. 1 (2019), 1-15.

understand how geographies are lived and made as futures are imagined and hoped for;[21] and last but not least, to conduct historical investigations into past visions of the future.[22]

As this brief overview already testifies, the radical alterity of recent techno-scientific and anthropocenic historical futures (and their coexistence with older kinds of historical futures) invites many questions and gives rise to competing interpretations. To narrow those questions down to ones that have recently occupied historically oriented scholarship, one may ask: does the fact that, in trying to avoid catastrophes, we tend to extend our present condition into the future mean that we have lost future-orientation and become presentist, as recent cultural diagnoses hold?[23] Or is our prevalent "horizon of expectation" characterized mostly by new, short-term future prospects?[24] Or does the sheer fact of being invested in the future mean that we still imagine our futures in relation to our pasts? Should we reassure ourselves by retaining the modern idea of history? Should we assume that "practical pasts" are still guiding us into the future in a developmental manner?[25] Should we instead recognize that what the new futures challenge is precisely history as we know it?[26] Or should we perhaps discover how both may be the case at the very same time? Should we affirm the entanglement of the human world with the nonhuman and the natural and engage in new kinds of historical writing such as "posthumanist history," "planetary history," or "more-than-human history"?[27]

21. Ben Anderson, "Preemption, Precaution, Preparedness: Anticipatory Action and Future Geographies," *Progress in Human Geography* 34, no. 6, (2010), 777-98.

22. See, for instance, Georges Minois, *Histoire de l'avenir: Des prophètes à la prospective* (Paris: Fayard, 1996); Lawrence L. Samuel, *Future: A Recent History* (Austin: University of Texas Press, 2009); *Die Zukunft des 20. Jahrhunderts: Dimensionen einer historischen Zukunftsforschung*, ed. Lucian Hölscher (Frankfurt: Campus, 2017); Jenny Andersson, *The Future of the World: Futurology, Futurists, and the Struggle for the Post-Cold War Imagination* (Oxford: Oxford University Press, 2018). In a certain although rather narrowly construed way, "historical futures" may also mean such historical investigations of how past lifeworlds conceived of and related to the future. As we will see, the notion of historical futures we develop here is one of a different order, although historical investigations into historical futures as we define it might just as well form a part of the overall research agenda.

23. François Hartog, *Regimes of Historicity: Presentism and Experiences of Time*, transl. Saskia Brown (New York: Columbia University Press, 2015); Hans Ulrich Gumbrecht, *Our Broad Present: Time and Contemporary Culture* (New York: Columbia University Press, 2014). For recent critical discussions, see Aleida Assmann, *Is Time Out of Joint? On the Rise and Fall of the Modern Time Regime*, transl. Sarah Clift (Ithaca, NY: Cornell University Press, 2020); Christophe Bouton, "Hartog's Account of Historical Times and the Rise of Presentism," *History* 104 (April 2019), 309-30; Chris Lorenz, "Out of Time? Some Critical Reflections on François Hartog's Presentism," in Tamm and Olivier, *Rethinking Historical Time*, 23-42.

24. Reinhart Koselleck, "'Space of Experience' and 'Horizon of Expectation': Two Historical Categories," in *Futures Past*, 255-75. See also Jérôme Baschet, *Défaire la tyrannie du présent: Temporalités émergentes et futurs inédits* (Paris: La Découverte, 2018). For a discussion, see Marek Tamm, "How to Reinvent the Future?" *History and Theory* 59, no. 3 (2020), 448-58.

25. Hayden White, *The Practical Past* (Evanston, IL: Northwestern University Press, 2014). See also Jo Guldi and David Armitage, *The History Manifesto* (Cambridge, UK: Cambridge University Press, 2014).

26. Dipesh Chakrabaty, "Anthropocene Time," *History and Theory* 57, no. 1 (2018), 5-32; Zoltán Boldizsár Simon, "(The Impossibility of) Acting Upon a Story that We Can Believe," *Rethinking History* 22, no. 1 (2018), 105-25.

27. Ewa Domanska, "Posthumanist History," in *Debating New Approaches to History*, ed. Marek Tamm and Peter Burke (London: Bloomsbury Academic, 2018), 327-38; Dipesh Chakrabarty, *The*

In order to cope with the aforementioned questions (that have arisen out of confrontations with the futures of our own times), we have launched this collective research project designed to investigate modalities of historical futures. The remaining pages will sketch the premises of the endeavor and introduce its key notions, starting with the term "historical futures."

