The London School of Economics and Political Science

Engineering the Social World?

An Intellectual History of Facebook/Meta, 2004-2021

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Declaration

I certify that the thesis I have presented for examination for the MPhil/PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

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Abstract

This project charts an intellectual history of Facebook/Meta from 2004 to 2021, analysing the language with which actors in and around the company came to depict the world, its transformations, and the social infrastructure they were building. Whilst intersecting with the fields of platform studies and the cultural history of computing, the theoretical framework for this project draws upon historiographical approaches to time and discourse, as well as a Gramscian framing of power. Based upon a digital archive of several thousand documents, this thesis applied thematic analysis to explore a set of underlying intellectual developments over these two decades.

The empirical analysis unfolds across three interconnected dimensions: Facebook/Meta's conception of space, its articulations of historical time, and its epistemological and ontological positionings. In exploring these underlying discursive strands, this thesis charts the emergence of what it calls a Big Tech 'hegemonic horizon', a particular way of imagining and structuring the world. Specifically, it shows the development of a worldview focused on the possibility of reordering global space, a discourse saturated with futurity, and an expansive systems-perspective in which the world itself becomes, and is constituted by, layers of optimisable systems.

This thesis explores the intellectual development of Facebook/Meta actors within and alongside broader histories of colonialism, utopianism and knowledge production. It does so by placing this contemporary hegemonic horizon alongside earlier discursive contexts, interrogating past ways in which space, time, and science were imagined and talked about. Specifically, this research situates Facebook/Meta's discourse within broader histories of coloniality, progressive time, cybernetics, and contestations over the World Wide Web. In so doing, this research shows not only how Facebook/Meta inherited and reassembled concepts and language from the past, but it also reveals what increasingly came to be concealed and ignored, namely, a critical humanist perspective of technology and the human subject.

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Doing a PhD is hard. It has felt like 4 years of constantly breaking down and reconstructing how I understand and imagine the world to be. I would not have made it through this process without the help of many people, who I must acknowledge here.

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Chapter 1
Introduction: Facebook and Intellectual History

The development of the modern computer over the past 70 years has transformed the world in which we live. Spreading into our workplaces, our homes, and our pockets, the proliferation of computers can be seen as a major shift in global history. It is not just the widespread presence of computers but their connection into layers of networks which, according to Manuel Castells, has ushered humanity into "the information age".[1] Already from the vantage point of 2001, Castells could argue that humanity had entered a new epoch in which "the internet is the fabric of our lives."[2] In the decades that have followed, computers and the internet have only become more pervasive phenomena in the lives of people around the world.

Thefacebook was founded in early 2004 and was initially only accessible to students at Harvard University. In less than a decade it had attracted one billion users, rising to over two billion by 2017.[3] In that time, Facebook grew to become a key medium through which social and political life was conducted, not just in the United States of America, but much of the world. It became the first world-spanning social network of the 21st century, attracting the attention of not only investors, users, and journalists but also heads of states and political systems. Over these two decades, actors in and around Facebook were flung into the spotlight as they and the company accumulated vast wealth and, to varying degrees, power. Throughout, these actors were continuously engaging with the world around them, leaving behind a record of their attempts to make sense of what they were doing, how they understood the meaning of their actions, and the ways in which their products and infrastructure were changing the world.

This thesis is an intellectual history of Facebook/Meta.[4] It follows a select number of actors in and around the company, charting some of the ways in which they came to imagine and

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[1] Manuel Castells, *The Internet Galaxy: Reflections on the Internet, Business, and Society*. (Oxford University Press, 2001), 1.
[2] Ibid.
[3] Mark Zuckerberg, "One Billion People on Facebook," *Zuckerberg Transcripts* 248, (2012);
Mark Zuckerberg, "Zuckerberg Facebook post and photo about Over 2 billion users," *Zuckerberg Transcripts* 728, (2017).
[4] This thesis covers the development of Facebook's intellectual thought from 2004 to the end of 2021. On the 28th of October 2021, Facebook the company rebranded to Meta. Where possible, for the benefit of linguistic continuity, I will refer to the company as 'Facebook'. However, when I am referring to the company in the

depict the world around them, as well as their own effect upon the world. This research then is concerned with Facebook discourse; it interrogates the concepts, historical times and spatial orderings that actors in and around Facebook articulated through language. Whilst this thesis is primarily concerned with charting how Facebook actors came to construct meaning over these decades, it also analyses the power that this meaning came to hold. It asks not only what actors in and around Facebook used language to see and to reveal, but also what they used language to do and to achieve, to obscure and conceal.

Whilst important research explores the effect that Facebook has had on the world, this thesis will not make any arguments of causation.[5] Instead, it is concerned with, in the words of Adrian Daub, "what tech calls thinking."[6] There has already been important analysis of Facebook's discourse. Much research, for example, has been concerned with how Facebook has talked about connection, community and growth.[7] Whilst these issues do emerge in this research, this thesis focuses on three underlying dimensions of Facebook's intellectual development. Specifically, it explores how actors in and around the company talked about space and spatiality, historical time, and their own positionality and relationship to the world around them. It charts and analyses the evolution of these three broad dimensions of thought because, I suggest, it is here that we can begin to interrogate the concepts and logics that constitute how Facebook actors have come to see not just a specific issue, but the world in totality. In this thesis, I will suggest that in analysing these three dimensions, we can uncover and reveal a broader horizon from which Facebook actors, and more broadly 'Big Tech', came to understand and structure the world.[8] In doing so, I hope to not only tell a story of American Big Tech, but to offer a lens through which we can explore the first two decades of

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months and years around and following October 2021, I will use the label 'Facebook/Meta' to refer to the company. I also use the label 'Facebook/Meta' for the title to refer to the whole period.

[5] For example, see: Robyn Caplan and danah boyd, "Isomorphism through algorithms: Institutional dependencies in the case of Facebook," *Big Data & Society* 5, no. 1 (2018): 1-12. https://doi.org/10.1177/2053951718757253; José van Dijck, Thomas Poell, and Martijn de Waal, *The Platform Society: Public Values in a Connective World,* (Oxford University Press, 2018); Jeffrey Sablosky, "Dangerous organizations: Facebook's content moderation decisions and ethnic visibility in Myanmar," *Media, Culture & Society* 43, no. 6 (2021): 1017-1042, https://doi.org/10.1177/0163443720987751.

[6] Adrian Daub, *What Tech Calls Thinking: An Inquiry into the Intellectual Bedrock of Silicon Valley*. (Farrar, Straus and Giroux, 2020.)

[7] José van Dijck, *The Culture of Connectivity: A Critical History of Social Media,* (Oxford University Press, 2013), 45-67; Karina Rider and David M Wood, "Condemned to connection? Network communitarianism in Mark Zuckerberg's "Facebook Manifesto."" *New Media & Society* 21, no. 3 (2019): 639–654, https://doi.org/10.1177/1461444818804772; Alex Fattal, "Facebook: Corporate Hackers, a Billion Users, and the Geo-Politics of the 'Social Graph,'" *Anthropological Quarterly* 85, no. 3 (2012): 927–55.

[8] For more on the label 'Big Tech', see: Kean Birch and Kelly Bronson, "Big Tech," *Science as Culture* 31, no.1 (2022):1-14, https://doi.org/10.1080/09505431.2022.2036118.

the 21st century, the concepts, logics, and language with which a particular set of people came to make sense of and depict the changing world around them. These were not just any people but figures who were central to the designing, construction, and spread of major social infrastructure that had consequences for billions of people in the early 21st century.

As an intellectual history, this thesis does not only analyse Facebook's language, but contextualises it in order for it to speak alongside and within deeper historical processes and rhythms. Specifically, this thesis will analyse Facebook's discourse alongside previous discursive contexts in which space, time and knowledge have been imagined and depicted in different ways during the history of American computer culture, and more broadly the histories of Western intellectual thought. It shows that the ways in which Facebook actors came to imagine and talk about the world did not emerge in a vacuum. Instead, they were the product of the historical and geographical contexts from which Facebook emerged, and the particular histories which actors in and around the company inherited and existed within. Confronted by events and questions, Facebook actors had to turn to and reassemble a limited set of inherited concepts, logics and vocabularies to help them make sense of the world around them, and to depict it to others. Yet in this process of inheritance and reassembling, we can also question what came to be left behind and erased; what inherited meanings and values could Facebook actors shed as they depicted their own world?

In this introductory chapter, I will begin by setting out the tradition of intellectual history this thesis draws upon, and explain its value for analysing the events and discourse of this period. Next, I will position this research within the broader scholarship of platform studies, and the intellectual and cultural histories of computers and computational thinking. I will then set out the aims and goals of this research before outlining the structure of this thesis.

1.1 Intellectual History, Contemporary History & Big Tech

The field of intellectual history has traditionally been associated with the study of 'great ideas' and 'great thinkers.' Yet, in recent decades intellectual historians have sought to broaden the scope of intellectual history beyond the 'great texts.' Quentin Skinner, for example, has called on a new generation of work that moves away from the "history of political theory" and to a broader intellectual history that accommodates and explores all

aspects of intellectual life.[9] As William Bouwsma argues, intellectual history can and ought to be concerned with understanding intellectual activity "involved at many levels of human individual and social life."[10]

Building on this expansion of the field, Jan-Werner Müller has called for contemporary intellectual history to "focus less on the history of high political philosophy and more on what one might call 'in-between figures'".[11] Müller draws an analogy between these 'in-between figures' and what Friedrich von Hayek once called the "secondhand dealers in ideas".[12] Writing in the 1940s, Hayek suggested that these intermediary intellectuals could be considered more important than the original producers of ideas; it was through them that certain types of language, concepts and logics come to spread widely and appear legitimate. What Hayek points towards, without fully theorising, is that in spreading and legitimising certain ideas, these intellectual intermediaries are, in an important way, wielding power.

In the decades before Hayek's essay, and writing from a different Marxist perspective, Antonio Gramsci had already developed a theory of intellectuals which analysed their role and importance beyond 'high philosophy'.[13] For Gramsci, 'traditional intellectuals' were first and foremost social and political actors who work to not only develop but also spread ideas and frameworks that sustain a dominant section of society, and their own particular worldview. These intellectuals were central to the construction and sustenance of hegemonic power. In this thesis, I will draw on Gramsci's account of power as I follow Quentin Skinner, and others' call to broaden the scope of intellectual history.

This thesis isn't concerned with the high philosophical texts of the early 21st century but rather with the writings and utterances of actors in and around Facebook. These actors did not see themselves as creating new and innovative philosophical concepts but rather they were reaching for, drawing upon, and wielding certain vocabularies, concepts and logics, to make

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[9] Quentin Skinner, "Surveying the *Foundations:* a retrospect and reassessment," in *Rethinking the Foundations of Modern Political Thought*, ed. A. Brett and J. Tully, (Cambridge University Press, 2006), 244.
[10] William J. Bouwsma, *The Waning of the Renaissance, 1550-1640*, (Yale University Press, 2000), ix.
[11] Jan-Werner Müller, "European Intellectual History as Contemporary History," *Journal of Contemporary History* 46, no. 3 (2011): 588, https://doi.org/10.1177/0022009411403339.
[12] Friedrich, A. Hayek, "The Intellectuals and Socialism," *The University of Chicago Law Review* 16, (1949): 417.
[13] Antonio Gramsci, *Selections from the Prison Notebooks,* ed. Q. Hoare and G. N. Smith. (International Publishers, 1971), 5-14.

sense of the world around them, and their own effect upon it. In this thesis, I argue that Big Tech, and the actors within it, is a rich area for intellectual historians to turn their gaze.

However, this research not only seeks to extend the field of intellectual history to Big Tech, but to conduct a contemporary intellectual history which bears on our present moment. In his history of the late 2010s, the historian Timothy Snyder begins by asking "Can History be so contemporary?"[14] Snyder acknowledges how the modern discipline of History developed in the 18th and 19th centuries with an implicit requirement that a historian ought to have temporal distance from their subject. Yet, as historical theorists have pointed out, this implicit requirement of the historian to hold temporal distance is itself historically situated. The activity of history, beyond the discipline which emerged in 18th century Europe, has always incorporated contemporary history. The philosopher and historian Reinhart Koselleck similarly defends the possibility and significance of contemporary history. For Koselleck, "Every history is *Zeitgeschichte* [contemporary history] and every history was, is, and will be a history of the present… In terms of our theoretical formalization, one might then argue that so-called *Zeitgeschichte* in no way differentiates itself from other histories".[15] In explicitly disrupting the conventional temporal distance of History, Koselleck suggests, contemporary histories force the necessary but uncomfortable question of time to the forefront of historical analysis.

In recent years there has been a resurgence in contemporary intellectual history, with a variety of important approaches examining the first decades of the 21st century.[16] Like Snyder and Koselleck, Jan-Werner Müller celebrates the possibility and potential of contemporary intellectual history.[17] However, he calls for a resurgence in this field which does not ignore but instead builds upon recent developments in intellectual historical theory, particularly the

[14] Snyder notes that Herodotus' *Histories*, widely considered the first written History, dedicated a third of its work to events that occurred in the generation before his. Timothy Snyder, *The Road to Unfreedom: Russia, Europe, America*, (The Bodley Head, 2018), 9.
[15] Reinhart Koselleck, *Sediments of Time: On Possible Histories*, trans. S. Franzel and S-L Hoffman, (Stanford University Press, 2018), 103.
[16] For example, see: Quinn Slobodian, *Hayek's Bastards: The Neoliberal Roots of the Populist Right*, (Allen Lane, 2025); Apolline Taillandier, ""Staring into the Singularity" and other Posthuman Tales: Transhumanist Stories of Future Change," *History and Theory* 60, no.2 (2021): 215-233, https://doi.org/10.1111/hith.12203; Duncan Bell and Apolline Taillandier, "Cosmos-Politanism: Transhumanist Visions of Global Order from the First World War to the Digital Age," *Perspectives on Politics*, (2024): 1–18, https://doi.org/10.1017/S1537592724001051; Syed Mustafa Ali et al., "Histories of Artificial Intelligence: A Genealogy of Power," *BJHS Themes* 8 (2023): 1–18, https://doi.org/10.1017/bjt.2023.15.
[17] Müller, "European Intellectual History".

approaches associated with Quentin Skinner and Reinhart Koselleck. This thesis attempts to do just that, adapting and applying aspects of their theoretical and methodological arguments, whilst bringing them into contact with the literature in the emerging field of platform studies and the cultural history of computing, in order to construct an intellectual history of Facebook/Meta.

1.2 Historiography and Platform Studies

Whilst this thesis draws upon and works with approaches and ideas derived from the discipline of intellectual history, as well as social and political theory, this research has been formed in dialogue with and is situated between the history of computer culture and platform studies. Here, I briefly turn to this literature and position this research in relation to it.

As the historians Michael Mahoney and Paul N. Edwards suggest, the historical literature on computers can be broadly split into two strands of historiography.[18] The first, located within the history of technological change and economic history, is concerned with the engineering and technological development of the modern computer, as well as the economic forces that drove its development. The second strand is more concerned with cultural and intellectual history, analysing the development of concepts and cultures entangled with and shaped alongside the computer. This thesis sits primarily in the second of these two strands, engaging with the insights and approaches developed there. Yet whilst this thesis is primarily concerned with the discourse and ideas of actors in and around Facebook, it necessarily also discusses Facebook's shifts in business model, infrastructures, and its reshaping of a shared 'built environment'.[19]

A primary area of research on the intellectual history of computing has focused on the emergence of the modern computer, the rise and impact of cybernetics and information

[18] Michael S. Mahoney, "The History of Computing in the History of Technology," *Annals of the History of Computing* 10, no. 2 (1988): 113-125; Paul N. Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America*, (MIT Press, 1996), ix.
[19] William H. Sewell, *Logics of History: Social Theory and Social Transformation,* (The University of Chicago Press, 2005), 362.

theory, and the figures associated with these developments.[20] Here, researchers highlight the importance of the Second World War (WWII) in bringing together different fields and scientists who collaborated on accelerating the building of computers, and the possibilities of computer-human interaction. They stress the interrelation between computational thinking and the ambitions of the American state, both in WWII, but also in the years after as computational power came to be associated with Cold War rationality.[21] A more recent strand of cultural history has emphasised less the relationship between the state and technology industries, and more the influence of 1960s counterculture on the development of computer culture. In *From Counterculture to Cyberculture,* for example, Fred Turner charted a shift in meaning of the computational metaphor, and the spread of countercultural ideas and language in this period through certain key figures, such as Stuart Brand.[22] This narrative has become widely accepted and shared by other journalists and historians who emphasise the continuities between 1960s counterculture and the proliferation of personal computers.[23]

Feminist, Marxist and postcolonial researchers have critiqued these dominant historical narratives, uncovering and focusing on the less visible stories and people who were central to the development of computers and thinking around them. Wendy Chun, for example, has stressed the centrality of female programmers in the development of early computers.[24] Lisa Nakamura has revealed the role and exploitation of Native Americans in both the production of computers and the discourse around it.[25] Recently, Malcolm Harris has downplayed the relevance of 1960s counterculture in this story at all, focusing instead on the bifurcation of workers in the production of computers, the increasing distance between those being paid poorly and working in dangerous conditions to build computers, and those gaining vast

[20] Peter Galison, "The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision," *Critical Inquiry* 21, no. 1 (1994): 228–266, https://doi.org/10.1086/448747; Katherine, N. Hayles, *How we Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, (University of Chicago Press, 1999).
[21] Paul, N. Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America*, (MIT Press, 1996); Stuart W. Leslie, *The Cold War and American Science: The Military-Industrial-Academic Complex at MIT and Stanford*, (Columbia University Press, 1993); George Dyson, *Darwin among the Machines*, (Allen Lane, 1998).
[22] Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism,* (University of Chicago Press, 2006).
[23] John Markoff, *What the Dormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry*, (Penguin, 2006).
[24] Wendy, H. K. Chun, "On Software, or the Persistence of Visual Knowledge," *Grey Room* 18, (2005): 33-37, https://doi.org/10.1162/1526381043320741.
[25] Lisa Nakamura, "Indigenous Circuits: Navajo Women and the Racialization of Early Electronic Manufacture," *American Quarterly* 66, no. 4 (2014): 919–941, https://doi.org/10.1353/aq.2014.0070.

wealth through their design.[26] Harris' Marxist and global history of Palo Alto, begins with the colonisation of California, stressing the continuities of colonialism which inscribe the history of computers and computer culture.

Whilst this thesis draws on this historiography, it differs from it in being primarily concerned with a history of the first two decades of the 21st century. Whilst there are exceptions, most historians of computer culture do not attempt research that is so contemporary.[27] This thesis hopes to contribute to the literature by drawing on this rich historical literature but beginning its analysis in the early 2000s. It builds an intellectual history of the next decades, which draws on insights and approaches developed in the field of intellectual history, in relation to arguments emerging from the history of computer culture.

Given that historians have largely not turned their gaze to the history of Facebook, the historiography on Facebook is inevitably limited. Where histories of the company or actors in the company do exist, these so far have generally been journalistic accounts. Although useful, these narratives offer a different analytical lens than an intellectual history, and seek different outcomes. They are, generally, more focused on charting the personal story of these figures, analysing their motivation, and creating a record of these contemporary events. In 2009, Ben Mezrich's *The Accidental Billionaires* focused on the founding of Facebook and the disputes that followed this.[28] A year later, David Kirkpatrick's *The Facebook Effect* was more an examination of Mark Zuckerberg, portraying the founder as a visionary and ideologue.[29] In 2020, Steven Levy published *Facebook.*[30] Based upon unprecedented access, *Facebook* is a generous and comprehensive history which portrays Zuckerberg as more naïve than nefarious. By 2022, highly critical journalistic accounts of Facebook were also being published. Most notably, Cecilia Kang and Sheera Frenkel's *An Ugly Truth,* was less

[26] Malcolm Harris, *Palo Alto: A History of California, Capitalism, and the World,* (Little Brown and Company, 2023).
[27] Andreas Hepp, "Pioneer communities: collective actors in deep mediatisation," *Media, Culture & Society* 38, no. 6 (2016): 918-933, https://doi.org/10.1177/0163443716664484; Andreas Hepp, "Curators of digital futures: The Life cycle of pioneer communities," *New Media & Society*, (2024): 1-20, https://doi.org/10.1177/14614448241253766. There are also deeper histories, such as *The Code* and *Palo Alto* which do turn to these contemporary decades, briefly, at the end of much broader and longer histories which preoccupies the research. Margaret, P. O'Mara, *The Code: Silicon Valley and the Remaking of America*, (Penguin Books, 2020); Harris, *Palo Alto*.
[28] Ben Mezrich, *The Accidental Billionaires: The Founding of Facebook: A Tale of Sex, Money, Genius and Betrayal*, (Doubleday, 2009).
[29] David Kirkpatrick, *The Facebook Effect: The Inside Story of the Company That is Connecting the World,* (Simon & Schuster, 2010).
[30] Steven Levy, *Facebook: The Inside Story,* (Portfolio Penguin, 2020).

hagiographic and more focused on the darker consequences of Facebook's actions and how people in the company responded to its involvement in ethnic cleansing and the erosion of democracy.[31]

Another form of Facebook histories has been produced as memoirs or whistle-blower accounts by former Facebook workers. Katherine Losse's *Boy Kings* depicts the early company's culture as being like a frat-house, with a workforce primarily concerned with following the ideas and whims of Zuckerberg.[32] Antonio García Martínez's *Chaos Monkeys* portrayed Facebook as attracting both a generation of tech utopians and also of cynical engineers looking to get rich quickly.[33] More recently, Frances Haugen and Sarah Wynn-Williams offer whistle-blower accounts of Facebook/Meta, depicting it as a uniquely dangerous company, harming a generation of young people, particularly women, and demanding a cult-like following from its staff.[34]

One of the most important areas of scholarly research on Facebook has instead arguably emerged from platform studies, an interdisciplinary field which has been taken up by many scholars who identify as media and communications researchers. Researchers within platform studies have deconstructed and examined the development and workings of contemporary platforms, which Facebook came to be understood as providing, whether their political economy, discourses, algorithms, or infrastructures.

Within this area, political economists have emphasised the role of capitalist logics in structuring the development of platforms. In *Platform Capitalism,* Nick Srnicek analyses platforms as being within a capitalist system, as actors "compelled to seek out profits in order to fend off competition."[35] Shoshana Zuboff also focuses on the role of capitalism in her analysis of platforms.[36] In *The Age of Surveillance Capitalism,* Zuboff primarily examines

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[31] Sheera Frenkel and Cecilia Kang, *An Ugly Truth: Inside Facebook's Battle for Domination,* (Hachette, 2022).
[32] Katherine Losse, *The Boy Kings: A Journey into the Heart of the Social Network*, (Free Press, 2014).
[33] Antonio, G. Martínez, *Chaos Monkeys: Mayhem and Mania Inside the Silicon Valley Money Machine*, (Ebury Press, 2017).
[34] Frances Haugen, *The Power of One: How I Found the Strength to Tell the Truth and Why I Blew the Whistle on Facebook,* (Hachette, 2023); Sarah Wynn-Williams, *Careless People: A Story of Where I Used to Work*, (Pan Macmillan, 2025).
[35] Nick Srnicek, *Platform Capitalism*, (Polity, 2017), 9.
[36] Shoshana Zuboff, "Big Other: Surveillance Capitalism and the Prospects of an Information Civilization," *Journal of Information Technology* 30, no. 1 (2015): 75–89, https://doi.org/10.1057/jit.2015.5; Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, (Profile Books, 2019).

Google's development and championing of a new form of capitalism, which she calls surveillance capitalism. Meanwhile Robin Mansell has interrogated the meso-level of institutions, the political and ideational struggles over accepted frameworks for the accountable regulation of platforms.[37] Political economic research has also focused particularly on Facebook, examining the economic models that drive Facebook's metrics, as well as how the company's privacy settings are driven by its need to commodify users.[38]

Another important strand of platform studies has been concerned with interrogating the discourses associated with and emerging from platform developers. Tarleton Gillespie has analysed and charted the discursive construction of the term 'platform'.[39] Perhaps most importantly, in *The Culture of Connectivity,* José van Dijck charts a history and analysis of social media in the first decade of the 21st century, exploring the development of various platforms and how they came to produce a new form of connectedness based upon the exploitation of connectivity. Van Dijck, along with her colleague David Nieborg, has called for the deconstruction of the discourses of 'Web 2.0', the name given to a generation of internet sites that relied on user-generated content, the exploitation of data for profit, and which often evolved into platforms.[40] This has been addressed by various researchers, including those who focus particularly on Facebook. Research has analysed Facebook's different constructions of an imagined better world, the company's concept of community, and its corporate hacker ethos.[41]

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[37] Robin Mansell, "From Digital Divides to Digital Entitlements in Knowledge Societies," *Current Sociology* 50, no. 3 (2002): 407-426, https://doi.org/10.1177/0011392102050003007; Robin Mansell, "Bits of Power: Struggling for Control of Information and Communication Networks," *The Political Economy of Communication* 5, no. 1 (2017): 2-29.

[38] Christian Fuchs, "The Political Economy of Privacy on Facebook," *Television & New Media* 13, no. 2 (2012): 139–159, https://doi.org/10.1177/1527476411415699; Adam Arvidsson, "Facebook and Finance: On the Social Logic of the Derivative," *Theory, Culture & Society* 33, no. 6 (2016): 3-23, https://doi.org/10.1177/0263276416658104; Carolin Gerlitz and Anne Helmond, "The like economy: Social buttons and the data-intensive web," *New Media & Society* 15, no. 8 (2013): 1348-1365, https://doi.org/10.1177/1461444812472322.

[39] Tarleton Gillespie, "The Politics of 'Platforms,'" *New Media & Society* 12, no. 3 (2010): 347–364, https://doi.org/10.1177/1461444809342738.

[40] José van Dijck and David Nieborg, "Wikinomics and its discontents: a critical analysis of Web 2.0 business manifestos," *New Media & Society* 11, no. 5 (2009): 855-874, https://doi.org/10.1177/1461444809105356.

[41] Joachim Haupt, "Facebook Futures: Mark Zuckerberg's Discursive Construction of a Better World," *New Media & Society* 23, no.2 (2021): 237–257, https://doi.org/10.1177/1461444820929315; Karina Rider and David M Wood, "Condemned to connection? Network communitarianism in Mark Zuckerberg's "Facebook Manifesto,"" *New Media & Society* 21, no. 3 (2019): 639–654, https://doi.org/10.1177/1461444818804772; Alex Fattal, "Facebook: Corporate Hackers, a Billion Users, and the Geo-Politics of the 'Social Graph,'" *Anthropological Quarterly* 85, no. 3 (2012): 927–55.

Over the previous decade there has also been a turn towards the analysis of both the infrastructures underlying platforms, and the algorithms that these platforms wield. Important research has examined how Facebook's algorithms reconstitute sociality, whilst making some content visible and obscuring other content.[42] Meanwhile, research located in the parallel and partly overlapping field of infrastructure studies has examined the 'infrastructural power' of platforms such as Facebook, the competition between platform companies, and how this has interconnected with platform discourse.[43]

Emerging from platform studies, two book-length pieces of research concerned specifically with Facebook are worth noting here. Siva Vaidhyanathan's 'Antisocial Media' offers an analysis of the company's development, depicting a by-now familiar narrative of a company which began with utopian ambitions, but evolved into a power-hungry global organisation damaging societies around the world.[44] More than a history this is a critique of Facebook and its ability to harm democracy. Taina Bucher's 2021 *Facebook* meanwhile draws on a Science & Technology Studies (STS) approach to analyse the practices of the company.[45] Here, Bucher examines different dimensions of Facebook, whether its discourse, its economics or its infrastructure.

Whilst this thesis draws from platform studies, particularly those researchers such as José van Dijck and Tarleton Gillespie, who deconstruct the discourse of platforms, it addresses Facebook with a different lens than much of this research. This research is first and foremost a history of the company's intellectual development, as articulated by certain actors in and around it, the emergence of certain ideas and concepts, and their evolution in time. More than this though, it seeks to examine Facebook's discourse alongside broader historical processes. In charting this history and drawing upon frameworks from the field of intellectual history to do so, it offers new insights into platform discourses. Specifically, through this approach we

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[42] Taina Bucher, "Want to be on the top? Algorithmic power and the threat of invisibility on Facebook," *New Media & Society* 14, no. 7 (2012): 1164–1180, https://doi.org/10.1177/1461444812440159; Cristina Alaimo, Cristina and Jannis Kallinikos, "Computing the everyday: Social media as data platforms," *The Information Society* 33, no. 4 (2017): 175-191, https://doi.org/10.1080/01972243.2017.1318327.
[43] Jean-Christophe Plantin, Carl Lagoze, Paul N. Edwards, and Christian Sandvig, "Infrastructure studies meet platform studies in the age of Google and Facebook," *New Media & Society* 20, no. 1 (2018): 293-310, https://doi.org/10.1177/1461444816661553; Esther Mweme and Adeba Birhane, "Undersea cables in Africa: The new frontiers of digital colonialism," *First Monday* 29, no. 4 (2024), https://doi.org/10.5210/fm.v29i4.13637.
[44] Siva Vaidyanathan, *Antisocial Media: How Facebook Disconnects Us and Undermines Democracy,* (Oxford University Press, 2018).
[45] Taina Bucher, *Facebook*, (Polity, 2021).

can not only examine the shifts in language and concepts that actors in and around Facebook pursued during this period, but also how this intellectual history is located within deeper histories of utopian, colonial and scientific discourse.

1.3 Research Aims and Goals.

In this thesis, I offer an historical analysis of the first two decades of the 21st century. It was in these decades, Tarleton Gillespie notes, that the "exquisite chaos" of the open web became increasingly channelled into and moderated by platforms.[46] This process of platformisation occurred alongside a parallel development in which American technology companies dramatically increased their market size, financial value, and power.[47] In other words, these two decades saw the increasing importance of what I will refer to throughout this thesis as 'Big Tech'. By Big Tech I refer to the largely US-based multinational corporations, such as Apple, Amazon, Alphabet/Google, Microsoft, and Facebook/Meta.[48] By using the term Big Tech, I seek to emphasise not only the extraordinary financial value these companies hold, but also emphasise the role and power of owners and elite figures who run these companies and pursue their own ambitions and ideas through them. In these decades, Facebook emerged to become both an exemplar of a platform which came to dominate digital infrastructure, and of a Big Tech company. By focusing on Facebook, I contend that we can explore these broader historical processes of platformisation and the development of Big Tech.

This research project explores the intellectual development of actors in and around Facebook, examining the concepts, language, and logics which Facebook actors turned to and relied upon to make sense of and depict the world around them. More than this though, it points towards the emergence of a particular way of depicting and structuring the world that was bigger than any one company. This is to say that this thesis highlights and explores the emergence and evolution of a wider horizon of thought and of being. In this sense, this thesis

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[46] Tarleton Gillespie, *Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions that Shape Social Media,* (Yale University Press, 2018), 5.
[47] By 2021, the year that this thesis' research finishes, the five Big Tech firms represented around 25% of the US S&P 500. Keane Birch, DT Cochrane, and Callum Ward, "Data as asset? The measurement, governance, and valuation of digital personal data by Big Tech," *Big Data & Society* 8, no. 1 (2021): 4, https://doi.org/10.1177/20539517211017308
[48] Kean Birch and Kelly Bronson, "Big Tech," *Science as Culture* 31, no.1 (2022):1-14, https://doi.org/10.1080/09505431.2022.2036118.

aims to offer something more than a simple historical narrative about Facebook, or what actors in the company did over these decades. It treats Facebook itself as an exemplary manifestation of this period, of the prioritization of certain values, and the neglect of others.

The first major aim of this thesis then is to expose and chart an ascendent hegemonic horizon which I will argue was articulated by actors in and around Facebook from 2004 to 2021. At the same time this thesis aims to explore the relationship between this particular horizon of thought with a deeper Western intellectual history. It seeks to show how the concepts, logics and language of actors in and around Facebook did not emerge in a vacuum. Instead, Facebook actors drew upon and reassembled that which they inherited from the past. The second aim of this thesis then is to historicise Facebook, and more broadly Big Tech.

In this research, I argue that we can recognize important dimensions of our present and our recent past when we view it alongside and within broader historical processes. By exploring Facebook's discourse in relation to texts and utterances from the deeper past of Western intellectual thought, we can explore how actors in the company inherited and reassembled the language and concepts they used to depict the world. With this approach, I suggest, we can uncover not only what they inherited but also what was lost through this process of inheritance and reassembling. In other words, we can examine what meanings and values, which might have been tied to a certain concept or framework in an earlier context, came to fall away in the early decades of the 21st century. What came to be absent? What was once there but came to be lost in Facebook's articulation?

This research takes a 'big' historical approach, going back as far as the mid 17th century in order to examine the broader historical processes and rhythms which underly Facebook's intellectual development.[49] By employing this wide historical lens, this thesis critiques and rebuffs certain grand narratives which figures in Big Tech construct and wield in order to explain their own significance. To bring this deeper history in conversation with the first two decades of the 21st century, this thesis will analyse several discursive contexts from the history of Western intellectual thought. Specifically, it will interrogate how space, time and knowledge production were talked about in different ways in these different discursive

[49] David Armitage, "What's the Big Idea? Intellectual History and the Longue Durée," *History of European Ideas* 38, no.4 (2012): 493-507, http://dx.doi.org/10.1080/01916599.2012.714635.

contexts, leaving behind linguistic and conceptual residue and resources that could be inherited, played with and reassembled by actors within and around companies that came to dominate our digital and social infrastructure, and accumulate vast power in the global economy.

In taking this intellectual historical approach, this thesis then seeks to make a claim about the importance of history. Specifically, it suggests that this deeper and broader past cannot be ignored, nor can it be treated as some stable sediment which our present lies upon. Instead, we can recover hidden aspects of our present, as well as the past, when we position them to speak alongside each other. In this thesis, I aim to bring to the forefront insights from the histories of Western science, utopianism, and colonialism, in order to interrogate key facets of the present's most immediate context. I will contend that what came to be obscured by this contemporary hegemonic horizon, was a strand of humanist thought, which offered a competing way of understanding and structuring the relationship between humans and technology. By bringing this into focus, I will conclude, we might be able imagine and pursue an alternative path for computer-human interaction, and its transformation of our social environment.

Fourthly, in this historical thesis I aim to consider questions of how power inflects and explains intellectual development. In charting a history of the first two decades of the 21st century and considering what can be revealed when we locate the discourses in these decades alongside a broader history of Western intellectual thought and power relations, this thesis aims to analyse how the construction of meaning interfolds with the wielding of power. Specifically, I draw on a Gramscian analysis of hegemony to examine Facebook's discourse not as neutral articulations of actions, but as an expression of a particular way of structuring and making sense of the world that had, and continues to have, consequences. This ascendant horizon, I will argue, is both productive of a particular worldview, and at the same time, obscures other ways of producing and understanding the social world.

Finally, in drawing upon, and building an intellectual crossroads between media and communications and intellectual history, I aim to offer a way of approaching how the past informs our relationship to, and understanding of, contemporary computer culture. This approach, I will suggest, can help us reveal features of contemporary computer culture that have not previously been brought to light. Whilst I aim to show that Big Tech is an important

area for intellectual history to focus on, I also attempt to demonstrate how an intellectual historical approach can open up a lens and framework for analysing Big Tech which does not disregard the historical antecedents that inscribe our contemporary history, but enables us to see our recent past alongside broader and deeper historical rhythms and processes.

1.4 Thesis Structure

Finally, here I give an overview of the structure of this thesis. In the next chapter, I set out the conceptual framework which I rely on for my analysis. Here, I outline my understanding of power based upon my reading of Gramsci's concept of hegemony.[50] In the following two sub-sections, I suggest that a productive approach to uncovering and interrogating a hegemonic horizon is by engaging with intellectual history. Here I draw particularly upon the later writings of Quentin Skinner, as well as William Sewell. [51] I set out how I understand the relationship between a corpus of text and its context, and how I understand utterances embedded in texts of various kinds produced by a range of key actors, and the production of these texts as acts of power. I also consider the relationship between discursive contexts and material infrastructure. I then finish by setting out my own understanding of the concepts of 'historical time' and of space which are shown to be central to an understanding of hegemonic power. I position myself in relation to the writings of Reinhart Koselleck and Doreen Massey, arguing that both space and time are best understood as multiple, layered, and heterogenous.[52]

In Chapter 3, I give an account of the methodology which I used to conduct this intellectual history. I begin by setting out the epistemological and ontological precepts that underly my methodological choices. Next, I justify my research design, how I chose beginnings and endings, and why I only focused on one company and set of actors. I then explain how I collected a digital archive of thousands of documents and constructed a more limited corpus from it, whilst considering some of the methodological issues around digital archives. Next, I

[50] Gramsci, *Prison Notebooks.*
[51] Quentin Skinner, *Liberty Before Liberalism*, (Cambridge University Press, 1998); Quentin Skinner, *Visions of Politics*, *Volume 1: Regarding Method,* (Cambridge University Press, 2002).
[52] Doreen Massey, *For Space*. (SAGE, 2005); Reinhart Koselleck, *The Practice of Conceptual History: Timing History, Spacing Concepts,* trans. by T. Presner, K. Behnke, and J. Welge, (Stanford University Press, 2002).

set out how I analysed my texts through a form of thematic analysis. I finish with a brief consideration of my own positionality and how this likely shaped my research.

In Chapter 4, I set out a broad Western intellectual history focused on four different discursive contexts. In each I consider different ways in which time, space, and knowledge production have been interacted with and imagined. First, I go back as far as mid-17th century Europe and the emergence of an early empiricism and scientific method, forged with a new sense of global space, and colonial discovery. Second, I consider a discursive context surrounding the electric telegraph in the mid-19th century, how this technology was understood through a sense of historical time moving progressively, and how it emerged alongside an alternative way of making sense of global space based upon universality. Thirdly, I analyse the rise of cybernetics and information theory. Here, I suggest that alongside the discovery of 'information space', what emerged was a particular ontological framing of the world based upon systems and circular flows of information. Fourthly, I explore the American context surrounding the emergence of the World Wide Web, how cyberspace infused a sense of post-cold war global space, and the experience and expression of different historical times.

Across the next three chapters, I analyse my corpus so as to focus on Facebook and actors in and around the company over the years 2004-2021. Chapter 5 charts how Facebook actors came to talk about and imagine space and spatiality. This chapter is broadly split into three parts. It begins with an analysis of Facebook's early focus on expansion, and particularly how actors in the company turned to the language of scale and scalability to depict their own expansion. Next, we consider how actors in Facebook came to imagine global space, and their own place in this new global communication order. Here, I focus on the company's expansion across information space, and its articulation of two different orderings of global space. This chapter finishes with Facebook/Meta's depiction of the metaverse, and how it was imagined as reshaping global space.

Chapter 6 explores how actors in and around Facebook inherited and articulated different senses of historical time. I argue that in its formative first years, actors in Facebook were largely concerned with the urgency of speed and a felt need to move quickly. Here, actors in Facebook weren't overly concerned with the future or the past but rather the speed of the present. Yet this fixation with speed soon led to questions of momentum and trajectory: where

was Facebook, and more broadly, society heading towards? I suggest that Facebook's discourse increasingly turned to two different layers of historical time: exponential time and progressive time. Both layers of time pointed towards the future and I argue that as time went on actors in Facebook articulated a sense of time drenched in futurity. With 'the future' coming to hold such significance, I analyse two attempts by Facebook/Meta to lay claim over a shared sense of the future. With its visions of a world connected, and later the metaverse, I argue that Facebook/Meta shrouded its discourse with demands to reorient our present, as well as re-tell and re-remember the past in a way that naturalised a particular way of understanding and structuring the world, and obscured others.

Chapter 7 seeks to deepen the analysis of the previous two chapters by considering how Facebook actors came to imagine their own positionality and relation to space and time. Here I argue that through their building of platform-based algorithmic systems, actors in and around Facebook came to wield a broader and more expansive systems-thinking perspective. From this perspective, the world itself was constituted by systems of various size and scale, all of which were seen as optimisable. At the same time, Facebook's discourse depicted themselves as engineer-scientists who could view 'the whole' of these systems, and engineer them in certain directions, whilst obscuring the possibility of others. Assuming an almost God-like vantage point, actors in Facebook/Meta came to set their gaze on programming and optimising the entire universe, or at least the means by which individuals interact and experience it. This chapter finishes by moving away from what Facebook articulated, and focusing instead on what was left unsaid, what was obscured and concealed in this way of understanding and structuring the world. It connects this process of concealment with contestations that Facebook faced over these two decades, and more broadly with a deeper struggle over what structures and conceptual schemas come to be naturalised, and the consequences of this for the development of Big Tech and wider society.

In Chapter 8, I finish by returning to my research questions and considering the main conclusions of this thesis. I show how the previous three empirical chapters interfold with each other, demonstrating evidence of an ascendant and hegemonic horizon for imagining and interacting with the world. I then summarise this horizon from a wider historical perspective, asking what is inherited from the past, and what is erased, before considering some of the contributions of this thesis, as well as its limitations. Finally, I look to the future

and consider where this horizon might be taking us, what alternatives there are, and what future research this thesis points towards.

Chapter 2
Conceptual Framework: Hegemonic Horizons and Language in Time

The Historian Paul N. Edwards observes that all historians must inevitably select a limited set of concepts on which to base their research and narrative.[53] In this chapter, I will set out several concepts that are central to this historical research, how I understand these concepts, how they interrelate with each other, and how I will use them as analytical tools throughout this thesis. Specifically, in this conceptual framework I rely upon and engage with concepts of hegemonic power, discursive context, historical time and spatial ordering.

To begin with I will set out an understanding of hegemonic power based upon a reading of Gramsci's concept of hegemony.[54] I suggest that we can think of hegemony as a horizon, within which people come to understand and structure the world. Incorporating this framing of power with Quijano's concept of coloniality, I emphasise the need to attend to processes in which hegemonic rationalities cover over and conceal alternative worldviews and common senses. From this foundation, I will argue that we can uncover and analyse a hegemonic horizon by building upon Quentin Skinner's particular approach to examining language and context in time.[55] Here, I build a conceptual crossroads between a theorisation of hegemonic power emerging from social and political theory, and an approach to the uncovering of historically situated ways of understanding and talking about the world partially informed by Skinner's later writings, as well other intellectual historians.[56]

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[53] Paul N. Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America*, (MIT Press, 1996), ix-x.
[54] Antonio Gramsci, *Selections from the Prison Notebooks,* ed. Q. Hoare and G. N. Smith. (International Publishers, 1971).
[55] Quentin Skinner, *Liberty Before Liberalism*, (Cambridge University Press, 1998); Quentin Skinner, *Visions of Politics*, *Volume 1: Regarding Method,* (Cambridge University Press, 2002).
[56] I interpret Skinner's later work as representing a more flexible approach to intellectual history, less contained by certain contextualist maxims, and more attentive to the relationship between the past and the contemporary. I recognise that these works have been criticised by other contextualist historians for reneging on their own stricter interpretations of his earlier historical writings. Certainly, this thesis follows this looser approach to intellectual history, also shaped partially, as we will see, by the writings of David Armitage and Daniel Rodgers. Quentin Skinner, "Meaning and Understanding in the History of Ideas," *History and Theory* 8, no. 1 (1969): 3–53, https://doi.org/10.2307/2504188; Skinner, *Liberty.* Quentin Skinner, "A Genealogy of the Modern State," *Proceedings of the British Academy* 162, (2009): 325-370; Paul A. Rahe, *"*Review of *Quentin Skinner's "Third Way,"* by Quentin Skinner," *The Review of Politics 62, no. 2 (2000): 395–98, http://www.jstor.org/stable/1408053;* David Armitage, "What's the Big Idea? Intellectual History and the Longue Durée," *History of European Ideas* 38, no.4 (2012): 493-507, http://dx.doi.org/10.1080/01916599.2012.714635; Daniel T. Rodgers, *Age of Fracture*, (Harvard University Press, 2011).

In order to analyse whether and how an emerging hegemonic horizon can be located within the discourse articulated by Facebook, I will in Chapters 5-6 of this thesis examine how actors in and around the company came to articulate a sense of historical time and spatial ordering. Through an analysis of the temporal and spatial horizons, I analyse my corpus to identify occasions where Facebook's texts reveal an underlying expression of a totality. In this chapter then, I set out a theoretical framework for understanding concepts of both historical time and space. Building on historical theory, particularly the work of Reinhart Koselleck, I build a framework for understanding historical time as both multiple and layered.[57] Next, I draw on the geographical and social theory of Doreen Massey to understand space and spatiality as inherently plural; something that is constantly being reimagined and reconstituted by people.[58] Throughout, I stress that how one experiences and articulates historical time, and imagines and reorders space, can be treated as indicative of hegemonic power.

2.1 Power and Hegemonic Horizons

In this thesis I am concerned with the texts and utterances of actors in and around Facebook. Here I will discuss how I understand these texts and utterances as being laden with hegemonic power. To do so, I will build upon the writings of Antonio Gramsci, and his theorisation of 'hegemony'.[59] Specifically, I will argue that Facebook's discourse is revealing of, and exists within, a particular hegemonic horizon. By 'hegemonic horizon', I mean a way of understanding and structuring the world that, although particular to one section of society, comes to be taken as natural by greater swathes of people. I suggest that this horizon offers a totalising vision of how the world is, and in so doing, conceals other worldviews and common senses. Here then I suggest that we understand the texts and utterances of actors in and around Facebook as part of a broader contestation over an accepted way of being in the world.

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[57] Reinhart Koselleck, *The Practice of Conceptual History: Timing History, Spacing Concepts,* trans. by T. Presner, K. Behnke, and J. Welge, (Stanford University Press, 2002); Reinhart Koselleck, *Futures Past: On the Semantics of Historical Time,* trans. K. Tribe, (Columbia University Press, 2004); Reinhart Koselleck, *Sediments of Time: On Possible Histories*, trans. S. Franzel and S-L Hoffman, (Stanford University Press, 2018).
[58] Doreen Massey, *For Space*, (SAGE, 2005).
[59] Gramsci, *Prison Notebooks.*

I understand Gramsci's fragmented writings as suggesting that power exists not only in force or coercion but in the capacity of a dominant group to win the consent of a mass of people. Whilst a social group might dominate others only through force and violence, for it to hold hegemonic power, this requires the active participation of these other groups in the acceptance and sustenance of a dominant group's worldview. It is not that hegemonic control leads to the dismantling of coercion, but rather that it is maintained by a symbiosis of both coercion and consent, but never total domination.[60] The possibilities and realities of coercion always exist under hegemonic power, but they can be made to be more or less visible to the hegemonized.

Already here we can see how Gramsci's concept of hegemony differs from the Marxist concept of ideology.[61] Traditionally, the concept of ideology suggested a top-down approach in which a ruling class lied to or tricked other classes into serving their interests.[62] By contrast, in Gramsci's account, hegemony requires the active participation of people in believing and supporting the worldview of a dominant group. As Terry Eagleton emphasises, Gramsci's concept of hegemony differs from the "static, totalizing and passive subordination implied by the dominant ideology concept" partly because it requires the involvement of hegemonized groups.[63]

For Gramsci, shaping the desires, interests or purposes of a people occurs not through simple mechanisms of propaganda and overt manipulation but more subtly instead in the "creation of a worldview".[64] A worldview is something broader than a particular ideology, and instead can be thought of as a cultural and intellectual horizon which unifies and forges the "communal life of a social bloc".[65] A worldview then is never an individual perspective but rather a claim of and over a collectivity; it brings together different sections of society under a particular way of being and thinking, arousing and organising a people around a "collective will".[66]

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[60] Here I acknowledge Perry Anderson's argument that Gramsci oscillated between several different theoretical relations between coercion and consent. Perry Anderson, *The Antinomies of Antonio Gramsci*, (Verso, 2017).
[61] Gramsci contrasts his account to a more traditional Marxist theory of ideology expressed by Bukharin. See: Nikolai I. Bukharin, *Historical Materialism: A System of Sociology*, (International Publishers, 1925).
[62] Gramsci himself rejects this theoretical framing and takes pain to distinguish his approach. See: Gramsci, *Prison Notebooks,* 376, 407.
[63] Terry Eagleton, *Ideology: An Introduction,* (Verso*,* 1991), 115.
[64] Antonio Gramsci, *Il materialism storico e la filosofia di Benedetto Croce.* (Turin, 1966). As quoted in: Thomas R. Bates, "Gramsci and the Theory of Hegemony," *Journal of the History of Ideas* 36, no. 2 (1975):351. See also: Gramsci, *Prison Notebooks,* 349.
[65] Gramsci, *Prison Notebooks,* 376.
[66] Gramsci, *Prison Notebooks,* 125-132.

A worldview is not only articulated through high philosophy, but in the expression of 'common sense', "which presents itself as the spontaneous philosophy of the man in the street". [67] A common sense is not wholly coherent but instead is constituted and sustained through "fragmentary" cultural phenomena, such as inherited and often unarticulated beliefs and folklore.[68] The concept of a 'common sense', in Gramsci's articulation, is directly intertwined with the concept of a 'worldview'; it is the articulation of a worldview in language, imagery and behaviour beyond the context of elite philosophical discussion. Hegemonic power, Gramsci suggests, lies in the ability of a group to construct political, economic and social structures and discourses that come to be accepted and expressed as 'common sense'. Hegemonic control then lies in the construction and naturalisation of mutually sustaining cultural schema and its corresponding distribution of resources.

Here we should note that Gramsci does not deny that economic organisation and concessions matter for establishing hegemony. Instead, he creates a framework which suggests that cultural and intellectual aspects, as well as economic and material formations, matter for establishing implicit consent. As Stuart Hall emphasises in his reading of Gramsci, "No ideological conception can ever become materially effective unless and until it *can* be articulated to the field of political and social forces and to the struggles between different forces at stake".[69] Both the discursive and the non-discursive are central to hegemony, but under Gramsci's analysis of power, they do not ultimately reduce into each other, as for example, under Foucault's articulation of power and discourse.[70]

Yet throughout his writings, Gramsci maintains that hegemonic power can never be entirely stable because every worldview and accompanying common sense has its own contradictions and paradoxes, its own confrontation with lived experiences and the economic and material realities that prove the limitations or inconsistencies of any particular way of being and seeing. The inherently incomplete or dynamic nature of hegemonic power, Gramsci suggests, means that the consent of a people is always provisional and, therefore, something that has to be constantly renegotiated in circumstances that are themselves changing. Because the

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[67] Chantal Mouffe, "Hegemony and Ideology in Gramsci," in *Gramsci and Marxist Theory,* ed. C. Mouffe, (Routledge, 1979), 186.
[68] Gramsci, *Prison Notebooks,* 419.
[69] Stuart Hall, "The Problem of Ideology," in *Stuart Hall: Critical Dialogues in Cultural Studies,* ed. D. Morley and K. Chen, (Routledge, 1996), 42.
[70] See: Michel Foucault, *Discipline and Punish: The Birth of the Prison,* trans. A. Sheridan, (Penguin Books, 1979).

fragmentary terrain of common sense is dynamic, malleable, and contradictory, Gramsci argues, there is always space for social, political and discursive contestation.

