

# Geographies of the Future

**Dragos Simandan**

Department of Geography and Tourism Studies, Brock University, [simandan@brocku.ca](mailto:simandan@brocku.ca)

**ABSTRACT:** Geographers have become increasingly preoccupied with the problematic of the future in recent decades, but it would be misleading and premature to think of this emerging, diffuse, inchoate area of research as a distinct subdiscipline. Leaving aside the general overviews of the field, this chapter structures the presentation of the current state of the geographies of the future into six inter-related clusters of scholarship: (1) historical and cultural geographies of the future; (2) geographies of uncertainty, risk, and contingency; (3) geographies of artificial intelligence, automation, and autonomous vehicles; (4) the future as a problem for neoliberal governmentality; (5) geographies of post-capitalist futures; and (6) race, gender, and the future.

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## **Introduction**

Geographers have become increasingly preoccupied with the problematic of the future in recent decades, but it would be misleading and premature to think of this emerging, diffuse, inchoate area of research as a distinct subdiscipline. One can point out multiple clues that indicate this pre-formal, undefined status. Firstly, there are no geography journals exclusively dedicated to this research area. Secondly, there are few if any geographers who self-identify on their professional webpages as having expertise in the geographies of the future. Thirdly, when one reads the reference lists of papers published on the geographies of the future, there is often a striking contrast between the abundance of references to geographic scholarship and the paucity of references to the interdisciplinary field of futures studies and its main journals (*Futures*; *Foresight*; *International Journal of Forecasting*; *Futures & Foresight Science*; *Journal of Futures Studies*; and *Technological Forecasting and Social Change*). In other words, if one reads for example a paper on the cultural geography of the future, most of its references are likely to be drawn from cultural geography, with few, if any drawn from the established interdisciplinary area of futures studies. It remains to be seen if in the next decades the diffuse research domain of the geographies of the future will become more conscious of itself, more self-aware, and more connected with the communities of practice associated with interdisciplinary futures studies. In this context, this chapter can be seen not as a neutral description of a research area of geography, but as a performative intervention that might contribute to bringing this field into being, or at least to stabilizing it into an academic entity that can become a sufficiently distinct object of reflection, with its own community of practice. Leaving aside the general overviews of the field, this chapter structures the presentation of the current state of the geographies of the future into six inter-related clusters of scholarship: (1) historical and cultural geographies of the future; (2) geographies of uncertainty, risk, and contingency; (3) geographies of artificial intelligence, automation, and autonomous vehicles; (4) the future as a problem for neoliberal governmentality; (5) geographies of post-capitalist futures; and (6) race, gender, and the future.

## **General Overviews**

The emerging research domain of the geographies of the future needs to be contextualized in relation to the broader interdisciplinary field of futures studies, as well as in relation to

similar discipline-based perspectives on the future from other areas of the humanities and the social sciences. Issues of terminology and nomenclature about this vast and rapidly evolving area of scholarship are addressed in Sardar 2010. Son 2015 provides an overview of the history of futures studies together with a periodization of the field, whereas Bergman et al. 2010 discuss classification criteria and typologies of futures research. To understand what geography has to offer to scholarship on the future, it is best to juxtapose overviews of the future written from the standpoints of (a) different disciplines and (b) different paradigms within the same discipline. Thus, the geographical perspectives offered by Anderson and Adey 2012, Batty and Cole 1997, and Simandan 2020 can be usefully contrasted not only with one another (to reflect on geography's internal diversity), but also with sociological (Urry 2016) and philosophical (Rescher 1998) approaches. One of the best analytical entry points into the problematic of the future is from the standpoint of developing, testing, and combining different methods of forecasting. An accessible introduction to this scholarship is offered by Tetlock and Gardner 2016, whereas the best knowledge accumulated on this topic is distilled into principles for practitioners in Armstrong 2001.

Anderson, Ben, and Peter Adey. "Future geographies. Theme issue." *Environment & planning A* 44, no. 7 (2012): 1529-1635.

This is the guest editorial to a theme issue of the journal *Environment and Planning A* dedicated to the geographies of the future. The editorial provides a useful overview of the field, makes the case for the importance of this rediscovered area of scholarship, and introduces the papers in the theme issue.

Armstrong, Jon Scott, ed. *Principles of forecasting: a handbook for researchers and practitioners*. Vol. 30. Boston, MA: Kluwer Academic, 2001.