## HISTORICAL FUTURES

Conceptually speaking, the notion of historical futures can claim affiliation with Reinhart Koselleck's foundational work on the semantics of historical time, especially his theory of interplay between "space of experience" and "horizon of expectation," which defines the very condition of possible histories.[28] Koselleck argues, like we do in this project, that differentiating and relating pasts and futures (or experiences and expectations) underlies the modern invention and conceptualization of history. Yet we think that Koselleck's work is instructive only inasmuch as it concerns temporal experiences and historical futures that we have inherited from Western modernity in one form or another. Indeed, there is also an extent to which the notion of historical futures clearly departs from Koselleck's framework. That extent is the very premise of this whole project, for the reason why historical futures demand our attention today is precisely because Koselleck's categories are no longer instructive for newly emerging futures, which, we believe, entail a disconnection between past experiences and imaginaries of unfathomable futures (not to mention the implied task of mapping the complex interactions between old and new).[29]

In a similarly ambivalent manner, we can see a conceptual affinity between historical futures and Niklas Luhmann's pioneering work on social temporality, which has its starting point in the idea that social orders are inherently temporal orders.[30] According to Luhmann, the forms by which notions of the future are integrated into different social orders constitute an essential way of distinguishing their operations from one another. In this context, he makes an important conceptual distinction between "present futures" and "future presents." The first term refers to present observations of potential futures—to competing future visions across various discourses—and the second term denotes the practical relations that bind one operation or outcome to another as part of a sequence of actions in time.[31] Luhmann thinks that "the prevailing conception of the present

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*Crises of Civilization: Exploring Global and Planetary Histories* (New Delhi: Oxford University Press, 2019); Dipesh Chakrabarty, "The Planet: An Emergent Humanist Category," *Critical Inquiry* 46 (Autumn 2019), 1-31; Marek Tamm and Zoltán Boldizsár Simon, "More-Than-Human History: Philosophy of History at the Time of the Anthropocene," in *Philosophy of History: Twenty-First-Century Perspectives*, ed. Jouni-Matti Kuukkanen (London: Bloomsbury Academic, 2020), 198-215.

28. Koselleck, "'Space of Experience' and 'Horizon of Expectation': Two Historical Categories."

29. For more on how Koselleck's categories are defied by disconnection, see Zoltán Boldizsár Simon, *History in Times of Unprecedented Change: A Theory for the 21st Century* (London: Bloomsbury Academic, 2019), ix-xi, 56-57, 62.

30. Niklas Luhmann, *Social Systems*, transl. John Bednarz Jr. with Dirk Baecker (Stanford: Stanford University Press, 1995), 41-52.

31. Niklas Luhmann, "The Future Cannot Begin: Temporal Structures in Modern Society," *Social Research* 43 (Spring 1976), 130-52.

future seems to be a utopian one, with an optimistic or a pessimistic overtone,"[32] whereas the future present is shaped primarily by technological developments.[33] Again, although we see value in the distinction Luhmann traces, the specific content subsumed within his categories seems to reflect Western modernity's futures. As in our response to Koselleck, we are primarily interested in mapping new historical futures that may even end up modifying Luhmann's categories.

Moving closer to current debates, historical futures can be related to François Hartog's notion of "regimes of historicity," which captures how, in different configurations of past, present, and future, one of the three dominates the other two.[34] This provides the basis for Hartog's claim that a future-oriented modern regime of historicity overtook a previous past-oriented one while, since the 1980s, the future-oriented regime has been overtaken by a presentist one. What we think resonates closely with our agenda is less the notion of presentism and more Hartog's categorial innovation. The notion of historical futures is just as much an analytical category as is Hartog's concept of "regimes of historicity." They both have to do with temporality, and they both entail a historical dimension that enables us to track change over time in the temporalities we investigate. But the notion of historical futures departs from Hartog's "regimes of historicity" in two ways.

First, historical futures, unlike "regimes of historicity," is interested in exploring a plurality of historical futures not only diachronically but also synchronically. What the so-called synchronic plurality assumes is precisely the nonsynchronous coexistence of historical futures—that is, the coexistence of many ways to configure the relation between apprehensions of the past and anticipated futures. In that sense, as we mentioned earlier, our project is also affiliated with the recent interest in exploring multiple times and pluritemporalities.[35] What's more, focusing on the plurality of historical futures broadens existing definitions of "historical culture." As Maria Grever and Robbert-Jan Adriaansen have recently argued, the "umbrella concept" of "historical culture" refers, at its broadest, to "people's relationships to the past."[36] We wonder how "historical" that "culture" can be

32. Ibid., 142.

33. Departing from Luhmann, Lucian Hölscher has recently developed a useful conceptual distinction between "future pasts" and "past futures." See Lucien Hölscher, "Future Pasts: About a Form of Thought in Modern Society," *Sustainability Science* 14, no. 4 (2019), 899-904.

34. Hartog, *Regimes of Historicity*. See also François Hartog and Gérard Lenclud, "Régimes d'historicité," in *L'État des lieux en sciences sociales*, ed. Alexandru Dutu and Norbert Dodille (Paris: L'Harmattan, 1993), 18-38; François Hartog, "Historicité/régimes d'historicité," in *Historiographies*, ed. Christian Delacroix, François Dosse, Patrick Garcia, and Nicolas Offenstadt (Paris: Gallimard, 2010), 2:766-71. See also María Inés Mudrovcic's forthcoming digital resource, "Regimes of Historicity," *Bloomsbury History: Theory and Method* (2021).

35. Jordheim, "Introduction: Multiple Times and the Work of Synchronization"; Allegra F. P. Fryxell, "Time and the Modern: Current Trends in the History of Modern Temporalities," *Past and Present* 243, no. 1 (2019), 285-98.