For Gramsci, intellectuals are of particular importance, both in the sustaining and the challenging of hegemonic ideas, and the production, adaptation, and spread of alternative worldviews. Gramsci distinguishes between intellectuals who worked to construct and spread hegemonic ideas and myths for a dominant group and were, in turn, supported by the resources of that dominant group.[71] These intellectuals attempt to unify economic and political aims with intellectual and moral discourses, elevating one way of seeing and being onto the "universal plane".[72] By contrast, Gramsci argues, organic intellectuals, which exist within all sectors and aspects of society, bridge ideas and myths with the lived reality of non-dominant peoples and, in so doing, challenge hegemonic control. Thus, this framing of power suggests that there is always an antagonistic dynamism as conflictual ways of seeing and being come into confrontation.

Whilst Gramsci's concept of hegemony was developed in reference to the Marxist tradition, I follow Stuart Hall in arguing that we can recuperate Gramsci's concepts without accepting any reduction of collective groupings to two fundamental classes of the bourgeoisie and the proletariat.[73] Instead, I argue that different ideological articulations and practices cement various in-flux collective groups that are not objectively given from economic laws.[74] These groups may, but do not necessarily have, strict class belongings. What Gramsci points toward, but I follow others in taking further, is the understanding of power as producing social and political identities and interests.

Drawing on his fragmented writings, we have already encountered an array of terms that Gramsci uses to explain hegemonic power. Hegemony is tied to the construction of a 'Worldview', of 'collective will' and of 'common sense'. Here I add one more. In certain passages, Gramsci ties the concept of hegemony with the formation of an "intellectual and moral direction" or "cultural direction".[75] This focus on direction, I suggest, is important to emphasise because it depicts hegemony as itself inherently dynamic, something that produces

[71] Gramsci, *Prison Notebooks,* 5-14.
[72] Gramsci, *Prison Notebooks,*181-182.
[73] Hall, "The Problem of Ideology".
[74] Will Legget, "Restoring society to post-structuralist politics: Mouffe, Gramsci and radical democracy," *Philosophy and Social Criticism* 39, no. 3 (2013): 299-315, https://doi.org/10.1177/0191453712473080.
[75] As quoted in: Anderson, *The Antinomies,* 21.

a sense of momentum, a relationship between here and there, between now and what is ahead. To encapsulate this motion of hegemony, when I talk about hegemonic power in this thesis, I will speak of hegemony as a type of horizon in which people act and think. A hegemonic horizon is forged when a worldview propagates itself throughout society and becomes elevated as a natural and universal way of seeing and being,

> "bringing about not only a unison of economic and political aims, but also intellectual and moral unity, posing all the questions around which the struggle rages not on a corporate but on a "universal" plane, and thus creating the hegemony of a fundamental social group over a series of subordinate groups."[76]

Whilst in this thesis I am broadly concerned with an ascendent horizon, I recognise that a Gramscian framework suggests that such a horizon always exists in contestation with other ways of understanding and structuring the world. Thus, in this thesis, when I write about power contestation, I refer to the process in which a hegemonic horizon attempts to, but never fully succeeds in, covering up and concealing less dominant ways of being in and rationalising the world.

To explore this relation of concealment and contestation, I draw upon the decolonial theorist Aníbal Quijano.[77] Here, I follow other critical analysts of Big Tech, such as Paola Ricuarte Quijano, Ulises Mejias and Nick Couldry, in drawing on Quijano to interpret Big Tech, including Facebook.[78] In his analysis of coloniality, Quijano shows how the European colonial project in Latin America, beginning five centuries ago, not only constructed a violent and exploitative political order but was also deeply invested in the "colonization of the imagination of the dominated".[79] Colonists imposed on indigenous people a Euro-centric form of rationality which claimed universality. This form of rationality was intrinsically tied to European 'modernity' and was not only depicted as superior to all other forms of knowledge, and ways of being in the world, but sought to override and obscure them. Colonisers worked to impede the ability of indigenous people to produce and pass down folklores, common senses, and images, whilst enticing people towards a Euro-centric way of

[76] Gramsci, *Prison Notebooks,*181-182.
[77] Aníbal Quijano, "Coloniality and Modernity/Rationality," *Cultural Studies* 21, no. 2-3 (2007): 168-178, https://doi.org/10.1080/09502380601164353.
[78] Quijano, "Modernity/Rationality," 169.
[79] Ibid.

understanding and structuring the world. This hegemonic horizon was central to maintaining a global structure of colonial dominance. As Quijano notes,

> "the repression fell, above all, over the modes of knowing, of producing knowledge, of producing perspectives, image and systems of images modes of signification, over the resources, patterns, and instruments of formalized and objectivised expression, intellectual or visual. It was followed by the imposition of the use of the rulers' own patterns of expression, and of their beliefs and images with reference to the supernatural. These beliefs and images served not only to impede the cultural production of the dominated, but also as a very efficient means of social and cultural control, when the immediate repression ceased to be constant and systematic."[80]

Quijano argues that, in time, when "colonialism as an explicit political order was destroyed", the coloniality of knowledge sustained and evolved, and with it the continuation of new modes of exploitation.[81] The coloniality of knowledge then, exemplifies a particularly embedded and lasting type of hegemonic horizon, although one which has evolved over time and manifested in different ways in different contexts.

Whilst this hegemonic horizon has maintained modes of domination, it has also faced contestation from other forms of rationality, other worldviews, common senses and horizons. This was not a process of pure domination but one of continuing yet shifting power struggles over the production of knowledge and the inheritance of meaning. Even in just articulating the existence of less dominant worldviews or alternative fragments of common senses, one is recognising a story of counter-hegemonic contestation.

Understanding power through the concept of hegemony enables us to see how language is central to power struggles, how discourse can be used to construct a hegemonic framing of all there is in the world, a particular hegemonic horizon. Yet at the same time, language can also be used to contest that hegemonic horizon through the production of less dominant and alternative worldviews. It is through a reading of Gramsci that we can analyse the way that power works through the naturalisation of what is included and what is excluded from a certain hegemonic horizon.

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[80] Ibid.
[81] Quijano, "Modernity/Rationality," 170.

In this thesis, I will explore actors in and around Facebook as intellectuals using language that brought together economic and political aims and actions, with intellectual discourses. Yet, following Gramsci, I also recognise that there is and always will be a multiplicity of worldviews and common senses. Whilst this thesis is largely a story of an arising hegemonic horizon and an accompanying 'common sense', as articulated by actors in and around Facebook, it is also concerned with what comes to be concealed by this prevailing world view. Drawing on Quijano we can see how a prevailing and dominant rationality might suppress alternative common senses but that ultimately, contestation over how the world and knowledge ought to be structured, continues.

2.2 Hegemony, Common Senses & Intellectual History

Gramsci's writings help us make explicit and analyse the struggles that exist over hegemonic power. However, in this thesis I plan to interfold this Gramscian lens with a more detailed analysis of the specific texts and utterances produced by actors in and around Facebook over two decades. I do so because, I suggest, an intellectual historical approach to how concepts, terms, and language have changed in time, is one way of uncovering and denaturalizing hegemonic horizons and their articulation as common senses. Here then, I suggest that one means of revealing a hegemonic horizon is through the lens of intellectual history, and particularly by building on an approach developed by Quentin Skinner.[82]

Throughout his writings, Gramsci makes it clear that any given 'common sense' is historically situated.[83] This accumulation of beliefs, norms and taken for granted knowledge, Gramsci writes, is not a single conception static across space and time but instead a "product of history and part of the historical process."[84] Drawing on Quentin Skinner's approach to intellectual history, I suggest, can help make explicit this historical process. By revealing and highlighting shifting hegemonic frameworks over time, as well as charting their emergence and displacement, we can also denaturalize that which we inherit and take for granted in our present. Skinner argues that:

[82] Skinner, *Visions of Politics*; Skinner, *Liberty*.
[83] For example: Gramsci, *Prison Notebooks,* 419.
[84] Gramsci, *Prison Notebooks,* 325-326.

> "The intellectual historian can help us to appreciate how far the values embodied in our present way of life, and our present ways of thinking about those values, reflect a series of choices made at different times between different possible worlds. This awareness can help to liberate us from the grip of any one hegemonial account of those values and how they should be interpreted and understood. Equipped with a broader sense of possibility, we can stand back from the intellectual commitments we have inherited and ask ourselves in a new spirit of enquiry what we should think of them."[85]

Employing an intellectual historical approach, I suggest, can help us analyse and uncover hegemonic horizons in two complementary ways. Firstly, Skinner demonstrates how intellectual history can be used to show the divergence and discontinuity between different 'hegemonial' frameworks in different historical contexts.[86] Here Skinner is particularly concerned with what ideas and language become lost and overwritten through the production of new hegemonic horizons. It is through the analysis of different discursive contexts in time, Skinner suggests, that we can begin to see what came to be erased through the emergence and production of the newly hegemonic, "if we examine and reflect on the historical record, we can hope to stand back from, and perhaps even to reappraise, some of our current assumptions and beliefs."[87] Focusing then on the dissonance between different historically situated discursive contexts, enables us to reveal and reevaluate contemporary hegemonic ways of thinking.

Secondly, such an approach can analyse in depth the emergence and evolution of a particular world view or common sense. In his intellectual history of America in the last quarter of the 20th century, Daniel Rodgers utilises such an approach to show how, over several decades, the very "terrain of common sense shifted".[88] Rodgers charts how "some words and phrases" came to "seem more natural than the rest – not similes or approximations but reality itself".[89] For Rodgers, an intellectual historical approach could uncover how "the shifting stock of categories" that people had at their disposal to make sense of the world, itself changed.[90] In

[85] Skinner, *Liberty,* 117.
[86] Skinner, *Liberty.*
[87] Skinner, *Liberty,* 112.
[88] Daniel T. Rodgers, *Age of Fracture*, (Harvard University Press, 2011), 12.
[89] Rodgers, *Fracture,* 11.
[90] Rodgers, *Fracture,* 12.

this approach, intellectual history can highlight the emergence of an altered set of categories, terms and metaphors that people used to think through what they were seeing and feeling.

In this thesis, I will use an intellectual historical approach, which I set out in more detail in the next section, in order to reveal and denaturalize the terrain of common sense which Facebook's discourse exists within and is revealing of. Specifically, in Chapter 4, I will explore four historically-situated discursive contexts. In each I will analyse the articulation of a particular dominant horizon for understanding and structuring the world, alongside and in competition with other ways of seeing and interacting with the world. It is in relation to these past discursive contexts, and the hegemonic horizons within them, that we can begin to see what was reassembled and what was erased in Facebook's discourse. Against this backdrop, Chapters 5-7 will analyse the texts and utterances of actors in and around Facebook, and explore how this language might be read as evidence of an emerging and evolving hegemonic horizon in the first two decades of the 21st century.

By interfolding a Gramscian account of hegemonic power with a Skinnerian approach to intellectual history, I suggest that we can uncover and reveal the emergence and evolution of a contemporary hegemonic horizon. Combining these two different modalities of analysis – the broader hegemonic contestation with the detailed analysis of texts and utterances in and over time – can help us make visible the contradictions within a prevailing hegemonic horizon, but also what it came to conceal. In the next subsection, I will set out in detail how I conceptualise the relation between actors and the language they wield, between texts and their context.

2.3 Language and Context in Time

In this section, I set out an analysis of the relationship between texts and discursive contexts, informed particularly by the work of Quentin Skinner. I understand a discursive context as being constituted by both language and logic, something which shifts under the pressure of speech acts, and is thus always in flux and at the same time historically situated. I also suggest that a discursive context exists in a dialectical relationship with what, following William Sewell, I will call the 'built environment'.

The Historian and Philosopher R. G. Collingwood argued that texts cannot be understood outside the context in which they emerged.[91] In his 'logic of question and answer', Collingwood suggests that we view every text as an answer to a question or set of questions that are particular to a specific historical context.[92] In my understanding of language then, I begin with this notion that texts cannot be understood in complete isolation because they are, by necessity, interventions in a wider dialogue.

Drawing on Collingwood, Quentin Skinner combined this approach to historical texts with a Wittgensteinian reading of language.[93] Here, following Skinner, we can draw on Wittgenstein's concept of a language game to delve further into the discursive context in which a text exists. Like Collingwood, Wittgenstein argued that words could only be understood through their relationship to the wider discursive context in which they exist. For Wittgenstein, a discursive context can be thought of as a type of game; one that follows specific rules and conventions with which users can play. The conventions decide what is a valid linguistic move and what is not. Without knowing these conventions, linguistic acts can become meaningless. In different discursive contexts, terms can hold different social meanings.

Building on Wittgenstein, the philosopher Robert Stalnaker argues that every discursive context has a "common ground".[94] The common ground of a conversation is the "information in common, or presumed to be in common", in a discourse. Here discourse is understood not in the Foucauldian sense – as the material traces emerging from historically contingent rules for producing knowledge – but instead as the "dynamic interactive process in which speech acts affect the situations in which they take place, and in which the situation affects the way the speech acts are understood".[95] Actors enter a discussion with certain information presumed to be held in common. It is that body of common information that speech acts influence. Just as the meanings of terms can change within different language contexts, so those contexts also shift and evolve as they are shaped by users/speakers.

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[91] R. G. Collingwood, *An Autobiography,* (Oxford University Press, 1939).
[92] Collingwood, *Autobiography,* 36-37.
[93] See: Skinner, *Visions*; Ludwig Wittgenstein, *Philosophical Investigations,* trans. G. E. M. Anscombe, (Macmillan, 1958).
[94] Robert Stalnaker, "On the Representation of Context," In *Context and Content: Essays on Intentionality in Speech and Thought*, (Oxford University Press, 1999).
[95] Stalnaker, "Representation," 96.

However, a discursive context is constituted not only by language but also by a shared set of logics. In his analysis of discourse, which similarly builds upon Wittgenstein, the historian and social theorist William Sewell highlights how, at the centre of a language-game, is the non-linguistic; the logics of a language game.[96] As Wittgenstein himself emphasised "the term 'language-game' is meant to bring to prominence the fact that the speaking of language is part of an activity, or of a form of life".[97] The implication here is that although language constitutes the activity, "the activities – that is, the "language games" or "forms of life" – are not reducible to language. Although they are in important respects made up of language, they are also made up of something more than language".[98] A discursive context then, as I understand it, is a combination of language and logics.

Sewell's framework is important because it does not treat language games as existing in isolation from materiality, but instead explores the shifting material world which discursive contexts exist in relation to. Language games, Sewell argues, always exist alongside what he calls "the built environment".[99] The 'built environment' encompasses all human-made structures and material infrastructures that shape people's lives, as well as the landscapes transformed through human interaction. Like language, the built environment "constrains and enables" people as it is constantly mediated by them.[100] To take a simple example, how a city's transportation routes are constructed constrains and enables how people navigate and exist within that urban space. To ignore or erase the importance of these material infrastructures is to miss something very important about the social world. At the same time, a built environment is not a static thing that humans only inherit; humans are constantly transforming and reworking the built environment, "but in ways that are shaped by the built environment's already existing constraints and possibilities."[101]

For Sewell, we can understand the relationship between discursive contexts and 'built environments' as dialectical, "the dialectic might be thought of as tracing out the reciprocal constitution of semiotic form and material embodiment."[102] Take for example, the well-evidenced relationship between American racism and urban planning in industrial American

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[96] William H. Sewell, *Logics of History: Social Theory and Social Transformation,* (The University of Chicago Press, 2005).
[97] Wittgenstein, *Investigations,* 11.
[98] Sewell, *Logics,* 336.
[99] Sewell, *Logics,* 362.
[100] Sewell, *Logics,* 363.
[101] Ibid.
[102] Sewell, *Logics,* 366.

cities in the latter half of the 20th century.[103] Racial stigma against African Americans led to housing discrimination which, "while semiotically generated", had a profound effect on the built environment, shaping urban planning and the construction of transportation routes, whilst physically restricting African-Americans to certain neighbourhoods.[104] As job opportunities moved away from these neighbourhoods, African-Americans found themselves distanced from employment, leading to an intensification of poverty in these neighbourhoods, which in turn led to greater racial stigmatisation. Thus, to think of the built environment is not only to refer to materiality but more broadly to the social world, the dialectical relationship between a discursive context and material instantiations and constraints.

Like Sewell, I suggest that our social life is full of different language games which place people into social relations and through which people mediate their social and material life. In this thesis, whilst I am primarily concerned with the language of actors in and around Facebook, I recognise that any discursive context exists in a reciprocal and changing relationship to a broader 'built environment'. Thus, as I conduct this intellectual history, I will be analysing how actors in and around Facebook respond to and interact with social, digital and material infrastructure; infrastructure that they are inheriting and infrastructure that they are designing and building.[105]

Just as a built environment has to be mediated by people, I suggest that actors are similarly constrained by language, not only by what they can conceive, but also by the means they have to legitimate their actions, based upon historically contingent conventions, vocabularies and shared horizons. As Quentin Skinner puts it, an actor faces not only an 'instrumental problem of tailoring his [sic] normative language in order to fit his projects', but also faces the 'problem of tailoring his [sic] projects in order to fit the available normative language'.[106]

Yet while it is true that discursive contexts constrain actors, both in the language they can utilise, and the problems they feel they must address, it is also the case, I argue, that language is an important resource for actors. Within a discursive context, an utterance or text does not

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[103] Douglas S. Massey, and Nancy A. Denton. *American Apartheid: Segregation and the Making of the Underclass*, Harvard University Press, 1993; William Julius Wilson, "When Work Disappears," *Political Science Quarterly* 111, no. 4 (1996): 567–95, https://doi.org/10.2307/2152085.
[104] Sewell, *Logics,* 367.
[105] Jean-Christophe Plantin, Carl Lagoze, Paul N. Edwards, and Christian Sandvig, "Infrastructure studies meet platform studies in the age of Google and Facebook," *New Media & Society* 20, no. 1 (2018): 293-310, https://doi.org/10.1177/1461444816661553.
[106] Quentin Skinner, *The Foundations of Modern Political Thought, Volume 1,* (Cambridge University Press, 1978), x.

just convey information but becomes an act. Speaking becomes an action in itself, and words are used to do things.[107] A speech act affects the situation in which it is performed and the broader discursive context it is a part of. Speech acts not only respond to questions, but they can reshape a discursive context, conditioning what questions are imagined as valuable or important, and what fades away into past irrelevance in a particular historically-situated context. This means that a discursive context is "both an object on which speech acts act and the source of information relative to which speech acts are interpreted".[108] The philosopher Amia Srinivasan terms attempts at transforming a discursive context, interventions in how the world is represented, as "worldmaking".[109] Srinivasan describes worldmaking as "the transformation of the world through a transformation of our representational practices." Srinivasan emphasises the productive capability of representation and the means and forms of representation; representations "have constitutive effects, bringing into existence new things or making them true."[110]

Here we might link this framing of discursive context and action in relation to hegemonic struggles. I understand hegemonic struggle as partially occurring through and in discursive contexts, as well as the shifting built environment. We can, for example, understand the conditioning effect of a particular discursive context, within the framework of hegemonic power, as actors and intellectuals struggle to imagine and act beyond a particular horizon. Yet at the same time, we can highlight the constant dynamism that occurs through this confrontation. Building on Srinivasan, we can view certain attempts at worldmaking as a form of struggle against the hegemonic, as an attempt to confront and disturb a hegemonic way of imagining and interacting with the world, with a counter-hegemonic 'worldview'. In charting discursive contestation in any particular context, we can highlight the broader hegemonic contestation this exists in relation to.

Here it is important to emphasise that built environments and discursive contexts are historically situated; they are both constantly shifting and changing. Because discursive contexts shift under the weight and influence of speech acts, as well as changes in a built environment, they alter historically. The types of problems, questions and answers, and

[107] J. L. Austin, *How to do Things with Words,* (Oxford University Press, 1961).
[108] Stalnaker, "Representation," 98.
[109] Amia Srinivasan, "VII-Genealogy, Epistemology and Worldmaking," *Proceedings of the Aristotelian Society* 119, no. 2 (2019): 127–156, https://doi.org/10.1093/arisoc/aoz009.
[110] Srinivasan, "Worldmaking," 145.

language-games shift in different historical and geographical contexts.[111] In new conditions, old questions may lose their salience, and so too may old answers. At any given time, a discursive context may make sharp distinctions between potentially synonymous concepts, whilst decades later the boundary lines between such concepts may be relatively blurred. Different cultural artifacts and inherited beliefs which were once central to a shared 'common sense', may fade away beyond the memory of many actors.

Although I recognise that a discursive context is historically contingent, this does not mean that people in one context cannot reassemble, recycle or adapt language, vocabulary, concepts, logics, or imagery from other discursive contexts. In fact, they constantly do so. Thus, actors in and around Facebook can draw upon and utilise vocabularies, concepts and logics from other discursive contexts for their new purposes. In a sense, they can rip language and logics from one discursive context into their own, and in so doing, reassemble them for a new purpose.

Holding such a lens leads us to a framework which loosely fits what the historian David Armitage calls a 'transtemporal history'.[112] By this he means a framework which "links discrete contexts, moments and periods while maintaining the synchronic specificity of those contexts".[113] Thus, a transtemporal history can be used to consider and link different historical discursive contexts, and how language is reassembled and recycled by actors. Returning to Skinner, we can see how this 'transtemporal history', can also be used to show not only what is inherited and reassembled, but what comes to be lost and overwritten as historically-situated discursive contexts and common-senses are replaced by new ways of talking and thinking. Here then, whilst I will primarily be analysing the language of actors in and around Facebook, I will also explore the different historical discursive contexts from which actors in and around Facebook inherited and reassembled vocabularies and logics, as well as what was erased and lost through this reassembling.

2.4 Historical Time and The Future

[111] See: David Scott, *Conscripts of Modernity: The Tragedy of Colonial Enlightenment,* (Duke University Press, 2004), 4.
[112] David Armitage, "What's the Big Idea? Intellectual History and the Longue Durée," *History of European Ideas* 38, no.4 (2012): 493-507, http://dx.doi.org/10.1080/01916599.2012.714635.
[113] Armitage, "Big Idea," 498.

I began this conceptual framework by arguing that we can understand power as existing in and acting through hegemonic horizons. I then set out an approach to revealing and uncovering hegemonic horizons through an analysis of texts and utterances, and how they are wielded by actors. In this thesis then, I am concerned with how the discourse of Facebook actors is indicative and revealing of a particular hegemonic horizon which changed in time. To investigate their articulation of what there is to know about the world, their expression of totality, I explore how Facebook actors come to talk about both time and space. In a sense, I analyse the temporal and spatial horizons saturating Facebook's discourse, and consider what they reveal about a broader and shifting hegemonic horizon during this period.

To make sense of historical time we must first distinguish the concept from that of natural time. Natural time refers to the quantitative concept of time within the natural sciences; this is "chronological, technological and cosmological time".[114] Natural time cannot be grasped in itself; it is not intuitable without reference to something else, such as motion in space.[115] For example, when we refer to a day we really refer to the rotation of the earth around the sun. Representations of natural time, therefore, are inevitably referential. This is not to say that natural time does not exist or is not useful as a chronological measuring scale, but it does not equate with History and with historical times.

Historical time emerges from natural time but is not reducible to it. Historical time is broadly concerned with the qualitative experience of humans, with the "actor's intuitive sense of the texture of experienced time".[116] Koselleck suggests that historical times are "bound up with social and political actions, with concretely acting and suffering human beings and their institutions and organizations. All these actions have definite, internalized forms of conduct, each with a particular temporal rhythm".[117] Whereas the dominant mode of Western historiography, at least since the 18th century, has understood historical time as unified and linear, in this thesis historical time is understood, following Koselleck, as multiple and layered.[118] This approach recognises that history and historical consciousness are not the same everywhere; people experience and interact with historical time in different ways. To

[114] Helge Jordheim, "Introduction: Multiple Times and the Work of Synchronization," *History and Theory* 53, no. 4 (2014): 510, https://doi.org/10.1111/hith.10728.
[115] Koselleck, *Conceptual History,* 102.
[116] Christopher Clark, *Time and Power: Visions of History in German Politics, from the Thirty Years' War to the Third Reich,* (Princeton University Press, 2019), 6.
[117] Koselleck, *Conceptual History*, 4.
[118] Reinhart Koselleck, *Sediments of Time: On Possible Histories*, trans. S. Franzel and S-L Hoffman, (Stanford University Press, 2018), 1-9.

ignore this is to erase the simultaneous diversity and plurality of historical experiences. Seeing historical time as multiple and layered then is to recognise the different ways in which people think historically, the different speeds and experiences of change that people understand themselves to be living within.[119] At any given event, which may be experienced as singular, there could be many layers of historical time, each with different origins, durations and rhythms underlying and conditioning the event. In the words of Anna Tsing, we can describe these different layers as a "polyphony" of multiple temporal rhythms.[120] Thus, when this thesis investigates the historical times as expressed and experienced by actors in and around Facebook, it seeks to uncover and emphasise multiple temporal layers, each with a different rhythm, duration and origin. Here then, my analysis is directed towards disaggregating the "simultaneity of the non-simultaneous", or in other words, to ease apart some of the different temporal rhythms that form Facebook's polyphony.[121]

To uncover different layers of historical time, it is useful to borrow two further concepts from Koselleck: "space of experience" and "horizon of expectation".[122] The "space of experience" refers to the happenings of the past that are incorporated and remembered into the present. A space of experience changes as new experiences are incorporated into it. Past events are, whether consciously or unconsciously, reworked by people and woven into the present. The spatial metaphor here indicates the different layers of historical time, or experienced temporalities, that exist simultaneously in the present. The "horizon of expectation" refers to the present future.[123] This is the present directed towards the not-yet and is constituted by "hope and fear, wishes and desire, cares and rational analysis, receptive display and curiosity".[124] What is experienced and expected differs in different historical times and locations. Yet the existence of experience and expectation is felt across different times and places. The space of experience as well as the horizon of expectation exist both individually and interpersonally. Whilst both categories exist in the present they do not directly coincide in the present; they are not exact reflections of each other. Expectations can be revised in a

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[119] Koselleck, *Sediments,* 1-9; Koselleck, *Conceptual History,* 100-114.
[120] Anna L. Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins,* (Princeton University Press, 2015), 24.
[121] Koselleck, *Sediments,* 45.
[122] Koselleck, *Futures Past,* 255-276.
[123] A 'horizon of expectation' is a separate concept to a 'hegemonic horizon' as I use it. A horizon of expectation is specifically concerned with a historical-temporal lens, which I suggest is one component of a broader hegemonic horizon. I recognise that the use of the term 'horizon' in both concepts is confusing. Throughout this thesis, if I am referring to a 'horizon of expectation', I will use this full phrasing. Other uses of the term 'horizon' will refer to hegemonic or counter-hegemonic horizons.
[124] Koselleck, *Futures Past,* 259.

different way than experiences are felt or held. Yet the two categories are interlinked. Indeed, it is a shifting and reshaping of the space of experience that can have the power to reorient "the possible future presupposed by previous experience".[125] Through the processing of the unexpected into the space of experience, a horizon of expectation can be reshaped, expanded, or limited.

This relationship means that what constitutes a space of experience and a horizon of expectation varies at different times. More than this, how these two categories are constituted can reshape their relationship to each other.[126] Here, I argue that the relationship between an horizon of expectation and space of experience, and the changeable or transitory nature of the content and relation between these categories, makes them objects of power struggles and contestation. For example, to expand or limit a horizon of expectation is to reshape that which feels legible and possible, that which could be worked towards and motivate action and, in so doing, reorient our present and our sense and narrative of the past.

Yet, Koselleck arguably does not do enough to account for or theorize the power that is inextricably linked to the struggles over how people come to experience historical time. Here it is useful to draw upon the work of both Hannah Arendt and Walter Benjamin in shedding light on the political, social and religious significance of reshaping or capturing how one experiences historical time.[127] Focusing on the historical time of progress, the "historical progress of mankind", Benjamin explored its totalizing momentum which threatened to make time itself "homogenous, empty",[128] or as Butler puts it to "monopolize temporality", negating and hollowing out any other futures or pasts that had previously been open.[129] Building upon and responding to Benjamin's theses, Arendt depicted scientific progress as a totalitarian force, arguing that the future was increasingly being kidnapped by an ultimately

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[125] Koselleck, *Futures Past,* 362.
[126] For example, Koselleck makes the argument that in 18th and 19th century Europe, people's relationship to and perception of their space of experience and horizon of expectation shifted. Before the 18th century, the ever-looming Christian apocalypse created an "immovable limit" to the horizon of expectation. The future was bound to the past, with biblical revelation chaining them together. However, over the course of two centuries, a new horizon of expectation emerged. The future became an open space in which Europeans could lead the world towards something better. The concept of progress led to the past being reoriented towards a newly perceived Telos. Koselleck, *Conceptual History,* 84-99.
[127] Hannah Arendt, *Between Past and Future: Six Exercises in Political Thought,* (Viking Press, 1961); Walter Benjamin, "Theses on the Philosophy of History," in *Illuminations,* ed. H. Arendt, trans. H. Zohn, (Fontana Press, 1992 [1968]).
[128] Benjamin, *Theses*, 260-261.
[129] Judith Butler, *Parting Ways: Jewishness and the Critique of Zionism*, (Columbia University Press, 2013), 100.

empty faith in progress, with science and technology replacing morality and eschatology.[130] Arendt worried that the future was being separated from the past, leaving us with a meaningless time.

Following Benjamin and Arendt, in this thesis I will be analysing Facebook's particular articulation of progressive time. However, given that I have argued there always exists many different layers of historical time, I will also attend to other temporal articulations that may appear in Facebook's discourse. In particular, I will analyse the extent to which actors in Facebook express the language and logics of presentism, as well as exponentiality, both of which have been identified by as being prevalent in the discourse of Big Tech. Historical theorists Simon and Tamm describe exponential time as being "grounded in the idea that the rate of change or progress accelerates in a specific manner".[131] Exponentiality describes a sense of time in which change follows an exponential curve, rather than one in which progress occurs linearly. By contrast, presentism is an articulation of historical time in which "past and future become nothing more than extensions of the now".[132] Francois Hartog argued that under a temporal order of presentism, people no longer look to the past to make sense of the present, nor can they imagine a future different from their enduring now.[133] In parallel to Hartog, Manuel Castells has suggested that American computer culture in the 1990s existed in this temporal order. Labelling this "timeless time", Castells argues that the future and the past had disappeared into "the ever-present."[134] Both presentism and exponentiality express different experiences of how change occurs in time, and different articulations of the relationship between a 'space of experience' and a 'horizon of expectation'.

Recognising and highlighting the multiplicity and contingency of how people come to experience and articulate historical time, can help us view time as an object of power contestation. In her history of futurology, Jenny Andersson builds upon both Benjamin and

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[130] Arendt, *Past and Future.*
[131] Zoltán B.Simon and Mark Tamm, "Historical Futures." *History and Theory* 60, no. 1 (2021): 16, https://doi.org/10.1111/hith.12190.
[132] Marcus Colla, "The Spectre of the Present: Time, presentism and the writing of contemporary history," *Contemporary European History* 30, no. 1 (2021): 125, https://doi.org/10.1017/S096077732000048X. Francois Hartog is widely acknowledged to have developed the presentist framework. See: François Hartog, *Regimes of Historicity: Presentism and Experiences of Time,* trans. S. Brown. (Columbia University Press, 2015 [2003]).
[133] Hartog, *Regimes of Historicity.*
[134] Manuel Castells, *The Rise of the Network Society: The Information Age – Economy, Society and Culture,* (John Wiley & Sons, 2010), 464.

Arendt to frame the future as a "field of struggle", in which competing claims over what the world would look like are understood as interventions in a "struggle for the temporalities" of the age.[135] In this thesis, I will similarly understand visions and predictions of the future, made by actors in and around Facebook, as interventions into the future as a 'field of struggle'. Facebook's discourse will be understood as not only articulating a set of historical times but also as interventions in a broader struggle over how historical time ought to be experienced.

To emphasise how historical time is related to hegemonic power, I want here to note two points. Firstly, just as the remoulding of how we retell and remember the past reinscribes the space of experience within which we imagine we can act, so to reshape what is included in one's horizon of expectation has consequences for a shared understanding of the present. For example, hijacking the time of exponentiality and directing it towards a vision that suits certain present interests, reorients a shared understanding of the present as existing on a path towards a new direction.[136] I argue that these are acts of hegemonic struggle. Different collectives and actors are understood to intervene in a shared horizon of expectation as a means of pursuing particular interests. In this thesis, actors in and around Facebook will be understood in this way.

Secondly, an expected or naturalised future also has the power to reorder how a person or a group of people come to understand the past, come to narrativize and accept or reject certain memories and privileged knowledge. Returning to Walter Benjamin again here is useful. Benjamin argued that temporality, monopolised by the concept of progress, was one based upon expulsion.[137] The historical time of progress, aligned to whichever future is held to be common sense at any time, expels people, events and history that do not fit or align to it. Quijano argues that by the 19th century, in the European colonial framework, "history was conceived as a evolutionary continuum from the primitive to the civilized…and Europe thought of itself as the mirror of the future of all the other societies and cultures; as the advanced form of the history of the entire species."[138] In this context, a progressive-colonial historical continuum was so dominant that it not only located Europe as the future and non-

[135] Jenny Andersson, *The Future of the World,* (Oxford University Press, 2018), 5, 26.
[136] Andersson, *Future*.
[137] When I refer to expulsion I do so primarily in reference to Benjamin's *Theses.* However, for a more detailed examination of different forms of expulsion in the 21st century, see: Saskia Sassen, *Expulsions: Brutality and Complexity in the Global Economy,* (Harvard University Press, 2016).
[138] Quijano, "Modernity/Rationality," 176.

Europeans as backwards, or in some sense as 'the past', but it struggled to discard, cover over, and erase any alternative folk lores, memories, and peoples, from the totality of History itself. It is this reorienting and discarding power of historical time that makes it so fought over as part of hegemonic struggle. Reshaping a horizon of expectation may have the potential to reorder a shared understanding of the past, history, and memory.

Building on the language of Gramsci, I suggest that interventions in the future as a field of struggle, and similarly into how the past is memorialised and remembered, can have significant effects on hegemonic power through the reorienting of experienced temporality. How an horizon of expectation is reshaped, in turn, effects a person or a people's understanding of their present and their past. It is the relative imperceptibility of this temporal reorienting that makes interventions into the future, as well as the past, so contested over by different intellectuals.

2.5 Space

I follow Geographer and Social Theorist, Doreen Massey, in understanding space as always under construction, "always in the process of being made".[139] Thus, I understand space as something that is contingent and open; space is produced by humans and is constantly being reimagined and reconstituted by them. How people imagine, order and interact with space is the product of interrelations, of the many interactions from the smallest to the largest scale. Space is understood here to evolve as human behaviour changes through the production or disappearance of linkages and connections. But it also changes as human imagination itself shifts. For example, the production of the nation as an imagined community reshaped how space was delineated and bounded.[140] This is not to ignore the materiality of space. When a volcano erupts, the lava and ash reforge a space. Here again though, this new space is the result of interaction; the interaction of lava with cool air, the interaction of people with new land and contours.

From this perspective, space and spatiality is something inherently plural. There is always a multiplicity of interactions which exist at the same time. In any given town or city, there are

[139] Massey, *For Space*, 32.
[140] Benedict Anderson, *Imagined Communities*: *Reflections on the Origin and Spread of Nationalism,* (Verso, 2016 [1983]).

many ways of interacting, experiencing and imagining space that coexist simultaneously. Again, in the words of Massey, space is "the sphere in which distinct trajectories coexist…the sphere therefore of coexisting heterogeneity".[141] Here, the term 'trajectories' is indicative of how space ought not to be understood in opposition to time but, instead, as inherently relational to time. Spatial configurations and imaginings are partially a result of inheritance, of the ways in which spatial interactions have been passed down through material, habits, and imaginings. Thus, Massey argues that we can understand space as "a simultaneity of stories-so-far".[142]

One spatial story which is central to this thesis' is the concept of expansion. I understand expansion as the extension of presence or involvement in an increasing space. I also suggest that there are different ways in which expansion can be depicted and imagined. In her analysis of expansion as a concept, Hannah Arendt suggested that in the late 19th century, it was intrinsically linked to the experience of industrial growth.[143] Growth of production suggested the possibility for spatial growth; the "broadening of industrial production" became conceptually tied to the broadening and expansion of European empires.[144] Another much more recent articulation of spatial expansion occurs through the concept of scalability. Here I follow Anna Tsing in understanding scalability to mean "the ability of a project to change scales smoothly without any change in project frames."[145] Scalability then articulates a way of imagining movement in space, and the ability of an actor to smoothly expand or recede.

Basing my understanding of space and spatiality upon Doreen Massey's framing, as something inherently plural, as intrinsically tied to history and time, as something constantly changing, enables us to see space as distinctly political, as something that is tied to power struggles. To build on this, it is useful here to turn to (and against) Carl Schmitt.[146] Carl Schmitt was a Nazi legal theorist and an enthusiastic defender of Adolf Hitler's regime. In this thesis, I work with his nostalgic analysis and defence of European colonialism. Whereas

[141] Massey, *For Space*, 34.
[142] Massey, *For Space*, 32.
[143] Hannah Arendt, *The Origins of Totalitarianism*, (Meridian Books, 1962), 123-158.
[144] Arendt, *Origins,* 125.
[145] Tsing, *Mushroom*, 38.
[146] As this thesis is concerned with interpretation and meaning, it is important to make a comment about Schmitt here. Whilst Schmitt uses his analysis to look back and defend a global colonial structure, I use it to analyse a world and practice that I believe must be fought against. Yet even so, relying on his writings is not an insignificant decision. I do not argue that Schmitt can be reappropriated in a way that can remove or absolve the place of these ideas in his broader Nazi-aligned philosophy. Ultimately, I regard it as a limitation of this thesis, and a tradition of critical thought that it draws on, that it does rely on Schmittian ideas.

Schmitt's analysis of the European colonial spatial order is interfolded with a regret for its passing, I entirely reject this colonial nostalgia.

In *Nomos of the World,* Schmitt argues that the ability of humans to partition and classify "constitutes the original spatial order" which structures all further political relations.[147] The delineation of boundaries over and in space necessarily orients and orders others. Schmitt goes on to offer a history of how global space has been partitioned and classified, both materially and ideationally, through the beginnings of an international legal framework which came to be called 'International Law'. Returning to Quijano we can emphasise that what resulted from this global spatial reordering, was not only international law but a global structure of values and hierarchies, which dominated and, in many locations, annihilated indigenous peoples, their belief systems, and their ways of life. As Quijano notes, this global structure of values and hierarchies shifted and evolved in time.

What Schmitt helps us see though, is not only the political nature of spatial imaginings and ordering, but more fundamentally how political and hegemonic order is itself constituted partly from the production of spatial configurations. Schmitt's historical analysis emphasises how spatial orders shift and evolve both materially and ideationally. Schmitt emphasises how new technologies can reshape spatial configurations, producing new spheres for expansion and interaction. For example, the production of airplanes not only produced new behaviours, but a new spatial sphere.

Building on Schmitt, Jameson argues that technology again has produced a new sphere but "one of cyberspace."[148] Going on, Jameson argues that "Information is the new element that reproblematizes the spatial."[149] This idea is taken up more fully by Benjamin Bratton who explores how the creation of the cloud, and more broadly information technology, has produced a new spatial dimension existing alongside and within other dimensions, such as land, sea and air.[150] Bratton's account is important because it delves into the shifting interrelations between material and digital infrastructures, particularly those being produced by Big Tech, with how space is being reimagined and reordered. It is, in other words, an

[147] Carl Schmitt, *The Nomos of the Earth in the International Law of the Jus Publicum Europaeum*, trans. G. L. Ulmen, (Telos Press, 2003), 48.
[148] Frederic Jameson, "Notes on the Nomos," *The South Atlantic Quarterly* 104, no. 2 (2005): 204, https://doi.org/10.1215/00382876-104-2-199
[149] Jameson, "Notes," 204.
[150] Benjamin H. Bratton, *The Stack: On Software and Sovereignty*, (MIT Press, 2016), 19-40.

analysis of how the built environment is being reshaped, alongside a transformation in the language and concepts that people can deploy in order to understand and talk about this built environment.

Here it is important to emphasise that, although I understand information space as a spatial sphere that can be discussed in its own right, this does not mean that it is entirely distinct from other spatial spheres. Much of our social interactions have, over the past decades, moved into or have been mediated by information space.[151] Information space, the artificial spaces built through computer software and hardware, regulate and interact with social spaces, as well as the physical spaces in which our bodies interact. Couldry rightly emphasises that today "information space saturates our physical spaces and our social spaces to such a degree that all now seem indistinguishable."[152] For Couldry, this contemporary saturation of space, which has occurred and intensified over the past three decades, requires a new term for us to make sense of it, what he calls 'the space of the world', "the larger space of human interaction and information flows that results from the online circulation of digital information, the creation of social media platforms and the expansion of the internet more generally."[153]

In this thesis, based upon my understanding of power, I understand the space of the world to be the result of hegemonic struggle. Thus, whilst I predominantly explore how actors in and around Facebook envisage various reordering of global space, seeking to position themselves at the centre of a global communication order, I also recognise that the space of the world is constituted by contestation over spatial configurations, connections and boundaries.

2.6 Conceptual Framework

Underlying this thesis is the argument, derived from Gramsci, that power does not only exist through coercion but through the winning of consent by one community or collective group over others.[154] This occurs partially through the creation of a worldview, an accompanying 'common sense', and through the elevation of a particular way of seeing and being onto a

[151] Nick Couldry and Andreas Hepp, *The Mediated Construction of Reality*, (Polity Press, 2017).
[152] Nick Couldry, *The Space of the World: Can Human Solidarity Survive Social Media and What If It Can't?,* (Polity, 2024), 7.
[153] Couldry, *Space,* 11.
[154] Gramsci, *Prison Notebooks.*

claim that it exists on the universal plane.[155] I call this a hegemonic horizon and in this thesis, I explore how Facebook actors' discourse might be revealing of an ascendent hegemonic horizon over the first two decades of the 21st century. Thus, I analyse actors in and around Facebook as intellectuals to identify whether and how they sought to mould people towards a certain 'cultural direction' and a particular vision of the world.[156]

Yet at the same time, I follow Gramsci in recognising that there is never a static and frozen hegemonic horizon, but, instead, an antagonistic dynamic in which this particular way of imaging and interacting with the world is challenged by alternative horizons of thought and action. Thus, in this thesis I seek to explore not only what is naturalised by this ascendant Big Tech hegemonic horizon, but what comes to be concealed by it. I incorporate this Gramscian framing of power with Anibal Quijano's concept of coloniality. Doing so helps us see how a hegemonic horizon can conceal other ways of understanding and being in the world, and at the same time how the evolving history of colonial rationality has never been able to entirely erase counter-hegemonic worldviews, common senses and horizons. Basing an understanding of power in Gramsci's theory of hegemony, and drawing on Quijano's concept of coloniality, forces us to ask what is erased and overwritten when a certain horizon comes to claim hegemony. In this thesis, I will be partially concerned then with what comes to be lost and what stops being said, as actors in and around Facebook built social and digital infrastructures, platforms, and presented themselves, their products and transformations to the public.

In this thesis, I combine and interfold this framing of power as hegemonic contestation with a more detailed analysis of specific texts and utterances produced by actors in and around Facebook. Drawing on Quentin Skinner's method of intellectual history, I approach the analysis of language in time as a means of revealing and denaturalizing a hegemonic horizon.[157] This can occur both through revealing different hegemonic horizons in different discursive contexts, and the contestation they face from subordinate horizons or less dominant worldviews, as well as through exploring the emergence and evolution of a particular ascending hegemonic horizon.

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[155] Gramsci, *Prison Notebooks,* 181-182, 349.
[156] Gramsci, *Prison Notebooks,*181-182.
[157] Skinner, *Liberty.*

Building on both the work of Quentin Skinner and William Sewell, I understand every text to exist within a broader discursive context, which has its own specific language games, vocabularies, conventions, idioms, rhetoric and ways of talking and form of life, and which exists in a dialectical relationship to a constantly shifting 'built environment'.[158] As an intellectual history this thesis is primarily concerned with language, with how actors in and around Facebook have depicted the world to be, the infrastructure they were building, and how this was transformed over two decades.

I understand language as both a constraint and a resource.[159] There is only ever a limited set of vocabularies and linguistic logics, terms and concepts, that an actor has access to, and can wield, in their particular discursive context. This conceptual framework then emphasises how any text or utterance is necessarily tied to a particular discursive and historical context. Yet, whilst a discursive context might constrain actors, language is also understood as a resource, as a means for actors to contest and reshape a discursive context, elevating certain possibilities and concepts whilst obscuring others. The reshaping of a discursive context has consequences on not only what can be spoken of and imagined as possible, but also on a broader built environment, and in this thesis, particularly on the construction of social, digital, and material infrastructures and the erosion of others. Such an approach to text, discursive context, and built environment, underpins this research's 'transtemporal history' of ideas. This is to say, the linking together of different distinct discursive contexts in order to reveal not only what Facebook actors inherited and reassembled from the past, but also to make visible again that which came to be overwritten by an ascendant horizon for imagining and structuring the world.

To interrogate the hegemonic horizon which Facebook's discourse emerges and evolves within, this thesis investigates how actors in and around Facebook came to speak about and imagine spatial ordering and historical time. Historical time refers to the intuitive sense in which people, communities, and their institutions come to experience time. To interrogate Facebook's articulations of historical time, I wield Reinhart Koselleck's categories of "space of experience" and "horizon of expectation", with the former referring to the happenings of the past that are remembered in the present, and the latter referring to all that is imagined in a present as possibly lying ahead in the future.

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[158] Skinner, *Visions;* Sewell, *Logics.*
[159] Skinner, *Visions of Politics*; Skinner, *Liberty.*

Deriving my conceptual framework partially from Koselleck's work, I hold that although time might at any moment be experienced as singular, there are always multiple layers of historical time, each with a different rhythm, duration and origin.[160] In this thesis then, I seek to disaggregate "the simultaneity of the non-simultaneous", the different temporal rhythms that underlie how actors in and around Facebook depict and experience historical time.[161] Doing so helps us see how actors in Facebook inherited different consciousnesses of time from different sources, but also how they wielded different articulations of time for different purposes. Here, I build on Koselleck's multi-layered framing of historical time by drawing on Walter Benjamin and Hannah Arendt to frame historical time as, far from neutral, something which can elevate or discard people, landscapes and events from its rhythms.[162] The legitimation and spread of a particular way of experiencing historical time can have the consequences of covering over and erasing other subordinate temporalities. In other words, I argue that articulations of historical time hold power and are thus contested over in the process of hegemonic and counter-hegemonic struggle.

As discussed in my section on space, I follow Doreen Massey in understanding space as being, like time, inherently plural and heterogenous.[163] Space is the product of human beings; it is something that is "always in the process of being made".[164] How space is ordered, imagined, and interacted with is the product of complex interrelations between people and their changing environment. Drawing on Carl Schmitt, I understand spatial ordering to be both the object of contestation, and simultaneously a means of conditioning political relations.[165] As space is reorganised and reordered, I recognise how alternative formulations and configurations get lost in the process, limiting the possibilities of actions and thought. Building again on Quijano, I understand the reordering of space to have deep and long-lasting consequences not only on power-relations, but also on the values and horizons that peoples in different geographical and historical contexts act within and upon.[166] This perspective forces us to analyse not only how spatial configurations emerge, but also to investigate what spatial imaginings and arrangements come to be overwritten or obscured through their formation. Thus, in this thesis I explore how actors in and around Facebook have, through their

[160] Koselleck, *Conceptual History;* Koselleck, *Sediments.*
[161] Koselleck, *Sediments,* 45.
[162] Benjamin, *Theses*; Arendt, *Past and Future.*
[163] Massey, *For Space*.
[164] Massey, *For Space*, 32.
[165] Schmitt, *Nomos.*
[166] Quijano, "Modernity/Rationality."

discourse, articulated their own spatial imaginings and attempts to reorder space at different scales over two decades. At the same time, I recognise that these attempts of spatial ordering necessarily covered over and impeded other less-dominant spatial configurations.

Building upon this conceptual framework, this thesis pursues the following conceptual question and empirical questions:

CQ: Which hegemonic horizon came to be normalised by Big Tech from 2004-2021?

1. How did actors in and around Facebook/Meta come to depict the world around them between 2004-2021?
    a. How did they talk about space, time, and their own relationship to it?
    b. What historical times and spatial imaginings did they articulate?
2. What concepts, logics, and vocabularies did actors in and around Facebook/Meta inherit from the past?
    a. How did actors in and around Facebook/Meta reassemble and wield these inheritances?
    b. What was overwritten and what came to be left behind in this reassembling?
3. What was concealed as a hegemonic horizon was normalised?
    a. What subordinate fragments of common sense were obscured?

Chapter 3
Methods: Digital Archives and Thematic Analysis

In the previous chapter I set out the conceptual framework for this thesis. Here, I outline my analytical approach and the methods I used for this intellectual history of Facebook/Meta. This research is based upon a qualitative empirical approach which utilises both digital archival data collection and thematic analysis. As I will show in this chapter, my methodological decisions stand upon the theoretical assumptions I explained in the previous chapter, as well as the further epistemological and ontological perspectives that I will outline below.

Throughout this chapter, I will outline not only the research decisions and methods that I undertook, but also some of the challenges that occurred in the research process and how I was forced to adapt initial plans against the friction and reality of finishing a project within a specific time frame. Here, I want to note one particular tension which emerged as I developed the methodological scaffolding of this thesis. Throughout this research, I draw upon methodological insights derived from both the qualitative methods of the social sciences, as well as from historical theory and historiography. This required a degree of disciplinary translation, as well as an engagement with what is left silent in these different ways of seeing and researching. Whilst I initially hoped that I would be able to seamlessly bring these different methodological outlooks into harmony, over time it became clear that certain frictions were unavoidable.

This chapter is split into four sections. To begin with I discuss the epistemological and ontological assumptions which underly the rest of my methodological choices. From there, I set out some of the decisions that were fundamental to my research design, particularly the choice to focus on a single case study, and how I chose the beginnings and end dates of this history. In the third section I set out my strategies for data collection and the methods I used for its analysis. Here I consider some of the challenges of a digital archive and the construction of a digital corpus. Finally, I consider my positionality in relation to the research and what this might tell us about biases and research decisions.

3.1 Epistemology and Ontology

How a researcher stands in relation to philosophical questions about what constitutes knowledge and what exists to be studied, inevitably informs their methodology and their methods.[167] Briefly here, I seek to show how this research builds upon epistemological and ontological premises derived from moderate social constructionism, feminist epistemology and early critical theory.

I follow Willig in making a distinction between radical and moderate constructionism.[168] Radical social constructionists argue that there is nothing outside of the text; "Reality is what participants are constructing within a particular interaction through discourse."[169] In contrast, moderate constructionists "invoke a reality that preexists and indeed shapes the ways in which individuals construct meaning within particular contexts".[170] Thus, moderate social constructionism acknowledges that the infrastructural, economic and material inevitably shape the terrain in which discursive meaning is produced. Building on my own conceptual framework (2.6), which acknowledges the dialectical relationship between the discursive and the non-discursive, I build a methodology based upon moderate social constructionist principles.