This handbook is one of the most comprehensive resources on the topic of forecasting, including 30 chapters that cover a large variety of forecasting methods ranging from role-playing and analogies to econometric approaches and conjoint analysis. It includes a forecasting dictionary.

Batty, Michael, and Sam Cole. "Time and space: Geographic perspectives on the future." *Futures* 29, no. 4-5 (1997): 277-289.

A guest editorial to a special issue of the interdisciplinary journal *Futures* focused exclusively on the contributions geographers can make to the field of futures studies. It

provides an overview of the ten papers in the special issue, several of which were authored by leaders of geography's Theoretical and Quantitative Revolution.

Bergman, Ann, Jan Ch Karlsson, and Jonas Axelsson. "Truth claims and explanatory claims—An ontological typology of futures studies." *Futures* 42, no. 8 (2010): 857-865.

The paper takes into account ontological aspects to help make sense of the diversity of futures research. It develops a new typology of forecasts organized around four ideal types: predictions, prognoses, science fiction, and utopias/dystopias.

Rescher, Nicholas. *Predicting the future: An introduction to the theory of forecasting*. SUNY press, 1998.

Written for non-specialists, this book provides a systematic discussion by a philosopher of central concepts to future studies. It covers epistemological, ontological, and practical aspects of prediction.

Sardar, Ziauddin. "The Namesake: Futures; futures studies; futurology; futuristic; foresight—What's in a name?." *Futures* 42, no. 3 (2010): 177-184.

Influential paper discussing concepts such as 'foresight' and 'futures studies' and making the case for the name 'futures studies' because of the emphasis it places on the diversity and pluralism of this field. The paper also introduces Sardar's four laws of futures studies.

Simandan, Dragos. "Being surprised and surprising ourselves: a geography of personal and social change." *Progress in Human Geography* 44, no. 1 (2020): 99-118.

Reviews the emerging literature on the geographies of the future in the wider context of processes of social change and personal change. The paper highlights the experience of individual and collective surprise as an analytical entry point for making sense of the relationship between the future and the present.

Son, Hyeonju. "The history of Western futures studies: An exploration of the intellectual traditions and three-phase periodization." *Futures* 66 (2015): 120-137.

A literature review of the multiple histories of futures studies in the Western World, based on the identification of five intellectual traditions as foundational to the emergence of this field. The paper also offers a three-phase periodization of futures studies.

Tetlock, Philip E., and Dan Gardner. *Superforecasting: The art and science of prediction*. Random House, 2016.

Written for a lay audience, the book summarizes an ongoing massive research program seeking to find out the variables that separate bad predictors from good predictors, and good predictors from excellent predictors.

Urry, John. *What is the future?*. John Wiley & Sons, 2016.

Useful introduction to the problematic of the future and to the field of futures studies from the standpoint of a critical sociologist. Provides a clear discussion of the relationship between complex systems and the future.

### **Historical and Cultural Geographies of the Future**

Research in the historical and cultural geographies of the future encompasses a broad problematic, itself reflective of the breadth of paradigms and empirical concerns in these subdisciplines of human geography. One important preoccupation is with the details of the process of making sense of the future, as seen in DeSilvey 2012 and Fincher et al. 2014. Whereas Berry 1970 was meant as a proper exercise in predicting the future, the passage of time has rendered that predicted future a past future, not dissimilar from those investigated by historical geographers (e.g., Mahony, 2019). Learning how the future is conceptualized in other cultures is useful for decentering Western assumptions and habits of thought, as illustrated in the papers by Simandan 2018 and Bunnell et al. 2018. Finally, research on the historical and cultural geographies of the future aims to capture the many ways in which engaging with the future goes well beyond formal, science-based forecasting by experts, as seen in Dittmer and Sturm 2016, Holloway 2015, Joronen et al. 2021, and Shaw and Sharp 2013.

Berry, Brian JL. "The geography of the United States in the year 2000." *Transactions of the Institute of British Geographers* (1970): 21-53.

Based on a lecture delivered to the Institute of British Geographers in 1970 about the expected changes in the geography of the United States thirty years later, this paper is a notable early example of prediction by a leading human geographer.

Bunnell, Tim, Jamie Gillen, and Elaine Lynn-Ee Ho. "The prospect of elsewhere: Engaging the future through aspirations in Asia." *Annals of the American Association of Geographers* 108, no. 1 (2018): 35-51.