36. Maria Grever and Robbert-Jan Adriaansen, "Historical Culture: A Concept Revisited," in *Palgrave Handbook of Research in Historical Culture and Education*, ed. Mario Carretero, Stefan Berger, and Maria Grever (London: Palgrave Macmillan, 2017), 73. For another definition of "historical culture," see Peter Lambert and Björn Weiler, "Introduction: What is Historical Culture: Themes in Historical Culture," in *How the Past Was Used: Historical Cultures, c. 750–2000*, ed. Peter Lambert and Björn Weiler (Oxford: Oxford University Press, 2017): "Historical culture encompasses the totality of means and media by which societies, groups and individuals engaged with the past and expressed their understanding of it" (1).

without the equal inclusion of people's relationships to the future, especially given that any sense of historicity, as Hartog has also implied, is just as much a matter of relating to the future as it is a matter of relating to the past. The same remark applies to recent proposals to focus in historical theory on how people in the here-and-now relate to what they perceive as their past.[37] It also applies, on a more general level, to the broader shift in the philosophy of history, as diagnosed by Frank Ankersmit:

> philosophy of history moved in the last decade from the narrativist preoccupation with the question of how we *write* about the past to the "existentialist" issue of how we *relate* to it. The shift meant a transition from a primarily philosophical approach to one inspired by an indefinite set of non-philosophical perspectives on how human beings interact with their past.[38]

Again, we wonder how all this would be possible and how all this could be considered "historical" without addressing the likely most salient and "historical" question of the future today.

This leads to the second point that, despite the close relation, indicates a crucial difference between "regimes of historicity" and historical futures. Whereas the former notion intends to capture the inner relation of past, present, and future, the latter is interested in the many actual ways and modes in which, in any given present and in any given spatial environment and social practice, apprehensions of the past and anticipated futures are put in transitional relations to each other. The central concern of historical futures is not which dimension of time (past, present, or future) dominates the other two, as is the case for Hartog's "regimes of historicity," which are differentiated by virtue of grounding the point of view in the past (medieval regime), the future (modern regime), or the present (presentist regime). Instead, the notion of historical futures traces how change is expected to occur from past to future, as seen from the present viewpoint in different societal, human, technoscientific, and naturalcultural practices dispersed in space and time. In other words, instead of assuming that our current regime of historicity would be presentist, the notion of historical futures intends to capture a multitude of complex interrelations of dimensions of time as they occur in coexisting practices.

We reckon that our definition of "historical futures" (as the plurality of transitional relations between apprehensions of the past and anticipated futures) evokes associations with historiography as the culturally sanctioned "legitimate" practice of historical knowledge production in Western modernity. This is precisely why we cannot emphasize enough that professionalized history is only one of the potential practices in which historical futures can be traced—hence our use of the phrase "apprehension of the past" instead of "knowledge of the past." Upon considering both phrases, we thought it best to make clear that we do not intend to convey a sense that we confine the relation to the past to one that is closely linked with a particular scholarly mode of apprehending the past as historical knowledge

37. See Mark Day, "Our Relations with the Past," *Philosophia* 36 (April 2008), 417-27, and Herman Paul, *Key Issues in Historical Theory* (New York: Routledge, 2015).

38. Frank Ankersmit, "Forum Debate on Jouni-Matti Kuukkanen's *Postnarrativist Philosophy of Historiography*: Introduction," *Journal of the Philosophy of History* 11, no. 1 (2017), 2.

(let alone with an even more particular mode that equates historical knowledge with historiographical knowledge produced by an institutionalized discipline). Instead, what we hope to capture with the phrase are ways of comprehending the past as various societal practices either explicitly define or tacitly imply it. The implied apprehension of the past in discourses and practices revolving around heritage, for instance, may be something that historiographical knowledge would not support, yet cognitive apprehensions of the past in heritage practices equally imply anticipated futures.[39] Such heritage practices produce historical futures inasmuch as they postulate certain transitional relations between their implied apprehensions of the past and implied futures.

To phrase it more clearly, we link the historicality of historical futures with a variety of coexisting social, cultural, environmental, technological, scientific, and political practices—from heritage practices to transhuman imaginaries—of which professionalized historiography is only one. The historical futures of our times, we believe, are of various modalities that form highly complex temporal arrangements. Let's have a closer look at them.

## MODALITIES OF HISTORICAL FUTURES

In medieval Latin, "future" is a plural noun—*futura*.[40] We similarly argue that, instead of a single future, we should think about futures in plural—or more specifically, about different *modalities of the future*. This idea, being absent in ancient philosophy of modalities, started to take hold in the Latin West from the twelfth century and laid the basis for the contemporary possible world semantic theories.[41] By invoking notions of modality and modalities, we have in mind the variety of possible (but not necessary) futures figured simultaneously in different societal and cultural practices. In philosophical terms, "modality" refers here to the conception of simultaneous alternative states of affairs. Linked with the notion of historical futures, it should be understood as a referential multiplicity with respect to various synchronic alternatives for the taking place of futures. Such possible and simultaneous futures are historical inasmuch as they imply certain forms of transition from pasts to futures—that is, inasmuch as they are informed by a notion of change in putting (apprehensions of) the past and (anticipated) futures into a transitional relation.