Following feminist thinkers Nancy Hartsock and Donna Haraway, I understand knowledge as something that is socially constructed and situated in a particular context.[171] As Haraway emphasises, "Feminist objectivity means quite simply *situated knowledges.*"[172] Different individuals and groups see the world from varying perspectives and positions which they embody. How an individual or group comes to know the world is partially a result of the historical and political structures they emerge from. Taking a historical lens then, I suggest that different positions and claims over reality can be revealed to be historically and

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[167] Egon, G. Guba, "The Alternative Paradigm Dialog," In *The Paradigm Dialog,* ed. by E. G. Guba, (SAGE, 1990), 18.
[168] Carla Willig, "Perspectives on the epistemological bases for qualitative research," in *APA Handbook of Research Methods in Psychology, Vol. 1. Foundations, planning, measures, and psychometrics,* ed. by H. Cooper et al, (APA, 2012), 15-17.
[169] Willig, "Perspectives," 15.
[170] Ibid.
[171] Nancy Hartsock, "The Feminist Standpoint: Developing the Ground for a Specifically Feminist Historical Materialism," in *Feminism and Methodology: Social Science Issues*, ed. by S. Harding, (Indiana University Press, 1987) ; Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies* 14, no.3 (1988): 575-599, https://doi.org/10.2307/3178066.
[172] Haraway, "Situated Knowledges," 581.

geographically situated. In this thesis when I refer to ontology, I do not mean the analytical philosophical pursuit "about the real ontological status of things in the world."[173] Instead, for the research purposes of this thesis, I follow Ann Stoler in understanding ontology as the "*ascribed* being or essence of things, the categories of things that are thought to exist".[174]

In line with my conceptual framework, I understand power as being implicated in constituting what and how we come to know about certain things and not others, and how we have certain outlooks and not others.[175] Because knowledge is situated in a person's historical and political context, I follow Horkheimer in arguing that "there is no complete picture of reality…There can be no formula which lays down once and for all the relationship between the individual, society and nature."[176] Instead, there are always multiple perspectives and positions, multiple claims over reality, all of which are in some way fallible. Yet although this perspective acknowledges the importance of situating knowledge, and showing how one's perspective is shaped by historical processes and power-relations, I follow Haraway in arguing that "it is not enough to show radical historical contingency and modes of construction for everything".[177] Haraway suggests that just because all knowledge is situated and fallible, it doesn't mean that all knowledge is equally fallible, there must be a way "to talk about *reality* with more confidence" than those, for example, who argue the world is flat.[178]

Whilst all perspectives are situated and partially constituted by power-relations, I maintain that certain knowledge can lead to greater emancipation from power than other frameworks. As Horkheimer argues, "theory never aims simply at an increase of knowledge as such. Its goal is man's emancipation from slavery."[179] Returning to my conceptual framework explicitly, whilst I recognise that power partially constitutes knowledge, I also argue, following Gramsci, that there is a constant dynamic of counter-hegemonic contestation, and this includes the production of knowledge which enables subordinated peoples to overcome

[173] Ann. L. Stoler, *Along the Archival Grain Epistemic Anxieties and Colonial Common Sense*, (Princeton University Press, 2009), 17.
[174] Ibid.
[175] See 2.1.
[176] Max Horkheimer, "Zum Rationalismusstreit in der Gegenwartigen Philosophie," in *Kritische Theorie. Vol 1,* (S. Fischer Verlag, 1968). As quoted in: David Held, *Introduction to Critical Theory,* (Polity, 1989), 167.
[177] Haraway, "Situated Knowledges," 579.
[178] Haraway, "Situated Knowledges," 577.
[179] Max Horkheimer, *Critical Theory: Selected Essays,* trans. M. J. O'Connell, (Continuum, 2002), 246.

constraints that they face.[180] This is taken up in more detail by Quijano who argues that the only strategy for dismantling coloniality is "to liberate the production of knowledge, reflection, and communication from the pitfalls of European rationality/modernity."[181] Again, Quijano recognises the importance of critique, arguing that "the critique of the European paradigm of rationality/modernity is indispensable - even more, urgent."[182]

Here again then, I distinguish this epistemological framework from that of radical social constructionism, which understands knowledge as entirely the result of a regime of truth and thus containing no potential for significant emancipation. By contrast, I suggest that knowledge, however situated, can help individuals or groups of people overcome constraints. Knowledge thus can serve the interests of individuals and groups of people when it helps them to become aware of their own ability to participate in activities that bring social and political change.[183]

I understand the role of the critical researcher to uncover social power struggles that are hidden and to create an intellectual space for people to scrutinize their lives and find meaning, as well as the means to create social change. However, I recognise that just like every individual, my knowledge is a result of the historical structures and power relations that have partially formed me. Thus, my research requires me as a researcher to be reflexive about the situated knowledge and assumptions that I bring along with me. In the final section of this chapter I will focus on my own reflexivity.

3.2 Research Design

3.2.1 Single Case Study: Facebook/Meta

[180] Antonio Gramsci, *Selections from the Prison Notebooks,* ed. Q. Hoare and G. N. Smith, (International Publishers, 1971).
[181] Aníbal Quijano, "Coloniality and Modernity/Rationality," *Cultural Studies* 21, no. 2-3 (2007): 177, https://doi.org/10.1080/09502380601164353.
[182] Ibid.
[183] Yvonna, S. Lincoln, Susan A. Lynham., and Egon G. Guba, "Paradigmatic Controversies, Contradictions and Emerging Confluences, Revisited," in *The Sage Handbook of Qualitative Research*, ed. N. Denzin and Y. Lincoln, (SAGE, 2011), 234-238.

This thesis is concerned with a particular entity: Facebook/Meta. The decision to focus on a single case study is partially due to the rich corpus of material that has been produced by the company or by actors in and around the company. Facebook, and key figures within it, have produced a significant amount of revealing and informative documents. Facebook actors have published essays that are dozens of pages long, have written books, and produced vast amounts of interviews, blogs, and social media posts. Through legal cases and leaks to the press, internal Facebook communication is also available in the public domain, enriching the material for historians to analyse. All of this makes Facebook a particularly suitable entity to examine as a single case study. Given the generous archive available, focusing on only a single case study helps this research delve into greater depth into Facebook's intellectual development.

Yet discussing Facebook as a *single* particular entity is not automatically straightforward. As Chinmayi Arun rightly notes, "Facebook has many faces".[184] Facebook often wields different teams to deal with different external actors, and this can lead to internal tensions within the organisation. It is not only that Facebook has different public faces which can contradict each other, but that Facebook itself is comprised of many different dimensions and parts. An intellectual history of Facebook could focus on the algorithmic shifts over two decades, it could focus on the employees and workers across different nations and continents, or it could focus on the lobbyists hired to push certain values, policies, and narratives to different governing bodies. More fundamentally, a history of Facebook might choose to focus exclusively on one platform or social network and not expand its analysis to Instagram, or WhatsApp or any other products bought or created by actors in Facebook.

If this is a history of Facebook, the question then becomes, which Facebook? Primarily this is an intellectual history of a company through the analysis of documents and texts produced by various key figures over these two decades. In this thesis, I will examine the texts and utterances primarily of the following individuals: Mark Zuckerberg, Andrew Bosworth, Sheryl Sandberg, Peter Thiel, Reid Hoffman, Chamath Palihapitiya, Alex Schultz, Michael Abrash, and Nick Clegg. Here then I include actors who were pivotal in investing in Facebook and who have sat on Facebook's board, just as I include those workers who were

[184] Chinmayi Arun, "Facebook's Faces," *Harvard Law Review Forum* 135, no. 5 (2022):237.

hired by the company. Primarily, I have chosen these actors because, based upon my own analysis and my reading of the secondary literature, they became pivotal to the company, both internally and externally, over these two decades. Many of these figures have been part of Facebook or associated with the company for much of these two decades, although exceptions, such as Nick Clegg, only joined Facebook later on. These figures are also included because they have produced important texts and utterances that are publicly available for analysis. As I will explain later, other individuals who I initially intended to include in this depiction of Facebook, were dropped as I couldn't find relevant material to include in the archive.

In this thesis then, when I examine the intellectual development of Facebook I do so by focusing on specific elite figures within the company, as well as the texts produced by the company itself. Together, I take these texts as evidence of a unified Facebook discourse. Whilst this approach cannot help us differentiate the multiple, and perhaps conflicting, perspectives that might be held by less senior employees, or by workers based in different parts of the world, it can help us examine the intellectual development of those at the highest level of the company. It is by focusing on this highest level of Facebook figures, I suggest, that we can examine and uncover the intellectual development of Big Tech itself, and the key figures who partially constitute it.

Whilst this thesis is concerned with following actors' discourses in and around Facebook over two decades, it holds that a single-case study can help us understand the development of Big Tech and its thinking, over these two decades. After all, many of the figures who are analysed here, have history working at various different technology companies as well as Facebook.[185] Moreover, they all existed in a broader discursive context, interacting and responding to competitors and other companies, intellectuals and engineers, all of whom were concerned with similar questions. This thesis then examines the thinking of actors in and around Facebook who contributed to, and were shaped by, their discursive context.

3.2.2 Historical constructions: Beginnings, Ends and Contexts

[185] Sheryl Sandberg worked at Google; Andrew Bosworth worked at Microsoft; Chamath Palihapitiya worked at AOL; Reid Hoffman co-founded LinkedIn; Peter Thiel co-founded PayPal etc…

Every historical research project has the problem of constructing and defending its beginnings and ends. This is perhaps even more so for such a contemporary piece of history. In this intellectual history, I finish the analysis at the end of 2021. There are several reasons why I chose to do so. Firstly, this was the year in which Facebook renamed and rebranded itself Meta. For a history so focused on actors in and around a single company, this is inevitably a marking point, however symbolic. Given this rebranding, choosing 2021 as an end date seemed appropriate for this contemporary history. Secondly, and perhaps more importantly, 2021 heralded a macro-economic shift which had a significant effect on Big Tech companies and Silicon Valley. The Covid-19 pandemic, as well as Russia's invasion of Ukraine, led to rising inflation and, with it, rising interest rates. This changed the economic dynamics which had been, for decades, propelling Silicon Valley with the ability to borrow money cheaply.[186] This macro-economic shift reshaped, however temporarily, the rate at which venture capital firms would invest money, as well as the basis on which money could be borrowed more broadly. This shift in the economic forces influencing Silicon Valley also seemed an appropriate moment to finish an intellectual history of the first two decades of the 21st century.

On the surface, the beginning point of this historical research might seem more obvious than the end. Facebook was created and made live in early 2004. Thus, this research does in one sense begin its historical analysis in 2004, constructing its archive from this date onwards. I did not, for example, attempt to include documents and evidence from the early childhood of key Facebook figures, such as Mark Zuckerberg. As this thesis is not a biography, nor attempting psychological analysis, this would have been inappropriate and unnecessary.

Yet whilst Facebook was created in 2004, in this thesis I analyse what actors in and around Facebook inherited from their historical and geographical contexts, as well as the deeper past. This inevitably leads to the questions of which contexts and which deeper pasts? Here, this research was instructed by the secondary literature. Intellectual and cultural historians of American computer culture have shown the links between 1990s computer culture and 1960s

[186] Ramaa Vasudevan, "Silicon Valley Bank and Financial Turmoil," *Catalyst* 7, no.1 (2023).

counterculture, as well as its embrace of cybernetics.[187] Following the direction of these historians, I explore primary texts from the history of cybernetics to consider how certain ideas and vocabularies from this earlier period were inherited and transformed by actors in and around Facebook. This thesis also goes further back into the 19th century and considers Facebook's intellectual development alongside certain ideas and concepts associated with the emergence of the telegraph and other communication technologies. I explore how actors from this period came to reimagine and reorder global space in relation to these new technologies, and their deep entanglement with Empire. In making this link, I draw upon historians of connectivity and information and communication technologies (ICT), media and communication researchers, as well as Marxist historians of Silicon Valley.[188] Finally, I also look back further to the 17th century and the forging of early modern science and colonial discovery. Here I draw upon decolonial theorists and the decolonial analysis of contemporary Big Tech.[189] Whilst the main archival research contribution of this thesis is concerned with the first two decades of the 21st century, where possible, earlier contexts are discussed with reference to earlier primary sources and texts.

A further challenge for this research was firstly how to excavate and construct these deeper pasts so as to make them speak, and secondly how to make them speak to and alongside this more contemporary history. To tackle the first issue, I attempted to loosely follow some of the methodological insights of Quentin Skinner.[190] As noted in the previous chapter (2.3), this meant exploring texts in relation to a broader context, not focusing on any one individual thinker but instead considering how different authors and actors intervened in a wider contestation over meaning. Acknowledging the credible critiques of contextualism, particularly of historical accounts which take its maxims and principles to the extreme,[191] in this thesis I followed a looser version more associated with a later Quentin Skinner than his

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[187] John Markoff, *What the Dormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry*, (Penguin, 2006); Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism,* (University of Chicago Press, 2006).
[188] Marc Raboy for example, has explored the continuities and shifts in communication policy and discourse from the 19th century to the early 21st century. Marc Raboy, *Marconi: The Man Who Networked the World*, (Oxford University Press, 2016); Malcolm Harris, *Palo Alto: A History of California, Capitalism, and the World.* (Little Brown and Company, 2023).
[189] Nick Couldry and Ulises A. Mejias, *The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*, (Stanford University Press, 2019).
[190] Quentin Skinner, *Liberty Before Liberalism*, (Cambridge University Press, 1998); Quentin Skinner, *Visions of Politics*, *Volume 1: Regarding Method,* (Cambridge University Press, 2002).
[191] On criticism, see for example: Peter E. Gordon, "Contextualism and Criticism in the History of Ideas," in *Rethinking Modern European Intellectual History*, ed. D. M. McMahon and S. Moyn (Oxford University Press, 2014).

earlier formulations.[192] Secondly, I sought to bring these deeper histories to speak alongside this more contemporary period in two different ways. Firstly, Chapter 4 is concerned with outlining the different discursive contexts of these different pasts; it offers a 'transtemporal history' of these ways of imagining and talking about the world based on an analysis of four different contexts. Although I am guided by secondary literature, my construction of this chapter and my analysis within it is based upon my own conceptual framework. Secondly, in Chapters 5-7, I bring these deeper and broader histories to speak alongside Facebook's own thinking, asking what has been inherited and what has been lost, what has been reassembled and fused, and what has been overwritten.

3.3 A Digital Archive

The discipline of History is deeply intertwined with archival research.[193] The professionalization of the discipline emerged alongside the establishment of national archives. Traditionally, archives were physical spaces that historians entered to search for and analyse documents. The embodied experience of archival research has fostered a particular reverence among historians for what Caroline Steedman describes as the dust of the archive - the tangible connection to materials and spaces that the historian experiences through their research.[194] This embodied experience has, in turn, produced what archivists and historians call "archival reason", a mindset marked by a "thirst for detail" and which "sees everything as potentially significant".[195] Archival reason applies to archivists and the decisions they make over what is included in an archive, as well as historians who decide what is relevant to the historical arguments and narratives they make. The desire to include everything in an archive, or a historical narrative, is based partially on a fear that what is discarded will be lost, will in some sense fall out of history. Here then we can see how the production of archives, as well as the production of history, relies on judgement. As Achille Mbembe notes "the archive is primarily the product of a judgement, the result of the exercise of a specific

[192] Contrast for example, Skinner's early methodological writings with his later history of Liberty more influenced by genealogy, and more open to transtemporal movement between contexts. Quentin Skinner, "Meaning and Understanding in the History of Ideas," *History and Theory* 8, no. 1 (1969): 3–53, https://doi.org/10.2307/2504188; Skinner, *Liberty.*

[193] Michelle T. King, "Working With/In the Archives," in *Research Methods for History*, ed. S. Gunn and L. Faire, (Edinburgh University Press, 2011); Mike Featherstone, "Archive," *Theory, Culture & Society* 23, no. 2-3 (2006): 591, https://doi.org/10.1177/0263276406023002106.

[194] Carolyn Steedman, *Dust: The Archive and Cultural History,* (Rutgers University Press, 2002).

[195] Featherstone, "Archive," 594; Thomas Osborne, "The Ordinariness of the Archive," History of the Human Sciences 12, no. 2 (1999): 51–64, https://doi.org/10.1177/09526959922120243.

power and authority, which involves placing certain documents in an archive at the same time as others are discarded".[196]

All archives face the same problem of what should and should not be included, and this was no different for this research. This thesis is built upon a digital archive which I constructed specifically for this research. Whilst the tensions of traditional archival research exist in the construction and analysis of digital archives, new issues also emerge. For example, in this research, I was put in the exciting but uncomfortable position of not only constructing an historical argument but constructing the actual archive that underlies that narrative. The digitalisation of archival material, and more broadly, the digital location of texts and sources, has brought together tasks which previously had been more separate: the construction of the archive and the analysis of the archive. Thus, in this research, my judgement not only dictated what was to be included in my final thesis, but more fundamentally, what would be in the archive underlying the thesis.

Another issue with producing a digital archive arises from the nature of the internet. The information and data that is available on the internet is both vast and overwhelming, and dispersed and scattered. Thus, one of the major challenges for an historian of digital documents, and the construction of a digital archive, is the reduction and narrowing down of documents and data that are analysed so as to make any project feasible. Finally, the construction of a digital archive and the collection of data are infused with a different sense of urgency than for traditional archives. With digital material and texts, there is a threat of data disappearing at any moment. Thus, in this archival practice and with this form of 'archival reason' there is an added sense that anything vaguely relevant ought to be downloaded to stop it from potential erasure.

When constructing this archive, I downloaded potentially relevant documents onto my computer and then transferred this onto a physical hard drive. One of the peculiarities of this process is ending up with an archive that is, in some sense, only accessible to myself. Even though all the information I collected was publicly available, the action of searching for it, collecting it, and bringing it together is an arduous task in the context of the vastness and dispersed nature of the internet. Undergoing this process, I was left feeling uncomfortable

[196] Achille Mbembe, "The Power of the Archive and its Limits," In *Refiguring the Archive*, ed. C. Hamilton, et al, (Kluwer Publishers, 2002), 20.

about the singular and individual nature of this archive, as well as the responsibility I had once I had constructed it. To allay this concern, I attended conference sessions on digital archiving with fellow historians who similarly have their own personal digital archive and began discussions to collate all our individual archives together into a publicly accessible digital location.

What then was collected and included in my digital archive? A large section of the documents came from the Zuckerberg Files (https://zuckerbergfiles.org/). The Zuckerberg Files is an online archive run by Marquette University that includes all of Mark Zuckerberg's publicly available utterances and texts, over 1,000 documents. The majority of these files are interviews with Zuckerberg, Facebook posts, blogs and articles, as well as transcripts of all interviews that occurred via audio or video. These files also include every quarterly meeting after Facebook's IPO in 2012. This was a particularly useful resource because it offered not only Mark Zuckerberg's voice but also Sheryl Sandberg's. Finally, the Zuckerberg Files also included over a dozen internal Facebook emails that became public documents through legal cases.

Alongside the institutionally supported Zuckerberg Files, another large source for documents came from Facebook/Meta blogs (https://about.fb.com/news/). When I began this archival construction in 2022, Facebook/Meta blogs were organised by topic, of which there were nine: Company News; Technology and Innovation; Data and Privacy; Safety and Expression; Combatting Misinformation; Economic Opportunity; Election Integrity; Strengthening Communities; Diversity and Inclusion. Each topic held hundreds of blogs going back to the earliest years of Facebook. Some of these blogs were written by, or at least signed off by, specific figures within Facebook/Meta, whilst others were published in the name of the company. As I downloaded these documents it became clear that many were duplicates, included across the topics. Thus, as I initially read through these documents in the archive-construction stage of this research, I was able to remove many duplicated files from the archive.

Beyond the texts and utterances of Mark Zuckerberg, and the other official Facebook/Meta blogs, I also searched for documents produced by high-level Facebook figures. One of the most prominent and useful sets of documents I collected into the archive were the blogs written by Andrew Bosworth over two decades (https://boz.com/). Held on his own personal website, this collection included over 100 blogs. Away from personal websites, I searched

through social blogging sites and collected blogs written by Facebook figures such as Chamath Palihapitiya and Nick Clegg. On websites primarily dedicated to song lyrics I also found transcripts of classes that Palihapitiya and Alex Schultz had given to Stanford students. Finally, I also included key books which were written by figures in and around Facebook such as *Zero to One, Lean In,* and *Blitzscaling.*[197]

Through this process I collected well over 2,000 documents into the archive. Aside from the Zuckerberg Files which I knew were being preserved by an institutional body, I downloaded the rest of the files and saved them onto an external hard drive. The files were organised by the year in which they were produced.

What was left out of the archive? When I began this project, I initially planned on including YouTube videos, as well as podcasts which contained interviews with actors in and around Facebook. Although I began saving these videos and audio files I made the decision early on in the process not to include these in the archive. My reason was primarily practical and time-based; it would simply have taken too long to transcribe and analyse these audio and video files. Moreover, I was collecting such a vast number of written documents and transcripts that I became more confident that these audio and video files wouldn't add more that I couldn't find in the documents I was collecting. Ultimately, this decision exposes the uneasy position of constructing an archive for a specific project, rather than for the primary purpose of become an archive for future researchers. Secondly, certain Facebook actors who, from a reading of the secondary literature, I initially thought would be part of the archive, fell out. This occurred because I couldn't find relevant documents or texts produced by these figures to include in the archive. Most significantly, I couldn't find any relevant documents or texts produced by Chris Cox, an early Facebook figure who became influential as the Chief product officer at Facebook/Meta, nor Naomi Gleit who became the Head of Product at Facebook/Meta. Given the archival silence, their voices are silenced in my research.

Here I should also note that initially I had considered the possibility of conducting interviews with figures from Facebook and including this in my corpus. I decided against pursuing interview data for several reasons. Firstly, as my research is concerned with the highest level of actors in and around Facebook, gaining access to any of these figures would have been

[197] Peter Thiel and Blake Masters, *Zero to One,* (Random House, 2014); Sheryl Sandberg and Nell Scovell, *Lean in: Women, Work, and the Will to Lead,* (WH Allen, 2013); Reid Hoffman and Chris Yeh, *Blitzscaling: The Lightning-Fast Path to Building Massively Valuable Companies,* (Harper Collins, 2018).

unlikely. Thus, the practicality of access led me away from interviews. Secondly, I judged that even if it was possible to gain access to only one or two of these figures, this would have enabled these individuals to have too much influence over the analysis as a whole, leading me towards producing narratives that might sustain and support their own perspective. I decided that it would be better to focus on the publicly available documents, of which there were many thousands, instead of including only the perspective of one high-level Facebook figure.

Whilst qualitative methods often distinguish between data collection and data analysis, archival methods do not fit neatly into this distinction. In the construction of the archive, I did not only collect documents but through this process I already began initially reading and analysing the documents. This initial analysis inevitably emerged as I judged what should be included and what shouldn't be included in the archive. It also meant that as I needed to narrow down the archive into a corpus for the purpose of thematic analysis, I returned to many of these documents for a second time, already with some sense of what initially appeared fruitful and exciting, and what initially seemed a dead end or irrelevant.

3.4 Corpus Construction

Beyond the initial analysis that occurred in the construction of the archive, I utilised thematic analysis to analyse my documents. Thematic Analysis is a method which searches for coherent meaning structures and concepts within texts by uncovering and analysing relevant themes through "careful reading and re-reading of the data".[198] However, to conduct thematic analysis thoroughly it was clear that 2,000+ documents was far too big a corpus. Therefore, I had to first select documents from the archive and construct a reasonable-sized corpus for this method.

One option for narrowing down the archive for thematic analysis would have been statistical sampling. Whilst this approach is widely used in the social sciences, it seemed inappropriate for this type of historical research which is concerned with how language and ideas shifted and changed in time. Statistical sampling could have led to the abandoning of key texts which were central to how certain concepts were constructed. Instead, I undertook an alternative

[198] Pranee L. Rice and Douglas Ezzy, *Qualitative Research Methods: A Health Focus*, (Oxford University Press, 1999), 258.

process which, following Bauer & Gaskell, I will call "corpus construction".[199] Corpus construction relies on the "systematic selection" of documents based upon the judgement of the researcher in order "to characterize the whole".[200]

In the field of history, this process of corpus construction is often left implicit in the archival method. Here, I make explicit what this process of corpus construction involved. Over several months, I undertook a second and more detailed reading of all the documents in my archive. I went through each document and wrote an accompanying memo, which gave an overview of what was discussed. These memos ranged from a basic sentence or a few words to several paragraphs. I used Microsoft Excel to organise the documents and keep the memos for each document. Through this process I judged each document and decided whether to include it in the corpus for thematic analysis. Here I elaborate on my judgements as to what was included and what was discarded from the corpus, whilst acknowledging that "this selection is inevitably arbitrary to some degree".[201]

Firstly, archival documents were rejected from the corpus if they were deemed irrelevant for the purpose of answering my research questions. For example, a large part of the archive included Mark Zuckerberg's Facebook posts that I deemed irrelevant for the purpose of thematic analysis. These posts might be, for example, a single sentence about an experience surfing or an anecdote about the achievement of his children. These documents then were rejected from the corpus. Secondly, documents which, based upon my judgement, only repeated the arguments or ideas that were already articulated in a document that had been included in the corpus were discarded. Since so many of the documents overlapped, this led to a significant removal from the corpus. Here, the detailed writing of memos was very useful for me so that I could go back and check where the repetitions were coming from, and to double check whether a document could be removed. Lastly, and for practical reasons, I discarded from the corpus documents that were over 75 pages long. I did so because they simply would have taken too much time to code at the depth I was planning. This meant removing some senate hearings from my analysis.

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[199] Martin W. Bauer and George Gaskell, *Qualitative researching with Text, Image and Sound: A Practical Handbook*, (SAGE, 2000), 20.
[200] Ibid.
[201] Bauer and Gaskell, *Qualitative researching,* 23.

This process enabled me to construct a corpus of 371 documents for thematic analysis: 159 from Facebook/Meta Blogs, 192 from the Zuckerberg Files, and 20 from other blogs and digital sources. These documents ranged from a single sentence Facebook post to blogs and interviews which were dozens of pages long. Whilst this process did narrow down the documents greatly, it still left me with a relatively large corpus.

3.5 Thematic Analysis

Thematic analysis relies on coding, a process of identifying an important moment in text and encoding it before beginning interpretation.[202] A code "is most often a word or a short phrase that symbolically assigns a summative, salient, essence capturing, and/or evocative attribute for a portion of language-based or visual data".[203] Traditionally, thematic analysis makes a distinction between those who utilise an inductive approach and those who use a deductive approach. Deductive coding begins "with a set of a priori codes" developed, for example, in reference to a previously accepted conceptual framework.[204] In contrast, inductive coding requires that one begins the analytical process with as an open a mind as possible, letting codes spontaneously emerge from texts. Yet, as Bernard and Ryan note, "In practice, induction and deduction are used by all empiricists".[205] Inductive and deductive processes are never completely separate but, instead, as Saldana argues, exist in a "dialectical" relationship, "One cannot help starting a project with some knowledge about what may be found. Yet, investigators must also remain open to new discoveries and constructions of knowledge about the human condition. Otherwise, what is the point of research?"[206]

Recognising the necessity and inevitability of both deductive and inductive reasoning for this research process, I began by utilising a hybrid approach which sought to incorporate both. Specifically, I began by producing two different pilot code books, one which explicitly used deductive coding and the other inductive. To do so I worked with two different samples of fifteen documents from my corpus.

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[202] Richard E. Boyatzis, *Transforming Qualitative Information: Thematic Analysis and Code Development,* (SAGE, 1998).
[203] Johnny Saldana, *The Coding Manual for Qualitative Researchers,* (SAGE, 2021), 5.
[204] Saldana, *The Coding Manual*, 39.
[205] Russell H. Bernard, Amber Wutich, and Gery W. Ryan, *Analyzing Qualitative Data: Systematic Approaches*, (SAGE, 2010), 326.
[206] Saldana, *The Coding Manual*, 41.

3.5.1 Deductive Codebook

For my initial deductive codebook, I produced 40 codes that were guided by my then conceptual framework. This earlier version of my conceptual framework was primarily concerned with questions of historical time, future imagining and retellings of the past. Thus, the deductive codes that I developed for this codebook reflected this temporal lens. Initial basic codes here included 'Past Futures' and 'Not Yet'. Using this initial codebook, I then undertook a pilot study of a sample of fifteen documents. These documents were chosen to cover the entire timeline of this thesis, to reflect a range of different authors, and different types of documents, i.e. blogs, interviews, social media posts. The purpose of this pilot study was to begin seeing how effective these codes were at capturing the essence of the texts. Inevitably, in this early stage of the coding process, many of the codes shifted and merged. For example, I initially had separate codes such as 'Vision of the Future' and 'Prediction for the Future', however, in this initial coding pilot it became untenable to keep these separate as they overlapped so much.

Beginning with an explicitly deductive approach was important for several reason. Firstly, my research revolved around a relatively large archive and corpus. A deductive approach enabled me to scope out key areas of interest for my thesis within this broad corpus. It was a practical way of making such a large project manageable. Secondly, it made explicit the impossibility in this research of using a purely inductive approach. A purely inductive approach may be appropriate for an analysis of texts that the researcher had not yet examined. However, I began this stage of research having already studied much of historiography of Facebook and, through my archival collection, already having gone through several rounds of reading and analysis. Therefore, I judged that I would inescapably bring with me ideas about the terms, concepts, and ideas which would be important for this intellectual history. Using a deductive approach helped me initially and explicitly bring those pre-developed ideas to the forefront of my analysis.

3.5.2 Inductive Codebook

The second codebook was based upon a more inductive approach. Here, I drew upon the premises of Charmaz' constructivist Grounded Theory. [207] A constructivist grounded theory largely retains the defining pragmatist characteristics of traditional grounded theory. Researchers are expected to simultaneously collect and analyse data creating analytic codes and categories from it rather than from pre-existing theoretical positions. Themes and codes are refined as new data is examined, and eventually the researcher integrates their categories into a theoretical framework. However, a constructivist grounded theory also highlights how the researcher's perspective is a key part of the inductive process. Thus, the phenomena under observation and the research process are understood as being constructed by researchers. Given this, a constructivist grounded theory highlights how "historical, social, and situational conditions' shape the researcher's actions and outlook, and, consequently, the research they produce".[208] Grounded Theory then requires the researcher to be reflexive in the process, which I will consider in more depth later in this chapter.

For the inductive codebook, I conducted a separate pilot study of a sample of fifteen alternative documents, which similarly ranged across time and source type. Printing out these documents I allowed myself to write down whatever codes emerged through my reading of the text. Although I recognise that I was still inevitably influenced by an array of factors, positionalities, and past readings and analysis, I attempted to let codes spontaneously arise. Through this process, I initially produced over 400 codes. I then worked with these codes to cluster them together and reduce them to only 40.

What occurred with this more inductive approach was the emergence of codes that complicated my initial theoretical framing. Specifically, through this process it became evident that analysing temporality in discourse without reference to spatiality was intrinsically limiting. In the pilot sample, themes around history and temporality were intertwined with spatial imaginings and terms. Codes and terms which were miscellaneous to my theoretical framework, and not covered in my deductive codebook, emerged strongly and consistently in the texts. I made the judgement that this consistent strand couldn't be discarded but required me to re-engage with my theoretical framework and scope of research, incorporating a focus not only on time but also on space.

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[207] Kathy Charmaz, *Constructing Grounded Theory,* (SAGE, 2014).
[208] Kathy Charmaz, Robert Thornberg, and Elaine Keane, "Evolving Grounded Theory and Social Justice Inquiry," in *The Sage Handbook of Qualitative Research*, ed. N. Denzin and Y. Lincoln, (SAGE, 2018), 721.

In highlighting this progression, I want to emphasise the iterative nature of the thematic coding process I undertook. In this example, we see how I was forced to constantly to-and-fro between different stages of coding that are often presented as linear. Bauer & Gaskell rightly emphasise that "What appears as a sequence from conceptualization to sampling to coding is actually an iterative process, and piloting is essential."[209] My decisions at this stage of the research reflect the iterative nature of qualitative research, the constant moving back and forth between theory and data.

3.5.3 Merging Codebooks, Coding documents

After this initial process of developing two separate codebooks, I worked to merge these codebooks together and organise the basic codes into clusters under broader themes. At this stage, I worked with principles of Thematic Network Analysis set out by Attride-Stirling (2001).[210] This approach distinguishes between basic codes, organising themes and global themes. A basic code is the lowest-order theme derived from the textual data. It is a simple premise that is characteristic of the data. Although a basic code says very little on its own, when it is read in the context of other codes, it enables the researcher to derive an organising theme. Organising themes are middle-order themes that arrange basic themes into clusters of similarity. An organising theme should convey the principal assumption of a group of basic codes. Global themes are a level of abstraction beyond the other two. They arrange sets of organising themes "that together present an argument, or a position or an assertion about a given issue or reality".[211]

Initially, I worked to bring together the two codebooks to produce 40 basic codes that I would then use to analyse my corpus as a whole. Over several weeks, I worked with the basic codes, ensuring that they could encapsulate a set of ideas over many segments of text, whilst being discrete enough to have clear boundaries.[212] Simultaneously, I sought to arrange these basic codes, separating them into coherent groupings under an organising theme. Clusters of basic codes were centred on larger issues at a higher level of abstraction to make these organising

[209] Bauer and Gaskell, *Qualitative researching,* 138.
[210] Jennifer Attride-Stirling, "Thematic Networks: An Analytical Tool for Qualitative Research," *Qualitative Research* 1, no. 3 (2001):385-405, https://doi.org/10.1177/146879410100100307.
[211] Attride-Stirling, "Thematic Networks," 389.
[212] Attride-Stirling, "Thematic Networks," 391.

themes. It took many rounds of playing with codes and reclustering them under organising themes to arrive at a stable set of organising themes.

However, even at this stage I was left with several basic codes that had emerged from the inductive codebook which I had great difficulty classifying under an organising theme. Refusing to discard these, I initially clustered them into a miscellaneous theme, hoping that as I went back to the texts, some of the connections would become clearer. I also found it too difficult at this stage to reduce my basic codes into any less than 50. Again, I decided to proceed with coding my documents in the hope that during this process of returning to the documents, codes would continue to merge and reduce.

With these initial 50 codes clustered under organising themes, I began analysing my 372 documents of the corpus using the software Nvivo. Over the first 20 documents analysed, I continuously went back to my codes and organising themes, allowing them to move and merge as I encountered the documents. This iterative process was particularly productive. Some codes disappeared as I realised that they were less relevant, others merged together as I realised broader codes could be of great value, and miscellaneous codes suddenly found there place under organising themes and global themes, often being some of the most revealing codes.

One of the difficulties with thematic analysis is that because of the intrinsic unpredictability of the qualitative analysis, and the iterative nature of coding, it can be almost impossible to know how long the analytical research will take.[213] In this thesis, from the beginning of the process of constructing the corpus to the end of the thematic analysis, took roughly 18 months of document analysis.

3.6 Reflexivity

Having argued that all knowledge is situated, it is important here to be critically reflexive about how this research emerges from my own positionality as a researcher. As Dean notes,

[213] William J. Gibson and Andrew Brown, "Using Technology," In *Working with qualitative data,* (SAGE, 2009), 176-191.

"Social research requires us to account for our humanness."[214] Although my research didn't involve human subjects or interviews, it did include, as every history must, the selection of certain documents and the discarding of others, the elevation of certain quotes and the removal of others, the decision to give voice and to take it away. Finlay argues that a researcher needs to "leave room to explore the relevance of their position in producing (imperfect, partial) knowledge".[215] Here then, I hope to create the space to consider my own positionality and perspective.

I understand reflexivity as a process of "reflecting critically on the self as researcher".[216] A reflexive approach requires me to question my choice of research problem, alongside the multiple identities that situate my research.[217] In the following then I will reflect on the institutional, disciplinary, and personal contexts and positionalities, such as ethnicity, social class, and nationality, which "continually form, shape, and redefine our identity, and therefore the ways in which we approach and conduct our research".[218]

Perhaps most importantly, this research was based at the London School of Economics and Political Science (LSE), an elite university based in the West and the Global North, and in one of the major global cities. I wrote this project as a British person from, broadly, the south of England, at an institution less than 60 miles from where I was born and in the city that I had been living and working in for years before this. I note this because I was the only person amongst my PhD colleagues to be in this position. This meant that I wasn't having to deal with visa issues, with the challenges of moving to a vastly different country, culture, and climate. Nor did I have to deal with visa issues going to conferences and conducting research in America, which was near-to-impossible for some of my colleagues. As I progressed through these years, along with my colleagues, it became increasingly evident that my own positionality at LSE, my accent and my appearance, afforded me a certain legitimacy in undertaking this research at all. I rarely faced any scrutiny over whether I, with my own identity markings, had the right to be attempting to tell this story. Having grown up speaking English as a first language, I also never had to work at any stage of this process, with a

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[214] Jon Dean, *Doing Reflexivity: An Introduction*, (Policy Press, 2017), 1.
[215] Linda Finlay, "Negotiating the swamp: The opportunity and challenge of reflexivity in research practice," *Qualitative Research* 2, no. 2 (2002): 207. As quoted in: Dean, J, *Doing Reflexivity*, 2.
[216] Lincoln, Lynham and Guba, "Paradigmatic Controversies," 246.
[217] Linda Alcoff and Elizabeth Potter, *Feminist epistemologies*, (Routledge, 1993).
[218] Jenny Moore, "A personal insight into researcher positionality," *Nurse Researcher* 19, no. 4 (2012):11.

language which I wasn't a native speaker of. This context meant that I was never forced to view the world outside the linguistic lens which I felt comfortable in.

I recognise that this research is intrinsically produced from the UK and from Europe, with the particular and limited perspective that this affords. This became very clear to me whilst I was visiting archives in Silicon Valley and speaking to people who were working in the technology sector there. It quickly became apparent just how vastly different the cultures and ways of seeing the world were in Palo Alto compared to London and perhaps more broadly to England. This experience made me aware of just how much I view events and discourse through my own particular positionality. Similarly, undergoing this PhD process with colleagues who originate from many different cultures and continents, was a formative experience for my own research, helping me partially to see my own knowledge production and intellectual priorities as particularly European.

I grew up in an economically privileged family which would have identified itself as middle-class, although probably more accurately, would be thought of as upper middle-class. Both my parents worked at or around the university sector which also gave me a huge amount of cultural capital going through this process, being able to receive advice from them. Before beginning the PhD, I had savings from working previously which meant that, although I taught several courses throughout these years, I wasn't forced to overload on teaching courses, a challenge that many of my colleagues faced. It seems likely to me that this class position has shaped my own interest in intellectual history and my bias towards cultural analysis, over and above the political economic. I became particularly aware of this tendency when I visited San Francisco and Palo Alto. Spending a few weeks there, I could see and experience the vast and dystopian inequality of San Francisco. Walking through areas which, only two decades earlier were at the centre of the start-up culture there, but were now completely run down, and lived in by thousands of people struggling without a home and with drug dependencies. Throughout those weeks, I returned to my codes in a panic, concerned that I had allowed my own intellectual curiosities, such as an interest in the temporal lens, blind me to what in that moment felt like the only 'real issue' of the political-economic consequences of this company and the culture it helped form. From this experience, I wanted to ensure that I didn't lose sight of the consequences of these ideas and conceptual schema, nor the realities that it helped make invisible.

Finally, I want to recognise how historical processes impacted on the writing up of this thesis. Horrifying events such as the war in Ukraine and the violence, destruction and genocidal actions in Israel/Palestine often made me question the point of doing research. Being involved in anti-war and pro-Palestinian activism was a completely draining experience during the PhD, so too was entering and being in classrooms and conferences as the only Jewish person there, having to defend or explain my presence and politics. Most recently, the convergence between Big Tech and President Trump's far-right and globally destructive government made me question whether my own research could stand up in the face of these developments. I hope that it does.

Chapter 4
Four Discursive Contexts in Western Intellectual History

In this chapter, I draw primarily on secondary literature to set out a broad historical background before, in the following three chapters, I build on my own archival corpus to analyse the language and concepts of actors in and around Facebook. Here, in this chapter, I employ a 'big' historical approach.[219] I do so in order to make visible the larger historical processes and rhythms which underly Facebook's discourse. Taking this wider historical lens, I suggest, can help us uncover and examine the less comfortable content and deeper lineages of the narratives that Big Tech pose. To do so, I set out a "transtemporal history" examining four different discursive contexts drawn from the history of Western intellectual thought which, I suggest in this thesis, are significant for a later analysis of Facebook's own intellectual development in the first two decades of the 21st century.[220]

In each discursive context under analysis, I interrogate how actors came to forge a particular way of imagining, talking about, and interacting with time, space, and knowledge production. Thus, throughout this chapter I am concerned with this macro-thematic thread: how were spatiality, temporality and epistemology discussed and structured by intellectuals in each context. Whilst in each context I might focus on particular thinkers and texts, I seek to place these texts within a broader discursive context, which itself was facing interventions and being contested over by an array of actors.[221]

By splitting this chapter into four distinct contexts, I intend to show not only how earlier contexts might have influenced later ones, but the differences and distinctions between them. In other words, I highlight how in each context different temporal, spatial and epistemological formulations, and interconnections between them, emerged and were contested over. I also seek to show how in each context, whilst there may have been a dominant horizon, a hegemonic way of imagining and talking about spatiality, historical time, and epistemology, there were always competing subordinate horizons and 'worldviews'.[222]

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[219] David Armitage, "What's the Big Idea? Intellectual History and the Longue Durée," *History of European Ideas* 38, no.4 (2012): 493-507, http://dx.doi.org/10.1080/01916599.2012.714635.
[220] Ibid.
[221] For more on the concept of discursive context, see 2.3.
[222] Gramsci, *Prison Notebooks.*

I begin this chapter in the early 17th century and analyse the emergence of empiricism, the scientific method, and its intimate coupling with early European colonialism. In this section, I consider how colonial 'discovery' enabled European intellectuals to imagine and reorder global space in a particular way. Discovery, as a metaphor, slipped from the geographic domain and into the epistemological, supporting a new horizon for imagining and ordering knowledge, as well as having a profound impact on how time came to be experienced. Here then, I focus on what we can call, following Aníbal Quijano, an emergence of Coloniality and Modernity/Rationality in the English-speaking world.[223]

In the second section, I analyse the discursive context in the 'West' surrounding the emergence and spread of the electric telegraph in the late 19th century.[224] In particular, I explore how this technology was made sense of in relation to the historical time of progress, which had swept through much of Europe and America. Alongside this dominant and hegemonic mode of historical consciousness, an alternative way of imagining and ordering global space also emerged, one which was based upon universality. This spatial ordering existed alongside and in competition with an inherited and evolved version of the earlier colonial spatial ordering based upon a division between Europe and the rest of the world.

Next, I analyse how the emergence of modern computers propelled American intellectuals to reassess how knowledge could be produced, information transmitted, and how nature could be controlled. Here then I suggest that the development of cybernetics and information theory produced a new ontological and epistemological framework for viewing the world. What emerged alongside this framework was a different way of thinking about space, one which was based upon 'information space'. Occurring during and in the immediate years after WWII, this context was also marked by a crisis in progressive time. Together, this discursive context saw the emergence of a different horizon for understanding and structuring the world.

In my final section, I explore the discursive context underlying the emergence of the 'World Wide Web' and the end of the Cold War. Here, actors merged aspects of cybernetic information space with earlier spatial ideals of universality. At the same time, the spread of

[223] Aníbal Quijano, "Coloniality and Modernity/Rationality," *Cultural Studies* 21, no. 2-3 (2007): 168-178, https://doi.org/10.1080/09502380601164353.
[224] By the 'West', I mean here Europe and nations and peoples descended from Europeans, including the United States and Canada, as well as for example, Australia and New Zealand.

the internet was accompanied by a fractured relationship to time; there was no one dominant way of imagining historical time as unfurling, but instead different historical orientations.

Later, in Chapters 5-7, I will consider how actors in and around Facebook came to inherit logics, concepts, and language from these earlier discursive contexts, reassembling them in new ways so as to make sense of the events and phenomena which they were encountering. At the same time, I seek to use this chapter to not only provide a story of what Facebook inherited but also, what was left behind. What was important in these different discursive contexts which later was lost, ignored, or erased? How can we understand the concepts, times and spatial orders which, I will argue, later interfolded into an ascendent Big Tech hegemonic horizon, alongside these earlier dominant ways of imagining and talking about space, time and knowledge?

4.1 Colonialism and Science: Discovering and Covering

In this section, I explore the discursive context which emerged in the mid-17th century as European intellectuals engaged with the discovery and early colonisation of the Americas. In particular, I explore how these developments led to a widely accepted reimagining and reordering of global space which manifested in an international legal framework, the beginnings of 'International Law' itself, based upon a hierarchical division between Europe and the rest of the world. At the same time, this colonial framework forged with a new epistemological framework based upon the controlling and experimentation of nature. I suggest that the discovery of the 'New World' had a profound impact on the epistemological framework of European intellectuals and the organisation of knowledge. Here, I focus particularly on the emergence, in the English-speaking world, of early empiricism and what I will call a 'scientific worldview', part of an emergent and ascending horizon which would later become hegemonic. I depict this worldview as existing in confrontation with other European horizons of thought, such as Aristotelian scholasticism and renaissance humanism. Finally, I outline how the spread of metaphors of 'discovery' and 'the new', led to the beginning of a shift in how historical time came to be experienced, one which led to a more future-oriented consciousness.

In the 15th and 16th centuries, the European world was discovering a new global space within which it existed. In response, European thinkers were constructing ways of responding to,

imagining, and ordering this global space. European powers had, in the words of legal theorist Carl Schmitt, developed "global linear thinking",[225] and soon began to divide the world up:

> No sooner had the contours of the earth emerged as a real globe - not just sensed as myth, but apprehensible as fact and measurable as space - than there arose a wholly new and hitherto unimaginable problem: the spatial ordering of the earth in terms of international law.[226]

As 'new' land was 'discovered' by European powers, "lines were drawn to divide and distribute the whole earth".[227] For example, in 1493 Pope Alexander VI issued four papal bulls distributing the globe between Spain and Portugal.[228] One of these, the *Inter Caetera Divinae* ran from the North Pole to the South Pole, 100 miles west of the meridian of the Azores and Cape Verdant.[229] Thirty years later, a treaty between Spain and Portugal moved the line of demarcation 1,110 nautical miles west of the Cape Verde Islands. Further negotiations over the distribution of global space amongst European powers continued in the decades and centuries that followed through the issuing of papal bulls, raya lines, and amity lines.[230] Whilst these attempts at dividing and distributing the globe were initially drawn geometrically across the surface of the known globe, in the following centuries, as scientific and cartographical knowledge improved, the planet was distributed and divided in the most minute detail.

In Europe, intellectuals debated as to whether these new lands could be said to be the possession of indigenous people or instead were owned by nobody (*res nullius / terra nullius)*.[231] Intellectuals located in the centres of colonial power, such as Francisco de Vitoria in Spain and Hugo Grotius in Holland, sought to make sense of these discoveries and offer

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[225] Carl Schmitt, *The Nomos of the Earth in the International Law of the Jus Publicum Europaeum*, trans. G. L. Ulmen, (Telos Press, 2003 [1950]), 87.
[226] Schmitt, *Nomos,* 86.
[227] Schmitt, *Nomos,* 86.
[228] Lincoln P. Paine, *The Sea and Civilization: A Maritime History of the World*, (Vintage Books, 2015), 360.
[229] Paine, *The Sea*, 360.
[230] There is some historical debate over the importance of amity lines, which Schmitt emphasises. See: Peter Stirk, "No peace beyond the line," in *Spatiality, Sovereignty and Carl Schmitt*, ed. S. Legg. (Routledge, 2011). https://doi.org/10.4324/9780203815823-31.
[231] For example, see: Hugo Grotius, *Hugo Grotius: On the Law of War and Peace,* ed. S. C. Neff, trans F. W. Kelsey, (Cambridge University Press, 2012 [1625]). https://doi.org/10.1017/CBO9781139031233.; Francisco De. Vitoria, *Vitoria: Political Writings*, ed P. Lawrance and A. Pagden, (Cambridge University Press, 1991.) https://doi.org/10.1017/CBO9780511840944 ; John Locke, *Second Treatise of Government*, ed. C.B. Macpherson, (Hackett, 1980 [1689]).

accounts as to how this global space ought to be legally ordered, and the extent to which indigenous people could be said to have rights over the land. In the English-speaking world, John Locke developed a sophisticated and comprehensive political framework for legitimating the occupation and settling of these territories, arguing that without cultivating and "improving" the land, indigenous people had no right over it.[232]

By the 17th century, what emerged most prominently in this new international legal framework, this attempt to newly order global space, was the accepted hierarchical distinction between European and non-European space. European space was recognised as being formed by equal states whilst non-European space was imagined and institutionalised as being free for exploration, occupation and colonisation. Whilst European powers competed to discover, chart, and control non-European space, they simultaneously developed and strengthened legal systems which recognised the European spatial order and its state members.[233] Thus, this discursive context was dominated by a global spatial imagining and ordering which split the territorial world into two. Meanwhile, away from territory, the sea was constructed as a totally free space and intrinsically outside the jurisdiction of any entity.[234] The sea became a spatial sphere which bounded and limited the scope of territorial control.

What emerged was not only this spatial reordering, and the beginnings of an international legal framework based upon it, but a parallel rise of transnational corporate power. These corporations, such as the Virginia Company and the East India Company, were founded as joint stock companies, a recent financial innovation which enabled the raising of funds through passive investors in exchange for stocks.[235] In the first decades of the 17th century, for example, the East India Company gained millions of pounds from investing rounds, attracting much of London's elite.[236] From the start, these companies existed in an intertwined and increasingly symbiotic relationship with the English state, who conferred them the right to exist, and expected wealth and influence in return. It was these transnational

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[232] Locke, *Second Treatise,* 29.
[233] At the same time, non-Western global powers, which could rebuff earlier attempts of Western colonialism, such as China and the Mughal Empire, were weakening and losing control over their territory. See: J. C. Sharman, *Empires of the Weak: The Real Story of European Expansion and the Creation of the New World Order*, (Princeton University Press, 2019).
[234] See: Hugo Grotius, *The Free Sea,* trans. R. Hakluyt, (Liberty Fund Inc, 2004 [1609]).
[235] In 1613, the East India Company raised £418,000. Four years later, in their second round they raised £1.6 million. William Dalrymple, *The Anarchy: The Relentless Rise of the East India Company*, (Bloomsbury Publishing, 2020), 20.
[236] Francis Bacon, for example, held membership of the East India Company from 1618. See: Samuel Garrett Zeitlin, "Francis Bacon on Imperial and Colonial Warfare," *The Review of Politics* 83, no. 2 (2021): 196-197.

companies which financially and militarily defended and upheld the spatial and legal ordering which emerged in this discursive context, building military forts and cities, and engaging with foreign powers. As they grew in wealth and power, these companies increasingly sought to influence the state, seeking greater independence to extend their own military might and violent practices, whilst promising to extend the influence of the burgeoning British empire.