Inspired by Arjun Appadurai's plea for more grassroots-focused attention to how people engage with the future in everyday life, this paper develops a cultural geography of aspirations that emphasizes the importance of spatial practices to imagining and bringing about those desirable futures.

DeSilvey, Caitlin. "Making sense of transience: an anticipatory history." *cultural geographies* 19, no. 1 (2012): 31-54.

Introduces the concept of anticipatory history as a needed complement to the more familiar concept of anticipatory adaptation associated with the discourses of global climate change. Empirically, the concept is illustrated by an experiment in story-telling at the heritage site of a Cornish harbor.

Dittmer, Jason, and Tristan Sturm, eds. *Mapping the end times: American Evangelical Geopolitics and Apocalyptic Visions*. Farnham, UK: Routledge, 2016.

Focuses on the rise of evangelicalism in the United States of America and its social, political, and cultural implications. Several of the chapters discuss aspects of prophecy, apocalyptic exceptionalism, and apocalyptic geopolitics associated with this religious movement.

Fincher, Ruth, Jon Barnett, Sonia Graham, and Anna Hurlimann. "Time stories: Making sense of futures in anticipation of sea-level rise." *Geoforum* 56 (2014): 201-210.

Discusses how people make sense of their uncertain futures in a small Australian coastal community likely to be directly affected by sea-level rise. Emphasizes the centrality of time stories in articulating the imagined futures with the present and the past.

Holloway, Julian. "Sealing future geographies: Religious prophecy and the case of Joanna Southcott." *Transactions of the Institute of British Geographers* 40, no. 2 (2015): 180-191.

A contribution to both the geography of the future and the geography of religion, this paper uses the case of the prophetess Joanna Southcott to argue that religious prophecy constitutes a distinctive type of future-making practice, with its own spatialities.

Joronen, Mikko, Helga Tawil-Souri, Merav Amir, and Mark Griffiths. "Palestinian futures: anticipation, imagination, embodiments. Introduction to special issue." *Geografiska Annaler: Series B, Human Geography* 103.4 (2021): 277-282.

Introduces a special issue dedicated to the critical problematization of the future in public discourses surrounding the conflict between Palestine and Israel.

Contextualizes the cultural politics and regional history of colonialism and the dialectic of hope and hopelessness they engender.

Mahony, Martin. "Historical geographies of the future: Airships and the making of imperial atmospheres." *Annals of the American Association of Geographers* 109, no. 4 (2019): 1279-1299.

Studies the complex past futures involved in the development of airship travel in the British Empire. Delineates practices such as imagination, prediction, and expectation, and uses insights from science and technology studies to understand the role of the future in shaping the past.

Shaw, Ian GR, and Joanne P. Sharp. "Playing with the future: Social irrealism and the politics of aesthetics." *Social & Cultural Geography* 14, no. 3 (2013): 341-359.

Introduces the concept of social irrealism to discuss the underappreciated political potential of video games. Argues that this potential stems from the capacity of video games to help visualize possible and almost impossible futures, and, thereby, to question the entrenchment of the present.

Simandan, Dragos. "Wisdom and foresight in Chinese thought: sensing the immediate future." *Journal of Futures Studies* 22, no. 3 (2018): 35-50.

Investigates how the capacity to predict the future is theorized in traditional Chinese thought. Highlights the importance given in this tradition to the distinction between the imminent future and the distant future and the different epistemological affordances associated with it.

### **Geographies of Uncertainty, Risk, and Contingency**

A significant amount of work on the geographies of the futures focuses on developing, clarifying, and articulating a cluster of inter-related future-oriented concepts. Thus,