We call for a collective investigation of these modalities of historical futures in order to develop an understanding of our current historical predicament that

39. A good example is a recent international research project on "Heritage Futures" that analyzes heritage activities as "future-making practices" and is interested in the capacities of different forms of heritage practices to generate specific kinds of futures. See the earlier reference on heritage and the future in note 19.

40. Jean-Claude Schmitt, "Appropriating the Future," transl. Peregrine Rand, in *Medieval Futures: Attitudes to the Future in the Middle Ages*, ed. J. A. Burrow and Ian P. Wei (Woodbridge: Boydell Press, 2000), 5.

41. See Simo Knuuttila, *Modalities in Medieval Philosophy* (London: Routledge, 1993); Simo Knuuttila, "The Medieval Background of Modern Modal Conceptions," *Theoria* 66, no. 2 (2000), 185-204; Simo Knuuttila, "Medieval Theories of Modality," *Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, updated 19 April 2017, accessed 10 August 2020, https://plato.stanford.edu/archives/sum2017/entries/modality-medieval/. The concept of the "modalities of the future" is used also by Baschet, *Défaire la tyrannie du présent*.

transcends disciplinary and methodological boundaries. As the ultimate aim is to understand the complexities entailed by the coexistence and interactions of the multiple historicities of our times in different domains of life, in different social and natural systems, and in different naturalcultural and technoscientific practices, the primary interest of this experiment is in mapping contemporary modalities of historical futures. (To be clear, however, this does not exclude the historical study of past modalities of historical futures, which remains a necessary precondition of any comparative project that intends to assess the novelty of certain contemporary historical futures.)

Without imposing unnecessary confines on a research agenda defined just as much by its upcoming collective investigations as by the premises outlined above, we wish to offer some preliminary considerations that may open up vistas for exploring the various modalities of historical futures in our age. Although our particular take and cultural analysis of the overall situation is inevitably reflected both in the broadly construed project premise and in the following discussion, our hope is not that the collective endeavor gives a fuller expression of our view but that it transcends our particular takes by situating it in a larger conversation.

We thus propose three basic sets of concerns for exploring historical futures. The first set covers *kinds of transitions* from pasts to futures. The second revolves around *kinds of anticipatory practices* that one can trace in cultural, social, political, technological, ecological, scientific domains, and so on—practices that imply anticipations of the future as relative to apprehensions of the past. Finally, the third is about *kinds of registers*, referring to a variety of spectrums through which historical futures can be interpreted (for instance, a value register with dystopian and utopian poles). Without aiming to provide an exhaustive overview, we would like to indicate a few potential themes, aspects, and perhaps even full-fledged modalities to consider with respect to kinds of transitions, anticipatory practices, and registers.

*Transitions*

Development, progress, emancipation, and revolution are among the main forms of transition from past to future conditions one can find in modern historical understanding. Whereas Koselleck's conceptual history associates these notions with a specifically modern temporalization of concepts and the birth of concepts of movement, in our framework they are better interpreted as "transitional concepts" or "concepts of transition." These modern concepts still inform our contemporary anticipatory and future-making practices, but they are typically tied to a processual-developmental scenario of change. Even if they undoubtedly gesture toward better futures, the same processual-developmental scenarios may inform *regressive* modalities that point to transitions into futures conceived of in negative terms. In recent decades, however, new forms of transition and new "transitional concepts" have emerged alongside these more familiar ones, producing new modalities of historical futures. In our overview of potential instances, we would like to focus mainly on those novel ones.

Let's begin with *exponential change*, as it is most frequently invoked in contemporary technological discussions. According to many transhumanist thinkers,

most technological forecasts dramatically underestimate the power of future technology because they are based on a linear view of technological progress rather than a "historical exponential" view, as Ray Kurzweil calls it.[42] The exponential view is grounded in the idea that the rate of change or progress accelerates in a specific manner, of which the most common example is the increase in computing power proposed by the famous Moore's law (an observation-based trend projection predicting that the number of transistors in integrated circuits would double almost every two years). But for Kurzweil (and likeminded advocates of technological futures), "exponential growth is a feature of any evolutionary process, of which technology is a primary example."[43]

Exponential technological runaways, however, are not infinite. At their end, there is the assumed breaking point of reaching greater-than-human intelligence, a transformative event associated with the coming technological singularity that represents another kind of transition. Inasmuch as the singularity kicks off a wholly new reality that is incommensurable to the pre-singularity reality (seen from which the post-singularity reality appears unfathomable), it represents *unprecedented change*.[44] Similarly, one may argue that some of the transitions of the Earth system from its past to its future states may, as projected by Earth system science (ESS), qualify as unprecedented change, especially those tied with the transgression of climate "tipping points" and "planetary boundaries," upon which complex systems are expected to transition to altered states in a radical manner.[45] Whereas the ESS vocabulary is typically tied to the notion of *abrupt change*, humanities interpretations of Anthropocene and Anthopocene-related futures tend to tie such historical futures to the measure of human experience and to the human scale. They typically point at "slow catastrophes" or at a "catastrophe without event," taming and bringing the assumed radicality of transitions down to the level of *gradual changes* in which transitions may occur to the experiencing human subject.[46]

The same phenomenon can in fact be witnessed in many other contexts. On the one hand, on various scales we find the emergence of historical futures of

42. Ray Kurzweil, "The Law of Accelerating Returns," *Kurzweil: Accelerating Intelligence* (blog), published 7 March 2001, accessed 10 August 2020, https://www.kurzweilai.net/the-law-of-accelerating-returns.