As this spatial and legal framework was debated by European intellectuals, and extended by transnational corporate power, a brutal process was occurring in the Americas, in which European powers erased and destroyed the epistemological and ontological frameworks that indigenous peoples, as well as African people who were enslaved, held. This was partially enacted through mass death and genocide. In what is now Central America, it is estimated that about 65 million inhabitants were killed in less than 50 years.[237] The introduction of Eurasian and African diseases led to the death of between 80- 95% of the population of the Americas.[238] But it also occurred through a conscious "colonization of the imagination of the dominated".[239] Colonizers worked to both impede the ability of indigenous people to produce their own culture and pass down their own worldviews, whilst simultaneously forcing a new way of imagining the world onto them. With what became the trans-Atlantic slave trade, European powers were able to conduct a trans-continental genocide. Millions of Africans were sold and transferred in abhorrent conditions to the American continents. For those who survived, they faced not only slave labour but also "epistemicide", "Africans in the Americas were forbidden from thinking, praying or practicing their cosmologies, knowledges and world views."[240]

Whilst colonisation, through processes of genocide and 'epistemicide' led to the near destruction of the worldviews of indigenous and African peoples in the Americas, it, as already noted, cemented a particular imagining and ordering of global space amongst European intellectuals. Yet, it also fostered a rupture in how European intellectuals came to understand their own relationship to knowledge. The newly found 'global space' no longer corresponded to the classical geography that Europeans had inherited from their past. Ancient texts seemed to offer no guide for making sense of this discovery; only new forms of knowledge could make sense of this shift. In the 17th century, the metaphors of 'discovery'

[237] Quijano, "Modernity/Rationality," 170.
[238] Paine, *The Sea*, 344.
[239] Quijano, "Modernity/Rationality," 169.
[240] Ramón Grosfoguel, "Epistemic Racism/Sexism and the Four Genocides/Epistemicides of the Long 16th Century," *Human Architecture: Journal of the Sociology of Self-Knowledge* 11, no. 1 (2013): 84.

and ‘the new’ increasingly crossed over from exploration and cartographical mapping into broader scientific and philosophical discourses, especially amongst intellectuals residing at the centre of European colonial states.[241] We can see this clearly through the writings of Francis Bacon, the emergence of a scientific method and worldview, and its distinction from alternative hegemonic and counterhegemonic horizons of Aristotelian scholasticism and renaissance humanism.

In 1621, Bacon published *Novum Organum* (The New Instrument) in which he promised nothing less than a new way of understanding, imagining and ordering knowledge and science.[242] The book’s title reflects two central aspects of Bacon’s thinking: that knowledge should be instrumental, that it should be put to work, and that knowledge should be concerned with the new, with discovery. Throughout this book, Bacon emphasised the intimate intertwining of colonial discovery and scientific discovery. Indeed, *Novum Organum* opens with an image of European ships leaving port, presumably setting out on a voyage of discovery or commerce, perhaps to the New World.

In *Novum Organum,* Bacon sets out a method for scientific discovery and the production of knowledge based upon “induction”.[243] An inductive approach began with experimentation and a search for “rejections and exclusions” of what we would today call hypotheses. Eliminating false ideas through experimentation, Bacon argued, would lead to an “axiom”, built upon experiential particulars, of how nature worked.[244] What Bacon was articulating was an early form of and basis for what would later be called ‘the scientific method’. Its focus on empiricism, experimentation, and utility became the basic framework for an expansion in empirical and utilitarian research in England and later the English-speaking world and was the basis of the foundation of the Royal Society, the oldest scientific society.[245]

Whilst Bacon was outlining a new horizon for thinking about knowledge, he also used *Novum Organum* to deride and cover over older and alternative horizons of understanding

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[241] For example, Robert Hooke, a member of the newly established Royal Society, could describe the microscope as opening up new territory for discovery in the realm of the very small. See: Peter Dear, *Revolutionizing the Sciences: European Knowledge and Its Ambitions, 1500-1700*, (Princeton University Press, 2009), 6.
[242] Francis Bacon, *Francis Bacon: The New Organon,* ed. L. Jardine and M. Silverthorne. (Cambridge University Press, 2000 [1620]).
[243] Bacon, *New Organon*, 16.
[244] Bacon, *New Organon*, 17.
[245] Dear, *Revolutionizing the Sciences,* 55-60.

and structuring the world. Most explicitly, Bacon sought to overwrite an approach to knowledge, built upon a combination of Aristotelian philosophy and church theology, which over the previous millennia had permeated much of European intellectual thought. Under this Aristotelian framework, the philosopher was required to observe the natural world, analysing these observations and deducing from them how phenomena related to one and another. What emerged was a complex taxonomic system which offered a means of explaining what things were and why they behaved as they did.[246]

Whereas Aristotle's science was concerned with contemplating and categorising what nature appears to be and do, Bacon's experimental investigation sought to show what nature could be used to do, what it could be forced to reveal. Bacon scorned Aristotelian natural philosophy because it only had ambitions of explanation rather than the discovery and instrumentalization of knowledge, "The true and legitimate goal of the sciences is to endow human life with new discoveries and resources."[247] Contrasting this new scientific approach with Aristotle's, Historian Peter Dear notes that "Aristotle's world, rooted in sense-experience, was always addressed to the position of human observers, not to that of some transcendent, godlike being viewing the whole from the outside."[248] By contrast, Bacon positioned the human researcher as outside nature, experimenting and controlling nature, for its own purpose which God ordained 'Man' to have. As Bacon argues, "Just let man recover the right over nature which belongs to him by God's gift, and give it scope; right reason and sound religion will govern its use."[249] The emergence of this early scientific method based upon an epistemological shift in which the scientist was imagined as standing outside nature, as experimenting and viewing nature from an almost God-like viewpoint.

By contrasting Bacon's work with the Aristotelian horizon, we can see how what Bacon was expressing in *Novum Organum* was not simply a scientific method but an emergent hegemonic 'horizon'. This was a way of understanding and structuring the world in which 'nature' was transformed into something which 'Man' had the right to manipulate and control to gain knowledge. Here, humans and nature were understood to be distinct from each other;

[246] For example, from this perspective, experience suggested that the earth was the centre of a spherical universe, whilst the heavens were imagined to follow different rules from what which was observed on earth. Whilst things on earth fell, the heavens did not.
[247] Bacon, *New Organon*, 66.
[248] Peter Dear, *Revolutionizing the Sciences: European Knowledge and Its Ambitions, 1500-1700*, (Princeton University Press, 2009), 10.
[249] Bacon, *New Organon*, 101.

'Man' could be imagined as in some sense standing outside of the world and looking at it from an objective exterior vantage point. People had a duty to not only discover new knowledge but to put that knowledge to work. Bacon would go so far as imagining science and discovery as the backbone for utopia. In 1626, Bacon's unfinished utopian work *New Atlantis* was published.[250] Unlike Thomas More's original *Utopia,*[251] *New Atlantis* did not imagine a radically egalitarian society. Instead, Bacon's utopian society, named Bensalem, was structured around an institution known as Salomon's House. This institution sought an understanding of "the knowledge of Causes, and secret motions of things; and the enlarging of the bounds of Human Empire, to the effecting of all things possible."[252] Salomon's House was "the prototype of a scientific research institute", making Bacon's work distinctive for articulating an early modern technological utopianism.[253]

This scientific worldview emerged after centuries in which an alternative horizon of thought – renaissance humanism - had been challenging the dominance of Aristotelian scholasticism. Instead of relying on Aristotle and orthodox church thinking, humanist thinkers had focused on the study of alternative ancient texts, many of which were being rediscovered.[254] Through a detailed study of ancient authorities, they argued that the previous centuries had led to a corruption of knowledge. Thus, humanists looked to the past, which was imagined as more enlightened, in order to challenge their present decay, "Not progress, but renewal was the humanist watchword. The wisdom of the ancients should be sought, in order to reverse the decline that had been occurring ever since the last days of the Roman empire".[255] These humanist thinkers then emphasised the importance of linguistic analysis, rather than the manipulation of the world, and articulated a sense of historical time which primarily looked back into the past, and sought to renew the past's accomplishments in their present.

Whilst Bacon's scientific worldview emerged from this context, his emphasis on discovery and 'the new', separated his approach from humanist peers. For Bacon, knowledge was primarily produced through new discovery, through the manipulation and control of nature,

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[250] Francis Bacon, "New Atlantis," in *Three Early Modern Utopias,* ed. S. Bruce, (Oxford University Press, 2008 [1626]).
[251] Thomas More, "Utopia," in *Three Early Modern Utopias,* ed. S. Bruce, (Oxford University Press, 2008 [1516]).
[252] Francis Bacon, "New Atlantis," 177.
[253] Michael Robertson, *The Last Utopians: Four Late Nineteenth-Century Visionaries and Their Legacy,* (Princeton University Press, 2018).
[254] As an example, see: Nicholas Copernicus, *On the Revolutions of Heavenly Spheres,* trans. E. Rosen, (John Hopkins University Press, 1992), 4.
[255] Dear, *Revolutionizing*, 31-32.

through experimentation, rather than the rediscovery and re-reading of ancient texts. In fact, Bacon explicitly rejected the authority of ancients,

> We do not think that it is any more relevant to the present subject whether the discoveries to come were once known to the ancients…than it should matter to men whether the New World [that is, America] is the famous island Atlantis which the ancient world knew…For the discovery of things is to be taken from the light of nature, not recovered from the shadows of antiquity.[256]

Here then we can see how in this discursive context, through the 'discovery' of the Americas, three important strands of thinking began to be forged. The discovery and early colonisation of new lands enabled the production of an imagining and ordering of global space which forged a new hierarchy between European space and non-European space, between European people and non-European people. Meanwhile, early colonisation spurred on a new scientific worldview based upon similar metaphors of discovery. In this new framework, nature existed to be experimented upon, controlled, and made to work for 'Man'. Finally, it offered the beginning of an alternative sense of historical time, a shift in a shared 'horizon of expectation' which put greater focus on 'the new'. Together these three strands would interfold into an ascending and hegemonic horizon. This emergent horizon competed with other European intellectual ways of understanding and structuring the world: Aristotelian scholasticism and renaissance humanism.

As we will see in the following three empirical chapters, Facebook's discourse will inherit and adapt aspects of this emergent horizon, with its focus on experimentation, its language of discovery and the new. Similarly, we will explore how Facebook/Meta's envisioning of global space, particularly its discovery/construction of the metaverse, will reassemble colonial language and logics from this discursive context.

4.2 Progressive Time and Universal Space

In this section, I set out and explore the discursive context which existed and evolved alongside the emergence of the electrical telegraph. I will begin by showing how a

[256] Bacon, *New Organon*, 94.

progressive sense of historical time became the lens through which the telegraph was made sense of by Western intellectuals. I will then argue that the emergence of the telegraph helped support two different ways of imagining and ordering global space. Whilst the older division between Europe and the rest of the world, which I introduced in the previous section, is sustained and intensified in this period, a new sense of global space also emerges, one which is based upon universality and globalisation.

The historical time of progress had swept through the imagination and rhythms of people in the European world over the 18th and 19th centuries. Before then, historical time had been experienced in many different ways. As already noted, the humanist wave of intellectual thought had produced a sense of historical time in which the idealised past could never be bettered by the present or the future. At best, the future was imagined as the renewal of past glory. Meanwhile, Aristotelian scholasticism was associated with a sense of time in which history moved cyclically; historical time was depicted as reflecting the circularity of nature and individual ageing of growth, decline, and renewed growth. However, in the 17th century, scholars found themselves "searching for an expression of time that broke from the tether of natural meanings."[257] Francis Bacon, as we've already noted, "denied the authorities of old their standing claim to truth."[258] As the agrarian dominated world "with its recurring famines" transformed into a more industrial society, with new technologies and working roles, there was a sense of breaking through the circularity of time.[259] The Historian Reinhart Koselleck shows how with the onset of the industrial revolution, the conceptual relationship between growth and decay was severed.[260] The experience of seemingly limitless industrial growth suggested an envisioning of growth over time without decline. This vision of growth without decay replaced experiences of historical circulation and denaturalized epochal metaphors, pointing instead towards progress as never-ending growth.

A sense of historical time as progressive, enabled people to conjoin the past, present and future into a "course" which stitched together time into a linear and unfolding developmental story.[261] Most clearly this occurred through the temporalization of everything,

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[257] Reinhart Koselleck, *The Practice of Conceptual History: Timing History, Spacing Concepts,* trans. T. Presner, K. Behnke, and J. Welge, (Stanford University Press, 2002), 226.
[258] Ibid.
[259] Koselleck, *Conceptual History,* 234.
[260] Koselleck, *Conceptual History.*
[261] Zoltán B. Simon, *History in Times of Unprecedented Change: A Theory for the 21st century*, (Bloomsbury Publishing, 2019).

"temporalization…in the eighteenth century, encompassed more and more spheres of human experience and expectation. Out of the system of nature came a history of nature, out of the laws of political order come the laws for their constant improvement." [262] Every aspect of life came to be seen as part of a historical process. Time was experienced as directional. The present was imagined as one developmental step in a greater teleology. The future, rather than being broadly the same as the present and the past, was imagined as holding bounty and riches, which weren't yet available. Alongside this temporalization, "the subject of progress was universalized".[263] Increasingly, one spoke not only of the progress of science or technology, but also of the progress of humanity as a whole. Progress itself became an historical agent.

The pervasiveness of progress was nowhere more clearly articulated than in the stadial philosophies of history emerging from Immanuel Kant, Georg Wilhelm Friedrich Hegel and Karl Marx. All three depicted historical progress "in the strongest possible terms, as a necessary, inevitable, and unified process"; history was teleological, progressing towards an inevitable better, whether that was world peace, the self-realisation, or communist utopia.[264] Societies and cultures were marked upon a hierarchical scale of 'development' and 'progress', with the non-European world falling somewhere on a scale of inferiority. Embedded in all three accounts was a European way of viewing global history, particular to this geographical and historical context, claiming a universal historical perspective.[265] For example, in the *Phenomenology of Spirit,* Hegel set out both a philosophy of history and a history of the world based upon the directionality of progress. In it, Hegel pursued a historical-philosophical argument of progress through stages whereby individuals, communities, and the global emerge to gain a reflective sense of self, and with it freedom.[266] For Hegel, history became an actor in its own right, "the march of history can be seen as the succession of such communities, the earlier ones being very imperfect expressions of what the later ones will embody more and more adequately."[267] For Hegel, indigenous peoples

[262] Koselleck, *Conceptual History,* 228.
[263] Koselleck, *Conceptual History,* 229.
[264] Amy Allen, *The End of Progress: Decolonising the Normative Foundations of Critical Theory,* (Columbia University Press, 2016), 8.
[265] Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference*, (Princeton University Press, 2008).
[266] G. W. F. Hegel, *Phenomenology of Spirit,* trans. A. V. Miller, (Oxford University Press, 1977 [1807]). See also: G. W. F. Hegel, *Introduction to The Philosophy of History,* trans. L. Rauch (Hacket Publishing Company, 1988).
[267] Charles Taylor, *Hegel*, (Cambridge University Press, 1975), 390.

living in the Americas existed in a condition of "savagery and unfreedom", whilst African peoples existed outside of history itself, holding a "dormant" dialectic.[268] By contrast, Hegel argued that, at the time of his writing, the Prussian state was the culmination of world spirit, of historical progress.[269]

A progressive sense of time saturated seemingly different European ideological and philosophical perspectives. Marxists and Liberals alike saw time as moving progressively. Thus, in the mid to late 19th century West, progressive time was all but a dominant and hegemonic orientation for imagining and experiencing the world; and it was through this historical lens that the electrical telegraph was comprehended by intellectuals in Europe and the United States.[270] The ability to communicate at greater distances was understood to be leading to the end of division and isolation, whilst at the same time the technologies and infrastructures of the telegraph themselves were taken to be evidence of the reality of progress. According to Historian Wolfgang Schivelbusch, this context was pervaded with the idea "that communication, exchange, motion bring humanity enlightenment and progress, and that isolation and disconnection are merely obstacles to be overcome."[271] In the mid-19th century, for example, Charles F Briggs and August Maverick could argue that there was now beginning a "revolution in political and social life, by establishing a more intimate connexion between nations, with race and race".[272] They go on to state that the telegraph was bound to bind "together by a vital cord all the nations of the earth. It is impossible that old prejudices and hostilities should longer exist, while such an instrument has been created for an exchange of thought between all the nations of the earth."[273]

The inventors and engineers behind the telegraph, and the corporations they built, were equally adamant of its role in ensuring the better future which progress heralded. In 1838,

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[268] G. W. F. Hegel, *Elements of the Philosophy of Right,* Ed Allen W. Wood, Trans. H. B. Nisbet, (Cambridge University Press, 1991), §194; As quoted in Goggin W. Ezekial, "Race and Colonialism in Hegel's Philosophy of Religion," *Hegel Bulletin* 45, no. 2 (2024):191, https://doi.org/10.1017/hgl.2024.9.
[269] On Hegel's Eurocentrism, see Enrique Dussel, "Eurocentrism and Modernity (Introduction to the Frankfurt Lectures)," *Boundary 2* 20, no. 3 (1993): 65–76, https://doi.org/10.2307/303341. For an alternative perspective on Hegel's eurocentrism, see: Susan Buck-Morss, *Hegel, Haiti and Universal History*, (University of Pittsburgh Press, 2009).
[270] James W. Carey, "Technology and Ideology: The Case of the Telegraph," *Prospects* 8, (1983): 303–309, https://doi.org/10.1017/S0361233300003793.
[271] Wolfgang Schivelbusch, "Railroad Space and Railroad Time," *New German Critique* 14, (1979): 40. https://doi.org/10.2307/488059.
[272] Carey, "Technology and Ideology," 309.
[273] Ibid.

using the biological language of this discursive context, Samuel Morse could imagine a future in which

> "the whole surface of this country would be channeled for those nerves which to diffuse with the speed of thought, a knowledge of all that is occurring throughout the land; making in fact one *neighborhood* of the whole country."[274]

In fact, Morse could imagine not just a unified national space but the emergence of a unified global space, what he called a "global village" in which all people of the world would be connected by the all-encompassing nature of this new communication technology.[275] Here, Morse not only articulated a sense of progressive time, but also an emerging sense of global space as one unified sphere, not marked by division between European and non-European worlds but instead by universality. In the following decades, other technologists, such as Marconi, envisioned a global space which the telegraph and eventually wireless could help sustain. Marconi imagined the creation of a wireless network "girdling the globe", a linked "chain" that would bring the entire planet into a single connected system.[276] According to Media scholar and historian Marc Raboy, Marconi was not only "the first to communicate globally, he was the first to *think* globally about communication."[277]

The production of telegraph cables exploded tenfold from 1870 to 1900, enabling "the emergence of a vast new phase of what we now call globalization."[278] Globalization was inherently tied to an imagining of global space based upon universality, and which undermined the spatial order of early colonialism. Global communication, as well as global free trade, was imagined to be leading to a unified global space. For the British activist Richard Cobden, global free trade held the potential to end war, overcome the boundaries of nations and "help dissolve the bonds of empire."[279] Cobden is one example of a generation of radical proponents of global free trade who imagined the economic policy in almost "cosmic terms as a means of facilitating communication among men and bringing peace to the world."[280] Globalization then stood upon alternative spatial imaginings, promising to

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[274] Carey, "Technology and Ideology," 308.
[275] As quoted in: Carey, "Technology and Ideology," 308.
[276] As quoted in: Marc Raboy, *Marconi: The Man Who Networked the World*, (Oxford University Press, 2016), 268.
[277] Raboy, *Marconi*, 4.
[278] Raboy, *Marconi*, 38.
[279] Duncan Bell, *Victorian Visions of Global Order: Empire and International Relations in Nineteenth-Century Political Thought*, (Cambridge University Press, 2007), 11.
[280] Mark Mazower, *Governing the World: The History of an Idea,* (Penguin, 2012), 39.

challenge the previously clear distinction between European and non-European space, whilst weaving the entire world into a single economic order, and incorporate and override older traditional colonial policies and international law in a new universalist international legal framework. As Schmitt puts it "Over, under, and beside the state-political borders of what appeared to be a purely political international law between states spread a free, i.e., non-state sphere of economy permeating everything: a global economy."[281] Harnessing this sense of global space, the British Empire came to champion free trade and globalization, depicting their own particular way of imagining the world to be, their own values and interests, and shrouding it in this language and spatial order of universality.

Yet this imagining and ordering of global space based upon universality existed alongside, sometimes in competition and sometime coalescing, with the inherited older order of global space, the hierarchical division between European and non-European space. Whilst Marconi could expound the virtue of a global communication network, he could at the same time state that he was working to connect "the civilized globe".[282] When Marconi's company made mistakes, he was able to blame company failures on "half-breeds and negroes".[283] This is to say that alongside a sense of global space as universally unified, was another spatial order based upon the vocabulary of civilization and racial hierarchy, and spatial difference. European capitalism developed in parallel with this colonial spatial framework, working to uphold a hierarchy of territories, values and peoples.

As the historian Duncan Bell shows, for many 19th century theorists technoscientific capacity was "both cause and effect of global hierarchy", the creation of the telegraph "supposedly demonstrated the inherent superiority of European (and especially Anglo) powers even as it provided them with the practical means to maintain it."[284] A progressive sense of time, combined with a stadial understanding of history, had enabled the continuation and intensification of the international law which ordered global space upon a hierarchical division between Europe and the rest of the world, "This bifocal, though fluid, conception of global order provided the theoretical foundations for justifying empire."[285] This bifurcation of global space led to a bifurcation of the rules which covered peoples in these spaces. Whereas

[281] Schmitt, *Nomos,* 290.
[282] As quoted in: Raboy, *Marconi*, 135.
[283] Ibid.
[284] Duncan Bell, *Dreamworlds of Race: Empire and the Utopian Destiny of Anglo-America*, (Princeton University Press, 2020), 35.
[285] Bell, *Victorian Visions,* 10.

international law required certain rules for relations between civilised states in Europe and former-European settlers, it did not require anything of the sort between 'civilised' parts of the world with the 'uncivilised'. For some, the ability to collapse space through the train, the steam engine, and the telegraph, inspired imaginaries of expansive federal communities, of the unification of the Anglo-American world, and of a racial utopianism.[286]

This spatial division of the world was accompanied by the emergence of a violent hierarchy and science of race. Those people deemed non-white and non-European were placed within a growing and ever-complicating racial and temporal scale of value and being. With the all-pervasiveness of progressive time, and the slipping of Darwinian terms into the social and cultural realms, peoples and societies of the world came to be seen as existing on different stages of evolution, whether biological or socio-culturally.[287] The sciences of racial hierarchy and classification merged with the previous centuries of colonial expansion and domination. As Quijano notes, "Unlike in any other previous experience of colonialism, the old ideas of superiority of the dominant, and the inferiority of dominated under European colonialism were mutated in a relationship of biologically and structurally superior and inferior."[288] European colonial domination, and the development of racial and evolutional sciences, enabled imposition of 'racial' and temporal criteria upon "the world population on a global scale."[289]

In the discursive context which existed and evolved alongside the emergence of the electrical telegraph in the Western world, one sense of historical time had become dominant. Progressive time marched through the West becoming hegemonic, and overwriting earlier senses of historical times based upon circularity, or the revering of the past. Yet in this context, different ways of imagining and ordering global space emerged. The earlier division between European and non-European space continued, intensified with a complex and violent hierarchy of race and epistemology. At the same time, a new way of imagining and ordering global space, based upon universality emerged in European thought. This was intimately tied to globalization, free trade, and the imagined possibility of global communication technology.

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[286] Bell, *Dreamworlds.*
[287] Edward. B. Tylor, *Primitive culture: Researches into the development of mythology, philosophy, religion, language, art, and custom. Vol.1,* (John Murray, 1871).
[288] Quijano, "Modernity/Rationality," 171.
[289] Ibid.

The globalization of capital, the global spread of European imperial powers, and of European imperial competition meant that, when war eventually broke out between European powers it did so on an increasingly global scale. In the following decades, over two world wars, much of the material and political-economic infrastructures that sustained European imperial projects were destroyed or irreparably weakened. In the next section, this chapter will consider how, in the context of World War II and a desire for new beginnings, a new ontological framework and relationship to space emerged.

Later, when we turn to Facebook's discourse, we will examine how actors in and around the company came to wield a progressive sense of historical which, we have seen, was so dominant in this discursive context. At the same time, we will explore how Facebook's discourse fluctuated between an envisioning of global space based upon universality, and this alternate global spatial ordering marked by division and hierarchy between the West and the rest of the world.

4.3 Communication, Computation and Control

Whilst World War II brought the destruction of European colonial powers, and the spatial orders which they had been at the centre of, it also brought a transformation in the institutions of American science as vast resources were directed towards new collaboration. From 1939 onwards, siloed fields, disciplines, and academics found themselves flung together by the American state into "new interdisciplinary and interinstitutional collaborations".[290]

It is in this discursive context, of new intellectual interactions, that we can see the beginnings of a new emergent horizon for imagining and structuring the world, with its own particular ontological frameworks and positionings. The development of 'cybernetics' and 'information theory', as well as the increasing generalisability and power of computing, led to new means of imagining control and communication. Within this horizon what also emerged was a discovery of 'information space', and with it the potential for new spatial realms to instrumentalise and extract from. This context, I also suggest, was marked by a crisis in

[290] Turner, *Counterculture to Cyberculture*, 28.

progressive time as the horrors of the atomic bomb and the Holocaust became apparent, and as certain intellectuals engaged with the accelerating speed of computation.

During the war, the scientist and mathematician Norbert Wiener was tasked with the problem of how to track and shoot down enemy fighter planes. Alongside the engineer Julian Bigelow, Wiener produced a statistical means of predicting where in the air an enemy fighter might be at any moment.[291] After struggling on the problem, Wiener made a breakthrough by shifting his own ontological perspective. Wiener came to perceive the human pilot, the plane, and the anti-aircraft gunner as not separate parts to the problem, but instead as a single system, with both human and non-human components. Wiener constructed "a vision in which the enemy pilot was so merged with machinery that (his) human-nonhuman status was blurred."[292] Looking back on this development, Wiener explained that "in order to obtain as complete a mathematical treatment as possible of the over-all control problem, it is necessary to assimilate the different parts of the system to a single basis, either human or mechanical."[293]

Through this ontological shift, Wiener constructed an image of human and machine interrelating and collaborating parts within a "single, highly fluid, socio-technical system", which was self-directing. [294] Central to this perspective, was the nature of circulating information. From an initial military and mathematical problem, Wiener found and constructed a more general problem of how information is communicated through signals in a system. In 1948, Wiener published *Cybernetics: Or Control and Communication in the Animal and the Machine.*[295] In it, he announced that he and his colleagues had created a new science, which he labelled Cybernetics and defined as "the study of messages as a means of controlling machinery and society."[296] This science of messages was also a science of systems, of how signals passed within a flowing and circular system, and in so doing kept that system functioning.

This ontological framework had epistemological consequences, shifting how Wiener and his colleagues came to perceive the world in its entirety. As Historian Fred Turner explains, "For

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[291] See: Peter Galison, "The Ontology of the Enemy: Norbert Wiener and the Cybernetic Vision," *Critical Inquiry* 21, no. 1 (1994): 228–266, https://doi.org/10.1086/448747.
[292] Galison, "The Ontology," 233.
[293] Norbert Wiener, *I Am a Mathematician,* (MIT Press, 1956), 251-52.
[294] Turner, *Counterculture to Cyberculture*, 32.
[295] Norbert Wiener, *Cybernetics: or Control and Communication in the Animal and the Machine,* (MIT Press, 1948).
[296] Wiener, *Cybernetics,* 1.

Wiener, the world, like the anti-aircraft predictor, was composed of systems linked by, and to some extent made out of messages."[297] From this perspective, biological, mechanical and information systems were all seen to be analogous as circular patterns of information, maintained in a state of "homeostasis" through complex feedback-loops. Wiener's cybernetic vision then expanded from the human-machinic system to human physiology itself, and eventually "in a final move of totalization" to the entirety of the natural universe.[298] Wiener came to understand cybernetics as something incredibly expansive, an ontological framing that was universally applicable. This ontological and epistemological framework promised the possibility of seeing and even manipulating 'the whole' of a system, whether that be the body, a computer, or an ecosystem.

At the same time as Wiener was developing this ontological framework, Claude Shannon was finalising his version of information theory, and its particular conceptualisation of information. In 1949, Shannon published *A Mathematical Theory of Communication,* which offered the ability to mathematically represent the conditions of transmitting and processing information.[299] Here, information was defined as an entirely separate entity from the material forms in which it was embedded. Information became a probability function, a pattern which held no dimension or materiality. To construct this theory of information, Shannon had to overwrite what had previously been taken for granted: the connection between information and meaning, between information and its material instantiation. Shannon's formulation covered over something which beforehand had been taken for granted, "for information to exist, it must *always* be instantiated in a medium".[300] The sidelining of materiality and context attracted criticism from Shannon's peers. The British researcher Donald MacKay, for example, argued that a theory of information must take into account what effect information has on its receiver, on the context and material it becomes instantiated in. From MacKay's perspective, information was more an action than a thing to be quantified.[301]

Extracting the concept of information from its material base produced a concept of information that was free-floating and abstract, unaltered by changes in context. Erasing

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[297] Turner, *Counterculture to Cyberculture*, 33.
[298] Galison, "The Ontology," 233.
[299] Claude E. Shannon and Warren Weaver, *The Mathematical Theory of Communication*, (University of Illinois Press, 1949).
[300] Katherine N. Hayles, *How we Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, (University of Chicago Press, 1999), 13.
[301] For more see: Hayles, *Posthuman,* 50-84.

meaning from the concept of information, enabled information to be reconceptualised as a quantifiable entity, a stable value reducible to bits and their transmission. This view of information combined neatly with the cybernetic framework which Wiener had been developing. It supported the cybernetic perspective of viewing feedback loops beyond the boundaries of autonomous conscious subjects, "since feedback loops can flow not only *within* the subject but also *between* the subject and the environment".[302] When information loses its materiality, its relation to context, it becomes far easier extract a person's data from their body, "for the materiality in which the thinking mind is instantiated appears incidental to its essential nature."[303]

It was not only that this perspective enabled these actors to see the world through a systems-perspective, but that it led them to the discovery of a new space. Together, Shannon's information theory and Wiener's brand of cybernetics, led to the discovery of a new spatial realm, which we can call 'information space'. This referred to the previously invisible signals, patterns and feedback loops which existed between different people, components, and elements within broader systems. As this newly found 'information space' was made visible, it was also immediately understood as something that could be manipulated and thus controlled.

In the first section of this chapter, we explored how 17th century Europe produced an early scientific method which depicted nature as something that could and ought to be controlled by 'Man'. Nature could only be forced to reveal its secrets and put to work through forced control and experimentation. In this discursive context, the concept of 'control' once again emerges forcefully, but is discussed in a separate way. Control comes not only through experimenting on 'nature' and thus attempting to identify an axiom or causation, but instead through the production, regulation or engineering of feedback loops within a system. Here, control occurs through communication, through the flow of information patterns, through the manipulation of 'information space'. The term 'cybernetics', which Wiener coined to describe this new science, was taken from the Greek word for "steersman", suggesting the powerful oversight of the cybernetician.[304]

[302] Ibid.
[303] Hayles, *Posthuman,* 16.
[304] Wiener, *Cybernetics,* 11-12.

Initially, Wiener was sceptical of whether cybernetics could be used to make sense of, and control, systems as complex as human social communication. Although Wiener acknowledged the similarities between his systems-perspective and his colleague John Von Neumann's development of game theory, Wiener worried that there simply would never be enough data to understand fully social communication as a self-regulating cybernetic system.[305] Wiener couldn't imagine a means of constantly extracting and analysing the vast amount of latent data on social interactions to have a deep enough knowledge of the social system as a whole:

> "It is certainly true that the social system is an organization like the individual, that it is bound together by a system of communication, and that it has a dynamics in which circular processes of a feedback nature play an important part… my expectations of cybernetics are definitely tempered by an understanding of the limitations of the data which we may hope to obtain."[306]

In only a few years though, Wiener dismissed his earlier worries about a lack of data, arguing that society as a whole surely functioned much like other systems, "society could be seen as a system seeking self-regulation through the processing of messages."[307] Yet Wiener was concerned about the power that this type of control could give to anyone who could harness it. In *Cybernetics,* Wiener warned that such power could warp and destroy the institutions that enable social-democratic society to function.[308] Specifically, Wiener warned that the control of information patterns, if driven by market logics and the desire for profit, could lead to disastrous consequences for people whose life would be in "the hands of the most irresponsible and most venal of our engineers."[309] He warned that humans might let the rise in computing power and automation, increase inequality, and make sections of society subservient to machines and the decision-making processes created by those in power. More fundamentally, Wiener was concerned with the consequences that this ontological and epistemological framework would have for the human subject. For example, he argued that the emergence of automation and "mechanical slaves" would inevitably demean humans, "any labor that accepts the conditions of competition with slave labor accepts the conditions

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[305] John Von Neumann and Oskar Morgenstern, *Theory of Games and Economic Behavior*, (Princeton University Press, 1947).
[306] Wiener, *Cybernetics,* 24.
[307] Turner, *Counterculture to Cyberculture*, 33.
[308] Wiener, *Cybernetics,* 27-29.
[309] Wiener, *Cybernetics,* 28.

of slave labor".[310] Whilst he helped to develop this framework, he simultaneously expressed concerns over how it could diminish the autonomous human subject.

Wiener linked these concerns with a broader crisis in the faith of progressive time that he, and others in this discursive context, were articulating.[311] Against the backdrop of "Hiroshima" and "Belsen", Wiener questioned where his own scientific discovery and findings could go and what they could be used to do.[312] In this context, the emerging bleak reality of the Holocaust and the vast death of atomic bombs, led many Western intellectuals, who had previously not doubted the relentless historical time of progress, to engage with the contradictions and incoherences of this once-totalizing temporal rhythm. They saw how the frontier of science could become the killing of hundreds of thousands of innocent people, as well as ecological destruction. Speaking to the American Philosophical Society, Robert Oppenheimer acknowledged that in creating the atomic bomb, they had "altered abruptly and profoundly the nature of the world…a thing that by all the standards of the world we grew up in is an evil thing."[313] Earlier, in a letter to his former teacher, Oppenheimer admitted that the bomb had transformed the future, which had had so much promise, into something "only a stone's throw from despair."[314] With the invention of the atomic bomb, progress and a better future could never be assumed.

In this context, John Von Neumann not only had a crisis over the progress of history, but became increasingly concerned with the possibility of history accelerating at an exponential pace, and humanity's inability to contain this change or respond to it. After working with both Wiener and Shannon, Von Neumann began theorising the possibility of, and designing, a self-replicating machine which could expand exponentially and evolve in complexity. [315] Von Neumann saw no logical reason why computational systems couldn't be produced to self-replicate, and to expand at an exponential pace, setting off an evolution-like process. The historical-temporal crisis came not only from the threat of the atomic bomb, but for Von

[310] Wiener, *Cybernetics,* 27.
[311] Writing to an old friend, Wiener acknowledged that "ever since the atomic bomb fell I have been recovering from acute attack of conscience…I have seriously considered the possibility of giving up my scientific productive effort because I know no way to publish without letting my inventions go to the wrong." Galison, "The Ontology," 253.
[312] Wiener, *Cybernetics,* 28.
[313] Kai Bird and Martin. J. Sherwin, *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer*, (Vintage Books, 2005), 322.
[314] Bird and Sherwin, *American Prometheus,* 330.
[315] John Von Neumann, *Theory of Self-Reproducing Automata,* (University of Illinois Press, 1966).

Neumann from the potential inability of humanity to "keep pace with what they create". [316] If scientists and engineers could produce computers that could replicate exponentially in power and complexity, humanity itself might be unable to keep up with the speed and power of computational change.

In the years during, and in the immediate aftermath of WWII, what emerged was a different horizon for thinking about and imagining science, information space, and more fundamentally the basis of ontological boundaries. As we will see in the following three empirical chapters, Facebook will come to adapt this ontological framework, and some of its epistemological consequences. Like Wiener's brand of cybernetics, we will see how Facebook's discourse will similarly slide towards an ever-more totalising perspective of systems and the world. Yet whilst Wiener was left uneasy with the potential for an actor, following capitalist logics, to exploit information space and weaken social democratic institutions, Facebook's discourse obscures these concerns.

This horizon which emerged in this discursive context did so in an environment in which the modern computer was developing in generalisability and power. In the next section we will consider an American discursive context nearly half a century later when, not only had computing power accelerated exponentially, and the production and adoption of personal computers had also rapidly accelerated, but those computers began to be connected through the World Wide Web.

4.4 Cyberspaces

In this final section, I consider an American discursive context as intellectuals came to make sense of and interact with the World Wide Web. I begin by considering how a vision of cyberspace emerged, shaped in part by the end of the Cold War, and a context in which one ordering of global space based upon universality and globalization became dominant and hegemonic. I then show how in this discursive context, there existed multiple ways in which historical time came to be experienced and depicted. Neoliberal and cyberlibertarian thinkers struggled to claim control over how to make sense of information space, and the future of computer-human interaction. Against these dominant voices, counter-hegemonic ways of

[316] As quoted in: Ananyo Bhattacharya, *The Man from the Future,* (Allen Lane, 2021), 103.

understanding computers, networks, and their relation to human subjects came to be increasingly concealed.

In 1989, Tim Berners-Lee released the World Wide Web, an information system that set rules for connection and sharing across the internet. In doing do, Berners-Lee catalysed a process in which the internet became both more accessible and more ordered. In 1993, this continued, as the web browser Mosaic "spread like wildfire", offering a more intuitive portal into the internet.[317] According to historian Thomas Streeter, "this was the moment of take-off in the internet frenzy of the 1990s."[318] However, we can't understand how the internet was engaged with outside the particular global political and economic context it emerged in. The collapse of the Soviet Union and the emerging unified neoliberal global economic space provided the context for how the discursive construction of 'cyberspace', and its inherently global framing, arose.

In the same year the World Wide Web was released, increasing swathes of the world were opening up to the economic logics of capitalism, as well as the global institutions that had been championed by the United States and, more broadly, the West. As Historian Gary Gerstle explains, "Everywhere, except in Cuba, North Korea, and perhaps Albania, the once impenetrable Iron Curtain was disintegrating. Capitalism had become aggressively global in a way it had not been since before the First World War."[319] In this moment of American unipolarity, the economic institutions that the United States had previously created, such as the World Bank, the International Monetary Fund (IMF), and the General Agreement on Tariffs and Trade (GATT), became truly global structures, navigating and enforcing the norms and rules of this economic order. In this global space, there was an "increasing geographical mobility of capital", as artificial barriers to the movement of capital and commodities, such as tariffs, exchange controls and border waiting times, were reduced.[320] Its primary objective, David Harvey argues, "was to open up as much of the world as possible to unhindered capital flow."[321] What emerged was an hegemonic imagining and ordering of global space based upon universality, on the seamless flow of information and capital across the globe. It was, in other words, the same imagining and ordering of global space which we

[317] Thomas Streeter, "The Moment of Wired," *Critical Inquiry* 31, no. 4 (2005): 769, https://doi.org/10.1086/444514.
[318] Ibid.
[319] Gary Gerstle, *The Rise and Fall of the Neoliberal Order*, (Oxford University Press, 2022), 146.
[320] David Harvey, *A Brief History of Neoliberalism*, (Oxford University Press, 2005), 95.
[321] Harvey, *Neoliberalism*, 93.

discussed in section 4.2, except with the backing of the United States rather than previously of the British Empire.

Against this backdrop, in which the globe was reimagined and reorganised as a single and unified economic space, the World Wide Web was increasingly being depicted in spatial terms. In 1996, after speaking at the World Economic Forum at Davos, John Perry Barlow published *A Declaration of the Independence of Cyberspace,* in which he announced "I declare the global social space we are building to be naturally independent of the tyrannies you seek to impose on us."[322] Speaking directly to state leaders, he affirmed that "Cyberspace does not live within your borders."[323] For Barlow, computer connection was imagined as producing a new inherently global spatial realm which evades the control, both imaginative and physical, of the nation state. Previous boundaries of space were imagined to be collapsing as more and more people were brought into each other's immediacy.

The collapse of the Soviet Union not only radically reshaped how global space was imagined and ordered but also, in this discursive context, how historical time was experienced. In the summer of 1989, as the Cold War seemed to be collapsing, Francis Fukuyama's 'End of History?' was published in the foreign policy journal *National Interest.*[324] In it, Fukuyama argued that communism as a regime, ideology, and alternative, was over; the West and its enmeshing of democracy and capitalism had won.[325] Fukuyama adapted Hegelian language to argue that with communism's ideological and intellectual demise, only liberalism could claim the mantle to universal history. With the end of this great dialectical struggle, Fukuyama went on, "What we may be witnessing is…the end of history as such: that is, the end point of mankind's ideological evolution and the universalization of Western liberal democracy as the final form of human government."[326] According to historian Daniel Rodgers, previous ways of imagining "large-scale movements of time", such as the Marxist philosophy of history, modernisation theory, and the historian's notion of *Longue Duree*, were increasingly felt to be

[322] Perry F. Barlow, "A Declaration of the Independence of Cyberspace," *Electronic Frontier Foundation,* February 8, 1996, https://www.eff.org/cyberspace-independence.
[323] Barlow, "A Declaration".
[324] Francis Fukuyama, "The End of History?" *National Interest,* Summer 1989, https://www.jstor.org/stable/24027184?seq=1
[325] Fukuyama, "End of History?".
[326] Fukuyama, "End of History?", 4.

incomprehensible.[327] As Rodgers notes, "one might reach nostalgically for a fragment of the past, but the time that dominated late twentieth-century social thought was now."[328]

Looking back at the temporal shifts over the past decades, French historical theorist Francois Hartog argued that the West had entered a "regime of presentism".[329] For Hartog, without the dominating historical time of progress, the future itself had been called into question, and was no longer a given. People in the West existed in the "quicksand of an infinitely expansive interminable present".[330] Manuel Castells argued that this presentist sense of historical time was also embedded in American computer culture. For Castells, the "linear, irreversible, measurable, predictable time" of progress was for many people "being shattered in the network society".[331] What it was being replaced with was a new temporal order, what Castells calls "timeless time" in which the future and past had disappeared into "the ever-present".[332]

Yet in this context, what emerged wasn't one dominant sense of historical time, but instead many different layers of historical consciousness. In direct contrast to presentism, Ray Kurzweil, for example, argued that an exponential development of computing power showed that historical time did not move progressively, but, instead, exponentially.[333] Both evolutionary history and computing history showed, Kurzweil argued, that "the rate of change itself is accelerating", so much so that the near-future would look unimaginably different from the present.[334] An exponential historical time would inevitably lead to what he, borrowing from John von Neumann, called 'The Singularity', a future "rupture in the fabric of human history".[335]

At the same time, libertarian thinkers and futurists developed a cyberlibertarian vision of the future, imagining how the internet would radically reconstitute the experience of space, social and political formations, and economic relations. In 1994, the Cyberlibertarian Esther Dyson and Futurist Alvin Toffler, along with George Gilder and George Keyworth, published

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[327] Daniel T. Rodgers, *Age of Fracture*, (Harvard University Press, 2011), 255.
[328] Ibid.
[329] François Hartog, *Regimes of Historicity: Presentism and Experiences of Time,* trans S. Brown, (Columbia University Press, 2015 [2003]).
[330] Marcus Colla, "The Spectre of the Present: Time, presentism and the writing of contemporary history," *Contemporary European History* 30, no. 1 (2021): 124, https://doi.org/10.1017/S096077732000048X.
[331] Manuel Castells, *The Rise of the Network Society: The Information Age – Economy, Society and Culture,* (John Wiley & Sons, 2010), 463.
[332] Castells, *Network Society,* 464.
[333] Ray Kurzweil, "The Law of Accelerating Returns," In *Alan Turing: Life and Legacy of a Great Thinker,* ed. C. Teuscher, (Springer, 2004).
[334] Kurzweil, "Accelerating Returns," 381.
[335] Ibid.

'Cyberspace and the American Dream: A Magna Carta for the Knowledge Age'.[336] Like Perry Barlow, Dyson and her colleagues saw cyberspace as "literally universal". [337] The future outpouring of internet connection would "play an important role knitting together the diverse communities of tomorrow, facilitating the creation of "electronic neighborhoods" bound together not by geography but by shared interests."[338] Not only would this cyber-future be radically global, it also offered the promise of shedding the social divisions of the past. John Perry Barlow argued that "we are creating a world that all may enter without privilege or prejudice according to race, economic power, military force, or station of birth."[339] This vision of the future was similarly articulated by Bill Gates in his bestselling *The Road Ahead*, in which he argued "[w]e are all created equal in the virtual world".[340]

Cyberlibertarian thinkers, as well as the newly formed *Wired* magazine, adopted and appropriated a set of vocabulary and imagery that had emerged in science fiction, to imagine the computerised world of the future. Over the previous decade, cyberpunk science fiction created an aesthetics which merged low-life and high tech, creating worlds where information technology, artificial intelligence (AI), and virtual reality (VR), combined with themes of societal decay and the rise of corporation power. [341] William Gibson's *Neuromancer* was archetypal of this sub-genre, imagining a future in which a masculine anti-hero hacker has to fight a powerful artificial intelligence.[342] Brimming with new words, such as 'Cyberspace' and 'the Matrix', the vocabulary of Neuromancer spread across and beyond computer culture, with John Perry Barlow adopting the term 'cyberspace' to label the early internet.[343] Meanwhile, in *Snow Crash*, Neal Stephenson imagined a future California in which society was collapsing as corporations scavenged power from a decrepit state.[344] In this imagined

[336] Esther Dyson, George Gilder, George Keyworth, and Alvin Toffler, "Cyberspace and the American Dream: A Magna Carta for the Knowledge Age," *The Information Society* 12, no. 3 (1994): 295-308, https://doi.org/10.1080/019722496129486.
[337] Dyson et al, "Cyberspace," 296
[338] Dyson et al, "Cyberspace," 302
[339] Barlow, "Declaration".
[340] Bill Gates, *The Road Ahead*, (Viking, 1996).
[341] Bruce Sterling, "Preface," in *Mirrorshades: The Cyberpunk Anthology,* ed. by B. Sterling, (Arbor House, 1986).
[342] William Gibson, *Neuromancer,* (Gollancz, 1984.)
[343] Barlow is recognised as the person who championed the term 'cyberspace'. Speaking to the CIA in 1992, Barlow argued that we ought to understand computer connection as a new space, as a "cyberspace" because "computers, connected together, had the capacity to create an environment which human beings could and did inhabit" Streeter, "Wired," 756.
[344] Neal Stephenson, *Snow Crash,* (Penguin Books, 1992).

world, people lived within the 'metaverse', a word coined in the novel, and escaped their stark dystopian reality.

Dyson's manifesto also reflected just how dominant the cybernetic division between information and materiality had become; it's opening line announced that "the central event of the 20th century is the overthrow of matter".[345] Ultimately, Dyson and her colleagues argued that cyberspace was leading the world into a radically different economy, in which the main resource "is actionable knowledge" rather than the large machines, industries and mass labour of the past.[346] They celebrated the possibility of companies being able to access, analyse and capture huge swathes of information and data. The future, they suggested, would be commercial competition over how to customise and analyse knowledge.[347] Reassembling insights and language from cybernetics and information theory, this manifesto offered a vision for the future, "utopian in its conviction that the cybernetic revolution represented a chance to start the world anew and to free humanity from past shackles."[348]

Cyberlibertarians were not the only actors building upon the division of information and material to promise a liberational information society of the future. In the 1990s, they faced competition from a neoliberal vision of the future championed by Al Gore and a tradition of 'Atari democrats'.[349] Under the administration of President Clinton, Gore and this democratic neoliberal tradition oversaw the privatisation of the internet.[350] Relying not on the image of 'cyberspace', but instead on the "information super-highway", Gore spent decades pushing a vision of a future in which the internet would "liberate Americans and bring them together".[351] This depiction of the internet was far more tied to the imagery of the nation-state and its construction, than a globally unified space. When taking a global lens, Clinton's presidency supported the UN and other international institutions' "vision of development supported by digital technologies."[352] From this perspective, ICT policy should address

[345] Dyson et al, "Cyberspace," 295.
[346] Ibid.
[347] For more on actionable knowledge see: Mark Andrejevic, "The Big Data Divide," *International Journal of Communication* 8, (2014): 1673-1689.
[348] Gerstle, *Rise and Fall*, 161.
[349] See: Margaret, P. O'Mara, *The Code: Silicon Valley and the Remaking of America*, (Penguin Books, 2020), 191-227.
[350] According to Gerstle, the 1996 Telecommunications Act "did more than any other piece of legislation in the 1990s to free the most dynamic sector of the economy from regulation and dramatically accelerate the building of a new economy based on neoliberal principles". Gerstle, *Rise and Fall*, 164.
[351] See: Richard Wiggins, "Al Gore and the Creation of the Internet," *First Monday* 5, no. 10 (2000), http://firstmonday.org/issues/issue5_10/wiggins/index.html
[352] Robin Mansell, *Imagining the Internet: Communication, Innovation, and Governance*, (Oxford University Press, 2013), 157.

"knowledge gaps and the digital divide, in order to stimulate market-led growth."[353] Most prominently this manifested in the UN's quasi-utopian Millenium Development Goals, and its call for ICTs to progress development around the world.