Derbyshire 2020, Fusco et al. 2017, Kwan and Schwanen 2018, and Newhouse 2017) offer important analyses of the concept of uncertainty, whereas Simandan 2010 focuses on the idea of contingency and what it implies for our models of how the world works. Haggett 1994 appraises the related category of predictability, while the problematic of risk is developed in Muller-Mahn 2012 and Neisser and Runkel 2017. As policy-makers, lay people, or political activists, we want to bring about desirable futures and avert undesirable futures, but, as Haggett 1994 reminds us, to be able to do so requires that the future be at least to some extent and at least in some respects predictable. In turn, Simandan 2010 shows how the predictability of the future rests on ontological questions about the kind of world that we live in. At one end of the spectrum lies a radically contingent world, where there are no stable causal links, and each eventuation depends on a large number of variables that can turn out one way or the other in an impossible to predict manner. At the other end of the ontological spectrum lies a necessitarian world of strict, stable determinism that would favor prediction but at the enormous price of not allowing us to alter that predestined future. As seen in Newhouse 2017's discussion of lay hedging practices, being able to handle uncertainty when dealing with the future is important not only for futures studies scholars and academic geographers (Derbyshire 2020; Fusco et al. 2017; Kwan and Schwanen 2018) but also for people in their everyday lives.. Finally, a thoroughly geographical reframing of the notion of risk has crystallized in Muller-Mahn 2012 proposed concept of riskscape, and its subsequent development by ; Neisser and Runkel 2017.

Derbyshire, James. "Answers to questions on uncertainty in geography: Old lessons and new scenario tools." *Environment and Planning A: Economy and Space* 52, no. 4 (2020): 710-727.

Distinguishes between epistemological uncertainty and ontological uncertainty and argues that the latter is the fundamental reason why data analysis and quantitative modelling do not straightforwardly translate into improved policy-making.

Fusco, Giovanni, Matteo Cagliani, Karine Emsellem, Myriam Merad, Diego Moreno, and Christine Voiron-Canicio. "Questions of uncertainty in geography." *Environment and Planning A* 49, no. 10 (2017): 2261-2280.

Argues that uncertainty pervades the production of all types of geographical knowledge and illustrates this claim by delineating the specific forms taken by uncertainty in eight geographical domains, including geosimulation and planning.

Haggett, Peter. "Prediction and predictability in geographical systems." *Transactions of the institute of British geographers* (1994): 6-20.

The purpose of the paper is to delineate the importance of prediction and predictability for geographical systems and to discuss the roles they play in the building and iterative improvement of quantitative models of geographical systems.

Kwan, Mei-Po, and Tim Schwanen. "Context and uncertainty in geography and GIScience: Advances in theory, method, and practice." *Annals of the American Association of Geographers* 108, no. 6 (2018): 1473-1475.

Introduces the six articles that comprise a forum (special issue) of this journal dedicated to exploring spatiotemporal uncertainty in geography and GIS. Articulates the idea of uncertainty in relation to contextual influences on human behavior.

Muller-Mahn, Detlef, ed. *The spatial dimension of risk: how geography shapes the emergence of riskscapes*. Routledge, 2012.

This edited book takes the theorization of risk in a new direction, by developing from several different angles a geographical perspective on risk and risk management. The fourteen chapters emphasize the spatial dimension of risk across a range of case studies.

Neisser, Florian, and Simon Runkel. "The future is now! Extrapolated riskscapes, anticipatory action and the management of potential emergencies." *Geoforum* 82 (2017): 170-179.

Discusses the relationship between space and time in the broader context of uncertainty and risk and makes the case that the concept of extrapolated riskscape should entail a view of the future not as neutral, but as political through and through.

Newhouse, Léonie S. "Uncertain futures and everyday hedging in a humanitarian city." *Transactions of the Institute of British Geographers* 42, no. 4 (2017): 503-515.

Considers futurity as a modality of difference and uses the case study of Juba, South Sudan, to explore how various practices of everyday hedging are deployed by people as a response to the perception of a radically uncertain future.

Simandan, Dragos. "Beware of contingency." *Environment and planning D: Society and Space* 28, no. 3 (2010): 388-396.

Argues that despite the growing popularity of the idea that the world is contingent or even radically contingent, there is surprisingly little analysis in geography of the concept of contingency itself. Provides a four-pronged analysis of contingency *versus* necessity.