43. Ibid.

44. On singularity, see Vernor Vinge, "The Coming Technological Singularity: How to Survive in the Post-Human Era," *Vision 21: Interdisciplinary Science and Engineering in the Era of Cyberspace*, 1 December 1993, NASA Technical Reports Server, accessed 10 August 2020, https://ntrs.nasa.gov/citations/19940022856; David Chalmers, "The Singularity: A Philosophical Analysis," *Journal of Consciousness Studies* 17, no. 9-10 (2010), 7-65; *Singularity Hypotheses: A Scientific and Philosophical Analysis*, ed. Amnon H. Eden, James H. Moor, Johnny H. Søraker, and Eric Steinhart (Heidelberg: Springer, 2012). On unprecedented change, see Simon, *History in Times of Unprecedented Change*.

45. For more on "tipping points," see Timothy M. Lenton et al., "Tipping Elements in the Earth's Climate System," *PNAS* 105, no. 6 (2008), 1786-93; Marten Scheffer, "Foreseeing Tipping Points," *Nature* 467 (September 2010), 411-12; Timothy M. Lenton and Hywel T. P. Williams, "On the Origin of Planetary-Scale Tipping Points," *Trends in Ecology & Evolution* 28, no. 7 (2013), 380-82. For "planetary boundaries," see the references in note 9.

46. Rebecca Jones, *Slow Catastrophes: Living with Drought in Australia* (Clayton: Monash University Publishing, 2017); on "catastophe without event" see Eva Horn, *The Future as Catastrophe: Imagining Disaster in the Modern Age*, transl. Valentine A. Pakis (New York: Columbia University Press, 2018), 55-88.

radical transitions, from the smallest level of self-branded Silicon Valley fixations on everyday *innovation* and *disruption*, through *financial crises* measured in years, and to the largest scale of biological theories of *punctuated equilibrium*, questioning gradualism in evolutionary theory and the idea of a continuously proceeding evolutionary process by arguing that evolutionary change occurs in rapid events without much change in the further career of species.[47] On the other hand, alongside notions of extreme transformations one can find those that aim to deliver taming effects and secure smoother transitions to historical futures. The likely most self-evident of such taming notions is *sustainability*, as it is deployed in countless different contexts. As Jeremy L. Caradonna emphatically puts it, "we might not live in a sustainable age, but we're living in the age of sustainability."[48]

Is there anything that binds together these newer kinds of transitions (and the many others we cannot list here)? How do they relate to and interact with each other, and how do they relate to older ones? For one thing, it is striking to see that whereas modern "transitional concepts" seem to be tied to the sociopolitical domain, the novel ones occur in a large variety of anticipatory practices across technoscientific, ecological, and environmental domains. The new kinds of "transitional concepts" and the kinds of transitions they capture cannot simply be reduced to the interpretive framework of the modern project of delivering the best attainable political constitution for human societies, which leads directly to the question of the kinds of anticipatory practices that nurture historical futures.

*Anticipatory Practices*

Historical futures occur in a large variety of anticipatory practices. Some of these practices aim explicitly at anticipating the shape of things to come, effectively bringing about their desired futures or avoiding undesired ones. Other practices merely imply certain historical futures, oftentimes without even conceiving of themselves as future-oriented practices, let alone as temporal ones. In our brief overview, we necessarily focus on the former ones, though we hope that the larger research project will identify and study those less-visible anticipatory practices and their implied historical futures too.

In the sociopolitical domain, there has been a long tradition of *temporal utopias* and *dystopias* that provide multiple modalities of futures in progressive and regressive shapes. In recent decades, we have witnessed a rise of new anticipatory practices in this domain, the most influential probably being *ecological* or *green utopias*. These ecotopias propose diverse environmental futures, from utopias of sustainability to postnatural visions.[49] Closely related are *extinction scenarios*, particularly those concerning the ongoing and scientifically

47. For the first outline of the theory, see Niles Eldredge and Stephen Jay Gould, "Punctuated Equilibria: An Alternative to Phyletic Gradualism," in *Models in Paleobiology*, ed. Thomas J. M. Schopf (San Francisco: Freeman Cooper, 1972), 82-115. For its comprehensive presentation in a posthumously published volume, see Stephen Jay Gould, *Punctuated Equilibrium* (Cambridge, MA: Belknap Press, 2007).