Whilst neoliberal and cyberlibertarian actors sought to make claims about the future of human-computer relations, a less dominant critical humanist perspective continued to question what the rise of computers was doing and would do the human subject, highlighting the relationship between data and context, between information and meaning. The Stanford computer scientist Terry Winograd and Chilean engineer and refugee Fernando Flores explored how an empiricist worldview, and the inheritance of a rationalist tradition, saturated computer thinking and design.[354] They highlighted and critiqued the implicit biases and covered-up assumptions and ideas that were embedded in this way of seeing the world, and this way of building and interacting with computers. Instead, they proposed an alternative approach to conceptualising computers and the internet, based upon a framework of phenomenology, the philosophy of language, and even critical theory. Here Winograd and Flores were not alone. Other researchers such as Hubert Drefyus and Joseph Wiezenbaum offered a counter-hegemonic critical humanist frameworks for thinking about and critiquing emerging ideas and technologies of artificial intelligence.[355]

From a political perspective, William Dutton argued that those who designed and controlled computing technology could use it to serve certain people's interests over others. Political scientists, Dutton argued, must quickly begin addressing the issues and possibilities emerging from information technologies, or else the socio-technological consequences would be shaped only by computer scientists and technologists.[356] Like Dutton, other scholars were increasingly attentive to how computing was being shaped by political dynamics. Drawing on Winograd and Flores, Philip Agre depicted computer technologies as an emerging system for tracking people and material.[357] Pointing towards the beginnings of Shannon's information

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[353] Ibid.
[354] Terry Winograd and Fernando Flores, *Understanding Computers and Cognition: A New Foundation for Design,* (Pearson Education, 1987).
[355] Joseph Weizenbaum, *Computer Power and Human Reason: From Judgment to Calculation*, (W. H. Freeman and Company, 1976); Herbert L. Dreyfus, *What Computers Can't Do: A Critique of Artificial Intelligence,* (Harper & Row, 1979).
[356] William H. Dutton, "Political Science Research on Teledemocracy," *Social Science Computer Review* 10, no. 4 (1992): 505–522, https://doi.org/10.1177/089443939201000405; Kenneth L. Kraemer and William H. Dutton. "The Interests Served by Technological Reform: 'The Case of Computing,'" *Administration & Society* 11, no.1 (1979): 80–106, https://doi.org/10.1177/009539977901100104.
[357] Philip E. Agre, "Surveillance and Capture: Two Models of Privacy," *The Information Society* 10, no. 2 (1994): 101–27, https://doi.org/10.1080/01972243.1994.9960162.

theory, Agre emphasised how computers inherently 'capture' people's data, and the symbolic violence that is embedded in this process and relationship. Agre examined computers, less as the drivers of freedom, and more as technologies of control. In the following years, the American legal scholar Lawrence Lessig argued that the early pioneers of the internet took its freedom and democracy for granted. For Lessig, because the code underlying the internet could perform actions in themselves it was inherently a technology of control, "The invisible hand of cyberspace…through commerce, is constructing an architecture that perfects control".[358] Meanwhile other scholars, such as Oscar Gandy and Manuel Castells, explored and emphasised the panoptic power of connected computer networks, and with it the inevitable manipulation and control of computer users. [359]

Later, we will see how actors in and around Facebook largely adopt and wield this universal perspective of global information space. Indeed, Facebook adapted and recycled language and ideas from much of this discursive context, borrowing language from neoliberal and libertarian actors. Notably, the only aspect of this discursive context which Facebook did not borrow from were the critical humanist thinkers, and their counter-hegemonic perspective on the relationship between information and material instantiation.

4.5 Conclusion

In this chapter, I have set out and analysed four different discursive contexts from the history of Western intellectual thought. In each context, I have briefly considered how different theorists and actors came to discuss and talk about global space and spatiality, historical times, and the means of producing and organising knowledge. I have tried to show how, in each context, that there were always diverse frameworks and perspectives, a contestation of worldviews. Yet across the four different contexts, the content and tensions of this diversity itself shifts and changes.

In the first context we see the development of a particular colonial ordering of global space based upon a division of Europe and the rest of the world. We also see the emergence of a

[358] Lawrence Lessig, *Code: And Other Laws of Cyberspace*, (Basic Books, 2000), 6.
[359] Oscar Gandy, *The Panoptic Sort: A Political Economy of Personal Information,* (Oxford University Press, 2021 [1993]); Manuel Castells, *The Internet Galaxy: Reflections on the Internet, Business, and Society*, (Oxford University Press, 2001), 180-181.

scientific worldview based upon the imagined right to control and experiment upon 'nature' in search for truths. In the second context, we see this spatial order challenged by a different imagining of global space based upon universality. This universal global space is accompanied by a dominant sense of historical time based upon progress. By the third context, we see evidence of the fracturing of progressive time, alongside the emergence of a different horizon for understanding and structuring the world, based on the discovery of information space and a new ontological framework. Finally, in the fourth context, a universal imagining and ordering of space became hegemonic, shaping people's sense of both global space and information space. At the same time, there was no dominant articulation of historical time, but instead multiple emergent ways of imagining (or not) the future.

Splitting this chapter into four discursive contexts not only enables this thesis to analyse a long and deeper story of Western intellectual thought, but it also helps us see some of the discontinuities over this time, as well as the contingency of these different contexts. Through this historical framing, we can highlight how the values, concepts, and meanings that were so central to one context faded into the background in another. Here then I have attempted to show not only the inheritances and continuities over these discursive contexts, but the refiguring of horizons that occur across and between them.

In the next three chapters we will explore the intellectual development of actors in and around Facebook over the first two decades of the 21st century. Throughout these chapters, but particularly at the end of Chapter 7 (7.5), we will view this contemporary intellectual history in conversation with the discursive contexts and the hegemonic horizons that this chapter has outlined.

Chapter 5
Expansion and the Reordering of Space

In this chapter, I analyse my corpus, based upon the methodology I set out in Chapter 3, to explore how actors in and around Facebook came to imagine and depict space and spatiality, and offer visions of radically reordered spatial configurations. This chapter is split into three parts. The first explores how actors in and around Facebook, in their early years, came to understand and depict their own expansion across space. The second explores how actors in Facebook came to imagine global space, and their self-designated role in the forging of a new global communication order. Finally, I explore how Facebook/Meta's vision of the metaverse was imagined as radically reshaping humanity's relationship to space. I consider these intellectual developments alongside historical precedents, including global spatial imaginings of the 19th century and fantasies of colonial expansion, as well as cyberspace manifestos from the 1990s.

From the very beginning, I suggest, the notion of expansion was at the core of Facebook's spatial discourse. To make sense of their own rapid expansion, Facebook actors relied upon and utilised the language and vocabulary of 'scale'. Indeed, I suggest that, alongside the concept of growth, the language of 'scalability' came to hold increasing conceptual weight for actors in and around the company. As Facebook imagined itself as scaling across space, it also depicted itself as scaling up, targeting ever-greater scales of human sociality and connection, from college campuses to latent communities, and eventually nation states.

By 2012, Facebook had 1 billion active users and was increasingly focused on the global scale, and their own particular attempt at reordering global space. By expanding into and across information space, actors in and around Facebook sought to blur the line between the company and the internet more broadly. Facebook actors depicted the company as the fundamental infrastructure for a new global communication order, and with it an emerging global community. Yet lurking behind this universalism was a separate and opposing imagining of global space. In the later 2010s, what emerged in Facebook's discourse was an alternate spatial order, marked by regionalism and multipolarity.

Finally, in the late 2010s and early 2020s, actors in and around Facebook/Meta began to articulate and promote a different way of imagining and constructing space, what became

labelled the metaverse. Envisaging the production of a vast new world, a new territorialised internet, the metaverse enabled actors in and around Facebook/Meta to depict a reordered global space, one with radically different spatial configurations on planet earth.

Here then, in this first empirical chapter, we will begin to examine the discourse of actors in and around Facebook. Focusing on the spatial dimension within Facebook's intellectual development, will help us initially interrogate one discursive strand within a broader horizon for imagining, interacting, and structuring world, which emerged in these decades.

5.1 Theorising Space, Expansion and Scale

As discussed in Chapter 2 (2.5), Doreen Massey sets out an understanding of space as something radically contingent; space is produced by humans and is constantly being reimagined and reconstituted by them.[360] From this perspective, space is something that is "always under construction…It is never finished; never closed. Perhaps we could imagine space as a simultaneity of stories-so-far".[361] For Massey then, space is shaped by a plurality of historical inheritances, as well the constant interactions that people experience. Massey goes on to suggest that space is inherently plural, it is "the sphere in which distinct trajectories coexist".[362]

In this chapter, I explore how actors in and around Facebook/Meta imagined and attempted to reconstitute space in different ways over two decades. Acknowledging the radical contingency of space, I take seriously Facebook/Meta's various attempts to reimagine and reconstruct space, from its conceptual wielding of scalability to its attempt to remake a global space, and finally the metaverse.

At the core of Facebook's early interaction with and imagining of space, I suggest, is the concept of expansion. Here, I understand expansion as the extension of presence or involvement in an increasing space. The concept of expansion then relies on a notion of space as changeable, as being open to increasing and decreasing levels of presence or involvement. It is also based upon the assumption of boundaries in space within which one is contained,

[360] Doreen Massey, *For Space*, (SAGE, 2005).
[361] Massey, *For Space*, 32.
[362] Massey, *For Space*, 31.

and a perspective of space beyond those limits. The concept of expansion can and has been tied to the experience and language of growth. In *The Origins of Totalitarianism,* Hannah Arendt explored the concept of 'expansion', arguing that it came to be a central concept for the politics of late 19th century imperialism.[363] Arendt noted how the concept of expansion emerged from the experience and vocabulary of industrial growth.[364] As the language of expansion drifted from the domain of business, it became an increasingly useful conceptual tool in the political realm, offering a way of conceptualising and defending European state authority and power over economic space beyond the territorial borders of the nation state.[365]

Although the concept of expansion might initially have been tied to notions of industrial growth, here I explore how in Facebook's discourse it became enmeshed with a different way of imagining and depicting the increasing presence or involvement of an entity in space. In what follows, I suggest that it was increasingly the conceptual resources of 'scale' and 'scalability' that actors in and around Facebook turned to, as they attempted to make sense and depict their own expansion across space.

The linked concepts of scale and scalability are particularly hard to pin down. As Sayre notes, "it remains remarkably unclear exactly what scale means and how to use it."[366] Gibson et al. argue that there simply isn't a common definition for scale.[367] Whilst Marston et al. argue that because there is such extreme divergence over the concept of scale, it should be regarded as a fundamentally flawed concept.[368] However, because a concept is not easily definable it does not mean that it lacks conceptual significance. The divergence in what scale means, and what it can be used to mean, I suggest, made it a particularly useful concept that could be refigured in a variety of ways for actors in and around Facebook.

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[363] Hannah Arendt, *The Origins of Totalitarianism*, (Meridian Books, 1962), 123-158.
[364] "this concept [expansion] does not really belong in the realm of politics at all, but has its origin in the domain of business speculations, where expansion indicated the evergrowing body of industrial production and economic transactions characteristic of the nineteenth century." Hannah Arendt, "Expansion and the Philosophy of Power," *The Sewanee Review,* 54, no. 4 (1946): 601.
[365] Arendt quotes the British industrial leader and colonial politician Cecil Rhodes as an example, ""Expansion is everything," said Cecil Rhodes and fell into despair; for he saw every night overhead "vast worlds which we can never reach," part of the universe to which he could not expand." It has since been disputed whether Cecil Rhodes ever said this exact wording. Arendt, *Origins,* 124.
[366] Nathan F. Sayre, "Scale," in *A Companion to Environmental Geography*, ed. N. Castree, D. Demerrit, D. Liberman, and B. Rhoads, (Wiley-Blackwell, 2009), 95.
[367] Clark C. Gibson, Elinor Ostrom and T. K. Ahn, "The concept of scale and the human dimensions of global change: a survey," *Ecological Economics* 32, no. 2 (2000): 217–39, https://doi.org/10.1016/S0921-8009(99)00092-0
[368] Sallie A. Marston, John P. Jones, and Keith Woodward, "Human Geography without Scale," *Transactions of the Institute of British Geographers* 30, no. 4 (2005): 416–32.

To make sense of the concept of 'scalability' it is useful to initially draw upon the work of Anna Tsing (see 2.5). Tsing explains that scalability as a concept has become championed in the world of business as "the ability of a project to change scales smoothly without any change in project frames."[369] The concept of scalability offers a capacity of elasticity; the ability to move between scales, whether in expansion or in reduction. For Tsing, scalability requires the erasure of "the indeterminacies of encounter", of the frictions which emerge as projects move between scales. It is this erasure at the heart of scalability that offers the promise of "smooth expansion."[370] Tsing notes that the world is not naturally or coherently scalable but instead has to be violently reconstituted by a scalable project. Away from its vision of cleanliness, scalable expansion actually leaves behind "mounting piles of ruins" as it forces the external world to fit through its seamless and frictionless mathematical relations.[371]

With Tsing's analysis, we can begin to see some of the conceptual openings that the concept of scalability offers, which the concept of growth does not. Scalability includes a promise of seamless and perfectly clean expansion in a way that differs from the concept of growth. Moreover, the concept of scalability conceals the temporal dimension which underlies all expansion. Whereas growth is imagined as in some sense of having a beginning, as occurring in and over time, scalability invites a sense of expansion as somehow occurring without reference to time. For example, the scalar relation between 1 and 100 is contained within the referents, without any reliance on the temporal. The scalar relationship between 1 and 100 is a mathematical fact which exists in an abstract sense. When something 'scales' we don't think of this process as naturally occurring in time but, instead, as being a fundamental aspect of a mathematical relationship which is in some sense fixed and enduring. Over the following section, I explore how actors' discourse in and around Facebook came to wield the concept of 'scalability' in different ways to make sense of and to depict their own expansion across space.

5.1.1 Facebook's Concept of 'Scalability'

[369] Anna L. Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins,* (Princeton University Press, 2015), 38.
[370] Ibid.
[371] Anna L. Tsing, "On Nonscalability," *Common Knowledge* 18, no. 3, (2012): 506, https//doi.org/10.1215/0961754X-1630424.

On February 4th, 2004, *thefacebook* was made live, and Mark Zuckerberg began inviting friends to join. As Facebook came to dominate the online connection of Harvard students and staff, the social network began to expand beyond the limitations of this one elite university. Speaking to Harvard students in 2005, Mark Zuckerberg stated that "the first big decision we really had to make was in how to kinda expand the architecture to go from the single school type set up that we had when it was just at Harvard to something that's important in multiple schools."[372] Facebook's first significant decision then was how to expand beyond the limits it had initially set itself. For its early creators, the question was not whether to expand but how to expand.

In the same year, in only his second public interview, Mark Zuckerberg reflected on the first year of Facebook, on his year of expansion, "So, I guess for most of last school year, I just worked on scaling, and trying to make it keep up with the increasing load, and try to make it so that we can expand to more schools."[373] From its very beginning then, Facebook's sense of expansion across space was tied to a conception of 'scaling'. Later in the interview, Zuckerberg explained why it was that Facebook expansion was continuing whilst its domestic competitors, such as Friendster, initially grew quickly and then faded away. Here, Zuckerberg distinguished between an approach to expansion which prioritised growth above all other considerations, and a strategy of scaling:

> I think that a lot of the reason why some of them have failed is because the horizontal social network piece works really well at growing stuff, and that provides a technical challenge to people who are creating these things as their networks and user bases scale up really quickly to kind of keep up with that. And especially if you're using sort of friend graph type structure to compute anything. I know a lot of those algorithms don't scale nicely.[374]

Under Zuckerberg's articulation in this interview, 'scaling' is depicted as an approach which enables one's technical infrastructure to be sustained as other aspects of the business shift in

[372] Harvard University, "CS50 Guest Lecture by Mark Zuckerberg," *Zuckerberg Transcripts* 141, (2005).
[373] Stanford University, "James Breyer / Mark Zuckerberg Interview, Oct. 26, 2005, Stanford University," *Zuckerberg Transcripts*, 116, (2005).
[374] Stanford University, "James Breyer / Mark Zuckerberg Interview, Oct. 26, 2005, Stanford University," *Zuckerberg Transcripts*, 116, (2005).

size. Zuckerberg emphasises how Facebook worked to make sure that its algorithms could move seamlessly across scales, and contrasts this with an approach based only upon growth. Here, Zuckerberg's conception of scalability reflects how anthropologist Anna Tsing analyses the concept of scalability. Tsing suggests that a business imagines itself as scalable when it "does not change its organization as it expands".[375] Here, Zuckerberg is suggesting just that; Facebook's expansion was succeeding because it prepared itself to be scalable, to not have to radically change as it sustained its expansion. Zuckerberg goes on to stress that Facebook only introduces new products that are "sustainable…and scalable… so that when we launch more schools or go into the next market, or whatever we do, that we're going to set ourselves up to have the same success that we've had, without hurting ourself in the current position."[376] Facebook's expansion then, under Zuckerberg's articulation here, is based upon a strategy of scaling.

Four years after Zuckerberg's early discussion of scalability, Andrew Bosworth similarly reflected on Facebook's relationship to expansion.[377] In his 2009 blog *The Path Matters,* Bosworth asks how it was that Facebook had expanded so much more successfully across space than its early social network rivals, such as Myspace and Friendster. In more explicit terms than Zuckerberg, Bosworth compares two different approaches to expansion. The first approach is to make oneself "immediately available to everyone", whilst the second approach initially "limits membership to a small subset of the population." Bosworth argues that the common-sense perspective is that the former approach would lead to greater expansion. However, almost paradoxically, it is the latter approach, and the one that Facebook adopted, that succeeded. Bosworth explains:

> As you probably already know, the situation I describe actually happened; there was one social network that grew incrementally while another opened its doors to the world. Fast forward ten years and things haven't turned out the way young Boz might have expected. As it turns out, the path Facebook took to connecting everyone in the world was not the shortest — and that has made all the difference. By starting small and expanding outward we built a community. By integrating networks that had

[375] Tsing, *Mushroom*, 38.
[376] Stanford University, "James Breyer / Mark Zuckerberg Interview, Oct. 26, 2005, Stanford University," *Zuckerberg Transcripts*, 116, (2005).
[377] After working at Microsoft, Andrew Bosworth joined Facebook in 2006, becoming one of the company's first engineers. He became a Vice President at the company before becoming Chief Technology Officer in 2022.

> originally been separate we had to focus on privacy. By growing incrementally rather than throwing the floodgates open all at once we were able to focus on keeping a consistent design and building scalable infrastructure. These things became part of the DNA of our company and they affect everything we build.[378]

Like Zuckerberg four years earlier, Bosworth explores Facebook's relationship to expansion by contrasting its approach to its competitors. Again, like Zuckerberg, Bosworth distinguishes between a pure growth approach and Facebook's scaling. Yet, while Bosworth acknowledges the importance of scalable infrastructure, in hindsight, he also points to other benefits that came from expansion through scaling. To limit one's expansion within a certain scale, within a certain boundary, whether inherited or constructed, was understood by them to offer a benefit that open growth could not provide.[379] By limiting themselves within a boundary, Facebook was able to expand and become the 'first mover at scale' within it, successfully reaping the rewards of 'network effects' when many other companies failed. This perspective is explained in more detail by Reid Hoffman, an early Facebook investor.[380]

For Hoffman, Facebook's rapid expansion was principally due to its pursuit of expansion as scalability. In their 2018 book *Blitzscaling,* Hoffman and his co-author Chris Yeh, argued that to understand the past decades we need to distinguish between the concepts of scaling and growth. For Hoffman, in the "networked age", it is only through scaling that companies can expand beyond their competitors. By expanding through different scales, a company can reap the reward of 'network effects', "Network effects generate a positive feedback loop that can allow the first product or service that taps into those effects to build an unassailable competitive advantage."[381] Hoffman goes on to note that network effects lead to highly unequal outcomes, radically favouring whomever can expand to scale most quickly. Looking back at Facebook's early years, Hoffman suggests that "First prize in the first wave of consumer social networking went to Facebook; second prize to Myspace; third prize to

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[378] Andrew Bosworth, "The Path Matters," *Boz.* May 10, 2009, https://boz.com/articles/the-path-matters.
[379] Of course, I recognise that these are just claims. In reality it could have been perfectly possible that their actions didn't correspond to these claims, or that they might have failed following this strategy whilst another company prevailed.
[380] Reid Hoffman was Chief Operating Officer at PayPal before founding LinkedIn in 2002. Hoffman became a first-round investor in Facebook in 2004, arranging his former colleague Peter Thiel's entrance into the Facebook board. Hoffman was a board member of Zynga, a video game company which at one point was almost entirely dependent on Facebook, from 2007-2014.
[381] Reid Hoffman and Chris Yeh, *Blitzscaling: The Lightning-Fast Path to Building Massively Valuable Companies,* (Harper Collins, 2018).

Friendster. Remember Friendster? You need to win first prize in order to survive in the Internet era".[382] For Hoffman, Facebook's success relied upon a strategy of rapid expansion within bounded scales.

Here, I must emphasise that the concept of scalability was not unique to Facebook; it was wielded in this discursive context by other Big Tech companies throughout the early 2000s and beyond. As the anthropologist Nick Seaver notes, "in the world of software startups," the concept of scale is so widely referred to that "the value and meaning of scale is taken to be obvious."[383] Hoffman argues that scaling was the key concept and strategy that distinguished successful tech companies from unsuccessful ones. Scalability was embraced by Facebook, but also other technology companies ranging from Amazon to Airbnb. The concept was so widespread that the Y-combinator founder and tech commentator Paul Graham could argue the contrarian opinion in 2013 that tech firms also have to "do things that don't scale".[384]

For actors in and around Facebook, the concept of scalability became an important conceptual resource through which actors could make sense of and depict the nature of their expansion. The ambiguity and dynamism of the concept enabled Facebook actors to use a discourse about scalability to indicate and do several things. Firstly, scaling could refer to the accelerated but focused growth within a certain boundary, whether received or constructed. In its first iteration, this boundary was Harvard, and then other colleges. Later, as we will see, the boundary extended to anyone's latent community, as well as greater scales of nation states and languages, and eventually the whole globe. Here then, the language of scaling afforded actors in Facebook an ability to convey their expansion across space, to grow within a boundary, but it could also convey the language of 'scaling up', of targeting ever-greater sizes of scale.

Connected to this first use, 'scaling' could be used to indicate the lock-in nature of network effects, and thus the ability to sustain expansion. Compared to strategies of open growth, scaling here was understood as ensuring that users would be greatly incentivised to remain in

[382] Hoffman and Yeh, *Blitzscaling,* 12.
[383] Yet, as Seaver in fact shows, its meaning is multidimension and slippery. Seaver, Nick, "Care and Scale: Decorrelative Ethics in Algorithmic Recommendation," *Cultural Anthropology* 36, no. 3 (2021): 526, https://doi.org/10.14506/ca36.3.11.
[384] Paul Graham, "Do things that don't scale," *Paul Graham,* July 2013, https://www.paulgraham.com/ds.html. Y-combinator is an influential start-up accelerator in Silicon Valley.

Facebook rather than moving to the next social network. In each boundary of expansion, Facebook could gain 'first mover at scale' advantage. In this sense, becoming the 'first mover at scale' helped propel Facebook as an information and communication infrastructure, within a certain boundary.

Scaling was also used to indicate the ability of the organization to move seamlessly between different scales. This could refer to the technological infrastructure's ability to seamlessly function at vastly different scales of use, or to the social media site itself being able to maintain and serve the interest of users when a huge amount of content was being produced by their friends and when very little was. At the same time, it could simply refer to the ability of Facebook, the company, to maintain its own culture, its speed and its efficiency, as it expanded from small start-up to vast organisation. Connected to this, the language of scaling also offered a way of connecting and interrelating the different scales of communal coming together. As we will see, the smallest scale can be depicted to exist within and as part of the largest scale. Scalability then did not only indicate a one-way movement towards expansion but a scalar relationship between different sizes.

Finally, in all the above examples, the language of scaling was consistently contrasted with a concept of pure growth. Thus, in the language of actors in and around Facebook, the potential of scalability was imagined in some sense to offer utility and meaning that the concept of growth could not. We might understand scalability, as a concept for Big Tech firms in the first decades of the 21st century, as having played an analogous role to that of expansion-as-growth for actors in the late 19th century. Both were relatively new and ambiguous terms that could be wielded by actors in novel and shifting ways and seemed to offer a new way of depicting their reordering of space. Both concepts travelled across fields and domains to find conceptual utility in a different context. This comparison and contrast between growth and scalability is relevant partly because, as both the passages from Zuckerberg and Bosworth above suggest, this is how actors in and around Facebook framed their own understanding of scale and scalability

Having considered the different meanings that the concept of scalability held for actors in and around Facebook, in the next two sections I explore how, in their first years, Facebook actors made sense of their own expansion, both in the space of the network and the space in which the network's expansion occurs, through the concept of scalability. In what follows, I argue

that actors in and around Facebook came to perceive themselves as targeting forms of sociality and human connection at ever larger scales, from American college campuses to latent communal networks, to national and linguistic communities.

5.1.2 Scaling the College and the Community

In its first month of operation, as Facebook rapidly accumulated users at Harvard University, it began expanding to other elite American colleges. Colleges had strictly policed institutional boundaries and were relatively small making them a useful scale for Facebook's initial expansion. Whilst other social networks might initially have had more users than Facebook, Facebook gained critical mass within the boundaries it set itself, quickly institutionalising itself as infrastructure-like in these bounded communities. Thus, within the limitations that Facebook was expanding within, it was increasingly dominating and gaining the 'first mover at scale' advantage, gaining a market share of network users.[385]

Yet, as Facebook spread across college campuses, the company made the decision to expand into a far bigger and more open space, the entirety of the United States. In September 2006, Facebook moved away from institutionally bounded sign-ups to an open registration system, meaning that any adult in the United States could now join the social network.[386] Whilst some within Facebook worried that expansion across a more open space would ultimately deflate Facebook's growth before the company could gain a critical mass of users in the US as whole, this did not happen.[387] Instead, in this larger boundary, my analysis of Facebook's discourse shows that these actors understood themselves as not abandoning their approach to scaling but instead adapting it.

According to Zuckerberg, whereas a college campus had explicit boundaries, every person outside this strict institution still lived within a similar, if implicit, network boundary. Speaking at their F8 developers conference in 2007, Zuckerberg explained that with their

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[385] As Steven Levy notes, "As more Harvard students signed up, the chances increased that they would find profiles of their friends, of people they might like to have as friends…Hour by hour, the impetus for students to sign up began to flip from engaging in a diverting pastime to an absolute necessity, as not being on Thefacebook made you a virtual exile on the physical campus." Steven Levy, *Facebook: The Inside Story,* (Portfolio Penguin, 2020), 67.
[386] In the same month, Facebook launched its News Feed.
[387] Alex Schultz, "Lecture 6: Growth," October 9, 2014, https://genius.com/Alex-schultz-lecture-6-growth-annotated

theory of a social graph, the company was attempting to understand, reconstruct, and model every individual's implicit social connections. In other words, in this more open space, Facebook sought to identify and utilise every individual's latent social community, their implicit communal boundaries, to scale up and expand across the United States as a whole. Zuckerberg explained that:

> "The social graph is this thing that exists in the world, and it always has and it always will. A lot of people think that maybe Facebook's a community site, and we think we're not a community site at all. We're not defining any communities. All we're doing is taking this real-world social graph that exists with real people and their real connections, and we're trying to get as accurate of a picture as possible of how those connections are modeled out."[388]

Using their social graph model, Facebook understood themselves to be targeting every individual's latent community that they existed within. Here then, space is imagined as, rather than simply open, something constituted by a complex nexus of latent connections which orient and define a person. These are connections with other people but also with businesses, architecture, and objects. For actors in Facebook, the idea was that they could extract and reconstruct the latent connections that define a person's place within a broader community and network. Through their attempt to target this scale of human connection, Facebook could expand across through the population of the United States as a whole. Here then, the individual, the community, and the population of the United States as a whole, were understood to exist in a scalar relationship which would enable Facebook's expansion.

This strategy of expansion is exemplified through the launch of Facebook's 'People You May Know' (PYMK) feature in August 2008. Mimicking a product that had already been developed by Reid Hoffman's LinkedIn, PYMK fed users a list of people that they might know on Facebook, based upon Facebook's social graph dataset. Here, actors in and around Facebook were motivated by the concept of the Dunbar Number, which suggests that an average person might have 130 friends. Yet, given the power of exponentiality, the typical user might have 40,000 friends of friends and a 'power user' up to 800,000. According to Facebook engineer Lars Backstrom, PYMK accounted for a significant amount of all

[388] As Quoted in: Levy, *Facebook,* 156-157.

friending that took place on Facebook as it expanded across the United States and the world.[389]

Facebook's expansion across the larger national scale, occurred through its feverish expansion across a smaller scale, one's most intimate real-life community, and the information space it existed within. Facebook's theory of the social graph, its data-extraction, and its creation of products such as PYMK, enabled the company to continue scaling up even through larger and seemingly more open boundaries.

5.1.3 Scaling Language and Culture

As the company intensified its expansion across the United States, it began focusing on how it could scale across different national and linguistic communities, a process it called 'internationalisation'. To 'internationalise', actors in Facebook's came to frame language and culture as tools for scaling across the planet. It was through the translation of culture and language that Facebook could come to dominate new scales of communities, new bounded groups of nationality and language.

In 2008, Facebook engineers developed an app called *Translate Facebook* which crowdsourced users to translate words from the original English into their home language. Not only did volunteers enable free translation, but it created a system that could rapidly translate many languages. According to Alex Schultz,[390] Facebook "took the time to build something [Translate Facebook], that would enable us to scale."[391] Facebook was able to translate French in 12 hours, and over the following months, Facebook users translated a further 70 languages. This project enabled Facebook to expand across linguistic communities, overcoming the boundary that a language demarcates. Moreover, building scalable translation infrastructure meant that Facebook could prepare not only for languages that the company was at the time planning to expand within, but for languages that would be of potential future importance.

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[389] According to Lars Backstrom, See: Levy, *Facebook,* 223.
[390] Alex Schultz joined Facebook in 2007 as a Marketing and Product Growth Analyst, joining the initial Growth team. By 2020, Schultz became a Chief Marketing Officer and Vice President within the company.
[391] Schultz, "Growth."

Yet, as Facebook attempted to utilise linguistic translation for its own international expansion, actors in the company came to realise that this alone was not enough. Culture itself had to be translated and integrated into Facebook as it expanded beyond the Western world. In 2013, Chamath Palihapitiya,[392] the leader of Facebook's 'Growth Circle', noted that

> "all of the sudden the light bulb goes off and you're like, 'Oh my gosh, it's like we don't know what we don't know.' In every single market people react differently, they behave differently, they speak different languages. Guess what, Spanish is not Spanish."[393]

To scale across different populations, actors in Facebook recognised the need to appropriate and absorb different cultural norms and communal meanings that exist beyond the limits of direct translation. To achieve this, Facebook transformed into a platform in which developers could build their own applications. Doing so, harnessed developers from across the world to help the social network localise and particularise to different cultures around the globe. Speaking in Brazil in 2009, Mark Zuckerberg explained the thinking behind this process:

> So instead, what we've decided to do was built a development platform…So we now have almost a million developers building on top of Facebook including developers all over the world. There are a bunch of developers here in Brazil. And this is one of the main ways that the site gets localized for different countries.[394]

Actors in Facebook attempted to build scalable systems for cultural and linguistic translation, which in turn enabled the company to scale across linguistic and national communities, overcoming latent boundaries and limitations that may have earlier inhibited the company's international expansion. For Alex Schultz "Internationalizing was an important barrier we needed to knock down, and knocking down barriers is often important to think about for growth. Facebook started out as college-only, so every college that it was launched in was

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[392] Chamath Palihapitiya joined Facebook in 2007 as a Vice President of Platform & Monetization, after spending four years at AOL. Palihapitiya led the initial Growth team and left Facebook in 2011.
[393] Chamath Palihapitiya, "How we put Facebook on the path to 1 billion users." January 9, 2013, https://genius.com/Chamath-palihapitiya-how-we-put-facebook-on-the-path-to-1-billion-users-annotated
[394] Idea to Product Latin America, "Mark Zuckerberg - Facebook CEO and Founder," *Zuckerberg Transcripts* 92, (2009).

knocking down a barrier." Knocking down linguistic and national boundaries was no different from the boundaries of a college.

With this translation, actors in Facebook were able to export their social graph model to target individuals and the latent social communities they existed within. Thus, Facebook could fight to gain a critical mass of users within linguistic and national boundaries across the world, becoming the important 'mover at scale' within these communities, and reaping the rewards of ever-greater network effects. Speaking in Silicon Valley in 2010, Zuckerberg reflected on Facebook's attempt to dominate national communities, "there are a couple of countries where we aren't yet the leader, but I think the trajectory is pretty clear that we will be".[395] For Zuckerberg here, the dominance of a network within a national space was equivalent to the dominance of that national space itself.

As it moved from the universities to the national and the international, Facebook targeted different scales of sociality and community, people's most basic latent social network, and greater scales of community, the linguistic and national. Eventually, Facebook sought to not only gain a critical mass of users within nations but within an even greater scale, planet earth itself. From here, actors in Facebook switched their capacious gaze from the scale of the communal and national to the global itself.

5.2 Theorising Global Space

In *The Nomos of the World,* Carl Schmitt resuscitated the Greek concept of 'Nomos' and offered a history of the nomos of the earth (see Chapter 2.5). The concept of nomos, as Schmitt uses it, refers to the power and ordering that comes from the partition and classification of space. In this sense, the nomos of the earth can be understood as the ordering of the earth derived from land appropriation and distribution; the spatial, political and legal systems which come to be accepted as how to conduct international relations.[396] Schmitt argues that "Every new age and every new epoch in the coexistence of peoples, empires, and countries, of rulers and power formations of every sort, is founded on new spatial divisions,

[395] Computer History Museum, "The Facebook Effect (interview with Zuckerberg and Kirkpatrick)," *Zuckerberg Transcripts* 30, (2010).
[396] Carl Schmitt, *The Nomos of the Earth in the International Law of the Jus Publicum Europaeum*, trans. G. L. Ulmen, (Telos Press, 2003).

new enclosures, and new spatial orders of the earth."[397] In the following sub-sections, I consider the global spatial divisions, enclosures, and orders that were imagined in Facebook's discourse.

For Schmitt, new technologies can reshape spatial order, creating new spheres for expansion and conflict. For example, the creation of man-made flying created a new spatial sphere which drastically altered how other spatial realms – the sea and land – existed in relation to each other. In *The Stack,* Benjamin Bratton suggests that the creation of the cloud and more generally of information technology, data extraction and storage, ought to be understood as a new spatial dimension existing alongside land, sea, and air.[398] As Jameson notes, following Schmitt, "Information is the new element that re-problematizes the spatial".[399] Here, I understand information processes to represent a spatial dimension which has an effect on the global ordering of space. Information space has come to pervade and shape how social space more broadly is conducted and ordered. For Couldry, information space has so saturated our social and physical spaces that we can think of them together as forming what he calls 'the space of the world', the larger space "of human interaction and information flows" that emerge from digital information and the expansion of internet connection.[400]

In the following sections, I explore how actors in and around Facebook came to imagine and depict global space. I begin by considering how Facebook expanded across and into information space. Next, I explore Facebook's imagining of global space as something based upon universality, filled with a global community, and marked by a seamless flow of data and information sharing. I argue that the global scale appears in the discourse as an important means by which Facebook legitimated its own presence across much of the world, and even challenging the relevance of nation states. Finally, I argue that lurking underneath Facebook's universalist discourse was an alternative understanding of global space, one marked by multipolarity and regional divisions, which came to emerge more explicitly in the late 2010s.

5.2.1 Expanding Across Information Space

[397] Schmitt, *Nomos,* 74.
[398] Benjamin H. Bratton, *The Stack: On Software and Sovereignty*, (MIT Press, 2016).
[399] Frederic Jameson, "Notes on the Nomos," *The South Atlantic Quarterly* 104, no. 2 (2005): 204, https://doi.org/10.1215/00382876-104-2-199
[400] Nick Couldry, *The Space of the World: Can Human Solidarity Survive Social Media and What If It Can't?,* (Polity, 2024), 11.

Here, I show how actors in Facebook attempted to expand further across and into information space. Facebook's expansion across and into the internet enabled actors in the company to attempt to blur the lines between where Facebook began and the internet ended, between the internet as global communication infrastructure and Facebook as global communication infrastructure. More than this, it attempted to forge Facebook's central role in 'the space of the world'.

Drawing on Mweme and Birhame, we can disaggregate three layers of the internet: the application layer, the internet layer, and the physical layer.[401] The application layer is the "front-focusing processes and applications" that users access to gain internet services. The internet layer is the protocols and rules that enable "networks to communicate universally", while the physical layer is the physical infrastructure that, without which, the internet could not function.[402] For actors in Facebook, all three layers represented opportunities for expansion.

Actors in Facebook began their expansion across the internet through the creation of internet-wide tracking tools, such as Beacon and the Like button. In 2007, Facebook struck a deal with dozens of the most popular websites to embed trackers into their pages, enabling Facebook to record user behaviour across much of the internet. Through Beacon, Facebook not only accumulated new swathes of user data, but also posted people's external internet activity on their friend's News Feeds. It was this latter and very explicit aspect of Facebook's expansion across the broader internet which led to the company's first major privacy scandal and the decision to close down Beacon.

Two years later, in 2009, Facebook released its Like button and enabled any website on the internet to embed a Like button onto their own page. Facebook's Like button, and the code which underwrote it, spread across the internet like wildfire. External websites used the button to court users to 'like' their business and increase traffic to their own Facebook pages. However, like Beacon, the Like button was embedded with code that enabled Facebook to

[401] Esther Mwema and Adeba Birhane, "Undersea cables in Africa: The new frontiers of digital colonialism," *First Monday* 29, no. 4 (2024), https://doi.org/10.5210/fm.v29i4.13637.
[402] Mwema and Birhane, "Undersea Cables," 4.

track user's behaviour on these external sites.[403] Unlike Beacon, Facebook didn't publicly announce that the Like Button enabled internet-wide surveillance, nor did they publish user activity back onto News Feed. Both these products enabled Facebook to expand its presence and surveillance beyond the limitations of its own website and across the application layer of the internet.

Actors in Facebook also attempted to expand the company's presence across the application layer of the internet through the creation of a broadly open application programming interface (API) system.[404] An API enables "interoperability or the sharing between websites and online services."[405] In Facebook's case it initially allowed third-party developers to build products in Facebook for their users, in a sense bringing the broader and messier internet inside Facebook's 'walled garden'. Whereas competitors such as Myspace and Friendster were hostile to third party applications building on their network, Facebook led this open strategy. In 2008, Facebook launched 'Facebook Connect' API, which enabled external websites to use Facebook for its registration and login. Rather than having to create or pay for their own authentication system, external websites could rely on people to login to their sites through their Facebook identities. For Facebook, this internet-wide registration system allowed the company to track when users logged into other websites, and added this information into the data profiles they were creating about their users. Again, Facebook embedded itself across the internet, expanding its data tracking beyond its own "personalized walled gardens" into the wider information space as a whole.[406]

Facebook's expansion across the first layer of the internet suggested to actors in the company that it had the opportunity to expand into the second layer of the internet, its protocols and rules. In 2013, Facebook launched its internet.org project (later rebranded to free basics) which was advertised as an attempt to spread internet connectivity to billions of people who were not yet connected. Yet this free and 'basic' internet would be fundamentally separate

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[403] Tom Simmonite, "Facebook's Like Buttons Will Soon Track Your Web Browsing to Target Ads." *MIT Technology Review.* September 16, 2015: https://www.technologyreview.com/2015/09/16/166222/facebooks-like-buttons-will-soon-track-your-web-browsing-to-target-ads/.
[404] Facebook wouldn't allow its direct competitors, such as Google, to access Facebook data through its API.
[405] Robert Bodle, "Regimes of Sharing: Open. APIs, interoperability, and Facebook," *Information, Communication & Society* 14, no. 3 (2011): 321, https://doi.org/10.1080/1369118X.2010.542825.
[406] Jean-Christophe Plantin, Carl Lagoze, Paul N. Edwards, and Christian Sandvig, "Infrastructure studies meet platform studies in the age of Google and Facebook," *New Media & Society* 20, no. 1 (2018): 304, https://doi.org/10.1177/1461444816661553.

from the open internet, with its own different protocols. Most fundamentally, in Facebook's 'internet.org' users would only be able to access a very limited number of websites, challenging the traditional protocols established for internet use that there would be an open and free ability to click links and surf different URLs. For people connected to internet.org, they would gain access to Facebook and only a handful of other websites.

Finally, Facebook sought also to expand into the physical layer of the internet; the large-scale infrastructure which sustains and organizes the information space. In particular, actors in Facebook sought to expand its role in providing internet connectivity and data storage. From 2014 onwards, Facebook attempted to build hardware to spread internet connectivity. After unsuccessful attempts to build satellites and drones that could beam down the internet to remote parts of the world, in 2020 Facebook announced that it would lead a consortium that would lay internet cables across the African Continent, connecting it to Europe and Asia. Competing with an alternative cable line led by Google's parent company Alphabet, Facebook/Meta became a key player in the "race for installing large-scale undersea cable projects across Africa".[407] Following largely the same routes as the undersea telegraph lines of 1901, the cables would connect 45 different landing sites across Africa. As will be discussed later, Facebook's discursive construction of global space borrowed from and recycled much from late 19th century technologists. It wasn't just that Facebook's texts and utterances recycled the logics and imagery of 19th century visions of global spatial order, but materially followed the configurations set out over a century before.

Whilst Facebook sought to extend its presence into the hardware of the internet, it also increased its presence in and influence over how internet data ought to be stored. Facebook sought to challenge the traditional designs of data centres and expand its own influence across the broader global regulation of data centres. In 2009, Facebook commissioned data engineers to engage with redesigning data storage systems, which, two years later, led to a new system of hardware disaggregation that unbundled and broke up servers into different modular parts.[408] The modularity of this new design was intended to help make data centres that could scale more easily, relying on parts that were easier to fix and more widely

[407] Mwema & Birhane, "Undersea Cables," 3.
[408] For more info on Open Computer see: Jean-Christophe Plantin, "Platform Logic and the Infrastructural Power of Tech Giants," *AoIR Selected Papers of Internet Research*, (2020), https://doi.org/10.5210/spir.v2020i0.11304.

accessible. These new designs and norms became known as the Open Computer Project to promote an alternative hardware infrastructure regulation and protocols.

Across all three layers of the internet, Facebook led a campaign to extend its presence. Having attempted to expand within, and reshape these social, digital, and material infrastructures, an important part of the broader 'built environment' (See 2.3), actors in Facebook also sought to discursively blur the lines between Facebook and the internet. We can see this most clearly in the simple but audacious attempt to label the free access of Facebook and a handful of other websites as 'internet.org', explicitly blurring the lines between the two. However, this blurring continued in Facebook's discourse. Between the years of 2010 and 2014, Mark Zuckerberg would repeatedly emphasise that there was little to distinguish between Facebook and the internet; most internet users were Facebook users and most people's time spent on the internet was spent on Facebook.[409] Given how much of internet use simply was Facebook activity, Zuckerberg would claim that the company had a "social responsibility" to help spread the internet.[410] This blurring continued as Facebook defended its internet.org and free basics programme from criticism. For example, Zuckerberg argued that "when you ask a lot of people in developing countries" what they want from the internet, they only want it so they can use Facebook.[411]

5.2.2 Facebook's Universal Global Space

In 2012, less than a decade after it was created, Facebook reached its one billionth active user. By this point, actors in the company were increasingly focused on the global scale. Over the previous eight years, Facebook had successfully expanded across much of the world, building up its user base as it scaled across communities, nations and languages. It had also expanded across much of the information space, attempting to infrastructurally and discursively blur the line between Facebook and the broader internet itself. In this section, I explore how actors in Facebook came to imagine and talk about global space.

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[409] Web 2.0 Summit, "A Conversation with Mark Zuckerberg (2010 Web 2.0 Summit)," *Zuckerberg Transcripts* 59, (2010); Mark Zuckerberg, "Zuckerberg Facebook video Q&A with Mark Zuckerberg," *Zuckerberg Transcripts* 157, (2014).
[410] Mark Zuckerberg, "Zuckerberg Facebook video Q&A with Mark Zuckerberg," *Zuckerberg Transcripts* 157, (2014).
[411] Indeed, there is some evidence that in countries where Free Basics was launched, there was a belief amongst users that Facebook simply was the internet. See: Francesco M. Giacomini, "Connectivity with strings attached: The hidden cost of free Internet in African countries. The case of Facebook's Free Basics," *The Public Sphere: Journal of Public Policy* 8, no. 1 (2020): 73-81.

In a 2015 Facebook post about Earth Day, Mark Zuckerberg articulated the planetary scale of Facebook's ambition:

> "We have a chance to connect everyone in the world and use technology to improve the lives of billions of people…As Facebook builds the infrastructure to power a new generation of planetary services**,** we're working to conserve our shared resources."[412]

What was emerging on a global scale, Zuckerberg argued, was a new medium and infrastructure for global communication, which was and would reorder global space. Zuckerberg expressed this perspective clearly in a conference in 2010, arguing that "we're kind of fundamentally rewiring the world from the ground up and it starts with people being able to communicate on a day-to-day basis with the people who they want".[413] For Zuckerberg, a new global communication order was reshaping global space. What then were the characteristics of global space as imagined by Facebook? Firstly, global space was based upon universality. Secondly, what was emerging from this global communication order was a latent global community. This global community was formed by individuals and communities, rather than by nations or institutions. Finally, this global space was based upon frictionless and seamless communication and data sharing. I will take each feature of Facebook's imagining of global space in turn.

Facebook's depiction of global space was based upon the abstract notion of universality. For actors in and around Facebook, the global communication infrastructure that had emerged was bringing global space into one unified communication order. As Zuckerberg explained to Yuval Harari in 2019, Facebook was building a world "where you have, on one level, unification or this global connection, where there's a common framework where people can connect."[414]

Facebook discourse emphasised the universality of global space and diminished the significance of national borders, linguistic differences, or regional divisions in global space.

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[412] Mark Zuckerberg, "Zuckerberg Facebook post and photo about Earth Day 2015," *Zuckerberg Transcripts* 403, (2015).
[413] E-G8 Forum, "E-G8 Forum Mark Zuckerberg talks with Maurice Lévy," *Zuckerberg Transcripts* 79, (2011).
[414] Mark Zuckerberg and Yuval N. Harari, "A Conversation with Mark Zuckerberg and Yuval Noah Harari," *Zuckerberg Transcripts* 1011, (2019).

From this perspective, Mark Zuckerberg depicted Facebook as a universal product for universal needs. Speaking at a conference in 2010, Zuckerberg suggested that people wanting "access to the people that they care about, having personalized stuff, I think is universal."[415] Again, in a 2010 interview, Zuckerberg suggested that "The theory is that, it really is a universal service.[416]

The claim to universalism underlying Facebook's imagining and depiction of global space was also articulated in the company's public commitment to liberal notions of universal human rights and human nature. In 2015, Mark Zuckerberg argued that it was human nature to seek connection with others. Given human nature then, Zuckerberg went on, Facebook was fulfilling a universal need that was absolutely at the core of what it means to be human, irrelevant of particular geographical or historical contexts.[417] Further, Zuckerberg argued, the essential human need for connection meant all people held the universal human right to be able to connect with others.[418] For Zuckerberg, the right to have internet access, to connect with others on Facebook, was a universal human right similar to the right to have access to clean water.[419]

Here, Facebook's focus on global development and human rights recycles and adapts arguments, vocabularies, and logics that had been expressed for decades by those working in the field of connectivity, the governance of internet and communication technology (ICTs), and particularly UN organisations at the intersection of development and technology adoption. By 2000, the UN's Millenium Declaration called for ICTs to enable development around the world. The International Telecommunication Union (ITU),[420] a UN organisation which worked on ICT rules, norms and adoption, pressed ahead with this vision.[421] For example, the ITU Secretary-General Yoshio Utsumi argued in 2000 that "ICTs alone may not feed the hungry, eradicate poverty or reduce child mortality, but they are an increasingly

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[415] Mark Zuckerberg, "Mark Zuckerberg interview at Cannes Lions," *Zuckerberg Transcripts* 1345, (2010).
[416] Computer History Museum, "The Facebook Effect (interview with Zuckerberg and Kirkpatrick)," *Zuckerberg Transcripts* 30, (2010).
[417] Mark Zuckerberg, "Mark Zuckerberg: Is Connectivity a Human Right?" *Zuckerberg Transcripts* 100, (2013).
[418] As Marc Raboy notes, as early 1865 an international convention in Paris included amongst its core principles for governing telegraphy "the right of all persons to correspond by means of the international telegraphs". Marc Raboy, *Marconi: The Man Who Networked the World*, (Oxford University Press, 2016), 39.
[419] Mark Zuckerberg, "Mark Zuckerberg: Is Connectivity a Human Right?" *Zuckerberg Transcripts* 100, (2013).
[420] The ITU was created in the late 19th century in response to the development of the telegraph.
[421] For more here see: Robin Mansell and Marc Raboy, "Introduction: Foundations of the Theory and Practice of Global Media and Communication Policy," in *The Handbook of Global Media and Communication Policy,* ed. R. Mansell and M. Raboy, (Wiley Blackwell, 2014).

important catalyst that spurs economic growth and social equity."[422] The similarities in arguments between the ITU and Facebook are matched by almost identical slogans and vocabulary.[423] In their 2006 newsletters, as Facebook was beginning to outline its vision of the future, the ITU's slogan was "Connecting the unconnected…around the world".[424] In 2004, when it looked to the future the ITU noted that "As we prepare for…2006, we must ensure that the benefits of this technology are ultimately available to all the world's inhabitants."[425] This language was wielded in the discursive context which Facebook existed within. Facebook's global vision corresponded with the UN's. However, whereas the UN and the ITU might have sought a coalition of governments, supra-national organisations, and private organisations to spread ICTs around the world, Facebook sought to place itself right at the heart of this future world.

In this unified universal global space, Zuckerberg argued, a latent global community was emerging through the help of Facebook. Speaking at Facebook's F8 conference in 2016, Zuckerberg announced to the room of developers:

> "We are one global community. The mother in India who wants to work so her family can have a better life. The father in the US who wants a cleaner planet for his children. The daughter in Sierra Leone who just needs basic healthcare and education so she can stay safe and reach her full potential. That young boy in Syria who is doing the best he can with the cards he's been dealt to find a good path forward in the world. And we, sitting here today, are part of this community too."[426]

Facebook's vision of a global community was one comprised by individuals from around the world, rather than institutional intermediaries or nation states claiming to represent them.

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422 International Telecommunication Union, "The ITU role in the Millennium Development Goals," accessed May 10, 2025, https://www.itu.int/itunews/manager/display.asp?lang=en&year=2005&issue=04&ipage=millennium&ext=html

423 It is notable that whilst Facebook was pushing this vision of the future, Mark Zuckerberg was invited to visit and speak at the UN twice.

424 International Telecommunication Union, "Connecting the Unconnected…around the world," *ITU News*, December 2006, https://historicjournals.itu.int/viewer/477/?return=1&css-name=include&window_close=1&offset=1#page=2&viewer=picture&o=&n=0&q=

425 International Telecommunication Union, "The year in review 2004," *ITU News,* December 2004. https://historicjournals.itu.int/viewer/701/?return=1&css-name=include&window_close=1&offset=1#page=5&viewer=picture&o=&n=0&q=

426 Mark Zuckerberg, "Mark Zuckerberg's Keynote @ Facebook F8 2016," *Zuckerberg Transcripts* 172, (2016).

Unlike the United Nations, in Facebook's vision of a global community individuals would be able to speak for themselves directly. Under Facebook's vision of a global communication order, anyone with internet access, irrelevant of background, could claim their status as a member of the global community. It was in this context that actors in and around Facebook understood the company's mission to connect the entire planet, not just the young, not just Americans, not just the West, not just the already online, but every human being on planet earth.