### **Geographies of Algorithms, Artificial Intelligence, Automation, and Autonomous Vehicles**

Whereas popular culture has been paying significant attention to the arrival of algorithms, artificial intelligence, automation, and autonomous vehicles, geographers have been comparatively slow to join the conversation, as noted in Bissel and Del Casino 2017. To be sure, algorithms, artificial intelligence, automation, and autonomous vehicles are technological trends that have already begun but are expected to accelerate and grow increasingly influential in shaping the future, at a variety of scales, from the home (as seen in Reid 2022) to the city (as seen in Cugurullo et al. 2021). The already long history of automation has triggered not only various attempts at periodization (as seen in Cséfalvay 2021) but also critical analyses of the discourses bringing them into being (as seen in Samers 2021). The mix of fear and excitement involved in thinking about these novel technologies generates spatial practices and imaginative geographies that have come under scrutiny in the work of Kinsley 2012 and Sumartojo et al. 2021. Too much excitement and enthusiasm about these ongoing transformations can also distract us from the more sober and thoughtful mapping of their positive and negative impacts, from distinguishing between hype and matters of fact (Henderson 2020), as well as from remaining alert to the dangers of various forms of soft technological determinism. This can happen inadvertently, simply by focusing on technological variables and forgetting to evaluate them in the broader context of many other demographic, economic, environmental, political, and cultural trends. Finally, as discussed in Amoores 2020, these new technologies raise complex normative questions, that will lead to new types of ethics.

Amoores, Louise. *Cloud ethics: Algorithms and the attributes of ourselves and others*. Duke University Press, 2020.

Investigates the possibilities for a future ethics of living with algorithms, starting from the premise that they are not reducible to their source code. Instead, they should be understood as entangled with humans and as entities with ethical responsibility that could and should be held accountable.

Bissell, David, and Vincent J. Del Casino. "Whither labor geography and the rise of the robots?." *Social & Cultural Geography* 18, no. 3 (2017): 435-442.

The paper notices the limited attention paid to the rise of robots in geography and calls geographers to engage with this problematic more thoroughly. The authors identify six major directions for this engagement.

Cséfalvay, Zoltán. "As "robots are moving out of the cages"—toward a geography of robotization." *Eurasian Geography and Economics* (2021): 1-31.

Discusses the impact of robotization by distinguishing between an older narrative of automation – ‘robots in the cages’ – and an emerging narrative – ‘robots are moving out of the cages’ – that emphasizes robot flexibility and autonomy and their use outside the industrial sector.

Cugurullo, Federico, Ransford A. Acheampong, Maxime Gueriau, and Ivana Dusparic. "The transition to autonomous cars, the redesign of cities and the future of urban sustainability." *Urban Geography* 42, no. 6 (2021): 833-859.

Speculates about possible urban futures brought about by the transition to autonomous vehicles. Develops a theoretical framework to comprehend this transition and studies its implications for urban redesign and sustainability.

Henderson, Jason. "EVs are not the answer: a mobility justice critique of electric vehicle transitions." *Annals of the American Association of Geographers* 110, no. 6 (2020): 1993-2010.

Offers a systematic deconstruction of the collective enthusiasm for a future of electric vehicles by using the theoretical framework of mobility justice. Shows that the decarbonization potential of electric vehicles is overstated.

Kinsley, Sam. "Futures in the making: Practices to anticipate ‘ubiquitous computing’." *Environment and Planning A* 44, no. 7 (2012): 1554-1569.

Builds on prior geographic work on futurity and anticipation to develop a critique of mainstream futuristic discourses focused on ubiquitous computing. Discusses the spatial imagination involved in anticipatory knowledge, as well as its inherently contradictory nature.

Reid, Louise. "Anticipating Technology - Enabled Care at home." *Transactions of the Institute of British Geographers* 47, no. 1 (2022): 108-122.

Written at the intersection of futures studies and critical geographies of home, the paper highlights the questionable assumptions and visions of the future implicit in the thinking of professionals who design smart health-related technologies for future homes.

Samers, Michael. "Futurological fodder: on communicating the relationship between artificial intelligence, robotics, and employment." *Space and Polity* 25, no. 2 (2021): 237-256.

Critical analysis of the discourses surrounding the 'Fourth Industrial Revolution' and of their ethical and political implications. The analysis includes not only academic work, but also futurological discourses in popular culture and the 'gray literature'.

Sumartojo, Shanti, Robert Lundberg, Leimin Tian, Pamela Carreno-Medrano, Dana Kulić, and Michael Mintrom. "Imagining public space robots of the near-future." *Geoforum* 124 (2021): 99-109.

Focused on the near-future, and building on prior work on whether robots feel right in a range of public spaces, the paper analyses people's expected relationship with robots. Highlights the importance of imagination and imaginative geographies for social robotics and robot geographies.