48. Jeremy L. Caradonna, *Sustainability: A History* (Oxford: Oxford University Press, 2014), 176.

49. Lisa Garforth, *Green Utopias: Environmental Hope Before and After Nature* (Cambridge, UK: Polity, 2018). See also *Green Utopianism: Perspectives, Politics and Micro-Practices*, ed. Karin Bradley and Johan Hedrén (Abingdon: Routledge, 2014). For a historical exposé, see Marius de Geus, *Ecological Utopias: Envisioning the Sustainable Society* (Utrecht: International Books, 1999).

documented human-induced sixth mass extinction of species and the prospects of human extinction (either self-authored or due to natural disasters).[50] In the scholarly world, prospects of extinction opened up new knowledge formations that themselves can function as anticipatory practices that produce historical futures, including risk research or the birth of a humanities version of extinction studies.[51] As to further possibilities, considering human extinction as a feasible future path has also given new impetus for space exploration, this time with goals rather different than in the Cold War Space Race. At the very least, this is what Elon Musk meant when he wrote that "history is going to bifurcate along two directions. One path is we stay on Earth forever, and then there will be some eventual extinction event."[52] The other path, as Musk has proposed, is to become a multiplanetary civilization, thereby escaping extinction.

Two of the more traditional laboratories of anticipatory practices are imaginative writing (especially science fiction) and the film industry. Although the classic literary utopia no longer appeals to most of science fiction writers, we can take stock of a great variety of *anti-utopias* and *dystopias*, especially in recent decades, and thus to the point that some critics have talked about a "dystopian turn" in science fiction since the 1980s and 1990s.[53] Science fiction is also producing the outright *apocalyptic visions* that affirm the need to think of our present time as the time of the end (although, in certain interpretations, this end occurs as a way to reopen the future).[54] All in all, the future has not been painted in bright colors lately—neither concerning technological futures in cinematic and literary imagination nor concerning anthropocenic futures in the more recent emergence of climate fiction (cli-fi).[55]

In recent decades, the technoscientific domain has undoubtedly become the most receptive to new anticipatory practices, including practices of "visioneering," to use the felicitous term coined by W. Patrick McCray.[56] Visioneering is not about visioning unreachable utopias; it's about engineering futures that are just a few decades beyond the horizon. One of the guiding ideas in technological visioneering

50. See, respectively, Elizabeth Kolbert, *The Sixth Extinction: An Unnatural History* (London: Bloomsbury, 2014), and John Leslie, *The End of the World: The Science and Ethics of Human Extinction* (London: Routledge, 1996).

51. *Global Catastrophic Risks*, ed. Nick Bostrom and Mailan M. Cirkovic (Oxford: Oxford University Press, 2008); *Extinction Studies: Stories of Time, Death, and Generations*, ed. Deborah Bird Rose, Thom van Dooren, and Matthew Chrulew (New York: Columbia University Press, 2017).

52. Elon Musk, "Making Humans a Multi-Planetary Species," *New Space* 5, no. 2 (2017), 46.

53. Tom Moylan, *Scraps of the Untainted Sky: Science Fiction, Utopia, Dystopia* (Boulder, CO: Westview Press, 2000), 147-82.

54. Jean-Paul Engélibert, *Fabuler la fin du monde: La puissance critique des fictions d'apocalypse* (Paris: La Découverte, 2019), 221.

55. Daniel Dinello, *Technophobia! Science Fiction Visions of Posthuman Technology* (Austin: University of Texas Press, 2005); Laura Wright, "Cli-Fi: Environmental Literature for the Anthropocene," in *New Approaches to the Twenty-First-Century Anglophone Novel*, ed. Sibylle Baumbach and Brigit Neumann (Cham: Palgrave Macmillan, 2019), 99-116.

56. W. Patrick McCray, *The Visioneers: How a Group of Elite Scientists Pursued Space Colonies, Nanotechnologies, and a Limitless Future* (Princeton: Princeton University Press, 2013), 13. The full passage reads as follows: "*visioneering* means developing a broad and comprehensive vision for how the future might be radically changed by technology, doing research and engineering to advance this vision, and promoting one's ideas to the public and policy makers in the hopes of generating attention and perhaps even realization."

is *enhancement*, an idea that is also prevalent in transhumanist discourses; it can include genetic, morphological, pharmacological, or cyborg enhancement and can concern cognitive, ethical, sensory, or any other physical capacities.[57] Needless to say, transhuman enhancement practices are severely criticized from various viewpoints, and *critique* may also function as either an explicit or a tacit anticipatory practice inasmuch as it necessarily assumes transhuman futures going socially, culturally, ethically, and politically awry.[58] The rapid improvements in our knowledge of the human genome and the steady expansion in our digital technology capacity will, however, likely serve as foundations for new enhancing practices, keeping critical anticipatory practices equally busy.