Finally, this global communication order was imagined as enabling frictionless and instantaneous communication for all people on planet earth. In a 2013 press release, Facebook announced that "We are committed to shaping the Networked Society – where everyone and everything will be connected in real time; creating the freedom, empowerment and opportunity to transform society."[427] In Facebook's depiction of global space, people would be afforded instant and seamless communication and connection with each other, removing distance. As Mark Zuckerberg explained in Facebook's F8 conference for developers in 2018:

> "across all our product, our goal is to give everyone in the world the power to share anything they want with anyone anywhere. And to build stronger relationships, to break down geographic barriers, and to meet new people and interact in new ways."[428]

Information was imagined as circulating across the planet, uninhibited by national borders or geographical barriers, a single unified communication space. More than this though, the distance between citizens and their leaders, and between consumers and business would collapse as individuals gained direct access to each other. In this sense, Facebook's reimagining of a global communication order was one in which hierarchies would be flattened and people empowered to communicate directly with one and another.[429]

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[427] Meta, "Technology leaders launch partnership to make internet access available to all," *Meta Blog,* August 21, 2013, https://about.fb.com/news/2013/08/technology-leaders-launch-partnership-to-make-internet-access-available-to-all/.
[428] Mark Zuckerberg, "Mark Zuckerberg's Keynote @ Facebook F8 2016," *Zuckerberg Transcripts* 172, (2016).
[429] E-G8 Forum, "E-G8 Forum Mark Zuckerberg talks with Maurice Lévy," *Zuckerberg Transcripts* 79, (2011).

Facebook's depiction and vision for a reordered global space was one based upon universality, the emergence of a global community, and the seamless flow of communication. There was little that was unprecedented in this spatial imagining.[430] Whether consciously or not, actors in and around Facebook were recycling the visions, logics, and narratives that were articulated by those promoting a previous generation of European and American technologies. As noted in Chapter 4 (4.2), in the mid-19th century, Samuel Morse suggested that the telegram would lead to a "global village",[431] whilst decades later, Marconi envisioned the creation of wireless network "girdling the globe", a linked "chain" that would benefit the world "by placing of new means of communication at the disposal and within the reach of an indefinitely wider public for social as well as commercial ends."[432] As we saw in Chapter 4 (4.2) a sense of universalism also drove social and economic movements and imperial policies of the 19th century. Universality underlay the imagining of both global communication space and global economic space in the late 19th century, and a similar dynamic is echoed within Facebook's discourse in reference to frictionless and unfettered communication in global information space.

What does bringing Facebook's imagining of global space with its historical precedents into focus help us see? Firstly, we can highlight how this articulation of universalism, in both cases, seems to be tied to a particular geopolitical reality. Both visions of global space, whether in the 19th century or the 21st, were articulated by actors who were positioned at the heart of astonishingly powerful global superpowers. The British Empire in the late 19th and early 20th century, and the United States of America in the early 21st century both held global dominance when these spatial imaginings were most forcefully articulated. It was in the context of this global reach that such a vision of universal global space could be expressed.

Secondly, and more fundamentally, it tells us that this yearning for a universal spatial reordering has a longer history in the Western imagination. This universalism is a part of the Western tradition, and its language and imagery have been a useful resource for actors, across

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[430] For example, the newspaper editor W. T. Stead argued that the telegraph had "annihilated time and abolished space" and that it had helped the "ideal of human brotherhood" emerge. Meanwhile, Francis de Winton, the President of the Geographical Section of the British Association for the Advancement of Science, described the "extraordinary condition of contactiveness" that emerged through the telegraph. Duncan Bell, *Dreamworlds of Race: Empire and the Utopian Destiny of Anglo-America*, (Princeton University Press, 2020), 36-37.
[431] James W. Carey, "Technology and Ideology: The Case of the Telegraph," *Prospects* 8, (1983): 309, https://doi.org/10.1017/S0361233300003793, 308.
[432] As quoted in Raboy, *Marconi,* 268.

different discursive contexts. It was not only Facebook that recycled these ideas and language. As noted in Chapter 4 (4.4), this universalist imagining of space also emerged in how Western actors depicted and forged a new globalization in the post-cold war world. Through the removal of tariffs and exchange controls, international organisations and neoliberal politicians imagined capital as flowing easily across the globe, unhindered by borders. In the same years, cyberspace manifestoes envisioned the analogous seamless global flow of information, data and communication. For example, after speaking at the World Economic Forum in Davos, John Perry Barlow declared in 1996 that "In our world, all the sentiments and expressions of humanity, from the debasing to the angelic, are parts of a seamless whole, the global conversation of bits."[433] Without adopting the direct imagery of Barlow, this argument was adopted and recycled by actors in Facebook. For Barlow, cyberspace was envisaged as intrinsically global, and it was this global nature of this space that would erode earlier boundaries and borders that divided people, and the bureaucracies, states, and governments that upheld these boundaries. Barlow wrote "I declare the global social space we are building to be naturally independent of the tyrannies you seek to impose on us."[434] As we will see below, like Barlow, Facebook's discourse would suggest that the inherently universal space emerging from this global communication order, would challenge the legitimacy and the power of the nation state.

The language, imagery, and narratives of universality, as expressed and articulated in different discursive contexts, whether the late 19th century or the late 20th century, were a resource which actors in and around Facebook could wield in their own discourse. Without wholly replicating these earlier vocabularies, they could reassemble these inherited traditions for their own discursive context.

5.2.3 The Necessity of the Global Scale

For Zuckerberg, the universality underlying his vision of global space did not erase other more local scales of sociality and community. Instead, the global scale was understood to emerge from smaller scales of connection, interacting and interrelating with them. Speaking

[433] Perry F. Barlow, "A Declaration of the Independence of Cyberspace," *Electronic Frontier Foundation,* February 8, 1996, https://www.eff.org/cyberspace-independence.
[434] Barlow, "Declaration."

to shareholders in 2017, Zuckerberg noted that "Building a global community that works for everyone starts with building millions of smaller, supportive communities."[435]

Yet the global scale was crucial, Zuckerberg argued, for engaging with and responding to the uniquely global crises and threats that planet earth faced. For Zuckerberg, these crises and threats not only necessitated a global lens, but also were seen as legitimating Facebook's attempt to forge its vision of a global communication order. This perspective was articulated clearly in how both climate change and Covid-19 was discussed in Facebook discourse. Climate change comes to legitimise Facebook's global perspective, "Climate change is a crisis we will only be able to address if we all work together on a global scale",[436] and again "stopping climate change is something we can only do as a global community".[437] Both blogs go on to describe Facebook's fundamental role as a global actor against this global threat. Away from the climate crisis, Facebook discourse depicted the Covid-19 pandemic as another crisis which necessitated the need for Facebook's global communication order. Indeed, Facebook understood its own sense of, and position within global space, as offering it a unique role in how the globe could handle the Covid-19 pandemic. Speaking to shareholders about Facebook's response to the pandemic, Mark Zuckerberg announced that "This is work we're uniquely positioned to do because Facebook is a global community".[438]

For Zuckerberg, the reality of these global crises, not only worked to legitimate Facebook's global lens and position in the forging of a new global communication order, but comparatively delegitimised the nation state as the form through which global change could occur. For Zuckerberg, individual nation states were simply unprepared and structurally unable to respond to global threats. Only with the emergence of a global community, through Facebook, could individuals and communities across the world come together and fight the ever-more global challenges that the people of planet earth faced. Indeed, Zuckerberg argued that Facebook would be judged by its role in responding to these global threats:

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[435] Facebook, "Facebook Q1 2017 Earnings Call," *Zuckerberg Transcripts* 289, (2017).
[436] Meta, "Stepping Up the Fight Against Climate Change," *Meta Blog,* September 14, 2020. https://about.fb.com/news/2020/09/stepping-up-the-fight-against-climate-change/.
[437] Mark Zuckerberg, "Zuckerberg Facebook post about launching the Climate Science Information Center," *Zuckerberg Transcripts* 1296, (2020).
[438] Facebook, "Facebook Q1 2020 Earnings Call," *Zuckerberg Transcripts,* 1322, (2020).

> As we build a global community, this is a moment of truth… Today's threats are increasingly global, but the infrastructure to protect us is not. Problems like terrorism, natural disasters, disease, refugee crises, and climate change need coordinated responses from a worldwide vantage point. No nation can solve them alone. A virus in one nation can quickly spread to others. A conflict in one country can create a refugee crisis across continents. Pollution in one place can affect the environment around the world. Humanity's current systems are insufficient to address these issues.[439]

Here, Facebook's global discourse, and Zuckerberg's focus on the threats of global space, explicitly challenged the international global order based around nation states. The reality of global space, global threats, and a global community, Zuckerberg suggested, required people to think beyond the political formations and structures of the past. Nation states were depicted as the legacy of an older more fractured spatial order.[440] Facebook, with its global communication order, had a duty to think about alternative global political solutions, "Our world is more connected than ever, and we face global problems that span national boundaries. As the largest global community, Facebook can explore examples of how community governance might work at scale."[441] In this sense, Facebook's vision of a global community, and experiments with global 'community governance' challenged other spatial boundaries with internal political representation, such as states and cities, as well as other global governing authorities, such as the UN. Speaking in 2016, Zuckerberg told Facebook Live viewers:

> So, what I think that we need to be doing as a technology industry and a community is trying to build this technology so that just like in every other point in history, people can come together and, and kind of level up humanity, and get to the next level and start to see ourselves, less as just nations of people and more as a global community of, of everyone living together and trying to take on these problems. And, you know, at each one of these steps in the past, it's required new technology, it's required new

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[439] Mark Zuckerberg, "Zuckerberg Facebook post about Building Global Community," *Zuckerberg Transcripts* 989, (2017).
[440] That the prospect of a global communication network might be a threat to the sovereignty of nation states is not new. In the early and mid-19th century, states were worried about the subversive potential of telegraph communication, particularly after it became associated with the revolutionary movements of 1848. See: Richard Evans, *The Pursuit of Power: Europe 1815-1914,* (Allen Lane, 2016), 157, 392.
[441] Mark Zuckerberg, "Zuckerberg Facebook post about Building Global Community," *Zuckerberg Transcripts* 989, (2017).

> political systems and written ways of doing things in order to organize everyone together. So it's not gonna be easy, we have a lot of work to do. But I think that in the 21st century we all need to start thinking about ourselves, more as citizens of the world in order to solve some of these problems than just as people who live in, you know, one specific country or city.[442]

Actors in and around Facebook partially legitimated the company's global expansion, its preoccupation with the global scale, and its imagining of global space, through the existence of global threats.[443] The notion that planet earth was facing repeated and sustained global threats was justification enough for Facebook's global communication order, as well as the particular norms and values embedded within it.

5.2.4 Facebook's Multipolar Ordering

Whilst actors in Facebook emphasised a universal vision of global space, lurking underneath this discourse were actions which indicated a different perspective of global space, one marked by regionalism and multipolarity. It is important to note that this envisaging of global space did not dislodge or replace the other universal imagining, but instead existed at the same time, coalescing and competing in Facebook's discourse.

In 2010, Facebook opened its first data centre in the state of Oregon, US. Over the next decade, Facebook built 22 more data centres. In them, Facebook stored the vast swathes of data it was accumulating from its users and more broadly from activity across information space. Whilst Facebook discourse emphasised a vision of a universal global space in which data and information flowed seamlessly across the globe, the company overwhelmingly located the material form of this data in the West. Of Facebook's 23 data centres, nineteen were built in the United States, three in northern and western Europe, and one in Singapore. Whilst Facebook data might be flowing from across the globe, it found its resting point in the West.

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[442] Mark Zuckerberg, "Zuckerberg Facebook video: First ever Live Q&A on Facebook (with Jerry Seinfeld)," *Zuckerberg Transcripts* 263, (2016).
[443] As we will see in the next chapter (6.1.3), it also legitimated this perspective through reference to historical times of progress.

By 2019, this underlying alternative imagining of global space, marked by regional divisions, emerged more explicitly in Facebook's discourse. In a Facebook post, Zuckerberg explained why Facebook was locating its data centres in the West:

> There's an important difference between providing a service in a country and storing people's data there. As we build our infrastructure around the world, we've chosen not to build data centers in countries that have a track record of violating human rights like privacy or freedom of expression. If we build data centers and store sensitive data in these countries, rather than just caching non-sensitive data, it could make it easier for those governments to take people's information.[444]

Somewhat paradoxically, it was Facebook's belief in the notion of universal human rights, which led to the company's decision to store its data overwhelmingly in the West. In Zuckerberg's imagination, it was only Western countries which did not have records of violating certain human rights. In both the actions of building these data centres, and in explaining this decision, Zuckerberg is tying Facebook to certain values that are understood to be, in some way, bound to one region of the globe, the West. Over 2019, Zuckerberg continued to emphasise how Facebook embodied Western traditions and values, "I'm proud that our values at Facebook are inspired by the American tradition, which is more supportive of free expression than anywhere else."[445]

Other actors within Facebook came to more explicitly acknowledge the development of this different imagining and ordering of global space. In 2020, Facebook's Vice-President of Global Affairs Nick Clegg warned that what seemed to be emerging was not one unified universal information space but instead several.[446] In an article for the *Financial Times,* Clegg wrote that:

> "the rise of the Chinese model – segregated from the rest of the web and subject to extensive surveillance – presents a real risk to the open internet enjoyed by billions of

[444] Mark Zuckerberg, "Zuckerberg Facebook post about A Privacy-Focused Vision for Social Networking" *Zuckerberg Transcripts* 1006, (2019).
[445] Mark Zuckerberg, "Mark Zuckerberg Stands for Voice and Free Expression," *Meta Blog.* October 17, 2019, https://about.fb.com/news/2019/10/mark-zuckerberg-stands-for-voice-and-free-expression/.
[446] Nick Clegg joined Facebook as Vice President of Global Affairs in 2018, after leading the British Liberal Democrats Party and acting as Deputy Prime Minister from 2010-2015. Clegg became President of Global Affairs for Meta in 2022 before leaving the company in 2025.

> users around the world. Other countries, including Russia and Turkey, have made similar moved to build digital walls and exert "data sovereignty"."[447]

For Clegg, global space here is marked not by universality but instead by multipolarity, with different regions building their own protected and bounded information spaces. In other words, global space was fragmenting. It is appropriate that, in this passage, Clegg begins with reference to China, the first major state to block Facebook in 2009. We can trace the development of this alternative, multipolar view of global space through Facebook's shifting depiction of China's ban. In 2009, Facebook depicted China's banning of the social network as something temporary. Indeed, Facebook suggested that the company might outlast the restrictive internet policies of the Chinese Communist Party.[448] By 2019, Mark Zuckerberg was willing to acknowledge that China's alternative information space was not temporary but instead a stabilised feature of contemporary global space, "China has just approached the internet very differently from the US and even Europe and in most other places, they have different values and that's led to an internet framework and that just that, just prizes different things."[449]

However, by 2020 it was not only China. Over the previous decade, Russia had gradually begun seizing control of its own information space, and blocking Facebook products. From 2009 onwards, Iran had also blocked Facebook. As Clegg's article suggested, the European Union was also threatening to drift away from the vision of a unified global space which Facebook had spent the past decades championing. To do so would be to damage the unified Western information space. In his Financial Times article, Nick Clegg warned that the European Union was threatening to fragment global space further, "Europe faces a fundamental choice: does it design rules to keep the internet open and global; or does it build barriers for the bloc alone?"[450]

Facebook's imagining of global space then fluctuated between the more prominent vision of one unified global communication infrastructure and global community. Away from this

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[447] Nick Clegg, "Europe Should Tear Down Digital Walls, Not Build New Ones," *Financial Times,* October 22, 2020, https://about.fb.com/news/2020/10/op-ed-europe-should-tear-down-digital-walls-not-build-new-ones/.
[448] Facebook, "Facebook Q3 2014 Earnings Call," *Zuckerberg Transcripts* 153, (2014).
[449] Mark Zuckerberg and Dana Perino, "Is Facebook censoring conservative voices? Zuckerberg weighs in," *Zuckerberg Transcripts* 1223, (2020).
[450] Clegg, "Europe."

universal vision, was a separate imagining of space, one in which the world was marked by regionalism and multipolarity. This vision of global space featured a division between the West and other regions, one that was articulated not only in reference to geography but to values and traditions.

How should we make sense of these different emerging orderings of space? I suggest that we can think of each imagining of global space as a different conceptual resource that actors in Facebook could use and wield for different purposes. The first universal vision enabled actors in and around Facebook to depict the company as universal, to place it within a historical narrative of global progress, and to even align it to causes of global development and the erasure of inequality. The second vision enabled actors in Facebook to, when it needed to, align the company to the West and Western values and place it as part of a shared hemispheric tradition. Actors in Facebook could claim to be representing and defending the traditions of the West, and depict Europe as breaking away from them. Viewing these different spatial orders as resources emphasises how Facebook inherited these different spatial imaginings, and could play with them and resurface them for their own interest. We have already noted how Facebook's first universal spatial imagining inherited and reassembled the universal imagery and vocabulary of the late 19th century. Yet, as Chapter 4 (4.1-4.2) shows, there is also a long history of actors in Europe and America, envisaging and creating a sense of global space marked by territorial and hierarchical division between Europe or the West and the rest of the world.

5.3 Theorising the Metaverse: Coloniality and Contingency

As discussed in Chapter 2 (2.5), we can, following Aníbal Quijano, see the lasting power of coloniality in shaping knowledge production, as well as global spatial ordering.[451] Quijano shows how, even when older colonial political and economic structures have faded away or collapsed, a coloniality of knowledge and imagination has remained and evolved, supporting new structures of domination and spatial interrelations. In the following section, we will see how Facebook/Meta's discourse of the metaverse recycles and adapts colonial language,

[451] Aníbal Quijano, "Coloniality and Modernity/Rationality," *Cultural Studies* 21, no. 2-3 (2007): 168-178, https://doi.org/10.1080/09502380601164353.

imagery, and logics, into this particular discursive context. Yet, whilst Quijano helps us attend to the embeddedness of coloniality in conceptual frameworks, as well as new structures of power, this perspective also acknowledges the contingency of spatial configurations. Just because spatial orderings continue to be shaped by a colonial imagination, this does not mean that it could not have been, or could not be, otherwise.

Returning to Doreen Massey can help us emphasise this radical contingency of space, whilst also attending to the historical inheritances that structure spatial imaginings and orderings.[452] For Massey, space is never constant but rather a product of human imagination and interrelation, something which is open to being understood, imagined, and remade in many different ways. Acknowledging both the recurring coloniality of spatial structuring and imagining, as well as the radical contingency of spatial configurations and imagination, can help us here analyse Facebook/Meta's radical attempt, through its discourse of the metaverse, to reimagine and remake how global space and information space was felt to exist.

5.3.1 The Metaverse's Reimagining of Space

In October 2021, Mark Zuckerberg set out his vision for the metaverse, announcing that Facebook the company would be renamed Meta. Speaking at Facebook/Meta's Connect conference, Mark Zuckerberg's keynote speech set out a vision of the future "beyond the constraints of screens, beyond the limits of distance and physics, and towards a future where everyone can be present with each other." Here I consider how Facebook/Meta's vision of the metaverse offered a reimagining of space in three ways. Firstly, for actors in and around Facebook/Meta, the metaverse promised to fundamentally reorder how space was experienced. The metaverse was envisioned as wholly new spatial realm, and one which would produce vast new domains imagined as bountiful and open to expansion. Secondly, this spatial realm would not only be located through the use of VR or augmented reality (AR) headsets, but would extend its norms and rules across a plethora of digital devices. Finally, the metaverse was imagined as reordering how space would be inhabited on planet earth, profoundly rupturing centuries old historical processes or urbanisation, whilst also diminishing the need for migration.

[452] Massey, *For Space*.

Speaking to shareholders in 2021, Zuckerberg defined the metaverse as "a virtual environment where you can be present with people in digital spaces. You can kind of think about this as an embodied internet that you're inside of rather than just looking at."[453] The metaverse was not only an attempt to produce an "embodied" internet but to territorialise the digital, and in so doing open up new spatial frontiers for possession and boundary making.

Here it is useful to return to Carl Schmitt. For Schmitt, land appropriation was "the primeval act in founding law."[454] The ability to partition and classify space was how spatial order originates, it "constitutes the original spatial order", which structures all further property relations. This Schmittian perspective is a useful lens through which we can consider the full ambition of Facebook/Meta's metaverse. In Facebook/Meta discourse, the metaverse was imagined as a newly created space; the finding and addition of new territory, which was imagined as expanding the limits of what earthly space contained. In a sense, the metaverse was the finding of, and production of, a new world. Because of this, many of the logics, vocabularies and fantasies associated with older experiences of finding 'new worlds', whether of the European colonisation of America or 20th century space exploration, find themselves articulated anew in Facebook/Meta's envisioning of the metaverse. Facebook/Meta's discourse reflects the logics and power of *terra nullius,* of an imagined 'empty land' that could be dominated, partitioned, and classified, through the authority of the discoverers, in this case Facebook/Meta.[455] From Facebook/Meta's perspective, the creation of this new territory and social reality, afforded the company the power to define and arbitrate the boundaries and possession of this space, as well as the rules and norms that maintained this new spatial order. For example, Facebook/Meta could control the hardware technology enabling this social reality, as well as the rules which arbitrate how territory is purchased and built upon, who has the ability to work this digital land, and the rules of interaction within it.

Whereas on the traditional internet, one could purchase the rights over a web domain, in the metaverse, one would be able to buy a piece of land, as expressed through data, in which they can feel present within and which they can build upon. In this new world, as Mark Rabkin,

[453] Facebook, "Facebook Q2 2021 Earnings Call," *Zuckerberg Transcripts* 153, (2021).
[454] Schmitt, *Nomos.*
[455] For more on *Terra Nullius* and history of computing see: Jonnie Penn, "Animo nullius: on AI's origin story and a data colonial doctrine of discovery," *BJHS Themes* 8, (2023): 19-34, doi:10.1017/bjt.2023.14

the then Vice President of Meta VR explained, every paying user has the ability to purchase their own 'place':

> And we want it to feel like your home, so in the future we'll make it easier for anyone to build and customize their own space. Your corner of the metaverse should reflect you and your personality. That capability is a little further out, but we hope it gives you an idea of where we see VR heading.[456]

Thus, the metaverse carried with it not only the envisioning of a new spatial realm, but a promise to people that in this new digitalised territory, they could create their own 'place', their own home. In their own examples, Facebook/Meta depicted spaces ranging from a space station to a palatial apartment with tropical views. The metaverse then was represented as a new space, which offered people the possibilities of frontier-living, as well as luxury; the chance to inhabit their own dream home, something that for most people in the physical world might have been financially unfeasible. The fantasy of being able to exit one's reality and settle a new one is not novel. The territorialisation of the digital recycled older fantasies, promises, and rewards that were common in previous generations of colonial exploration and expansion. The historian Mark Mazower argues that we need to understand colonial expansion as "a bet on the future", one which promised many impoverished people in Europe the promise of starting again, of gaining control and wealth in a new land, at the violent expense of people who already lived there.[457] Going on, Mazower emphasises how colonial expansion "expressed itself in speculative fevers and land grabs...such dreams of the future brought hundreds of thousands of Europeans to Texas and California, as well as the farming uplands of southern Africa, Australia, and the Upper Chaco."[458] In some way, the metaverse tapped into a similar fantasy, promising anew the possibility of possessing land and wealth.

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[456] Mark Rabkin, "Connect 2021 Recap: Horizon Home, the Future of Work, Presence Platform, and More," *Meta Blog,* 28 October, 2021, https://www.meta.com/en-gb/blog/connect-2021-recap-horizon-home-the-future-of-work-presence-platform-and-more.
[457] Mark Mazower, *Governing the World: The History of an Idea,* (Penguin, 2012), 25.
[458] Ibid.

(Figure 1. A still from Meta Connect 2021 showing Mark Zuckerberg choosing his avatar in his digital home with his chosen "inspiring views".)[459]

The metaverse's spatial significance stretched beyond the social reality which could be inhabited through VR headsets. Rather, the norms and rules that would govern the metaverse were imagined to extend into and through other technological interfaces. At the core of Facebook/Meta's vision of the metaverse were norms of interoperability and portability. Thus, in the metaverse, a person would be afforded the right to bring their digital tokens across different hardware, such as VR, AR, and mobile devices, and across different companies' products. For example, one might be able to bring their digital artwork from Horizon World in a Meta Quest headset, into Fortnite accessed on an Android phone. In this sense, Facebook/Meta's metaverse would be the extension of the company's rules over possession across digital devices and corporate empires. Zuckerberg depicted the metaverse as the means of breaking down the barriers of digital silos and walled gardens that had emerged over the previous two decades of internet development.

Finally, Facebook/Meta's vision of the metaverse was imagined as radically reordering space in the physical world, on planet earth. Being able to locate one's social presence and interaction in the metaverse, Zuckerberg argued, would radically alter the ways in which humans interact with physical space, particularly the historical need to congregate close

[459] Mark Zuckerberg, "Connect 2021 Keynote: Our Vision for the Metaverse," *Zuckerberg Videos* Video 330, (2021).

together. The metaverse, with its collapse of global space into a headset, could enable someone living in a very rural place to not only be in communication with but be 'present' with someone anywhere in the city. Similarly, the metaverse would reduce the need for global migration as people could work in the same office in the metaverse, whilst living anywhere on planet earth. Speaking to staff in 2020, Mark Zuckerberg suggested that the metaverse would fulfil the internet's true promise of collapsing space:

> I'm also very excited about the potential to spread opportunity around the country more and over the long term, potentially even around the world….You know, right now I think it's somewhat of an unfortunate and unsustainable setup that for people to have a lot of these jobs, they have to move to a small number of big cities. And that's both unfortunate because in some ways the cities are very crowded and then the quality of life has struggles as cities try to scale.[460]

In Facebook/Meta discourse, the metaverse was depicted as a direct competitor to physical cities and material infrastructure. The digital infrastructure of an inhabited virtual realm would fulfil the functions and social needs that, historically, towns and cities had provided through the production of proximity. In this sense, the metaverse could disrupt the incentives and norms that order humanity's taking of territorial space, reshaping how people inhabit planet earth in a similar way to changing weather patterns and the social and material construction of borders. In an interview in 2018, Mark Zuckerberg explained

> You get all these people have to move to cities, and then the cities get to be way too expensive, and if you have a technology like VR where you can be present anywhere but live where you choose to, then I think that that can be really profound. There're really only a few solutions to this. Historically, cities have grown to be bigger by building better physical infrastructure. There'll be some amount of that. I mean, I think things like hyperloops and things like that can extend the suburbs, could be quite interesting, but I have to believe that, we're here in 2018, it's much cheaper and easier to move bits around than it is atoms. It strikes me that something like VR or

[460] Mark Zuckerberg, "Zuckerberg Facebook video live from our internal weekly company townhall about remote work," *Zuckerberg Transcripts* 1224, (2020).

> AR, or even video conferencing on the path to that, has to be a more likely part of the solution than just building a ton of physical infrastructure.[461]

Being able to locate one's social presence and interaction into the metaverse, Zuckerberg argued, would radically alter the ways in which humans interact with physical space, particularly the historical need to congregate close together. In fact, for Zuckerberg, the metaverse was imagined as a phenomenon that would diminish the need for global mobility and migration.

Facebook/Meta's vision of the metaverse, and its reordering of global space, didn't just rely upon and recycle colonial fantasies of land-settling, but also reassembled earlier visions from the 1990s of how cyberspace would reorganise space. As explored in Chapter 4 (4.4), Esther Dyson, and her colleagues' 1994 manifesto argued that cyberspace would radically reshape spatial configurations. For Dyson and her colleagues, cyberspace was imagined as the production of digital space which, although not territorialised, would still remove the burden of distance, and transform the relationship between locality and community. The production of cyberspace would enable people to be able to work from wherever they liked and, thus, would disrupt incentives for urbanisation. They argued that new cyberspace connections would produce spatial configurations that would replace and override earlier forms of place. Older spatial configurations, such as the factory space, and the building of towns around industry, would be replaced by new cyberspace economies and the accompanying spatial patterns. They could imagine that cyberspace would "play an important role knitting together the diverse communities of tomorrow, facilitating the creation of "electronic neighborhoods" bound together not by geography but by shared interests."[462] Actors in Facebook/Meta were able to reassemble these arguments, images, and earlier dreams of tomorrow, and embed them in their renewed vision for the metaverse. Without embracing the cyber-libertarianism that was at the heart of these earlier visions, Facebook/Meta actors could adopt the radical reimagining of space and attempt to place themselves at the heart of this information space.

5.4 Conclusion

[461] Mark Zuckerberg, "MZ Interview with Kara Swisher," *Zuckerberg Transcripts* 949, (2018).
[462] Esther Dyson, George Gilder, George Keyworth, and Alvin Toffler. "Cyberspace and the American Dream: A Magna Carta for the Knowledge Age," *The Information Society* 12, no. 3 (1994): 302, https://doi.org/10.1080/019722496129486.

In this chapter I have analysed how actors in and around Facebook came to talk about space and spatiality. To begin with, I show how the concept of scalability became central to how Facebook actors depicted their own expansion, and their sense of spatial order. I suggest that the malleability of scalability as a concept allowed it to become a particularly useful resource for actors in and around Facebook. Further, I suggested that Facebook's, and other software companies', wielding of scalability is analogous to how actors in the late 19th century relied on the concepts of expansion and growth. With this in mind, I analysed what the concept of scalability could be used to mean and do, which the concept of growth could not.

Once actors in and around Facebook had set their sight on the global scale, they disseminated an understanding of the globe as one universal space. I analysed this global spatial imagining, its underlying universality, its focus on a latent global community, and its images of frictionless data flow. I showed how Facebook's discourse emphasised the reality of global threats, so as to legitimate the company's particular vision of universal global space. Yet, lurking underneath this universalism, I suggested, was an alternate spatial imagining, one marked by multipolarity. Here Facebook's discourse reflected an older tension in the history of Western spatial imagining, caught between regional hierarchies and universalism.

Finally, I analysed Facebook/Meta's vision of the metaverse, and how it imagined a radical reordering of global space. The production of vast new territories, a territorialised internet, was sold as an opportunity for people to create new luxurious homes and even wealth. Here, I suggested that the promise of 'new land' recycled older colonial narratives and promises. I examined the metaverse as an opportunity for Facebook/Meta to be in control of land appropriation and the rules and norms governing this territory.

Through this intellectual development and evolution, I suggest, we can begin to see the particular spatial language, imaginings, and orderings that came to be central to this Big Tech horizon for structuring the world. Here then, we can see how in this ascendant horizon, actors in and around Facebook never stop and question their felt need to expand beyond ever-greater spatial limits. In this horizon, the primary relation to space is one of expansion and, as is shown in this chapter, this is conveyed through the language of scalability. Perhaps most importantly, Facebook/Meta's discourse is unceasingly focused on the possibility of reordering global space. How this ordering is imagined shifts over these decades from a single universal information space to one more marked by inherited divisions and hierarchies,

and eventually to the construction of a new world itself. That global information space should be reconfigured and reordered, and that this reordering is inevitable, is at the heart of this Big Tech horizon. In the following two empirical chapters, we will examine this spatial discursive strand alongside Facebook's historical-temporal discourse, as well as the ontological and epistemological commitments within this Big Tech hegemonic horizon.

Chapter 6
Facebook's Historical Times

In this chapter I consider how actors in and around Facebook inherited and articulated a sense of historical time.[463] This chapter is split into three sections. It begins with an outline of how the concept of historical time is understood, before considering three different layers of historical time as articulated by actors in and around Facebook: speed, exponentiality & progress. I argue that in its formative first years, actors in Facebook were largely concerned with the urgency of speed and a felt need to move quickly. Yet this fixation with speed soon led to questions of momentum and trajectory: where was Facebook, and more broadly, society heading towards? In their articulation, I suggest, actors in and around Facebook drew upon, and were imprinted with, two further layers of inherited historical time: exponential time and progressive time.

I suggest that focusing on these particular layers of historical time reveals two important things about Facebook's discourse. Firstly, an early focus on speed alone became an insufficient means for actors in Facebook to understand and depict the changes that were occurring around Facebook, and that were attributable to Facebook. Questions that Facebook faced required a sense of where all this speed was heading. Secondly, it is only by stripping apart these different layers of historical time that we can better understand how they could be used discursively in different ways, by actors in Facebook, to do and mean different things. What could the language and time of exponentiality do which progressive time could not, and vice versa?

Next, this chapter explores how these different layers of historical time came to coalesce around a future-oriented consciousness of time, one in which the past is depicted as relatively unimportant. Facebook's discourse, I suggest, depicted the present as 'early', as a beginning, as fundamentally anticipatory. Meanwhile, actors in and around Facebook increasingly are shown to have depicted the future as the means by which Facebook's actions in the present could be legitimised. As 'the future' came to carry increasing discursive weight, I explore

[463] See Chapter 2 (2.4) for a more thorough discussion of this concept.

how it came to hold together certain tensions in Facebook's discourse; just how knowable was the future, and how much agency might people in the present have over it?[464]

With this sense of historical time, I consider two different visions for the future as imagined by actors within Facebook/Meta: a world connected & the metaverse. Embedded in both visions for the future were particular demands on the present as well as retellings of the past. In both cases, but most notably in its vision of a world connected, a particular retelling of the past was embedded within the imagined future, and one which was forced to fit in its slipstream. Similarly, I show how each vision for the future was inscribed with particular demands on the present, and it was partially in reference to these imagined demands, that actors in Facebook/Meta sought to legitimate their actions, to various audiences, whether shareholders, developers or publics. Throughout this chapter, I consider these intellectual developments alongside historical precedents so as to emphasise Facebook's intellectual inheritances. In particular, I highlight the development of progressive historical time, exponential time's place within American computer culture, and late 20th century science fiction.

If in the previous chapter we examined Facebook's underlying spatial horizon, here we examine a second underlying discursive dimension: Facebook's temporal-historical articulations. By examining the temporal assumptions and boundaries embedded in Facebook's discourse, and particularly its evolution towards more future-oriented language, I argue that we can uncover and examine a further discursive strand within a broader Big Tech horizon.

6.1 Layers of Inherited Historical Time

Historical time refers to the qualitative experience of humans in relation to time. In Europe, since the 18th century, historical time has generally been depicted as unified and linear, as

[464] Of course, Facebook's discourse doesn't make any distinction between the type of agency that they might hold in the present, and differing amounts of agency that others, who don't have the resources of Big Tech, might hold.

time neatly unfolding chronologically. However, in this thesis, I draw on an alternative understanding of time as layered and multiple. I do so because, as I set out in Chapter 2 (2.4), historical and anthropological research shows that there are always different ways in which people experience and interact with the texture of time at any given moment.[465] At any given instant, which may be experienced as singular, there could be many layers of historical time or temporalities, each with different origins, durations and rhythms underlying and conditioning it. In the words of Anna Tsing, we can describe these different layers as a "polyphony" of multiple temporal rhythms.[466] Building a framework on the multi-layered nature of historical time, enables us to disentangle the different historical articulations that actors in Facebook engaged with.

In the following three sub-sections, this thesis interrogates some of the different historical times as expressed and experienced by actors in and around Facebook: speed, exponentiality, and progressive time. In doing so, it seeks to uncover and highlight multiple temporal layers, each with rhythms, durations and origins. These layers of historical time did not emerge in a vacuum. Rather, actors in and around Facebook inherited these different layers of historical time from the past, each of which offered different resources for making sense of change in time. The historical time that Facebook emanated was neither singular nor a wholly coherent project. Instead, we can best understand Facebook's historical time as multi-layered. Here then, my analysis is directed towards disaggregating what Koselleck calls "the simultaneity of the non-simultaneous".[467] Doing so enables us to ask what the different articulations of historical time afforded actors in Facebook to achieve? What could one temporal articulation do that others couldn't?

Facebook's early first years saw the company successfully expand across the United States and begin its expansion around the world. In these early years, I suggest, Facebook was predominantly preoccupied with the experience and significance of speed. Yet with all its attention on moving quickly, Facebook increasingly faced questions from staff, investors and

[465] Anna L. Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins,* (Princeton University Press, 2015); Reinhart Koselleck, *The Practice of Conceptual History: Timing History, Spacing Concepts,* trans. by T. Presner, K. Behnke, and J. Welge, (Stanford University Press, 2002), 100-114; Reinhart Koselleck, *Sediments of Time: On Possible Histories*, trans. S. Franzel and S-L Hoffman, (Stanford University Press, 2018), 1-9.
[466] Tsing, *The Mushroom*, 24
[467] Koselleck, *Sediments,* 45.

from countless interviewers about where all this was heading?[468] In other words, a fixation with *speed* eventually implied questions of *momentum* and *direction*. In this discursive context these questions of momentum and direction, of where Facebook's speed was heading, came to hold increased importance. Here, the expression of speed-as-time, couldn't answer these questions, and led actors in Facebook to articulate alternative ways of experiencing historical time. To answer these questions, and to make sense of the changes[469] that were occurring around them and attributable to them, I show how actors in Facebook articulated and reached towards two different attempts at weaving together the past, present, and future into a narrative. Specifically, I suggest, actors in and around Facebook wielded two different articulations of historical time: exponential time and progressive time.

6.1.1 Speed

In Facebook's formative first years, documents produced by the company, blogs from employees, and interviews with Mark Zuckerberg reflect a constant tussling with the speed with which Facebook was expanding. Permeating these early Facebook documents is a reckoning with the urgency of moving quickly. This urgency was explicitly tied to logics of competition with other technology competitors and the need to build market share. Facebook's fixation on speed manifested in various forms: the speed at which people were signing up, the speed at which Facebook could put out new code and iterate its products and features, the speed it took for the website to load, and the speed at which staff could learn.

From its very beginning in 2004, Mark Zuckerberg and his peers were particularly fixated on the need to move quickly. Unlike other contemporary technology companies of the time, such as Google or Microsoft, Facebook fostered a culture of pushing out code constantly. According to Google and Facebook chronicler Steven Levy, whilst Google at the time would

[468] A particular turning point here is Yahoo's attempt to purchase Facebook in 2006. Zuckerberg recalls being under intense pressure from staff and investors to sell up. "Up until that point…every day we'd just come in and kind of do what we thought was the right next thing to do…we'd open two more schools…and that was the first point where we really had to look at the future and say, 'wow is what we're going to build going to actually be so much more meaningful for this?' And, you know, that caused a lot of interesting conversations in the company and with our investors." Mark Zuckerberg, "Mark Zuckerberg: How to Build the Future," *Zuckerberg Transcripts* 171, (2016).

[469] Actors in and around Facebook were making sense of how quickly the social network had been expanding across the United States and the world, what it meant that so many people were relocating their social interactions onto Facebook, and what knowledge could be extracted from their data.

update its index every two weeks, Facebook would push out new code several times a day.[470] In his blog *The Last Bus Problem,* Facebook's then CTO, Andrew Bosworth, reflected on his experience of joining Facebook from Microsoft in 2006.[471] He describes joining an environment in which engineers were compelled to push out code constantly. Whilst he initially argued for slowing down the release cycle, "Mark…came down hard on this. He was unequivocal: not only could we not move the push to monthly, he wanted us to push code daily."[472]

An engineer, on their first day at Facebook, went through an induction process, which stressed, above all else, the need to get code out as quickly as possible.[473] If an engineer made a mistake whilst pushing out code too quickly, it was celebrated as a sign that they had accepted the Facebook ethos. Reflecting on Facebook's culture of speed, Andrew Bosworth describes the mindset as, "Every second you delay robs your consumers of a better experience. Every second you rest is a second your consumers look elsewhere.[474] Never stop trying to do it faster, make it better, make us stronger."[475]

Four years after Facebook was created, internal emails still show Zuckerberg preoccupied with the speed at which Facebook was pushing out code and releasing new products. In 2008, Zuckerberg told high-level Facebook employees that

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[470] According to Steven Levy, the author of histories of both Facebook and Google, Facebook distinguished itself from other companies, including Google, by its preoccupation with speed: "At Facebook, they pushed out code four or five times a day. Essentially, Zuckerberg and Moskovitz were operating by the same rules as they did when Facebook was a dorm-room project. Since they never worked at any other company, they didn't realize how subversive their process was, that it essentially violated the accepted best practices of software development. Even Google rebuilt their indexes only every two weeks or so, queuing up changes for the regular updates… the attitude was "we don't give a shit how long it took you to write code in your previous gig. At Facebook we want to move at light speed." Steven Levy, *Facebook: The Inside Story,* (Portfolio Penguin, 2020), 153.

[471] Andrew Bosworth, "The Last Bus Problem," *Boz,* March 26, 2021, https://boz.com/articles/bus-problem.

[472] Bosworth, "Bus Problem."

[473] For another description of Facebook's induction see: Antonio G. Martínez, *Chaos Monkeys: Mayhem and Mania Inside the Silicon Valley Money Machine*, (Ebury Press, 2017), 257-270.

[474] In its early years, Facebook was competing with other social networks, such as the bigger Myspace (founded in 2003) and Friendster (founded in 2002. In 2007, Myspace was the most visited website in the United States, the biggest social network in Europe and was growing exponentially. Only in April 2008 did Facebook begin overtaking Myspace in its numbers of US users.

[475] Andrew Bosworth, "Move Fast, Break Things Explained," *Boz,* December 6, 2019, https://boz.com/articles/move-fast-explained.

> "the biggest development issue I'm thinking about right now is our development speed…our development cycle [is] slowing down…and I just wanted to say…we can and need to be doing a much better job of keeping things moving quickly."[476]

This demand for speed permeated Facebook's sense of what was needed to succeed. [477] Whilst reflecting on his time as head of Facebook's 'Growth Team', Chamath Palihapitiya noted the importance of speeding up how the company measured data,[478] "Measuring that in days is unrealistic. Measuring it in hours is unrealistic. Measuring it in minutes is necessary but not sufficient. But like, "How do you get that to seconds? How do you get that to hundreds of milliseconds?" That's how you win."[479]

The urgency of speed not only defined the company's culture around pushing out code, and measuring data, but also the speed at which the website ought to function for users. As Facebook expanded its user base, actors in the company were fixated on speeding up the website's functionality. Speaking to Harvard students in 2005, Zuckerberg spoke at length about the work he and his colleagues had put into reducing website response time from four milliseconds to 0.3 milliseconds.[480] Three years later, Zuckerberg remained focused on the need for Facebook to be faster. In an email to staff, Zuckerberg urgently noted that making the website faster "is almost certainly more important" than any other task staff could work on, such as building or shipping any new product, or reducing the amount of spam on the social network.[481] This need for speed, Zuckerberg explained, came from

> "stats that show that usage of the site is basically tied to how fast the site is. The faster we make the site, the more activity we see. I believe the latest data I saw was that if

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[476] Facebook, "Six4Three Exhibit 16: Zuckerberg email about "speed and strategy"." *Zuckerberg Transcripts* 1657, (2008).
[477] This fixation on speed was not unique to Facebook; it pervaded much of computer culture of the time. Take for example, the founder of Y Combinator and influential tech commentator Paul Graham's 2003 essay "The Hundred-Year Language", which was derived from Graham's keynote speech at the python conference PyCon in 2003. The essay is partly concerned with feeling, within computer culture, of having to move quickly "the desire for speed is so deeply engrained in us, with our puny computers…". Paul Graham, "The Hundred-Year Language," *Paul Graham,* April 2003.,https://www.paulgraham.com/hundred.html
[478] Palihapitiya does not specify what type of data but instead is referring generally to all data that the company extracts.
[479] Chamath Palihapitiya, *"How we put Facebook on the path to 1 billion users."* January 9, 2013, https://genius.com/Chamath-palihapitiya-how-we-put-facebook-on-the-path-to-1-billion-users-annotated
[480] Harvard University, "CS50 Guest Lecture by Mark Zuckerberg," *Zuckerberg Transcripts* 141, (2005).
[481] Facebook, "Six4Three Exhibit 16: Zuckerberg email about "speed and strategy"." *Zuckerberg Transcripts* 1657, (2008).

> we made the site 100ms faster we'd have about 3% more activity and if we made the site a second faster we'd have about 20% more activity. That's a really big deal. What it means is that even if users don‘t consciously notice the speed, it's subconsciously making them do fewer page views and less activity.”[482]

Beyond the speed of technological practice, the need to move quickly saturated Facebook culture more broadly. Speed, and the ability to learn and move quickly, became the criteria against which staff were hired. Speaking in 2005, Zuckerberg explained that Facebook workers are not hired because they have experience but, instead, young people are hired “for raw intelligence then the idea is that they're gonna be able to learn stuff really quickly.”[483] In another early interview, Mark Zuckerberg repeated

> “if you find someone who's raw intelligence exceeds theirs, but has 10 years less of experience, then they can probably adapt and learn way quickly, you know, and within a very short amount of time be able to do a lot of things that that person may never be able to do”.[484]

Facebook’s early fixation with speed was expressed through its motto “move fast and break things.”[485] The phrase displays a company that imagined itself as prioritising the speed of action above all other considerations, including potentially negative consequences.[486] Speaking in 2005, Zuckerberg explained that “I think it’s more useful to like make things happen and then like apologize later than it is to make sure that you dot all your i's now and then like just not get stuff done”.[487] To stop and worry about the future, to anticipate potentially negative consequences, would ultimately serve to slow Facebook down. There simply was no time to think about the past or worry about the future.

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[482] Facebook, “Six4Three Exhibit 16: Zuckerberg email about “speed and strategy”.” *Zuckerberg Transcripts* 1657, (2008).
[483] Harvard University, "CS50 Guest Lecture by Mark Zuckerberg," *Zuckerberg Transcripts* 141, (2005).
[484] Stanford University, "James Breyer / Mark Zuckerberg Interview, Oct. 26, 2005, Stanford University," *Zuckerberg Transcripts*, 116, (2005),
[485] Facebook officially ‘retired’ this motto in 2014.
[486] What were some of the negative consequences that figures in Facebook could have been concerned with in these formative years? In 2005, when Zuckerberg tells Harvard students that he prefers to make things happen and then apologize later, he is answering a question regarding whether Facebook hires lawyers? So, in this context, Zuckerberg is suggesting that he would prefer to have strayed from the law in the process of making something than not make it at all. Two years later, in 2007, Facebook launched its Beacon program which would lead later to the company’s first major public apology over their extraction and use of user data.
[487] Harvard University, "CS50 Guest Lecture by Mark Zuckerberg," *Zuckerberg Transcripts* 141, (2005).

In its earliest years then, Facebook's sense of time is primarily articulated through a fixation with speed. This need to move quickly was, I suggest, intrinsically tied to a preoccupation with the present, with the experience of moving quickly within the present. Indeed, in these early Facebook documents, there is little energy spent on imagining and constructing a vision of the future, or a consideration of the past. As a layer of historical time, this early fixation on moving quickly is almost never accompanied by any broader historical narrative, nor an anticipated future. This contrasts to later Facebook discourse, which is substantially more concerned with imagining the future.

We might understand this early temporal fixation with speed and speed alone as an example of what historical theorists call 'presentism', and what the sociologist Manuel Castells argued, was the dominant temporal order of the network society, "Timeless time".[488] In 1996, Castells argued that the rise of computing technology had led a new temporal order, to the compressing of time to such an extent that it had, for many people, disappeared. Rather than the experience of linear and chronological time, Castells argued that computer culture experienced time as "the ever-present".[489] This new temporal order existed not only in computing circles of the late 1990s and 2000s, but also in financial markets, and the emerging form of "instant war".[490] Castells links this timeless time to Fukuyama's notion of the end of history. In the network age, there is no future or past, there is only the ever-lasting and eternal present.

Facebook's early fixation on speed, I suggest, reflects this experience of "timeless time" as Castells depicts it, or "presentism" as historical theorists label it.[491] Here, Facebook's discourse reflects the context in which it emerged. Thus, this articulation of the urgency of speed was not a novelty produced by actors in Facebook, but rather a more widespread experience of time that was widely articulated by people across the United States.

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[488] Manuel Castells, *The Rise of the Network Society: The Information Age – Economy, Society and Culture,* (John Wiley & Sons, 2010), 460.
[489] Castells, *Network Society,* 464.
[490] Castells, *Network Society,* 490.
[491] François Hartog, *Regimes of Historicity: Presentism and Experiences of Time,* trans. S. Brown, (Columbia University Press, 2015 [2003]).

Yet, whilst Castells argued that the "linear, irreversible, measurable, predictable time" was "being shattered in the network society, in a movement of extraordinary historical significance", I suggest that the evolution of Facebook's discourse indicates that such a claim is significantly overstated.[492] This fixation on speed, this presentist historical time, was only one articulation of time which actors in Facebook expressed, and one which the company increasingly moved away from in the late 2000s and beyond. For Facebook, timeless time didn't last. Instead, for actors in and around Facebook, they increasingly reached for other layers of historical time, to narratives that *were* able to connect the present with the future, *were* able to give an answer to where all this change was heading. Whilst a preoccupation with speed would remain an important strand of Facebook's discourse beyond 2009, it comes to be accompanied by, and to some extent eventually replaced by, other articulations of historical time. In the following two sections then, I suggest that both exponential and progressive time, offered actors in Facebook something that the vocabulary and logic of speed alone couldn't: a way of weaving together a sense of their present into broader historical narratives of change occurring in time, of inheritances from the past, and imaginings of the future.

6.1.2 Exponentiality

In their theorisation of 21st century historical futures, Simon and Tamm explain exponential time as being "grounded in the idea that the rate of change or progress accelerates in a specific manner".[493] Exponential time emerges from mathematics and the ability of mathematical language to articulate an exponential change across time. In mathematics, this exponential acceleration or deceleration can be represented through algorithmic formulae and through its charting on a logarithmic scale. The 'specific manner' of change, which Simon and Tamm note, is expressed through the exponential curve upon which exponential time is felt to follow. In this sense, exponential time differs from the linearity often felt to underly progressive time. As the logics of exponentiality were transformed into temporal narratives, and thus into a broader collective historical consciousness, it came to express the experience of encountering drastic and unintuitive change in the world.

[492] Castells, *Network Society,* 463.
[493] Zoltán B.Simon and Mark Tamm, "Historical Futures," *History and Theory* 60, no. 1 (2021): 16, https://doi.org/10.1111/hith.12190.

Exponential time is deeply embedded in the history of Silicon Valley and American technology. We can see its mark in two of the most influential historical 'laws' of Silicon Valley: 'Moore's Law' and 'Metcalfe's Law'.[494] Moore's Law, which was suggested by Gordon Moore in 1965, states that the number of transistors in an integrated circuit is expected to double about every two years. It is a projection of an historical trend which claims that computing power has doubled and will continue to double every two years. Moore's law, and its absorption into the wider American computer culture, was a classic example of exponential temporal thinking. Meanwhile, Metcalfe's Law (also known as a network effect), was suggested by Robert Metcalfe in 1980, and states that the value and influence of a network is proportional to the square of the number of nodes in the network. For a social network, this observation is used to explain why the potential value of a network grows exponentially with the number of people who connect to the network. Depicted as laws that hold over time, as constants of historical consciousness and trajectory, both Moore's Law and Metcalfe's Law are articulations of exponential historical time.