### **The Future as a Problem for Neoliberal Governmentality**

Human geographers have investigated the discursive practices of neoliberalism and the multiple forms of harm they cause to societies, economies, and environments across the planet. The analytical lens for these investigations has been dominated by the work of French philosopher Michel Foucault, whose deployment of a series of concepts such as governmentality, biopower, biopolitics, truth regimes, 'dispositif' has been taken up by the critics of neoliberal calculus. These critics' close scrutiny of neoliberalism has led to the realization that the future is recurrently portrayed in its rhetoric as full of risks, uncertainty, and dangers (see Amin 2013 and Swyngedouw 2010) and that specific future-oriented techniques of governmentality such as preemption, precaution, and preparedness are being developed to avert undesirable developments (see Anderson 2010). The city has become a key site where the neoliberal problematization of the future has become apparent, as illustrated in Datta 2019, Leszczynski 2016, McCann 2017, and Oswin 2014. The vigorous

critique of the neoliberal order and the discursive apparatus that sustains it carries the risk, however, of blinding us to potentially useful ideas whose genealogies are only partially tainted by neoliberalism, as Simon and Randalls 2016 show for the concept of a resilient future. Lastly, the COVID-19 pandemic has revealed new aspects of neoliberal futurity that are best comprehended in the wider context of other slow emergencies (see Grove et al. 2022).

Amin, Ash. "Surviving the turbulent future." *Environment and Planning D: Society and Space* 31, no. 1 (2013): 140-156.

A critique of the neoliberal calculus of preparedness and resilience as concerted responses to a vision of the future as inherently dangerous and unpredictable. The paper also develops a counterposition to this neoliberal approach by focusing on the governance of emergency and unpredictability in urban contexts.

Anderson, Ben. "Preemption, precaution, preparedness: Anticipatory action and future geographies." *Progress in human geography* 34, no. 6 (2010): 777-798.

One of the most cited and influential papers on the geographies of the future. Provides an analysis of the styles, practices, and logics that work together as complementary forms of anticipatory action in liberal democracies.

Datta, Ayona. "Postcolonial urban futures: Imagining and governing India's smart urban age." *Environment and Planning D: Society and Space* 37, no. 3 (2019): 393-410.

Empirically focused on India's 100 Smart Cities Mission, this paper examines postcolonial urban futures by deconstructing two mutually reinforcing mythologies of speed: technology and nationhood. Analyses the scalar practices of the neoliberal governance of postcolonial futures.

Grove, Kevin, Lauren Rickards, Ben Anderson, and Matthew Kearnes. "The uneven distribution of futurity: Slow emergencies and the event of COVID - 19." *Geographical Research* 60, no. 1 (2022): 6-17.

Discusses the recalibration of neoliberal governmentality in response to the COVID-19 pandemic while highlighting how liberal democracies are structured by a fundamentally unjust distribution of futurity. The pandemic is framed as one of several slow emergencies that are actively shaping the world to come.

Leszczynski, Agnieszka. "Speculative futures: Cities, data, and governance beyond smart urbanism." *Environment and Planning A: Economy and Space* 48, no. 9 (2016): 1691-1708.

Provides an analysis of the convergence of neoliberal urban governmentality and big data to delineate emerging forms of anticipatory security practices. The argument is illustrated with the examples of sentiment analytics and of neighborhood safety apps as modes of algorithmic speculation.

McCann, Eugene. "Mobilities, politics, and the future: Critical geographies of green urbanism." *Environment and Planning A: Economy and Space* 49, no. 8 (2017): 1816-1823.

Deploys a critical geographical approach to green urbanism that emphasizes the struggles over power underpinning this specific vision for urban futures. Raises questions about the nature of post-politics, innovation, and neoliberal policy mobilities.

Oswin, Natalie. "Queer time in global city Singapore: Neoliberal futures and the 'freedom to love'." *Sexualities* 17, no. 4 (2014): 412-433.

Provides a queer critique of neoliberal governmental practices aimed at reproducing the heteronormative matrix for the sake of a stable and orderly future in the city-state of Singapore. Shows the role of teleological scripts of progress in reinforcing this heteronormative order.

Simon, Stephanie, and Samuel Randalls. "Geography, ontological politics and the resilient future." *Dialogues in Human Geography* 6, no. 1 (2016): 3-18.

The paper acknowledges prior scholarship that has criticized the idea of resilience for its close association with neoliberal governmentality, but goes beyond it to note multiple mobilizations of resilience with different ontologies and different visions of desirable futures.

Swyngedouw, Erik. "Apocalypse forever?." *Theory, culture & society* 27.2-3 (2010): 213-232.