To introduce further instances, a particularly interesting domain of new anticipatory practices is the financial world. As Elena Esposito has shown, financial markets are kind of "temporal markets" because working with credit is using the future in the present: "The use of the future is itself sold and bought, and then sold again in practices like securitisation. The future is built and bound in more and more complex ways, which make more and more wealth available to operators and generate the astonishing figures circulating in the 'virtual' financial markets of our society."[59] In the financial world, the future is produced by the very operations that try to anticipate it. The financial markets "sell derivatives that set the conditions for the future in the present, and look forward to how things will continue once the future is accomplished."[60]

Far from being confined to the economic sphere, the increasing use of machine learning and predictive modeling in financial markets has made *algorithmic prediction* a towering new anticipatory practice in our age. The stunning development of algorithmic systems capable of collecting and analyzing current and historical facts in order to make predictions about the future has shaped most of our daily practices and gave rise to a new "algorithmic culture."[61] One of the most striking examples of this is the fight against crime and terrorism, where we see algorithms being used to anticipate risks or threats.[62] At the same time, algorithmic futures going awry and reproducing (or even strengthening) existing

57. For more on genetic, morphological, pharmacological, or cyborg enhancement, see Stefan Lorenz Sorgner, "Pedigrees," in *Post- and Transhumanism: An Introduction*, ed. Robert Ranisch and Stefan Lorenz Sorgner (Frankfurt: Peter Lang, 2014), 30-32. As an introduction to the various forms of enhancement, see *Human Enhancement*, ed. Julian Savulescu and Nick Bostrom (Oxford: Oxford University Press, 2008).

58. See, for instance, N. Katherine Hayles, "Wrestling with Transhumanism," in *H+/-: Transhumanism and Its Critics*, ed. Gregory R. Hansell and William Grassie (Philadelphia: Metanexus, 2011), 215-26; Melinda Hall, *The Bioethics of Enhancement: Transhumanism, Disability, and Biopolitics* (Lanham, MD: Lexington Books, 2017).

59. Elena Esposito, "Temporal Markets: Money, the Future and Political Action," *Behemoth* 9, no. 2, (2016), 40.

60. Esposito, *The Future of Futures*, 4. See also Amin Samman, *History in Financial Times* (Stanford: Stanford University Press, 2019).

61. Ted Striphas, "Algorithmic Culture," *European Journal of Cultural Studies* 18, no. 4-5 (2015), 395-412; Adrian Mackenzie, "The Production of Prediction: What Does Machine Learning Want?" *European Journal of Cultural Studies* 18, no. 4-5 (2015), 429-45; Paul Dourish, "Algorithms and Their Others: Algorithmic Culture in Context," *Big Data & Society* 3, no. 2 (2016), 1-11.

62. See Jude McCulloch and Dean Wilson, *Pre-crime: Pre-emption, Precaution and the Future* (London: Routledge, 2015).

social fissures and inequalities pose as equally serious a threat as the ones the algorithms are expected to anticipate and handle.[63]

As many of the above examples testify, in the last few decades *prevision* has arguably become one of the guiding anticipatory principles behind attempts to govern the future in contexts as diverse as crime, biotechnologies, and anthropogenic climate change.[64] It is oftentimes accompanied by a "politics of catastrophe" that initiates action on the very "unknown" that anticipatory practices nevertheless attempt to discern.[65] To understand them, we should be able to see them in relation to a plethora of other anticipatory practices one could further mention in contexts as diverse as Afrofuturism, heritage futures, the futures of scenario planning, or the more traditional futures of historiographical knowledge.

*Registers*

To map the potential range of modalities of historical futures, it would also be useful to create a catalog of registers with two poles marking the limits of extremities, helping to situate future modalities within a space of possibilities. Our aim is not to align each historical future with one pole or another but to argue that they typically have a position somewhere between the poles. The different registers that enable us to identify these different positions make up a highly complex interpretive matrix, which we hope proves to be valuable for exploring various modalities of historical futures. The four main registers we indicate here are far from exhaustive, and the list that follows is open for further additions.

First, there is a *time register*, which entails a spectrum that extends between the short-term and long-term poles. For instance, in the economic world we can notice a proliferation of *immediate futures* of financial or economic anticipation. We already mentioned the mid-term future visioneering of technoscientific communities, and many of the environmental futures or *deep futures* fold out or take place abruptly in a *longue durée* of geological time.[66] Second, we can distinguish a closely related *scale register*, which is stretched between the poles of small- and large-scale futures. Anthropocene futures are typically imagined on a *planetary scale*, but these can be easily translated in specific contexts into *local futures* and related to the scale of concrete human practices.[67]

63. Cathy O'Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (New York: Broadway Books, 2016); Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor* (New York: St. Martin's, 2017); Safiya Umoja Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism* (New York: New York University Press, 2018); Ruha Benjamin, *Race After Technology: Abolitionist Tools for the New Jim Code* (Cambridge, UK: Polity, 2019).

64. *The Politics and Science of Prevision: Governing and Probing the Future*, ed. Andreas Wenger, Ursula Jasper, and Myriam Dunn Cavelty (London: Routledge, 2020).

65. Claudia Aradau and Rens van Munster, *Politics of Catastrophe: Genealogies of the Unknown* (London: Routledge, 2011).

66. See, for example, Curt Stager, *Deep Future: The Next 100,000 Years of Life on Earth* (New York: St. Martin's, 2011); Boris Shoshitaishvili, "Deep Time and Compressed Time in the Anthropocene: The New Timescape and the Value of Cosmic Storytelling," *Anthropocene Review* 7, no. 2 (2020), 125-37.