By the beginning of the 21st century, an exponential historical consciousness hadn't disappeared in American computer culture but was thriving. This was particularly the case amongst theorists and workers associated both with AI and transhumanism. Most prominently, Ray Kurzweil argued in 2001 that an intuitive linear view of progress dramatically underestimated the power of future technology, and entirely misunderstood both human history and more broadly evolutionary change.[495] Kurzweil expressed an "historical exponential" view of time, one in which "the rate of change itself is accelerating".[496] For Kurzweil, Moore's law was just one example of the exponentiality underlying historical change; the history of technological and evolutionary development were stories of exponentiality. For Kurzweil, this meant that the 21st century wouldn't lead to 100 years of progress, but 20,000 years of change stuffed into 100 years, and inevitably to what he calls 'The Singularity', "technological change so rapid and profound it represents a rupture in the fabric of human history."[497]

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[494] Gordon E. Moore, "Cramming More Components onto Integrated Circuits," *Electronics* 38, no. 8. (1965): 33-35; Bob Metcalfe, "Metcalfe's Law after 40 Years of Ethernet," *Computer* 46, no. 12, (2013):26-31, https://doi.org/10.1109/MC.2013.374.
[495] Ray Kurzweil, "The Law of Accelerating Returns," In *Alan Turing: Life and Legacy of a Great Thinker,* ed. C. Teuscher, (Springer, 2004).
[496] Kurzweil, "Accelerating Returns," 381.
[497] Ibid.

An exponential historical context then was part of the discursive context in which Facebook emerged. Its vocabulary, logic, and time was a resource which actors in and around Facebook inherited, and could wield. Depicting historical time as occurring exponentiality enabled actors in Facebook to imagine and construct a world in a certain way that legitimated the actions of the company. Unlike other layers of historical time, such as progressive time, I suggest, the vocabulary of exponentiality conveyed a startling and disorientating experience of time, it provoked a deep sense of anticipation for the very near-future, and it suggested that a huge amount of change could occur, and be measurably forecasted in a remarkably short amount of time.

In his 2014 book *Zero to One* (co-written with Blake Masters), early Facebook investor and board member Peter Thiel[498] suggests that exponentiality underlies the economy of Silicon Valley.[499] Thiel argues that the whole industry of venture capital is founded on the attempt to capture the power of exponentiality; to bet upon companies that could grow exponentially. For Thiel, venture capitalists can make hundreds of investing bets but, to be profitable, they only need one of their bets to "hit their exponential growth spurts and start to scale."[500] The value of exponential change is such that, according to Thiel, a company which reaches exponential growth is far more valuable than investing in dozens of companies that create linear growth. Thus, venture capital is incentivised to lay many bets in the hope that one might exponentially grow.

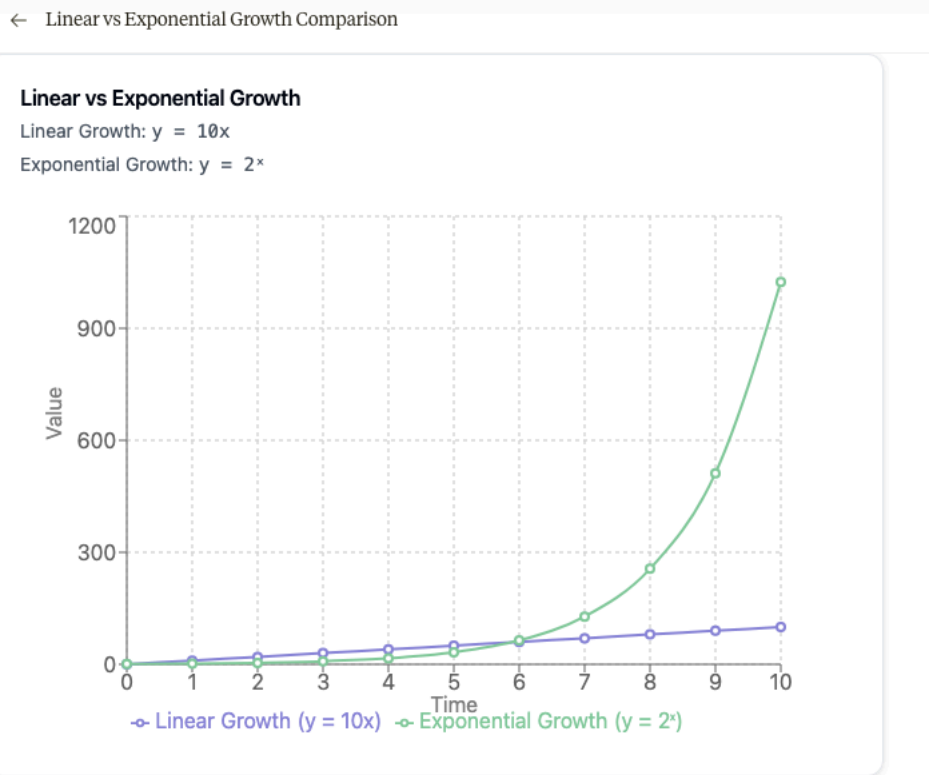
Thiel highlights the disorientating consequences of exponentiality. Most fundamentally, exponentiality creates huge inequalities between those who reap its rewards and those who don't. Thiel considers how his own venture capitalist firm *Founders Fund* illustrates the skewed pattern of exponentiality: "Facebook, the best investment in our 2005 fund returned more than all the others combined. Palantir, the second-best investment, is set to return more than the sum of every other investment aside from Facebook."[501] Importantly for Thiel, seeing the exponential layer of historical time can help enable people to not only experience exponentiality, but to harness it for their own interest. Under Thiel's articulation then,

[498] Peter Thiel was a cofounder of PayPal and went on to become an influential venture capitalist and founder of other companies, such as Palantir. Thiel became the earliest 'angel' investor in Facebook in 2004 after being introduced to Mark Zuckerberg by Reid Hoffman. Thiel sat on Facebook's board from 2004 to 2022.
[499] Peter Thiel and Blake Masters, *Zero to One,* (Random House, 2014).
[500] Thiel and Masters, *Zero,* 84.
[501] Thiel and Masters, *Zero,* 86.

exponential time is something that can be captured, and for those who can harness it, they have the potential to claim vast riches beyond all competitors.

Thiel goes on to argue that, by its very nature, exponential time pushes commercial value into the future. To illustrate, imagine a company that every year grows exponentially. Because of the nature of exponential growth, that company might produce far more value in its tenth year than all the value it produced in its first nine (See Figure 2). Future growth can accelerate to such a staggering degree that the economy of Silicon Valley, Thiel argues, is based not upon profit in the present, or indeed a company's past record of growth, but rather forecasts of how large a company can scale up, or how far their "actions will fall on the curve."[502] The exponential curve that Thiel is referencing here is an upward slope in which growth accelerates at a rate proportionate to its size. This can be directly contrasted to the rate of linear growth (See Figure 2). In order to capture the logic of exponential time, Thiel notes how in the context of American computer culture there is an economic pressure not to make a profit immediately or even in the near-future, but instead to put all resources into scaling up the exponential curve as quickly as possible. All efforts should be placed on following the exponential curve for as long as possible and not the linear line of growth. As Thiel explains, it is better to "lose money for the first few years" because "it takes time to build valuable things, and that means delayed revenue. Most of a tech company's value will come at least 10 to 15 years in the future."[503]

[502] Thiel and Masters, *Zero,* 91.
[503] Thiel and Masters, *Zero,* 45.



(Figure 2. A comparison of linear and exponential growth.)[504]

Paradoxically, exponential time emanates both a sense of order and a sense of disorientation. Order emerges from the way in which perceptions of change in time becomes mathematically computable; exponential time neatly follows a mathematical formula. It is the imprinting of a mathematical equation upon historical time. Yet disorientation emerges as this mathematical change in time is experienced by people.[505] The nature of the exponential curve is such that initial change appears to occur at a small scale and thus can be overlooked or hidden. The further along the curve that one journeys, the radically accelerating nature of exponentiality is said by Thiel to come so quickly as to be felt as disorientating, bewildering and therefore leading to unintuitive consequences. This incomprehensibility of exponentiality means that, according to Peter Thiel, it still remains "counterintuitive" to many in Silicon Valley, even as their world is shaped by it.[506]

[504] Figure 1 was made using Anthropic's Claude large language model.
[505] A recent example is the experience of the Covid-19 pandemic and the difficulty for states and people to comprehend the staggering exponential growth of infections from the small scale to the large scale. See: David Robson, "Exponential growth bias: the numerical error behind Covid-19," *BBC,* August 13, 2020, https://www.bbc.co.uk/future/article/20200812-exponential-growth-bias-the-numerical-error-behind-covid-19
[506] Thiel and Masters, *Zero,* 138.

As the relative difference between the present and the near future accelerates, people scramble to locate vocabulary and terms that can depict this temporal disorientation. According to Simon and Tamm, the prediction and anticipation of exponential change is often depicted through the language of "*unprecedented change*".[507] This type of language is common in Silicon Valley discourse,[508] and emerges in Facebook's discourse, particularly when actors in the company attempt to convince others to invest in Facebook's future. In his letter to shareholders ahead of Facebook's IPO in 2012, Zuckerberg expresses a sense of historical time in which the present stands on the verge of unprecedented change.[509] Zuckerberg argues that we exist at a "tipping point" upon which radical "transformation" is being unleashed. Facebook is promised to be at the frontier of this "revolution", building services of "unprecedented" scale that "transform many of our core institutions and industries", that "transform society for the future", and that "rewire the way people spread and consume information". Indeed, Facebook's "goal is to help this rewiring accelerate".[510]

An exponential consciousness runs further and deeper in Facebook discourse than this single attempt to convince investors of Facebook's future value. A year before Facebook's IPO, Mark Zuckerberg spoke to developers at Facebook's F8 conference. During his keynote speech, Zuckerberg declared that the company he was most inspired by was Intel, "because they had Moore's Law."[511] Intel was co-founded by Gordon Moore, the originator of 'Moore's Law' and was thus particularly associated with the harnessing of exponentiality. Zuckerberg's framing is important because he, like Peter Thiel, depicts exponential time as something that can be possessed and harnessed by a company or an actor. More than this though, Zuckerberg is explicitly claiming to be the inheritor not of the semi-conductor industry per se but of the power of exponentiality that underlay it, and the know-how of how to capture that exponentiality. Zuckerberg tells his audience that Facebook "shares a pretty similar approach" to Intel, in its ability to harness and build upon the power of exponential change across time.[512]

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[507] Simon and Tamm, "Historical Futures," 16.
[508] For example, Kurzweil's notion of the singularity.
[509] Mark Zuckerberg, "Zuckerberg Letter to Shareholders in Advance of IPO" *Zuckerberg Transcripts* 48, (2012).
[510] Such language is, of course, quite common in the history of Silicon Valley and ICTs. See: Alvin Toffler, *Future Shock*, (Random House, 1970); Esther Dyson, George Gilder, George Keyworth, and Alvin Toffler, "Cyberspace and the American Dream: A Magna Carta for the Knowledge Age," *The Information Society* 12, no. 3 (1994): 295-308, https://doi.org/10.1080/019722496129486.
[511] Mark Zuckerberg, "F8 2011 Keynote," *Zuckerberg Transcripts* 40, (2011).
[512] bid.

Given that the creation and exponential growth of semi-conductor chips had been, and continued to be, foundational for almost the entirety of American computer development over the previous half century, it clearly served Facebook's interests to try and position the company alongside this history. Yet, Zuckerberg was going a step further. The truth was, Zuckerberg argued, that Facebook was itself capturing the power of exponentiality. With it, Facebook could not only accurately foresee what the future would look like but could work towards products that might not be currently possible, but would inevitably become so. Zuckerberg tells the F8 conference:

> Just like Intel with Moore's Law our development is guided by the idea that every year the amount that people want to add and share and express is increasing so we can look into the future and we can see what might exist and it's going to be really, really good. We're on this journey traveling up this curve…Every year we gather at F8, and we take the next step up this curve. Let's take the next step up this curve.[513]

A year later, Zuckerberg again repeats the claim that Facebook has harnessed exponential time. Speaking to Wired in 2013, Zuckerberg suggests that Facebook had its own exponential temporal law, "I look at this mobile trend[514] in light of the law of sharing, our equivalent of Moore's law, which states that the average amount of information that a person shares doubles every year or so."[515] Here Zuckerberg suggests that Facebook's law of exponential change is one in which the amount of data or information that is shared through the internet doubles every year. For Zuckerberg, there is no distinction between information or data; what is exponentially growing is the rate of data/information that is being shared. In 2013 this imagined exponentiality suggested to Zuckerberg the inevitability of video-based communication. A video constitutes far more data being shared than, for example, the sharing of a text-based comment. A year later, Zuckerberg would again argue that the exponential growth in information/data sharing justified the company's purchase of Oculus and commitment to VR and AR. Online interaction through VR and AR is far more data-rich than video communication or text communication before it. Whilst the widespread sharing of

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[513] Mark Zuckerberg, "F8 2011 Keynote," *Zuckerberg Transcripts* 40, (2011).
[514] Here 'mobile trend' refers to the process over the previous five years in which people increasingly interact with the internet and with Facebook through their mobile phones rather than a laptop or desktop computer.
[515] Wired, "Facebook: Mark Zuckerberg on Facebook Home, Money, and the Future of Communication," *Zuckerberg Transcripts* 102, (2013).

information/data on VR might not have been possible in 2014, Zuckerberg suggested that its exponential growth meant that in the near future it certainly would be possible, and that Facebook had to prepare for it. The exponential layer of time, Zuckerberg argued, guaranteed the future possibility of these technologies. By 2017, Zuckerberg was asking what the exponential growth in information/data sharing would mean beyond VR and AR. Was there a technological solution to enable even more information/data sharing between people? Zuckerberg announced that researchers in Facebook were exploring the possibility of technology that could enable brain-to-brain or brain-to-computer communication, whether through the use of intrusive implants or external physiological sensing devices. In a blog post, Zuckerberg explained that:

> Our brains produce enough data to stream 4 HD movies every second. The problem is that the best way we have to get information out into the world -speech - can only transmit about the same amount of data as a 1980s modem. We're working on a system that will let you type straight from your brain about 5x faster than you can type on your phone today. Eventually, we want to turn it into a wearable technology that can be manufactured at scale.[516]

Here then Zuckerberg suggests a future in which Facebook mass produce implants or sensing devices that enable people to share the huge amount of data that is being produced by their brain, without the need to use language to convey that information.[517] A faith in continuing exponentiality, in this case the exponential growth of data/information sharing, leads Zuckerberg to predict that, in the future, technology will likely enable people to share data/information with each other through brain-to-brain or brain-to-computer communication In other words, Zuckerberg is suggesting that an understanding of exponential change is more informative for helping us understand what the future will look like, than our physiological inheritance from the past, the biological constraints of the human body.

6.1.3 Progress

[516] Mark Zuckerberg, "Zuckerberg Facebook post and video about What If You Could Type Directly From Your Brain?" *Zuckerberg Transcripts* 933, (2017).
[517] The idea here is similar to the brain chip built by Elon Musk's company NeuraLink.

Since at least the 19th century, progressive time has been the most dominant way in Western culture of weaving together the past, present, and future into a course shrouded with notions of directionality, linearity and evolution. Reinhart Koselleck shows how, as progressive time swept through Europe, it came to encompass both technological and scientific developments as well as moral and political progress:

> "Progress, a term first put forth by Kant, was now a word that neatly and deftly brought the manifold of scientific, technological, and industrial meanings of progress, and finally also those meanings involving social morality and even the totality of history, under a common concept".[518]

Here we can point towards differences between exponential time and progressive time. For a start, and as already noted, the rate of forecasted change between progressive time and exponential time radically differs. Because of this, the two different historical consciousnesses can lead to different visions of the near future. Exponentiality suggests that the near-future could be almost unimaginably different to the present, whilst progressive time depicts the future as better than the present, but still recognisable. Often this is represented through reference to generational change; that the next generation will have a better life than the past generation, rather than through a reference to an unprecedented break. Secondly, experiencing time exponentially does not necessarily temporalise morality in the way in which, as Koselleck notes, progressive time does. Progressive time conjures an understanding of the future as necessarily morally and socially better than the present and the past. In contrast, whereas exponents of exponential time often see the future as a better place than the past, exponential historical consciousness is far more concerned with exponential growth of technology and resources than with the type of social and moral improvement that progressive philosophers such as Kant and Hegel imagined. In progressive time, the future is always a socially and morally better place, in exponential time, this is not necessarily the case. Lastly, progressive time places far greater emphasis on the past than exponential time does. This is because exponentiality indicates that the rate of change grows exponentially, thus the difference between the present and the near-future could be far greater than the relationship between the present and the distant past. In contrast, progressive time looks to

[518] Reinhart Koselleck, *The Practice of Conceptual History: Timing History, Spacing Concepts,* trans. T. Presner, K. Behnke, and J. Welge, (Stanford University Press, 2002), 229.

the past to find evidence of itself; it is through a particular reading of the past that progressive time confirms its own existence in time. The great 19th century intellectual exponents of progress, such as Hegel, and Marx, all turned to the past, to history, to demonstrate and confirm the reality of historical time as progressive time.[519]

As actors in and around Facebook reckoned with their own global expansion and attempted to legitimate their actions, I suggest, the language of progressive time became an increasingly significant resource for them. In speeches, interviews, and meetings with investors, Mark Zuckerberg placed Facebook within a broader history of technological progress, one which suggested certain lines of possible futures. For example, from 2014 onwards, actors in Facebook would repeatedly depict historical change as a story of successive generations of technological progress. This linear direction of history would be the context that explained and justified Facebook's investment in VR technology:

> On virtual reality here, I think the big picture is that every 10 to 15 years or so, there's a major new computing paradigm -- whether that's DOS and then Windows and desktop UI and then web browsers and now mobile phones and apps. It strikes me as inevitable that, that progression will continue.[520]

Here then, historical time is marked by generational technological and social development. In Facebook's articulation here, the past shows us evidence of the progress of technology, and this can be used to understand what the future will look like: continuing progressive development. In contrast to the language of exponentiality, there is a stable and even reassuring inevitability to this narrative; just as it changed before so it will change again. In Facebook's discourse, this progressive consciousness and the vocabulary of generational development are not limited only to VR. In 2015, Zuckerberg spoke to shareholders to outline the company's goal of building "a new generation of Internet services".[521] Six years later, in 2021, Zuckerberg told an interviewer that we have to understand the metaverse as "the next generation of the internet",[522] and told shareholders that it will inevitably be "the successor to

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[519] G. W. F. Hegel, *Phenomenology of Spirit,* trans. A. V. Miller, (Oxford University Press, 1977 [1807]); Karl Marx, *Capital: A Critique of Political Economy, Volume One*, ed. E. Mandel, trans. B. Fowkes, (Vintage, 1977 [1867]).
[520] Facebook, "First Quarter 2018 Results Conference Call," *Zuckerberg Transcripts* 862, (2017).
[521] Facebook, "Facebook Q1 2015 Earnings Call," *Zuckerberg Transcripts* 230, (2015).
[522] Mark Zuckerberg and Gayle King, "Facebook launches "Horizon Workrooms." Here's how it works," *Zuckerberg Transcripts* 1427, (2021).

the mobile internet."[523] As explored in Chapter 5 (5.2.1), we see here again an attempt by Facebook/Meta to depict itself and its metaverse as the internet itself. In all these examples, Zuckerberg's texts and utterances are embedded with the vocabulary of progressive time.

Writing in 1940, Walter Benjamin argued that progressive historical time is inherently totalising; it must expand until it ultimately encompasses universal history as it "musters a mass of data" to fill its narrative."[524] In Facebook's discourse, a sense of historical time as progressive time does not remain limited to a discussion of technological change, but pervades other domains. In particular, it comes to order how the past is spoken of by actors in Facebook. Whilst an exponential consciousness constructs a sense of historical time in which the past is diminished in significance, progressive time requires a retelling of the past so that it fits within its own narrative. For example, in an article written for the Washington Post, Zuckerberg looks back to the past and describes a progressive movement from the "the economy of the last century" based upon the violent "zerosum" extraction of resources, to "today's economy…based primarily on knowledge and ideas – resources that are renewable and available to everyone".[525] Here, Zuckerberg constructs a notion of historical directionality through which he can weave together not only the present and the future, but the past as well into a broader historical story.

With this progressive consciousness, human history comes to be understood and portrayed as a progressive story towards the historical present. This historical present is, at times, depicted by Facebook, as an integral part in the universal story of progress, "When I think about the world today, the thing that amazes me most is how many people's lives are getting better every day by just getting online and joining the knowledge economy."[526] When Facebook's discourse articulates a progressive historical time, it comes to depict the present as a stable step within a broader story of universal progress. This contrasts with a depiction of the present, under exponential time, as almost incomparably different from the very near future.

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[523] Facebook, "Facebook Q1 2015 Earnings Call," *Zuckerberg Transcripts* 230, (2015).
[524] Walter Benjamin, "Theses on the Philosophy of History," in *Illuminations,* ed. H. Arendt, trans. H. Zohn, (Fontana Press, 1992 [1968]), 262.
[525] Washington Post, "Facebook's Mark Zuckerberg: Immigration and the knowledge economy," *Zuckerberg Transcripts* 95, (2013).
[526] Mark Zuckerberg, "Zuckerberg Letter to Shareholders in Advance of IPO" *Zuckerberg Transcripts* 48, (2012). Such language is not unique to actors in Facebook. Instead, it is reminiscent of how others, such as Yochai Benkler and Charles Leadbetter, interpreted the internet as enabling a radical form of knowledge co-production and the overcoming of past limitations. See: Yochai Benkler, *The Wealth of Networks,* (Yale University Press, 2006); Charles Leadbetter, *We-think: mass innovation, not mass production,* (Profile, 2008).

In a 2019 blog, Zuckerberg articulated a revealing depiction of the historical present within a wider progressive narrative:

> More people from more parts of our society have a voice than ever before, and it will take time to hear these voices and knit them together into a coherent narrative. Sometimes we hope for a singular event to resolve these conflicts, but that's never been how it works. We focus on the major institutions — from governments to large companies — but the bigger story has always been regular people using their voice to take billions of individual steps forward to make our lives and our communities better.[527]

Here, the historical present is depicted as one which is slowly gaining coherence; unfolding itself as a generational step towards an ever-better future. In this text, Zuckerberg claims the eye of the historian, arguing that to see historical progress we must move away from a perspective focusing only on major institutions, such as the government or indeed Facebook, and see how billions of people are taking small steps forward and thus pushing progress along its course. Yet at other points, Facebook's discourse recentres Facebook as a fundamental driver of historical progress, as a world-historic actor pushing the world forward towards the ever better. Whilst exponential time is concerned with acceleration and scaling up the exponential curve, progressive time is concerned with imagining growth as leading to a morally and socially better place. This initially manifests through a depiction of Facebook as the means through which people across the entire globe can finally connect and learn from each other. Facebook engineer Alex Schultz expressed this vision of Facebook as part of a class he taught in 2014:

> "I believe it [Facebook] has a big impact on the world… Specifically I believe that making the world more open and connected breeds tolerance and understanding. If you are connected to someone a little different than yourself, if they openly share that they are different and if you see what's going on in their life day to day you simply cannot normalize hatred against that person or group of people. I believe facebook

[527] Mark Zuckerberg, "Mark Zuckerberg Stands for Voice and Free Expression," *Meta Blog,* October 17, 2019, https://about.fb.com/news/2019/10/mark-zuckerberg-stands-for-voice-and-free-expression/

> helps make that a little more true across nations, races, religions, sexualities and more."[528]

For Schultz here, it is Facebook that has the potential to bring people across the world together, regardless of the differences that separate them. This vision of global connection is intrinsically tied to other norms of increasing tolerance and mutual understanding. Yet, as Chapter 4 (4.2) emphasises, this normative connection was widespread in the late 19th century, with figures arguing that, for example, the telegraph would establish "a more intimate connexion between nations, with race and race".[529] The idea that a global communication network would lead to less global hatred and division was pervasive. These norms fused with a progressive sense of historical time and a belief that communication networks would inevitably propel the world towards this liberal future.

The recentring of Facebook at the heart of global progress is articulated more broadly in the company's discourse. In 2016, speaking to developers as part of Facebook's F8 conference, Zuckerberg celebrated Facebook's role in dragging the world away from isolation and division and towards a new stage of global togetherness, "We've gone from a world of isolated communities to one global community, and we're all better off for it."[530] For Zuckerberg, it was Facebook that had enabled a latent global community to emerge and rise above the isolation and divisions of the past. Here, Facebook's discourse depicted the company as a pivotal actor in the fulfilling of global progress, the teleological unfolding of a global coming together.

Zuckerberg's emphasis on the reality of a latent global community, and its struggle for emergence, alongside his emphasis on an inevitable global coming-together, and with it a global consciousness, can sound very similar to aspects of Hegel's progressive philosophy of history.[531] How are we to make sense of this? I would not suggest that Zuckerberg or others within Facebook have studied Hegel (although Peter Thiel does cite him fleetingly in order to contrast his own exponential theory of historical change), but instead that currents and

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[528] Alex Schultz, "Lecture 6: Growth," October 9, 2014, https://genius.com/Alex-schultz-lecture-6-growth-annotated
[529] As quoted in: James W. Carey, "Technology and Ideology: The Case of the Telegraph," *Prospects* 8, (1983): 309, https://doi.org/10.1017/S0361233300003793.
[530] Mark Zuckerberg, "Mark Zuckerberg's Keynote @ Facebook F8 2016," *Zuckerberg Transcripts* 172, (2016).
[531] G. W. F. Hegel, *Introduction to The Philosophy of History,* trans. L. Rauch (Hacket Publishing Company, 1988).

retellings of Hegel's work have more broadly infused the ways in which people have come to imagine and express historical progress. Basic extractions from Hegel's philosophy of history have conditioned a shared ability to understand historical progress, and through their widespread adoption, became a useful resource for actors in and around Facebook.

6.2 Facebook's Futurity

After their formative first years, actors in and around Facebook increasingly discursively wielded two different layers of historical time - exponentiality and progress. Through disaggregating these different layers of historical time, I have shown how wielding the vocabulary and logic of exponentiality enabled actors in and around Facebook to do and convey different things than they could with progressive time, and vice versa.

Yet, as I suggest below, these different layers of historical time, coalesced around a particularly future-oriented consciousness of time. Wielding these two temporal layers, Facebook's discourse constructed and disseminated a particular balancing of historical time in which 'the future' came to carry increasing temporal and conceptual weight. The present, in Facebook discourse, comes to be depicted as a 'beginning' or 'early'. This anticipatory present, I suggest, could only be made sense of through its orientation towards 'the future'. Indeed, in Facebook's discourse the future increasingly becomes the means through which actions in the present are depicted as gaining legitimacy.

For 'the future' to hold such explanatory and legitimating power, actors in Facebook had to normalise two important conceptual premises. Firstly, the future was depicted as something broadly knowable. Secondly, the future was conceived as being, at least partially, the result of agency in the present. Yet, how 'the future' is conceptualised in its relationship to the past and the historical present is never wholly coherent. As I show below, at certain points the future is depicted as entirely knowable, whilst at other times it is depicted as less clear. Similarly, whilst in certain texts actors in Facebook emphasise their own agency to shape the future, in others they depict it as something more inevitable and unchangeable.

6.2.1 The Present as 'Early'

In Facebook discourse, the historical present was consistently portrayed as 'a beginning', as 'early', as 'an opening' to the future. Depicting the present as fundamentally anticipatory, I suggest, had the effect of orientating it away from itself, and indeed from the past, and towards what is imagined as lying just ahead, what can be anticipated, the 'not-yet'.

In texts and utterances from every year of this period, actors in and around Facebook/Meta consistently remind interviewers, shareholders, and blog readers that they understand themselves to be, in some sense at a beginning. This occurs when actors in Facebook depict the products or features they have built. To take a few examples, when talking about their own products, actors in Facebook describe the "Open Graph" as being in its "early days", [532] themselves as being in the "early days of building our monetization engine", [533] or describe the introduction of Messenger bots being "very early". [534] It is not only Facebook's products that become temporalized as 'early', but Facebook's discourse also similarly always frames the company as being just at the beginning. In one of its first blogs in 2006, Facebook announced that it was "still in the early stages of building facebook."[535] Half a dozen years later, as Facebook reached 1 billion active users, Facebook CFO David Ebersman told shareholders, "I think we're early" in the company's journey. [536] In 2021, as Facebook renamed itself Meta, Mark Zuckerberg announced to the Connect conference that "this is the start of the journey, not the end". [537] This emphasis on 'earliness' is consistent throughout the two decades of Facebook/Meta discourse.

Just as the products and the company are always at a beginning, always in anticipation of what will follow, so, in some way, is a broader 'we', whether that is the users of the products or those who now live in a world with it. The historical present becomes depicted and experienced as fundamentally anticipatory. This manifests in how, for example, Mark Zuckerberg comes to discuss the present in relation to historical time more widely. When interviewed at a conference in 2011, Zuckerberg discusses the history of the internet and

[532] Facebook, "Facebook Q2 2012 Earnings Call," *Zuckerberg Transcripts* 239, (2012).
[533] Ibid.
[534] Facebook, "Facebook Q1 2016 Earnings Call," *Zuckerberg Transcripts* 227, (2016).
[535] Meta, "Facebook Secures $25 M Investment from Microsoft," *Meta Blog,* April 19, 2006. https://about.fb.com/news/2006/04/facebook-secures-25m-investment-2/.
[536] Facebook, "Facebook Q2 2013 Earnings Call," *Zuckerberg Transcripts* 238, (2013).
[537] Mark Zuckerberg, "Connect 2021 Keynote: Our Vision for the Metaverse," *Zuckerberg Transcripts* 1460, (2021).

computer culture more broadly, suggesting to his audience "I just still think that we're way closer to the beginning than we are to the end". [538]

Here it is useful to compare Facebook's depiction of the present in relation to the historical present as articulated by Francis Fukuyama at the end of 1980s.[539] Fukuyama articulated a sense of historical time in which the future no longer existed in any serious way; there could be no difference between the future and the present. For Fukuyama, the end of the dialectical struggle between liberalism and communism, and the triumph of global liberalism meant that history itself had come to an end. Clearly then, actors in Facebook came to express a radically different sense of historical time, one in which the historical present is not the end point but just a beginning, an anticipation towards what comes next.

By framing the historical present as 'early time', rather than, for example, 'end time', Facebook's discourse constructs a sense of historical time shrouded in futurity, here understood as future time. It is only in relation to the future, I suggest, that an experience of the present being early, or at the beginning, can be made sense of. Experiencing and depicting the present as fundamentally anticipatory presupposes and necessitates an orientation to the 'not-yet'. It is a means of pushing meaning into the future, into what the present is imagined as being oriented towards.

I suggest that this anticipatory expression of time is partially a result of the exponential layer of Facebook's temporal discourse. As already noted, exponentiality places far greater emphasis on what lies ahead than what has already occurred. The exponential curve suggests that the change that will occur between the present and the near-future could be far greater than all the change that occurred between the present and even the distant past. The past's ability to inscribe meaning on the present is diminished; memory and experience encompass a belittled relationality to the vast potential of even the near-future.

6.2.2 Futurity and the Now

[538] E-G8 Forum, "E-G8 Forum Mark Zuckerberg talks with Maurice Lévy," *Zuckerberg Transcripts* 79, (2011).
[539] Francis Fukuyama, "The End of History?" *National Interest,* Summer 1989, https://www.jstor.org/stable/24027184?seq=1

For the future to play such a central role in meaning-making as well as legitimation, actors in and around Facebook conceived of it as something that, rather than being explicitly indeterminate, is at least partially knowable. In other words, the future had to be depicted as knowable for it to endow certain actions in the present – those actions which were for the future - with meaning and legitimation.

Both an exponential and a progressive sense of historical time offered Facebook actors the temporal resources to depict the future as partially knowable and, to different degrees, manageable. Each offered different ways of navigating their sense of what lies ahead of us, whether through the use of projections, forecasts, and exponential curves, or the identification of historical laws that tie together the future with an experience of previous changes. Imbued with the language of progress, the future is a world which is not totally dissimilar to the present; a world which is fundamentally better, whether economically, technologically, or morally. This progress is broadly linear, inevitable, and global; it is following an arc which can be explicitly viewed by looking to the past. Meanwhile, an exponential consciousness enabled actors in Facebook to depict time as following a trajectory in which not only computing power but information sharing itself was accelerating exponentially. Both temporal layers – exponentiality and progress – suggest the ability to foresee the future, even if they suggest different understandings of what the future looks like.

The ability to foresee or know the future from the standpoint of the present emerges in Facebook's discourse regularly. Speaking to shareholders in 2016, Zuckerberg declared that the future can be "look[ed] out at" from the present.[540] Depicting the future as knowable enabled actors in Facebook to embed objects, products, and technology of the present with a sense of futurity, or as being future oriented. VR, AR, and AI were presented as technologies of the future that exist in a prototypical state in the present. Speaking in 2015 at Oculus Connect, Mark Zuckerberg reflected on his first experience of VR as a revelatory moment in which he could see into and experience the future, "I realized that there was another reason why I was so excited about this and it's because I was seeing the next great technology platform that's gonna define the way that we all connect in the future."[541] For Zuckerberg, the future could be foreseen as a world in which VR would be the medium of social relations and

[540] Facebook, "Facebook Q1 2016 Earnings Call," *Zuckerberg Transcripts* 227, (2016).
[541] Mark Zuckerberg, "Mark Zuckerberg Showed Up at Oculus Connect 2," *Zuckerberg Transcripts* 174, (2015).

human connection, in which there would be a huge need and demand for these devices. It was not just VR. In 2021, speaking about developments in AI, Zuckerberg told shareholders, "And just from what I can see technologically on the horizon, it really doesn't seem like this is going to be slowing down anytime soon."[542] Here then, the future is one of continuing AI development and continued acceleration. In this sense society is depicted as heading towards the future at breakneck speed. Zuckerberg goes on to explain that "I don't think that this is a Facebook-specific thing. I think that this is probably across the whole industry or maybe even across the whole economy more broadly."[543] The present's hurtling momentum towards AI development is depicted as an inevitability.

In much of Facebook's discourse, the future comes to be split up into different temporal categories, such as the long-term future and the short-term future. Often this manifests through the categorisation of specific future periods; predictions and visions of three years in the future, five years, or twenty years. This temporal categorisation of the future enables Facebook to distinguish between different layers of future predictability. Zuckerberg repeatedly explains that it is easy to see far ahead at "the big themes that play out over 20, 30, 40 years" and that "it's easier to predict what's going to happen in the world 20 or 25 years in the future than to predict what's going to happen 5 years in the future."[544] These long-term predictions might refer specifically to technological changes, whether in the continued exponential acceleration of computing power, the development of AI, or the widespread adoption of VR. They also might refer to, as we will see in the next sections, broad socio-technical visions of the future, from a world entirely connected to the metaverse.

From this perspective, it is the long-term future that offers relative certainty, whilst the near future contains greater indeterminacy. For example, when asked to predict the future in 2016, Zuckerberg is able to confidently answer that in the long-term "There are going to be a few big trends. AI will continue making progress, we will be able to cure a lot more diseases in the future. We all know that. The real art is being able to see how we get from here to there."[545] Here, the future is imagined as a distant land that has been sighted. What we don't

[542] Facebook, "Facebook Q2 2021 Earnings Cal." *Zuckerberg Transcripts* 1421, (2021).
[543] Ibid.
[544] Mark Zuckerberg, "Mark Zuckerberg Live with Developers and Entrepreneurs in Lagos," *Zuckerberg Transcripts* 169, (2016).
[545] Mathias Döpfner and Mark Zuckerberg, "Mark Zuckerberg talks about the future of Facebook, virtual reality and artificial intelligence," *Zuckerberg Transcripts* 223, (2016).

know, however, is the exact route of crossing; the friction that might exist between here and there. Such friction could refer to the emergence of new business competition, social and political change (this comment was made just as Donald Trump became the Republican frontrunner), and other uncertainties. In another example, this time discussing AR, Zuckerberg tells us that "the future is still a long way ahead of us, but our research efforts are getting closer."[546] In both these examples, our anticipatory present is oriented towards the long-term future, whose certainty as far as the company is concerned, we are assured of.

This important temporal distinction between the long-term and the short-term future enables actors in Facebook to not only embed their visions of the future with the language of certainty, but just as importantly, it introduces a shade of indeterminacy between now and the imagined future. Zuckerberg repeatedly argues that although the far future is knowable "what mix of products and services get built and who builds them and where they come from is not…I don't think that that's written ahead of time."[547] Acknowledging indeterminacy in this way does not damage confidence in Facebook's long-term visions of the future, but it does enable Facebook actors to conceptually defend their agency, in the present, to shape the future. Conceptually introducing this indeterminacy also enables actors in Facebook to legitimise the emergence of future winners and losers. Winners are those who prepare properly for what lies ahead, losers are those who don't focus on the future.

How Facebook depicts our agency in the present over the future fluctuates depending on the degree to which the future is envisioned as certain. When the long-term future is shrouded in a greater sense of inevitability, all that is required is for actors in the present to build for the future. For example, Zuckerberg tells us, to reach their vision of the metaverse, "All this stuff just needs to get built, and it's a lot of work."[548] With greater levels of indeterminacy, however, Facebook's preparation for the future comes not only from building but from laying bets on the future. For example, Zuckerberg tells shareholders in 2016, "And I feel like we're making the right bets now to plant the seeds" for their vision of the future.[549] At its most indeterminate, actors in Facebook depict the future as something that must be fought over.

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[546] Meta, "Update: A year of progress with Aria," *Meta Blog,* October 28, 2021, https://tech.facebook.com/reality-labs/2021/10/update-a-year-of-progress-with-project-aria/.
[547] Mark Zuckerberg, "Mark Zuckerberg Live with Developers and Entrepreneurs in Lagos," *Zuckerberg Transcripts* 169, (2016).
[548] Sara Dietschy and Mark Zuckerberg, "I interviewed Mark Zuckerberg," *Zuckerberg Transcripts* 1472, (2021).
[549] Facebook, "Facebook Q4 2016 Earnings Call," *Zuckerberg Transcripts* 285, (2017).

The future becomes depicted as a site of struggle in which actors in the present, including Facebook, do not just prepare for an incoming inevitability but instead must fight for a particular vision of the future, for future world-making. For example, in 2014, Zuckerberg calls on others to join the company in their mission to 'defend the free and open Internet':

> "Nothing about this future is guaranteed. The coming years will be a battle to expand and defend the free and open Internet. Our success will determine how far this vision of a connected world can go. Connecting the world is within our reach, and if we work together, we can make this happen."[550]

Here then, the future is not in this context an inevitability but rather something that has to be fought over. In this sense, the future is depicted as something more open, no longer closed around the inevitability of the next technological breakthrough. Again, Zuckerberg tells the audience at Facebook's F8 conference for developers in 2018 "But what I can guarantee is that if we don't work on this, the world isn't moving in this direction by itself. So that is what we are all here to do."[551] The making of the future then requires Facebook to wage a battle to ensure the movement from the now to the then. From this perspective, Facebook's role in world history becomes inflated; it presents itself as an historically significant agent that not only can envision what might lie ahead of us but, importantly, is dragging the rest of us towards it.

6.2.3 Diminishing the Past

With their different temporal layers, sometimes coalescing and sometimes diverging, actors in Facebook express an ambivalent relationship to the past. What do I mean by ambivalent? In certain texts and utterances, actors in Facebook seem to diminish the past, and its importance in helping us make meaning in the present, or in driving action in the present. At other times, the past is recalled and remembered; placed within a wider story of historical progress. Here, I suggest that this ambivalent and oscillating treatment of the past is a result of the different layers of historical time embedded in Facebook's discourse. When actors articulate an

[550] Mark Zuckerberg, "Mark Zuckerberg on a Future Where the Internet Is Available to All," *Zuckerberg Transcripts* 151, (2014).
[551] Mark Zuckerberg, "2018 F8 Keynote" *Zuckerberg Transcripts* 997, (2018).

understanding of time moving exponentially, the past loses its significance. By contrast, a more progressive outlook incorporates the past in its broader narrative towards the future.

Experiencing and depicting time exponentially suggests that the change between the present and the future could be far greater than the difference between the past and the present. It leads to an experience of present time as existing in anticipation of that which is ahead. As I note in the previous section, with the historical present depicted as fundamentally anticipatory, it is largely to the future, rather than the past, that the present can find its meaning in Facebook's discourse. We can see evidence of this when Zuckerberg directly compares the past and the present, depicting the future as something with greater space for action than had occurred in the past. Speaking to shareholders in 2016, Zuckerberg explains that "When I look out at the future, I see more bold moves ahead of us than behind us."[552] It is not simply that the past cannot be changed, but that more will occur in the future than has been the case in the past. Again, Zuckerberg tells us "But, you know, I don't tend to look back on things and care that much. I mean, I try to like look forward and see what more needs to be done."[553]

The underlying diminishing of the past emerges in how actors in Facebook talk about hiring and company culture. We have already noted how in their early years, Facebook prioritised hiring young staff who could move quickly compared to older staff who had experience. Still in 2017, a similar dynamic was being emphasised by the company. In the 2017 Facebook blog 'Inventing the Future', Michael Abrash,[554] the Chief Scientist of Facebook Reality Labs, argued that Facebook needed to hire

> "fresh faces, unattached to existing approaches, who end up trying the new, risky approaches…there are no experts right now, only smart people who want to apply their skills and creativity to solving one of the hardest and most interesting multidisciplinary problems around."[555]

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[552] Facebook, "Facebook Q1 2016 Earnings Call," *Zuckerberg Transcripts* 227, (2016).
[553] Mark Zuckerberg, "Zuckerberg Facebook video about Q&A at Facebook with Mark Zuckerberg," *Zuckerberg Transcripts* 254, (2015).
[554] Michael Abrash was an influential computer programmer and writer before joining Facebook to become the Chief Scientist of Oculus, Facebook's virtual reality business, in 2014. Abrash became the Chief Scientist of Facebook/Meta's 'Reality Labs' in 2021, the research lab which Oculus evolved into.
[555] Michael Abrash, "Inventing the Future," *Meta Blog,* October 11, 2017, https://tech.facebook.com/reality-labs/2017/10/inventing-the-future/. Some of the "problems" that the blog lists are: getting "the right photons

This binary contrast between innovation and experience, I suggest, is a manifestation of Facebook's historical time, which came to place greater significance in the future than in the past.[556] A sense of time shrouded in futurity is one in which expertise, accumulated through past experience and learning, can be belittled in contrast to the 'new' and the 'risky'.

Whilst Facebook's future oriented discourse might suggest that the past, and inheritances emerging from it, is entirely ignored by actors in Facebook, this is not the case. Memories of the past and narratives of historical continuity and change are expressed by actors in Facebook. Where the past is remembered, it is largely as part of a progressive story of human history, whether that is the progress of technology, the economy, or human coming together. These pasts are always drawn upon to demonstrate the inevitability of progression, and to defend the progressive vision of the future that actors in Facebook sought to spread. For example, when Zuckerberg defends his vision of a global community, he places this future within a broader history of people coming together, from hunter-gatherers to living in cities.[557] In all the examples, the past is reoriented into a progressive narrative that sets up and is directed towards a future, as imagined by actors in Facebook.

6.3 Visions for the Future and Retellings of the Past

So far, I have discussed how actors in Facebook constructed and emanated a sense of historical time in which the future was imbued with outsized temporal weight. It was through looking to the future, Facebook discourse suggested, that meaning and legitimacy could be located in the anticipatory present. I have also argued that Facebook's historical time did not emerge in a vacuum, but instead was embedded with different layers of inherited historical time. In this sense, Facebook's historical time was not wholly heterogeneous; neither was it wholly coherent. Tensions existed over just how knowable the future was and how much agency people had in the present over the future. Ultimately though, actors in Facebook

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into your eye to produce the best possible approximation of reality"; making VR headsets comfortable for long-term wear, developing optics for glasses that can "see" virtual objects.

[556] For more on this as a key tension in labour practices under neoliberalism, see Richard Sennett, *The Corrosion of Character: The Personal Consequence of Work in the New Capitalism,* (W. W. Norton & Co, 1999).

[557] Mark Zuckerberg, "Zuckerberg Facebook post about Building Global Community," *Zuckerberg Transcripts* 989, (2017).

constructed a conception of the future that relied on it being least partially knowable and subject to the will or agency of people in the here and now.

Building on this temporal-conceptual framework, I now consider how actors in Facebook constructed particular 'visions' for the future. Figures in Facebook believed that visions were vital components for achieving their aims. In a 2013 blog, Andrew Bosworth discusses the importance of visions to empower and guide institutions and more broadly culture, directing and orienting them towards long-term change in certain directions.[558] In Bosworth's writings, a vision almost acts as a passageway, ushering people in the present towards a particular future. Similarly, Mark Zuckerberg has noted the importance of visions, faith and beliefs in ensuring our movement from the present towards the, in his perspective, right type of future. For example, in 2016, when announcing a new personal mission to end all disease, Zuckerberg along with his wife Priscilla Chan, argues that "The more people *believe* we can cure all diseases in our children's lifetime, the more likely we are to get our governments to invest in it, and the more likely we are to achieve this goal."[559] Both Bosworth and Zuckerberg suggest that instilling certain visions for the future, over other imagined possibilities, has power over the present. For them, convincing people that a certain future is conceivable, let alone possible, is an important step towards orienting action in the present towards actualising that future.

In the following sub-sections, I analyse Facebook/Meta's visions for the future as interventions in the future as a "field of struggle".[560] I suggest that the dissemination of particular visions for the future represent power-oriented interventions in what Koselleck calls our "horizon of expectation". [561] Koselleck argues that changes to a "horizon of expectation" necessarily have an effect on how people comprehend their "space of experience", the limited happenings of the past that are incorporated and remembered into the present.[562] Here then, whilst I chart the different visions for the future that Facebook/Meta disseminated, I also analyse how these futures were inscribed with particular retellings of the

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[558] Andrew Bosworth, "Mission, Strategy, and Tactics," *Boz,* December 27, 2013, https://boz.com/articles/strategy-tactics. (Italics mine)
[559] Priscilla Chan and Mark Zuckerberg, "Can we cure all diseases in our children's lifetime?" *Chan Zuckerberg Initiative,* September 21, 2016, https://chanzuckerberg.com/newsroom/can-we-cure-all-diseases-in-our-childrens-lifetime/.
[560] Jenny Andersson, *The Future of the World,* (Oxford University Press, 2018), 5.
[561] Reinhart Koselleck, *Futures Past: On the Semantics of Historical Time,* trans. K. Tribe, (Columbia University Press, 2004), 255-276.
[562] Ibid.

past, as well as demands on the present. These futures were embedded not only with norms of directionality and inevitability, but demands for certain actions in the present, as well as the legitimation of that action. Further, I show how these imagined futures were tied to a particular retelling of the past which could justify the possibility of these futures. It is through these norms and demands, as well as the suturing of these futures with particular pasts, I suggest, that we might explore how Facebook/Meta's visions for the future also constituted attempts to reshape a shared "space of experience".

Although actors in Facebook/Meta played with various imaginings of the future, I suggest that two particular visions were of the greatest significance from 2006-2021. This is because actors in Facebook/Meta invested far more ideational, financial, and political resources in disseminating these visions of the future: a world connected, and the metaverse.

6.3.1 Future 1: A World Connected

Here, I explore Facebook's imagining of a future world in which all people are connected. This was a vision for the future based upon a particular ordering of global space, which has already been discussed in the previous chapter (5.2.2). In short, this was an imagining of global space based upon three premises: universality, the emergence of a global community, and frictionless communication. Given that I have already outlined this imagined ordering of global space, here I focus upon how this spatial order was temporalized in Facebook discourse. Specifically, I explore how this imagining of a global communication order was not only depicted as a future world just on the verge of becoming, but how it was embedded with urgent demands on the present, as well as a particular progressive retelling of the past.

This articulation of a global space based upon universal connection was depicted as lying just ahead of the present. Writing for the Wall Street Journal in 2014, Mark Zuckerberg argued that

> Perhaps the most important change might be a new global sense of community. Today we can only hear the voices and witness the imaginations of one third of the world's people. We are all being robbed of the creativity and potential of the two thirds of the

> world not yet online. Tomorrow, if we succeed, the Internet will truly represent everyone.[563]

The future then was one in which all people would be connected, and Facebook depicted itself at the centre of this future global space, as the interface and medium through which people would connect and form communities. If the internet was the infrastructure for global networks, Facebook was the 'human-centred internet' that would attract people to join and connect people to it. For Zuckerberg, Facebook was increasingly depicted as a tool that could drag the world towards this future. Correspondingly, connecting the world became Facebook's official 'mission'; the goal that explained and legitimated Facebook's existence and expansion. It was in relation to this envisioned future that Facebook's actions in the present could be legitimated.

Whilst the future was imagined as a world connected, the present was depicted as full of obstacles and barriers that must be overcome to reach the future, and to build this new world. As Zuckerberg warned, "there is no guarantee that most people will ever have access to the internet. It isn't going to happen by itself."[564] The first requirement burdened upon the present was the development of new technology and the intensification of existing infrastructure.[565] As Zuckerberg made clear in 2015:

> "To connect everyone in the world, we also need to invent new technologies that can solve some of the physical barriers to connectivity. That's why Facebook is investing in building technologies to deliver new types of connectivity on the ground, in the air and in space".[566]

Zuckerberg and his peers stressed how the company was working tirelessly to build technologies, such as drones that could fly for several months beaming down the internet to remote parts of the world. These technologies were depicted as inherently futuristic and

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[563] Mark Zuckerberg, "Mark Zuckerberg on a Future Where the Internet Is Available to All," *Zuckerberg Transcripts* 151, (2014).
[564] Ibid.
[565] Here, Facebook faced competition from other Big Tech firms: Google's 'Project Loon' attempted to deploy ballons into the stratosphere to connect remote areas. See: Steven Levy, "Exclusive: how Google will use balloons to deliver Internet to the hinterlands," *Wired*, June 14, 2013, https://www.wired.com/2013/06/google_internet_balloons/.
[566] Mark Zuckerberg, "Connecting the World from the Sky," *Zuckerberg Transcripts* 249, (2014).

pushing science to the frontier of human knowledge and innovation. We are told that to build the technologies for this future "will require significant advancements in science and engineering."[567] To build this future world, Facebook must battle with the very limits of the natural world.[568]

Yet for all their emphasis on these technologies, that were depicted as futuristic and which captured media attention as such, they turned out to be "actually a pretty small part of the problem."[569] Writing in 2015, Zuckerberg noted that of the several billion people who were not then connected to the internet, roughly only 15% were actually unable to connect to the global communication network infrastructure.[570] A bigger barrier to the future, according to Facebook, was the economics of global connection. Zuckerberg decried that there was no business model which could support the connection of billions more people. But this was something that Facebook and its partners believed that they could forcefully change. Zuckerberg tells us that:

> "The next barrier is affordability. Right? And you know, a lot of the people who have access can't afford to pay for it. So the solution to that is to make it more efficient. Make it so that the network infrastructure that operators are using is more efficient. So that the apps that people use consume less data. And there is a lot of work that is going into that."[571]

The issue was largely not one of hardware access, smartphones were proliferating rapidly and would continue to do so, but the cost of accessing internet data.[572] With this in mind, Facebook created a low-data versions of its app – Facebook Lite – which enabled people to access Facebook whilst using radically less data, and thus making it more affordable.[573] Tied

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[567] Jay Parikh, "Aquila's First Flight: A Big Milestone Toward Connecting Billions of People," *Meta Blog,* July 21, 2016, https://about.fb.com/news/2016/07/aquilas-first-flight-a-big-milestone-toward-connecting-billions-of-people/.
[568] For example, Mark Zuckerberg tells us "so physics creates a number of challenges for deploying aerial platforms for connectivity". Mark Zuckerberg, "Connecting the World from the Sky," *Zuckerberg Transcripts* 249, (2014).
[569] Mark Zuckerberg, "Mark Zuckerberg on Connecting the World with Internet.org," *Zuckerberg Transcripts,* 175, (2015).
[570] Ibid.
[571] Ibid.
[572] Facebook, "Facebook Q2 2012 Earnings Call," *Zuckerberg Transcripts* 239, (2012).
[573] The affordability argument has been ongoing in international governance of ICTs for many decades. See Robin Mansell and Marc Raboy, "Introduction: Foundations of the Theory and Practice of Global Media and

to this economic obstacle though was a broader social issue. Indeed, the biggest challenge to building this future world, Zuckerberg argued, was that people who didn't already have internet access, simply didn't know why they should want it:

> "But it turns out that the biggest hurdle actually isn't either technical or affordability, it's the social challenge where the majority of people aren't connected actually are within range of a network and can afford but they actually don't know why they would want to use the internet". [574]

To overcome these economic and social obstacles to the future, Facebook partnered with other global technology firms, such as Samsung and Ericsson, to spread a 'free' internet product, initially called 'internet.org' and later rebranded as 'free basics'. Facebook would offer people free access to a very limited internet, which would include websites such as Wikipedia, and of course Facebook. Facebook's aim was to push 'free basics' into "a hundred or more countries" and to get "a billion or more people connected", and in so doing Facebook would not only connect the world but provide and limit the internet of billions of people.[575]

The business model assumed that once people had tried Facebook they would want more and would begin paying for greater amounts of data. As Zuckerberg explained, "By working with operators and governments and helping people understand what they can use the internet for, to be an on ramp for everyone."[576] Interviewing Mark Zuckerberg in 2014, David Kirkpatrick described the business model in a different way, as the creation of a global "gateway drug". After laughing, Zuckerberg responded "we think about it as an on ramp, right…ramp rather than a gateway drug. But the point is it leads to further consumption, yeah."[577] By offering a free basic internet, Facebook and its partners were hoping to establish and intensify new markets of data consumption and extraction across the world.