Delineates specific apocalyptic imaginaries through which climate change is presented in public discourse and frames them as expressive of the emergence of a post-democratic or post-political condition closely intertwined with neoliberalism.

## Geographies of Post-Capitalist Futures

Human geography has a long-standing record of exposing the multiple forms of injustice and damage created by capitalism. In recent decades, the field has become increasingly aware that in order to effectively fight for a better world, the critique of the capitalist present must be accompanied by sustained efforts to envisage post-capitalist futures. Harvey 2010 offers a book-length treatment of this point, whereas Craig and Dyson 2021 provide a recent overview of the rapidly growing scholarship on prefigurative politics. It is worth noting that the research effort and activism to create a post-capitalist future is shaped not only by Marxism, but also by other critical-progressive approaches such as decolonialism (as seen in Collard et al. 2015), anarchism (as seen in Gerhardt 2020), and the philosophy of degrowth (as seen in Savini 2021). The process of changing the undesirable present into desirable futures has come under scrutiny not only from the standpoint of political activism (Chatterton and Pickerill 2010) but also from the standpoint of design principles (Dallyn and Frenzel 2021), theory building (Brown et al. 2012), and the deconstruction of expert knowledge (Braun 2015).

Braun, Bruce. "Futures: imagining socioecological transformation—an introduction." *Annals of the Association of American Geographers* 105.2 (2015): 239-243.

Introduces the twenty articles in a special issue dedicated to thinking critically and geographically about the future and the complex processes of socioecological change underpinning the current historical juncture of capitalism. Discusses issues of authority and expertise in narratives about the future, and how they disempower marginalized populations.

Brown, Gavin, Peter Kraftl, Jenny Pickerill, and Caroline Upton. "Holding the future together: towards a theorisation of the spaces and times of transition." *Environment and Planning A* 44, no. 7 (2012): 1607-1623.

Develops a theory of transition to describe change trajectories at a variety of scales. Exposes the politically important problem that a range of discourses framed as 'transition' aim to merely reconfigure or adjust neoliberal capitalist futures instead of radically transforming these social formations.

Chatterton, Paul, and Jenny Pickerill. "Everyday activism and transitions towards post-capitalist worlds." *Transactions of the Institute of British Geographers* 35, no. 4 (2010): 475-490.

Draws on empirical research with grassroots autonomous activists in the United Kingdom to discuss how their everyday practices are aiming at creating desirable futures in the present. It argues that their spaces, identities, and practices are at the same time anti-, despite-, and post-capitalist.

Collard, Rosemary-Claire, Jessica Dempsey, and Juanita Sundberg. "A manifesto for abundant futures." *Annals of the Association of American Geographers* 105, no. 2 (2015): 322-330.

Drawing on decolonial and postcolonial scholarship, this manifesto discusses the political possibilities of the Anthropocene by proposing a post-capitalist future of multispecies abundance that leaves behind the reactionary discourse and practice of mainstream conservation.

Dallyn, Sam, and Fabian Frenzel. "The Challenge of Building a Scalable Postcapitalist Commons: The Limits of FairCoin as a Commons - Based Cryptocurrency." *Antipode* 53, no. 3 (2021): 859-883.

Describes the tension arising with experiments in postcapitalist commons between the desire for a postcapitalist future and the necessity to secure enough financial resources to operate within present capitalism. Identifies a number of design principles to make such experiments scalable.

Gerhardt, Hannes. "Engaging the non - flat world: Anarchism and the promise of a post - capitalist collaborative commons." *Antipode* 52, no. 3 (2020): 681-701.

Criticizes the excessive reliance of anarchists on prefigurative types of action and the associated appeal of flat ontologies. Advocates an anarchist version of post-capitalist future inspired by the analysis of Collaborative Commons and of peer-to-peer technologies.

Harvey, David. *Spaces of hope*. Vol. 7. Univ of California Press, 2000.

Argues that exposing the evils of capitalism necessitates the complementary effort to envisage better alternatives for the future. Discusses the history of utopian movements and what can still be learned from it. Harvey also describes his own version of a utopian future.

Jeffrey, Craig, and Jane Dyson. "Geographies of the future: Prefigurative politics." *Progress in Human Geography* 45, no. 4 (2021): 641-658.