67. A series of good examples about local, small-scale reactions to planetary Anthropocenic challenges is provided by Gaia Vince in *Adventures in the Anthropocene: A Journey to the Heart of the Planet We Made* (London: Chatto & Windus, 2014). As to the planetary imperative, Dipesh

Third, we can speak of a *value register*, which is characterized by the positive or negative meaning that we attribute to particular imagined futures. In traditional terms, we can differentiate here between a *utopian* and a *dystopian* pole, or, with different emphases, a *redemptive* and a *catastrophic* pole. As mentioned in the previous section, in contemporary science fiction and in the rise of new climate fiction, the dystopian pole is dominating. The same applies to most discussions about the Anthropocene—not only the scientific projections of Earth system trajectories but also certain contributions from the human and social sciences.[68] In transhumanist futures, at least in their self-conception, the utopian (or redemptive) pole clearly comes first, just as in the equally technologically focused contributions to the Anthropocene that intend to redeem the future of humanity through large-scale technological interventions of climate engineering.[69]

Fourth, a *knowledge register* would be instrumental in mapping historical futures with respect to their "*futurization"* and "*defuturization*," to use a distinction introduced by Luhmann.[70] Futurization is about increasing the openness of the future (coping with unpredictability and uncertainties); defuturization is about decreasing the openness (valorizing planning, prognosis, prediction, and so on). The specific combination of these future-making practices produces modalities of the future that oscillate between the poles of *uncertain outcome* and *determined outcome*. From this perspective, most of the contemporary practices of risk assessment, future planning, or algorithmic predictions contribute to the defuturization of futures.[71]

Historical futures can be interpreted in many of these registers at the same time. Typically, they can be attributed a position on each of the registers that we have mentioned here; they can be said to have an expected duration on the time register, a reach that can be seen within the scale register, several evaluative aspects to situate with a value register, and a degree of openness in the knowledge register. Again, far more registers can be put to work, and within each register more poles can be identified in mapping historical futures. Either way, the aim is

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Chakrabarty argues that the planet can be a category in the humanities equivalent to the Earth system in Earth system science, while many human and social sciences disciplines attempt lately to scale up their expertise to be able to address the planetary. See Chakrabarty, "The Planet: An Emergent Humanist Category"; *The Planetary Turn: Relationality and Geoaesthetics in the Twenty-First Century*, ed. Amy J. Elias and Christian Moraru (Evanston, IL: Northwestern University Press, 2015); Nigel Clark and Bronislaw Szerszynski, *Planetary Social Thought: The Anthropocene Challenge to the Social Sciences* (Cambridge, UK: Polity, 2020).

68. See, for instance, Isabelle Stengers, *In Catastrophic Times: Resisting the Coming Barbarism* (London: Open Humanities Press, 2015). For an oppositional view that intends to eschew futurism and "stay with the trouble" in order to counterweigh the apocalyptic tone of the discussion, see Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016).

69. On anthropocenic technological redemption, see Clive Hamilton, *Earthmasters: The Dawn of the Age of Climate Engineering* (New Haven: Yale University Press, 2013); John Asafu-Adjaye et al., *An Ecomodernist Manifesto*, April 2015, https://static1.squarespace.com/static/5515d9f9e4b04d5c3198b7bb/t/552d37bbe4b07a7dd69fcdbb/1429026747046/An+Ecomodernist+Manifesto.pdf

70. Luhmann, "The Future Cannot Begin," 141.

71. See also Sven Opitz and Ute Tellmann, "Future Emergencies: Temporal Politics in Law and Economy," *Theory, Culture & Society* 32, no. 2 (2014), 107-29.

to capture the complexity of our current historical predicament with the help of what we think can be a useful interpretive tool.

## A CLOSING NOTE ON COLLECTIVE WORK

The aim of gaining an understanding of our current historical condition and capturing its complexity is one that calls for exceeding the limitations of this opening piece in at least two major respects. First, it is our hope that both the larger framework and our more particular take on historical futures will be expanded on, challenged, and complicated (and, at the same time, clarified) in the course of this collective endeavor. Second, we expect that the collective work we intend to facilitate will yield results that we could not possibly have imagined due to the confines of our perspectives and cognitive frames.

Collective work is beneficial in that it has the potential to force us to confront our own limitations, thereby pushing us to become attentive to viewpoints, aspects, questions, and concerns that we otherwise would not have been able to see. This, of course, does not mean that challenges to our most profound beliefs are always helpful or beneficial. Aiming at overcoming our most fundamental personal and social systems of cohesion on a daily basis would have rather obvious shortcomings. What we hope to highlight is simply the necessity of collective work and its contextual benefit of calling into question our familiar viewpoints, particularly under the present circumstances, where a multiplicity of historical futures collide with trajectories of the human and the natural worlds that no particular viewpoint is equipped to address adequately. Although the sciences have long been on the collective track, we believe that the human and social sciences must open up and develop collective research strategies (also in joint endeavors with the sciences) beyond their immediately available ones in order to understand a world that increasingly seems to escape our existing categories and modes of attributing meaning.

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