Discusses the geographies of the future by means of a detailed review of prefigurative politics. Analyses the centrality of both improvisation and institutionalization for prefigurative political practice. Shows how work on this topic can inform the literature on neoliberal governmentality and anticipatory politics.

Savini, Federico. "Towards an urban degrowth: Habitability, finity and polycentric autonomism." *Environment and Planning A: Economy and Space* 53, no. 5 (2021): 1076-1095.

Deploys the inherently anti-capitalist philosophy of degrowth as an analytical lens to expose the neglected role of urban planning in perpetuating the dominant calculus of growth. Proposes a degrowth urban agenda for the future, consisting of three inter-related transitions.

### **Race, Gender, and the Future**

Sensitivity to the role multiple and intersecting forms of social difference play in social and political life is one of the important developments in Anglo-American human geography in recent decades. Feminist geography and critical geographies of race have been at the forefront of this development. The future has become one of the current research frontiers in these fields of human geography, with several notable interventions that explicitly articulate the centrality of this temporal dimension to the conceptual and political work of affirming social difference. To illustrate this point, the feminist epistemology of situated knowledge has been influential in geography for over three decades, but in a recent interpretation of it proposed in Simandan 2019 the future becomes 'baked' into the very idea of situatedness in the form of the unavoidable epistemic gap between possible (unrealized) worlds and the realized, actual world. MacLeavy et al. 2021 also aim to recast futurity as a central lens through which feminism views itself, while warning against dominant linear imaginaries of temporality. These developments in feminist geography have been paralleled by equally noteworthy efforts to launch a more explicit consideration of the future in the critical geographies of race. We see an early example of this in Mitchell 2010 as she deconstructs discursive practices of an 'inevitable future' deployed to exclude racialized others. Baldwin 2012 takes the linkage between futurity and race one step

further, by offering a proposal for a research agenda. That the preoccupation with this linkage is no longer confined to isolated researchers becomes apparent with Smith and Vasudevan 2017 as they introduce a collection of papers all focused on race, biopolitics, and the future. Finally, Gergan et al. 2020 expose how the discourse of racial decline often accompanies the discourse of environmental decline in popular visions of an apocalyptic future.

Baldwin, Andrew. "Whiteness and futurity: Towards a research agenda." *Progress in human geography* 36, no. 2 (2012): 172-187.

Criticizes geographical scholarship on whiteness for being focused on the past and develops the argument that this literature would benefit from a countervailing engagement with the problematic of the future. Three influential theoretical approaches are used to illustrate how this might work.

Gergan, Mabel, Sara Smith, and Pavithra Vasudevan. "Earth beyond repair: Race and apocalypse in collective imagination." *Environment and Planning D: Society and Space* 38, no. 1 (2020): 91-110.

Theoretically informed by critical race studies and empirically illustrated by an analysis of three American apocalyptic films, this paper argues that the fears stirred by climate change in the Anthropocene are often tangled with racist worries about the likely decline of white civilization.

MacLeavy, Julie, Maria Fannin, and Wendy Larner. "Feminism and futurity: Geographies of resistance, resilience and reworking." *Progress in Human Geography* 45, no. 6 (2021): 1558-1579.

The paper contributes to debates about feminist futures by problematizing the common linear imaginary of feminism as having been made up out of a sequence of waves. This problematization warns against the temptation of imagining future feminism as a mere response to prior waves.

Mitchell, Katharyne. "Pre - black futures." *Antipode* 41 (2010): 239-261.

Proposes the term 'Pre-black' to denote those racialized bodies and populations pre-defined by Western governments as risk failures and thereby targeted to be exiled. Deconstructs the discourse of an inevitable future and of risk failure affixed to these racialized others.

Simandan, Dragos. "Revisiting positionality and the thesis of situated knowledge." *Dialogues in human geography* 9, no. 2 (2019): 129-149.

Offers 'the four epistemic gaps' interpretation of the feminist epistemology of situated knowledges. Past and present futures are located in the first epistemic gap, that between possible worlds (what could be and what could have been) and the actual, realized world.

Smith, Sara, and Pavithra Vasudevan. "Race, biopolitics, and the future: Introduction to the special section." *Environment and Planning D: Society and Space* 35, no. 2 (2017): 210-221.

Introduces a special issue of this journal dedicated to race and futurity. Provides not only a summary of the five individual articles in the special issue, but also a discussion of four overarching themes that recur across those articles.

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