Communication Policy," in *The Handbook of Global Media and Communication Policy,* ed. R. Mansell and M. Raboy, (Wiley Blackwell, 2014).
[574] Mark Zuckerberg, "Mark Zuckerberg on Connecting the World with Internet.org," *Zuckerberg Transcripts,* 175, (2015).
[575] Ibid.
[576] Ibid.
[577] Mobile World Congress, "Mark Zuckerberg at the Mobile World Congress 2014," *Zuckerberg Transcripts*, 118, (2014).

The future, then, according to Facebook, placed three broad demands on the present. Technology had to be developed to help the, according to Zuckerberg, 15% of global people who were currently unable to access the internet.[578] New business models and products had to be developed to make connection more affordable for people across the planet. Finally, and most importantly, billions of people must be given a taste of Facebook, and after that, there would be no going back. It was in reference to their vision for the future, of a world connected, that Facebook's discourse attempted to justify and legitimise their actions in the present; the vast amount of money that was being ploughed into these technologies and the attempted spread of Facebook to billions of people who had never had internet access. Doing so enabled actors in and around Facebook to accuse their critics of being backwards looking and unwilling to embrace the future.[579]

However, this vision of the future was not only embedded with demands on the present, but also with particular retellings of the past; the past had to be reassembled to fit into the future's slipstream. Facebook's global community was placed within a broader historical story of human progress. Specifically, Facebook's global community was depicted as the frontier of a long teleological story in which history has been unfolding towards ever greater scales of togetherness; the development from tribes to a global community, via the concept of humanity. Mark Zuckerberg described history as "the story of how we've learned to come together in ever greater numbers -- from tribes to cities to nations. At each step, we built social infrastructure like communities, media and governments to empower us to achieve things we couldn't on our own."[580] Facebook then, as the human-centred internet, was depicted as the next step in a universal history.[581] This transition from a world without a

[578] Mark Zuckerberg, "Mark Zuckerberg on Connecting the World with Internet.org," *Zuckerberg Transcripts,* 175, (2015).
[579] For example, see Facebook Board member Marc Andreessen's criticism of the Indian government ruling that rejected Free Basics. See: Charles Riley, "Marc Andreessen apologizes to India for colonialism tweet," *CNN Business,* February 10, 2016, https://money.cnn.com/2016/02/10/technology/marc-andreessen-india-facebook-colonialism/index.html.
[580] Mark Zuckerberg, "Zuckerberg Facebook post about Building Global Community," *Zuckerberg Transcripts* 989, (2017).
[581] Zuckerberg is articulating a stadial understanding of history, one in which history occurs as a succession of ever-better stages. Here again, we have to emphasise the echoes of Hegel's progressive philosophy of history, of progress through stages whereby individuals, communities, and the global itself gains a sense of self. Charles Taylor describes Hegel's progressive philosophy of history as one in which a teleological unfolding occurs "in history, but through stages, and these stages are historical civilizations." As noted before, I am not suggesting that Zuckerberg is referencing Hegel here, but rather that Hegel's influence is so large that aspects of his theories have infused how we can imagine progressive historical change. In fact, it is likely that Zuckerberg was influenced by, and explicitly recycling some of the ideas, logics and terms from Yuval Noah Harari's progressive universal history: *Sapiens.* Mark Zuckerberg recommended it as one of his favourite books of 2014 and, in 2019, livestreamed a conversation with Harari in which he imagined Facebook within the context of Harari's

global community to a world with a global community, was depicted as a similar historical transition as the agricultural revolution or urbanisation and the industrial revolution. Just as people moved from roaming tribes to settled villages and then cities and nations, Facebook's global community was the next step in this human history of ever larger scales of community. This archetypal progressive historical narrative emerges from an anticipation of a particular vision of the future:

> "So we talk about how do we connect people around the world together and how do we open up the world to everyone so that everyone can participate in, in all the opportunities that the world has to offer. And, you know, if you think about the history of humanity is really this long arc of people using technology to be able to come together and, and overcome problems at bigger scales, right, and improve the quality of life for everyone."[582]

It is in reference to this future that certain actions in the present – building new technologies, offering people an initial free taste of the internet, and placing Facebook at the heart of a new global community – were framed as legitimate and necessary. Similarly, this vision of the future entrenched a progressive reading of the past and vice versa, naturalising a progressive experience of historical time.

6.3.2 Future 2: The Metaverse

Nine years after his original letter to shareholders setting out his vision of a world connected, Mark Zuckerberg wrote a new letter, explaining why Facebook, the company, was now rebranding as Meta in 2021. Facebook/Meta was working towards a new vision for the future: the metaverse. After several scandals, ranging from Cambridge Analytica to Facebook's role in ethnic cleansing in Myanmar, as well as increased media and government scrutiny, Zuckerberg conceded that the company had to stop running from problems of the past and instead run "towards something…a vision of the future".[583] Facebook/Meta was to

multi-million-year story. Charles Taylor, *Hegel*, (Cambridge University Press, 1975), 390; Yuval N. Harari, *Sapiens: A Brief History of Humankind*, (Vintage Books, 2014); Mark Zuckerberg, "Zuckerberg Facebook post about A Year of Books: Sapiens," *Zuckerberg Transcripts* 423, (2015).

[582] Mark Zuckerberg, "Zuckerberg Facebook video: First ever Live Q&A on Facebook (with Jerry Seinfeld)," *Zuckerberg Transcripts* 263, (2016).

[583] Alex Heath and Mark Zuckerberg, "Mark Zuckerberg on why Facebook is rebranding to Meta," *Zuckerberg Transcripts* 1462, (2021).

push the world forward again but this time the future was not simply a global communication service but rather a new social reality blending together the physical world with VR, AR, and AI.

Facebook/Meta's metaverse was imagined as "a virtual environment where you can be present with people in digital spaces. You can kind of think about this as an embodied internet that you're inside of rather than just looking at."[584] Instead of navigating the online world through screens, in this vision of the future one would feel physically present with people across land and space. In a sense this was an attempt at expanding what internet connection could be; the experience of being in the same space with another person, rather than mediated through a screen. With the "clearest form of presence", the metaverse offered an opening to a new virtual world, promising new experiences that the older generation of internet-based communication could not.[585] Through VR, people could attend digital concerts, exercise virtually with each other, and work in virtual office spaces. Through AR, people could constantly blend their digital and physical realities. At its most fundamental, the metaverse was a vision in which the digital and physical worlds become so enmeshed and blended together that it would become futile to try to distinguish them any longer.

Facebook/Meta's adoption of the term 'metaverse' reflects the influence of science fiction, its vocabularies and images, on the discursive context which Facebook/Meta existed within. As noted in Chapter 4 (4.4), there is a decades-long history of American technology companies turning to the vocabulary and images of science fiction to depict the world around them, and the futures they understood themselves to be building.

Here then it is instructive to consider Facebook/Meta's vision of the metaverse in the context of, and in contrast to, its original envisioning. In doing so, we can ask what meaning has fallen away and what new emphases actors in Facebook/Meta sought to embed in this vision for the future. Neal Stephenson coined the term 'metaverse' in his dystopian cyberpunk novel *Snow Crash.*[586] In Stephenson's imagining, the metaverse was a virtual social reality in which the novel's main character – Hiro Protagonist – could escape the crumbling physical world.

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[584] Facebook, "Facebook Q1 2015 Earnings Call," *Zuckerberg Transcripts* 230, (2015).
[585] Casey Newton and Mark Zuckerberg, "Verge Interview - Zuckerberg on Facebook Metaverse" *Zuckerberg Transcripts* 1424, (2021).
[586] Neal Stephenson, *Snow Crash,* (Penguin Books, 1992).

This is a world in which the American state has decayed, allowing corporate and oligarchic power to extend into ever-greater and more personal aspects of people's life. In the physical world, Hiro lives in a tiny apartment in a disintegrating LA; in the metaverse he is a well-respected fighter and hacker. Stephenson's envisioning of an alternative virtual reality would go on to influence other earlier attempts in the 1990s and early 2000s to build a reality, such as Second Life and Active Worlds.

Facebook/Meta's version of the metaverse can be understood as a utopian reimagining of Stephenson's dystopian metaverse. Whereas Stephenson explores the relation between his metaverse and a dystopian physical society around it, Facebook/Meta ignores the inequalities of the physical world, and any negative ways the metaverse acts as a means of escape from eroding societies. In Facebook/Meta's imagining of the future, people are promised the possibility of super-human powers but, unlike *Snow Crash,* what is ignored and erased are the constraints on who can gain, wield, and manipulate these affordances for their own benefit, and the consequences of this.

Stephenson's metaverse is a broadly libertarian space in which centres of power have emerged. In contrast, Facebook/Meta's metaverse is imagined as far more ordered and sanitised corporate space, built on certain economic rules, and with certain laws for action and interaction. In using the term 'metaverse', Facebook/Meta could attempt to place itself within a cyberpunk aesthetic of disruption and radicalism, whilst, emphasising their metaverse as an ordered economic space welcoming to corporations and businesses to enter and build within. In a sense, Facebook/Meta's metaverse co-opted the countercultural aspects of Stephenson's metaverse, and its dystopian critique of American society, and reformulated it into a more sanitised and utopian vision.

Under Facebook/Meta's articulation, this future promised to free people from the laws of nature. Geography, distance, and gravity would no longer be a limitation for humanity, as the social space in which people inhabited created new rules and limitations. Facebook/Meta argued that people found themselves on the precipice of transhuman enhancement. In the metaverse, people would have far greater control of their identity markers, gaining control over how they represent themselves and are perceived by others. Similarly, people would have far greater control over the space which they inhabit. With depictions of luxury virtual apartments, Facebook/Meta implicitly promised people the ability to escape their sub-

standard habitations in the physical world, and instead create a spacious home in the metaverse, overlooking the Pacific Ocean or floating in space. In this new digital body and space, one could work, interact with others, and live a fulfilling life that perhaps didn't exist in the physical world. The metaverse would extend across different computing platforms: VR and AR, but also mobile devices and gaming consoles. [587] Zuckerberg explained that "Virtual reality and augmented reality, I think, are the next generation of computing devices, but the metaverse is more the software platform and set of standards that goes across that, but also computers, tablets, phones, all of that".[588] The metaverse was imagined as not only a set of technologies but new social norms of interaction which would extend through these technologies.

To developers, shareholders and creators, Facebook/Meta depicted certain norms and rules, such as interoperability and portability, at the heart of this future social space. In the metaverse, users would have the right to buy a digital T-shirt from a digital concert in VR, and then transfer this across to your AR device, mobile or PlayStation. Interoperability and portability would be central to the construction of flourishing markets across the metaverse. With the right economic rules, Facebook/Meta attempted to convince businesses, big and small, that this future would be one with greater space for economic activity. In this future, a new economic world full of possibility would help sustain a new generation of metaverse creators.[589]

Facebook/Meta's business-focused reassembling of the term 'metaverse', did not emerge out of a vacuum. Instead, it was percolating and being used within this discursive context. In the years preceding Facebook/Meta's rebranding, video game companies, such as Roblox and Epic Games (maker of Fortnite), had increasingly focused on building gaming universes tied to commercial activity, interoperability and portability, and selling a blending of physical and digital realities. This process had been explored and labelled by the technology commentator Matthew Ball as the development of a metaverse.[590] Facebook/Meta was not alone amongst

[587] Casey Newton and Mark Zuckerberg, "Verge Interview - Zuckerberg on Facebook Metaverse" *Zuckerberg Transcripts* 1424, (2021).
[588] Matthew Ball and Mark Zuckerberg, "Mark Zuckerberg speaking in his live audio room with Matthew Ball about the Metaverse," *Zuckerberg Transcripts* 1461, (2021).
[589] Sara Dietschy and Mark Zuckerberg, "I interviewed Mark Zuckerberg," *Zuckerberg Transcripts* 1472, (2021).
[590] In an interview with Ball, Zuckerberg acknowledged that Ball's writings had influenced his understanding of what the metaverse could be. See Matthew Ball and Mark Zuckerberg, "Mark Zuckerberg speaking in his live audio room with Matthew Ball about the Metaverse," *Zuckerberg Transcripts* 1461, (2021); Matthew Ball,

Big Tech companies in exploring and pursuing this vision either. In the years preceding 2021, Microsoft, Google and Apple had all been investing heavily in the hardware that would support virtual and augmented reality.[591]

As Facebook rebranded to Meta, and broadcasted its vision for the future, the company's spokespersons disseminated a new list of obstacles to the future that they would seek to overcome. Speaking at a VR conference in 2018, Zuckerberg suggested that the question is no longer *what* the future looked like or "whether we're going to get there, it's how? You know, what is the exact roadmap, what are the exact next steps we need to take on the path there?" [592] With the future known, the most fundamental demand placed by the future on the present was to build technologies that could ensure it. Again and again, Facebook/Meta's discourse positioned the company as the vanguard of this future, directing all of its resources to ensuring that it comes to fruition. For example, in 2021, Facebook/Meta announced that "we're building for the future. We've outlined our vision for the metaverse, but a lot of pieces need to be built before we get there."[593] In the same year, a Facebook/Meta blog explained to its readers that "the future of human-computer interaction *demands* an exceptionally easy-to-use, reliable and private interface that lets us remain completely present in the real world at all times."[594] It is the future that places demands on the present that Facebook/Meta was racing to meet. Four years earlier, in 2017, Michael Abrash conveyed how the future was shaping Facebook's research decisions:

> "Oculus Research's goal is to develop all those pieces and bring them together to make VR and AR together the platform of the future. Getting there will take many years and a ton of innovation, so it will require a critical mass of vision, resources, and a long-term perspective"[595]

"Fortnite is the Future but Probably Not for the Reasons You Think," *Matthew Ball,* Feb 15, 2019, https://www.matthewball.co/all/fornite

[591] Matthew Ball, "The Metaverse: What It Is, Where to Find it, and Who Will Build It," *Matthew Ball,* Jan 13, 2020, https://www.matthewball.co/all/themetaverse.

[592] Mark Zuckerberg, "Live from Oculus 2018," *Zuckerberg Transcripts* 1004, (2018).

[593] Mark Rabkin, "Connect 2021 Recap: Horizon Home, the Future of Work, Presence Platform, and More," *Meta Blog,* 28 October, 2021, https://www.meta.com/en-gb/blog/connect-2021-recap-horizon-home-the-future-of-work-presence-platform-and-more.

[594] Meta, "Inside Facebook Reality Labs: Wrist-Based Interaction for the Next Computing Platform," *Meta Blog,* March 18, 2021, https://tech.facebook.com/reality-labs/2021/3/inside-facebook-reality-labs-wrist-based-interaction-for-the-next-computing-platform/.

[595] Michael Abrash, "Inventing the Future," *Meta Blog,* October 11, 2017, https://tech.facebook.com/reality-labs/2017/10/inventing-the-future/.

For Abrash, society stood on the verge of radically unprecedented change. Although, the widespread adoption of VR had been a dream for decades, Abrash predicted that now was different, "largely thanks to Moore's Law".[596] Here then, we can see an underlying exponentiality in this vision of the future, and how it is understood in its relation to the present.

Mimicking their earlier rhetoric, actors in Facebook/Meta depicted the technological development needed to create the future as a battle with physics, with the very limits of the natural world. Abrash stresses that "While AR glasses have the potential to be one of the most important technologies of the twenty-first century, that won't happen unless some very challenging practical constraints are overcome".[597] A separate Facebook/Meta blog, written in 2020, similarly notes that "we still need several generations of breakthroughs… This kind of AR requires a foundational shift in computing technology that mirrors the leap from libraries and landlines to personal computers".[598] Facebook/Meta's envisioning of the future then was used to legitimate the enormous investments in technologies, such as VR and AR, depicting them as necessary steps towards the future of social interaction. To not build these technologies and norms would be to disregard what the future demanded of them.

Like with the company's vision of a global community, the metaverse required not only technological development but the creation of a new economic 'ecosystem' which could sustain this new world. [599] For the metaverse to be realised, Facebook/Meta argued that a thriving economy would have to underlie it, making this blended reality profitable for a new generation of 'creators'. However, for these markets to be big enough, and thus self-sustaining, technologies such as VR needed to be consumed by a large enough number of people. Zuckerberg explains:

> So the big question is what is it going to take for it to be profitable for all developers to build these kind of large efforts for VR? And to get to that level, we think that we

[596] Ibid.
[597] Ibid.
[598] Meta, "Announcing Project Aria: A Research Project on the Future of Wearable AR," *Meta Blog,* September 16, 2020, https://tech.facebook.com/reality-labs/2020/9/announcing-project-aria-a-research-project-on-the-future-of-wearable-ar/.
[599] Mark Zuckerberg, "Live from Oculus 2018," *Zuckerberg Transcripts* 1004, (2018).

> need about 10 million people on a given platform. Right, so that's the threshold where the number of people using and buying VR content makes it sustainable and profitable for all kinds of developers. And once we get to and cross this threshold, then we think that the content and the ecosystem are just going to explode."[600]

Here, Zuckerberg's language articulates an exponential sense of time. For Zuckerberg, society is on the verge of crossing over a threshold which leads to an explosion of change in the near future. All this future requires is some help lighting the fuse to this exponential acceleration. Tied in with the prediction of exponential acceleration is the promise, for creators and businesses, of huge future markets and huge future value. To ensure this future though, Facebook/Meta understood itself as needing to not only build the technology for the metaverse, but to convince enough people to buy their products and to inhabit this new reality. Given this, Facebook/Meta decided to prioritise selling cheaper VR headsets, sometimes at a loss, to try and convince more people to enter their vision of the metaverse. Facebook/Meta had to do all it could to attract people into the metaverse's social reality, just as people had been attracted to enter Facebook, Instagram and WhatsApp's social spaces in the past.

Utterances and texts produced by actors in Facebook/Meta not only conjured a vision of the future as the metaverse, but constantly used this future to explain and legitimate Facebook/Meta's actions in the present. It was through reference to the future that Facebook/Meta depicted their attempts to develop new technologies, overcome scientific obstacles, and convince people to enter the new social space that they were creating. In comparison with the previous vision of a world connected, Facebook/Meta's discourse is less concerned with weaving the metaverse within a broader story of the past. There is no big historical narrative linking this imagined future to a deep past of historical progress. Instead, when the past is referred to it is used to explain why people cannot comprehend the vast changes that they are on the verge of experiencing. Zuckerberg likens the metaverse to previous moments of dramatic and exponential change, such as the production and adoption of the personal computer.[601] Alternatively, Zuckerberg depicts the metaverse along with the

[600] Mark Zuckerberg, "Live from Oculus 2018," *Zuckerberg Transcripts* 1004, (2018).
[601] Mark Zuckerberg, "Keynote: Oculus Connect," *Zuckerberg Transcripts* 943, (2017).

recent past which is, in Zuckerberg's perspective, marked by the exponential growth of information/data sharing.[602]

6.4 Conclusion

In this chapter I have analysed how actors in and around Facebook came to talk about historical time. I began by exploring three different articulations and layers of historical time within Facebook's discourse. In their first few years, when time was spoken of, it was primarily in relation to speed and the urgency to move quickly. I suggest that this fixation on the experience of speed was an articulation of presentism, a sense of historical time in which the present gains overarching importance. I link this to Castell's notion of 'timeless time', and suggest that here Facebook was articulating a shared sense of time which, according to Castells, was widespread within American computer culture.

Yet, emerging from this consciousness of speed, I have suggested that actors in Facebook sought new means of engaging with questions of momentum and direction. They turned to different articulations of historical time, through which they could imprint order onto their present by tying it to the future. I argued that actors in and around Facebook increasingly drew upon the historical times of progress and exponentiality. I showed how these two layers of historical consciousness emerged in Facebook's discourse, and connected them to broader histories of American computer culture and Western temporal articulations.

With these two latter strands of historical time, I suggested that Facebook's discourse constructed and emanated a sense of time which was drenched in futurity. Inheriting different layers of historical time – progressive and exponential – Facebook increasingly stressed the importance of the future in making sense of and legitimating Facebook's actions in the present. In so doing, Facebook relatively diminished the past's role in informing one's actions in the here and now. With this temporal foundation, actors in Facebook/Meta imagined and disseminated two broad visions of the future – a world connected and the metaverse.

[602] Matthew Ball and Mark Zuckerberg, "Mark Zuckerberg speaking in his live audio room with Matthew Ball about the Metaverse," *Zuckerberg Transcripts* 1461, (2021).

These two visions of the future, I showed, were embedded with imagined demands on the present, which actors in Facebook/Meta claimed the company was pursuing, and which was used to legitimate their actions. More than this, I have also suggested that Facebook's first future, a world connected, was inscribed with a particular progressive narrative and retelling of the past. Here, memories, events, and narratives were reassembled to fit behind this future's slipstream.

Through this intellectual development, I suggest, we can make visible the temporal-historical discursive dimension within this ascendant Big Tech horizon. Increasingly, this horizon directed people towards the future, rather than the present or the past. It was through constructing and reaching towards an imagined future, that actions in the present primarily came to be legitimised. The futurity embedded in this horizon was sustained by the articulation and wielding of both exponential and progressive historical times. Whilst these times were used to convey and conceal different things, they also overwhelmingly oriented people towards the future.

Chapter 7
The Spread of Systems Thinking

In the previous chapters, we explored how actors in and around Facebook came to imagine and talk about space and time. In this chapter I seek to deepen the analysis of the previous two by considering how these same actors came to understand their own positionality and relation to this space and time, the epistemological and ontological frameworks they wielded. I do so, by examining the language with which Facebook actors used to explain the infrastructure and social environments they understood themselves to be building, and their consequences. Here then I explore in greater detail how, as actors in and around Facebook came to see their own effect on the world, what emerged was a particular way of understanding and imagining their own position, as well as their own ability to reshape the world according to their will.

This chapter is split into four sections. In the first section, I argue that what emerges from building early algorithmic systems was a particular ontological framing of the world. From this perspective, the world was constituted by systems of various size and scale, and which can be repeatedly broken down into smaller parts, as well as reconstituted into larger and overlapping systems. These systems were imagined to be dynamic and flowing, almost alive, and ripe for optimisation. Actors in and around Facebook came to depict all components in society as well as science, as systems which could be optimised by engineers. Understanding the external world through this systems lens, I suggest, enabled actors in Facebook to imagine themselves as the force that engineers such systems, whether code or social ecosystems. As we will see, Facebook/Meta discourse will go as far as depicting not only the world but 'the universe' as a system to be programmed and optimised.

In the second section, I explore the language that actors in Facebook used to represent these systems. Actors in Facebook borrowed and adapted vocabularies from science and ecology to represent their own systems perspective, as well as their own actions. On the one hand, Facebook was depicted as a universal testing machine constantly testing hypotheses, measuring data, and producing knowledge. On the other hand, Facebook was discussed as an 'ecosystem' producing 'organic' behaviour from 'actives'. Next, I suggest that what emerged

from this systems perspective was what Donna Haraway calls 'the God Trick'.[603] Assuming an almost God-like vantage point, actors in Facebook/Meta came to set their gaze on engineering and optimising the entire universe, or at least optimising the means by which individuals interact and experience it. I show how this positionality manifested in two interrelated directions. Firstly, actors in the company explicitly claimed to be working towards understanding all that could be possibly understood about the world. Secondly, actors in the company claimed to be working on nothing less than the total reconstruction of the universe.

Finally, I consider not what Facebook's discourse articulated, but what it didn't speak of, what was concealed in this horizon. I explore different fragments of common sense which were pushed aside and erased by this Big Tech horizon, and connect them to a dynamic of power contestation and struggle over these two decades. This chapter finishes by questioning to what extent these different fragments cohere into what we might consider a counter-hegemonic horizon.

7.1 Building systems, speaking systems.

In Chapter 2, I set out a conceptual framework in which every text is understood as existing within a broader discursive context, which has its own specific language games, vocabularies, and ways of talking. I also argued that, following Sewell, we can understand a discursive context as existing in a dialectical relationship with the 'built environment'.[604] For Sewell, a built environment refers to that which is built and is constantly being built by humans, the material infrastructures of life, as well as the landscapes which are shaped and moulded by human interaction. The built environment is never static but in a constant process of change as infrastructures decay and new infrastructures are built. With this perspective, we can better see how the products and infrastructure built by Facebook were partially shaped by the language with which Facebook actors could wield and act within (and vice versa), and the problems and questions that they felt forced to answer. We see this process emerge clearly in this chapter.

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[603] Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies* 14, no.3 (1988): 581, https://doi.org/10.2307/3178066.
[604] William H. Sewell, *Logics of History: Social Theory and Social Transformation,* (The University of Chicago Press, 2005), 362.

In their first years, actors in Facebook understood themselves as facing, and responding to a set of several problems.[605] How could sociality be reconstructed through computers? How could they expand their userbase? How could they make a profit? To solve these problems, actors in Facebook came to believe that only by turning this social network into a system for knowledge production could they produce a dynamic and 'live' system for sociality. Yet it was in the process of building these products, of reshaping the 'built environment', that Facebook's discourse shifted and moved towards an ever-expansive systems-perspective.

In this chapter then, I examine how actors in and around Facebook not only built products and infrastructures, but how they talked about them, and how this evolved over the two decades. In analysing this, I suggest, we can gain an insight into the underlying ontological and epistemological positions and frameworks embedded in Facebook's discourse. Doing so helps us uncover important particularities and assumptions embedded within this hegemonic horizon. If in the previous chapters we examined two discursive dimensions, the spatial and temporal boundaries within this ascending horizon, this chapter delves deeper into how these actors understood themselves and their positionality in relation to the external world, and the built environment they were transforming.

7.1.1 A Three-Faced System: Sociality, Knowledge Production, Profit

In this section I explore Facebook's early attempt to reconstruct sociality online through the creation of the News Feed. I suggest that actors in Facebook increasingly came to understand themselves as having built an algorithmic system not only for sociality, but for the production of new and valuable knowledge, as well as profit. Through this system, data could not only be extracted, but engineers could continuously test new products, code, and hypotheses on users, treating the social network as a site for mass experimentation.

From the very beginning of Facebook, Mark Zuckerberg emphasised the potential significance of data extraction. In his first public interview in 2005, speaking to TV business

[605] These problems weren't necessarily unique to Facebook but were common amongst start-up and technology companies in this context.

reporter Bambi Francisco, a young Mark Zuckerberg boasted that Facebook had the potential to capture large amounts of data:

> So I mean everything from your birthday and what major you are and what house you're in, what year you are to what you like, what you like listening to, what you like doing, what school groups you're in, what classes you're taking, who your friends are, contact information on it if I need to get in touch with you, your screen name, or maybe even cell phone, I think like 35% of our users actually put their cell phone in.[606]

However, it would not be until the following year that Facebook would shift and accelerate the type and quantity of data that it extracted from users. With the introduction of the 'News Feed' in 2006, Facebook was transformed into an algorithmic system in which data became ever-more central to its functioning.

Before 2006, Facebook users would login and see their own page before surfing through their friend's profiles to check for updates. With the 'News Feed', individual users' homepages were now automatically updated with information extracted from their friends. Actors in the company came to imagine this new Facebook as not simply a social network or a public utility but as a system. In an interview in 2010, for example, whilst defending Facebook's News Feed against criticism, Zuckerberg explained that all Facebook had built was "a system where people can stay connected with the people they want to."[607]

This new iteration of Facebook was founded upon an alternative attempt to model and reconstruct sociality. More than a model, it was made 'live' or actionable through the continuous and automatic algorithmic processing of user data. The News Feed was built to be a system that could continuously optimise social interactions based upon certain values. For example, with a shift in its 'Edge Rank' (Facebook's algorithmic ranking system), Facebook could optimise its system to prioritise messages from close friends, or content that generated

[606] Bambi Francisco and Mark Zuckerberg, "Bambi Francisco interviews Mark Zuckerberg in 2005," *Zuckerberg Transcripts* 186, (2005).
[607] Computer History Museum, "The Facebook Effect (interview with Zuckerberg and Kirkpatrick)," *Zuckerberg Transcripts* 30, (2010).

greater interaction.[608] Similarly, Facebook could optimise the model to rank more highly new Facebook products, such as 'places' or 'communities', or eventually articles from news organisations that Facebook deemed credible. Thus, as an algorithmic system, the News Feed could be constantly optimised in different directions, and over the next years Facebook publicly announced shifts in how their algorithms were optimised.

It is important to note here that the transformation of Facebook into an algorithmic model made it entirely reliant on the constant capture and analysis of user data. It also accelerated the process in which a Facebook user became "computed on the basis of discrete and countable activities that, translated into a data set, make that user an identifiable, knowable, and actionable object."[609] Whilst the social network tracked how users interacted with the site, algorithms would simultaneously process this data through Facebook's model for sociality. Thus, each user would then have their own unique feed of content, based upon how their unique data was processed through Facebook's algorithms. With data extraction at the heart of this algorithmic system, actors in the company came to view their product as more than a system for the reconstruction of sociality, but as a system for the production of knowledge.

In his 2010 blog *Data Downfalls,* Andrew Bosworth stressed how, early in Facebook's journey, "Data became our best tool to understand the products we built and how people use them."[610] In the same year, Mark Zuckerberg similarly emphasised the importance of data for Facebook. Speaking at the Computer History Museum, Zuckerberg explained how at Facebook, "we look at the data of how people are using the site and we try to make informed decisions on that."[611] It was not only that this algorithmic system was designed to extract and process user data, but that engineers in the company could use the system to test their own hypotheses on sets of users. In 2016, Mark Zuckerberg reflected on ten years of the 'News Feed'. For Zuckerberg, the introduction of the algorithmic system marked the beginning of what he called Facebook's "methodology":

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[608] For more info, see: Taina Bucher, "Want to be on the top? Algorithmic power and the threat of invisibility on Facebook," *New Media & Society* 14, no. 7 (2012): 1164–1180, https://doi.org/10.1177/1461444812440159
[609] Cristina Alaimo and Jannis Kallinikos, "Computing the everyday: Social media as data platforms," *The Information Society* 33, no. 4 (2017): 176, https://doi.org/10.1080/01972243.2017.1318327.
[610] Andrew Bosworth, "Data Downfalls," *Boz,* November 18, 2020, https://boz.com/articles/data-downfalls.
[611] Computer History Museum, "The Facebook Effect (interview with Zuckerberg and Kirkpatrick)," *Zuckerberg Transcripts* 30, (2010).

> "you use data and you use the qualitative feedback that you're getting from listening to how your community is using your product, to tell you what problems to go solve. And then you basically use intuition to figure out what the solutions to those problems might be, and then you test those hypotheses by, by rolling them out and getting more data and feedback on that, and then that gives you a sense of where to go."[612]

Problems would be identified through the extraction and analysis of data. From there, engineers would develop quasi-scientific hypotheses for solutions which could then be tested on users and thus generate new data.[613] In 2013, whilst delivering a class to Stanford students, Chamath Palihapitiya, laid out in general terms Facebook's system for knowledge production. Facebook's success, Palihapitiya suggested, was quite simple, "we created a framework in which we applied those three very simple principles of measuring, testing, and trying things".[614] Beyond simply a social network, actors in Facebook had turned this medium for sociality into a system for knowledge production, in which engineers would iterate a portion of the product, experimenting on users, and then measure the results to certain metrics. Code and products were treated as 'hypotheses' that would test user desire or behaviour, and this in turn would produce new data which would lead to new tests in a cycle of optimisation. When new code and products were released, Facebook engineers could immediately measure the 'feedback' from this code. How had the changes affected user behaviour? How did the changes affect any of the many metrics that Facebook were using? In his lecture, Palihapitiya reflected on Facebook's culture of "experimenting and trying at a ton of stuff".[615] As Alex Schultz emphasised in 2014,

> "one other thing that Chamath instils in us and Mark still instils across the whole of Facebook is…if you can run more experiments than the next guy, if you can be hungry for growth, if you can fight and die for every extra user and you stay up late at

[612] Mark Zuckerberg, "Mark Zuckerberg: How to Build the Future," *Zuckerberg Transcripts* 171, (2016).
[613] Whilst Zuckerberg refers to both data and qualitative feedback here, in other interviews he states that Facebook always viewed user data as more informative and accurate than external feedback. For example, in 2006, after the News Feed was introduced, it caused a huge amount of criticism from Facebook users. However, Zuckerberg explained that Facebook ignored this criticism because it could see from user data that the News Feed was actually producing more social interaction. From Facebook's perspective, data showed them more about what people wanted than they themselves knew.
[614] Chamath Palihapitiya, "How we put Facebook on the path to 1 billion users." January 9, 2013, https://genius.com/Chamath-palihapitiya-how-we-put-facebook-on-the-path-to-1-billion-users-annotated
[615] Palihapitiya, "1 billion."

> night to get those extra users, to run those experiments, to get the data, and do it over and over and over again, you will grow faster."[616]

In this passage, Schultz expresses a particular blend of scientism and commercialism. Here, experiments are depicted as the engine driving not only the production of knowledge, but Facebook's expansion and commercial success. It is through the production of ever-more data that Facebook would grow faster, learn more about its users, and overcome its competitors. This focus on systems and experiments, expressed through a merging of scientific and commercial language, was by no means a Facebook-only phenomena; it was widespread amongst other Big Tech companies in this discursive context. Consider, for example, how Hal Varian, Google's chief economist since 2002, explained Google's mindset. For Varian, to make use of this data required a focus on the core tenets of the scientific method. In 2013, Varian reminded his readers of the "gold standard" for understanding the causes of things, "If you really want to understand causality, you have to run experiments. And if you run experiments continuously, you can continuously improve your system."[617] In the simplest terms, Varian argued "what's the solution? Experiments".[618]

To enable and intensify the accumulation of more data, Facebook allowed engineers to constantly test different segments of the user base. In an interview in 2016, Zuckerberg tells us "So the best way to learn is to basically try things out and get feedback. So if you just have one version of Facebook running, then that constrains how much people can react to."[619] In the same year, while speaking in Italy, Zuckerberg made clear how Facebook had turned into a system for testing:

> what we've done is we've build this whole system where any engineer can just experiment with, um, with their own idea, right. So you can, you can build something, you can try something out, and you can, you can release into the world, not to the whole community, right, so not to more than a billion people, but you can roll it out to

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[616] Alex Schultz, "Lecture 6: Growth," October 9, 2014, https://genius.com/Alex-schultz-lecture-6-growth-annotated
[617] Hal R. Varian, "Beyond Big Data," *NABE Annual Meeting,* September 10, 2013: 6, https://people.ischool.berkeley.edu/~hal/Papers/2013/BeyondBigDataPaperFINAL.pdf,
[618] Ibid.
[619] Stephen Dubner and Mark Zuckerberg, "MZ Interview with Stephen Dubner on Freakonomics," *Zuckerberg Transcripts* 859, (2018).

> maybe 10,000 people or 100,000 people or a lot of, a lot of people in the community to see how they like it, and you get feedback, right.[620]

With a system for the production of knowledge, as well as the reconstruction of sociality, actors in Facebook also sought to transform the social network into, and depict it as, a system for making profit. After pursuing several different advertising products, actors in Facebook began optimising their system towards micro-targeting, here understood as "the use of detailed demographic, behavioural and personal information to target specific attributes of people".[621] Micro-targeting could enable companies to identify characteristics and identities and target those as more or less likely for certain behaviours, such as purchasing goods or voting a certain way. In an email to Sam Lessin, a high-level staff member in 2012, Mark Zuckerberg summed up the system that Facebook had created:

> "So we make money and have a healthy platform because there is a return on scale in information & we know better than anyone else what story (sponsored or otherwise) to deliver to whom at any given moment by knowing everything about that person."[622]

Here then, Zuckerberg boasts how Facebook's unique knowledge of its users can be harnessed for the company's profitability. As Facebook shifted towards microtargeting, actors in the company understood themselves to be producing knowledge not only to optimise the reconstruction of sociality, but for its own business of matching advertiser to user. In fact, from this systems perspective, this process was one and the same. To connect a user with content was no different than to connect an advertiser with a user.

Speaking to shareholders in 2012, Sheryl Sandberg[623] explained how Facebook's system for knowledge production and reconstructed sociality, also produced massive economic value:

> Clients also recognize that because our users share their real identities on Facebook and because they are logged in when they use Facebook on mobile, we have a unique

[620] Mark Zuckerberg, "Mark Zuckerberg - Conference at Luiss University in Rome," *Zuckerberg Transcripts* 170, (2016).
[621] Taina Bucher, *Facebook*, (Polity, 2021), 142.
[622] Facebook. "Six4Three Exhibit 29: Zuckerberg email thread with Sam Lessin," *Zuckerberg Transcripts* 1656, (2012).
[623] After working as a Vice President at Google, Sheryl Sandberg was hired by Mark Zuckerberg to become Facebook's Chief Operating Officer. Sandberg left Facebook/Meta in 2022.

> ability to serve advertising that people find relevant. This is an important competitive advantage for us relative to other mobile platforms and one we think we are very unique in…Over 1 billion people are on Facebook and we are enabling businesses to engage with them directly wherever they are. Our massive scale, accurate targeting, strength in mobile and new advertising products are driving measurable results for all types of businesses and transforming the way people and businesses connect.[624]

Sandberg emphasises not only the accuracy with which Facebook could enable the micro-targeting of users, but its ability to measure the effects of this for companies. In other words, Facebook's system could not only connect advertisers with users, but could demonstrate that this led to a change in user behaviour or intention in a way that served the business' interests. However, here we should also note that Facebook's system for profit was not only reliant on accurately connecting user characteristic and advertiser, but on convincing advertisers and shareholders of that accuracy. Actors in Facebook not only sought to emphasise the accuracy of their micro-targeting but also that this would only ever improve in accuracy; with more data and with more signals, the knowledge that Facebook would produce would only become more precise. Facebook's systems would only get better. Speaking to developers at Facebook's Connect conference in 2016, Zuckerberg predicted that the company was on the verge of radically improving the knowledge it could deduce from data:

> Now, soon we're gonna be able to do even more. Because, right now, to show you the best stories in news feed, we mostly look at some basic signals, like who your friends are or what pages you like. But we don't actually understand the meaning of the content. But in the future we're gonna be able to actually look at the photos and videos and understand what's in them. We're gonna be able to read the articles and understand what they're about, and that's gonna let us show more interesting content to you from across our community that we don't even know that you'll be interested in today.[625]

Here Zuckerberg is talking about the production of knowledge so as to optimise the content that users see. But as already noted this was treated as one and the same as optimising the

[624] Facebook, "Facebook Q4 2012 Earnings Call," *Zuckerberg Transcripts* 2, (2013).
[625] Mark Zuckerberg, "Mark Zuckerberg's Keynote @ Facebook F8 2016," *Zuckerberg Transcripts* 172, (2016).

connection between user characteristics and advertisers. To improve the system's ability to produce knowledge was understood and depicted as optimising both the computed sociality, and the ability to match users with advertisers. In this passage Zuckerberg also anticipates the company's increasing focus on AI, which as we will see, emerges alongside the spread of this systems-perspective.

Actors in Facebook came to understand the social network as a system or a set of systems that had been optimised to not only reconstruct online sociality, but more broadly to produce knowledge and return profit. As both Palihapitiya and Schultz emphasise, Facebook's culture stressed the importance of constant experiment, of the measurement and analysis of data, and the verification of hypotheses. As Sandberg emphasised, this system for knowledge production was hugely valuable for businesses that work with Facebook to target its users. Facebook users were constantly and unknowingly being tested upon, and the data which Facebook extracted from its users was depicted as feedback. All of this, from Facebook's perspective, gave them new and valuable knowledge about what users wanted, even if the users themselves didn't know. It was this knowledge that they could commercialise and sell to the highest bidder.

7.1.2 The Expansion of Systems Thinking

Here, I show how Facebook's systems-thinking spread beyond the algorithmic domain to become a way in which actors in and around Facebook came to imagine and depict the external world. It became, in other words, the ontological framework through which actors in Facebook represented the world, and understood themselves to be transforming it.

In the weeks and months preceding and following Donald Trump's victory at the 2016 US Presidential election, Mark Zuckerberg came to articulate a particular way in which he, and Facebook's culture more broadly, imagined the world as functioning. Zuckerberg repeatedly spoke of his 'engineering mindset' which helped explain how he, and his colleagues, understood and reshaped the world. Speaking to world leaders at the APEC conference in November 2016, Zuckerberg explained "Now, I'm an engineer, and a big part of the engineering mindset is this idea that you can take any system in the world and make it much,

much better than it is today."[626] An engineer sees a system and works out how to make it better, how to optimise it towards one goal or another.

A few months earlier, Zuckerberg had travelled to Nigeria. Speaking to a room full of software engineers and developers in Lagos, Zuckerberg suggested that what he and every person in that room shared was the same 'engineering mindset'. Delving into more detail, Zuckerberg explained that an engineering mindset enables you to

> "think of every problem as a system and every system can be better no matter how good or bad it is, you make anything better. And that goes for whether you're writing code or you're building hardware or your system as a company or you're working on the education system or government. These things are systems and they can all be improved and kind of you have this engineering mindset's that's gone into that. The second part I think about, about being an engineer is that you break down problems from the biggest stage, um, down to smaller pieces that you can then solve. So I was getting started with Facebook I was writing code. Right? Like a lot of you guys and your teams, um, probably were and are. And, you know, writing code, you're trying to build some functionality. You break it down into different functions and subroutines that, um, you hone them and you make them good and then you can call them and use them repeatedly and you're kind of building up from there." [627]

In this revealing paragraph, Zuckerberg suggests that all problems are best understood as systems, of various size and scale, which can be engineered and optimised for better solutions. Both problems and solutions exist as, and within, systems. Zuckerberg goes on to explain that systems can be broken down into smaller parts, into smaller systems, which can themselves be optimised and thus help optimise the wider system as a whole. This systems-perspective is a refusal to see individual parts and components outside their relation to other parts, and within a broader whole. Importantly, Zuckerberg notes how this perspective, although emerging from the practice of 'coding', is not limited to this domain. This particular way of experiencing, understanding, and working on the world, has far greater ramifications, offering a universal lens through which to understand the external world, and the problems

[626] Mark Zuckerberg, "Mark Zuckerberg at Apec CEO Summit," *Zuckerberg Transcripts* 983, (2016).
[627] Mark Zuckerberg, "Mark Zuckerberg Live with Developers and Entrepreneurs in Lagos," *Zuckerberg Transcripts* 169, (2016).

within it. In this sense, the 'engineering mindset' slips out of its initial domain, and spreads across fields and disciplines, flattening all problems, whether technological, social, or political, onto the same ontological plane, as systems that can be enhanced and optimised. Seeing all problems as dynamic, ever-optimisable systems, has the role of elevating the engineer's perspective, empowering the engineer as the primary actor in social change. The task of the engineer, whether working on code, the education sector, or hate crimes, is to reconstruct, reengineer, and optimise these systems towards certain outcomes.

From this perspective then, one can enact change upon the world through the building and the optimisation of systems. For Zuckerberg, because all systems are dynamic, they are always open to getting better, to greater optimisation. In this sense, a system is never finished, is never immovable, but instead is constantly in flux. Speaking in an interview in the weeks after Donald Trump's election in 2016, Zuckerberg was questioned about the potential problems arising from Facebook's news feed:

Mark Zuckerberg: "I mean this is, it's an evolving system. I mean it's you know, it's not fully formed, right and we will keep on improving it…"

Interviewer: "But isn't it weird that it's not fully formed and it's huge"

Mark Zuckerberg: "No, no, no, no, no, no, no, I mean this is everything, nothing, nothing is finished".[628]

Systems are always in flux, always "evolving", and always receptive to further optimisation.[629] This 'never-ending-ness' of Facebook's outlook, of the systems that Facebook built is articulated throughout Facebook's discourse. In 2005, Zuckerberg describes the system that he is building as constantly iterating and in flux.[630] Similarly in 2018, when

[628] Zuckerberg, Mark, "Zuckerberg Facebook video Live discussing the election, news, education, science, AI and the future at Techonomy" (2016). Zuckerberg Transcripts. 214. The official transcript has a mistake here. This is based upon my re-transcription based upon a section that is somewhat inaudible. See: Mark Zuckerberg, "*Mark Zuckerberg Discusses the Election, Newsfeed, AI, and more at Techonomy 2016,"* moderated by David Kirkpatrick, by Techonomy Media, December 1, 2016, Youtube, https://www.youtube.com/watch?v=WLcYugM68aU&t=1892s

[629] Mark Zuckerberg, "Zuckerberg Facebook post about Preparing for Elections" *Zuckerberg Transcripts* 845, (2018).

[630] Stanford University, "James Breyer / Mark Zuckerberg Interview, Oct. 26, 2005, Stanford University," *Zuckerberg Transcripts*, 116, (2005).

speaking about the development of AI, Zuckerberg again explains that "While I expect this technology to improve significantly, it will never be finished or perfect."[631]

To make sense of the world around them, and the products that they had constructed over a decade or so, Zuckerberg and his colleagues drew upon and wielded a set of concepts and a vocabulary that had been developed by cybernetic thinkers' decades earlier. I do not here make an argument that actors in Facebook were consciously drawing on cybernetics. [632] Rather, certain dimensions of cybernetic imagining became a conceptual resource for actors in Facebook; it was through this resource that Facebook actors could make sense of and depict the world around them, and their own relationship to it. Primarily, actors in Facebook adopted an analogous ontological framework which Wiener had pioneered (See Chapter 4 (4.3)), the blurring of the human and non-human into single, fluid systems. In a process analogous to Wiener's own development of cybernetics, actors in Facebook began with more focused and limited systems, socio-technical systems, and from these particular cases, embraced a far more radical, totalizing and expansive mindset. The whole of society and even the universe could be reimagined as being comprised of systems of various type and size, consisting of flowing information, and with a potential for optimisation.

With their system of continuous data extraction and algorithmic processing, actors in Facebook understood themselves to be viewing what Wiener feared might be impossible, the "circular processes of feedback" that bind together social communication.[633] Although Wiener had doubts that this cybernetic approach could ever truly understand and reconstruct the flow of sociality, actors in Facebook understood themselves to be accumulating and possessing the vast swathes of data that would be needed to make sense of the social system. Whilst Wiener used cybernetics to warn of the power that could occur through the production and manipulation of systems, and the dangers that a social-democratic society, and an organised labour face, faced from it, actors in Facebook wielded this language and concepts to depict the power that they were accruing, and their own ability to optimise the world. Facebook's fixation with moving quickly without thinking about future consequences, its

[631] Mark Zuckerberg, "Zuckerberg Facebook post about A Blueprint for Content Governance and Enforcement," *Zuckerberg Transcripts* 857, (2018).
[632] There is some evidence that Zuckerberg would have been familiar with Wiener's brand of cybernetics. In 2015, Zuckerberg recommended the book *The Information* to his Facebook followers. In it are sections discussing and exploring Wiener's brand of cybernetics, alongside other information theorists. James Gleick, *The Information: A History, a Theory, a Flood*, (Fourth Estate, 2012).
[633] Norbert Wiener, *Cybernetics: or Control and Communication in the Animal and the Machine,* (MIT Press, 1948), 24.

focus on expansion globally over and above all competitors, and its use of algorithmic systems to extract information and reconstruct and reengineer sociality, was exactly what Wiener worried about: the power of systems-engineering in the hands of a company motivated by the logics of the market, rather than other social-democratic values.

7.1.3 From Scientific Methods to Naturalising Systems

Actors in Facebook consistently turned to the language of science to represent the products that they were building, and to defend their own activities. As already noted, Facebook engineers depicted themselves as following a scientific methodology of hypothesis, experiment, and measurement. This attempt to depict Facebook as a company following the ethos of scientific rigour went right to the top of the company. In 2010, whilst speaking to Sam Altman for the start-up accelerator Y Combinator, Mark Zuckerberg explained that "Companies are learning organisms and you can make decisions that either make it so that you learn faster or you learn slower. And, you know, in a lot of ways building a company is like following the scientific method."[634]

Scientific language was not only used to explain what actors in Facebook considered themselves to be doing, but to legitimate their actions. Speaking to shareholders in 2015, Mark Zuckerberg explained that "we care a lot about contributing to the knowledge base of the world".[635] Actors in and around Facebook explicitly and consciously sought to place Facebook within a wider history of scientific discovery and progress. Representing Facebook's activities and products through scientific vocabulary, or through analogies between the company and scientific institutions and methods, worked to place Facebook alongside notions of objectivity, neutrality, and ultimately the search for greater knowledge. Dozens of Facebook blogs represent the company's activities through the use of scientific vocabulary. Readers are told that Facebook's work exists as part of the history of empiricism and scientific realism, "Realism is driven by accurate data, which requires good measures" so in Facebook "the cornerstone is measurement"[636].

[634] Mark Zuckerberg, "Mark Zuckerberg: How to Build the Future," *Zuckerberg Transcripts* 171, (2016).
[635] Facebook, "Facebook 2015 Annual Stockholder Meeting," *Zuckerberg Transcripts* 240, (2015).
[636] Meta, "Facebook is building the future of connection with lifelike avatars," *Meta Blog,* March 13, 2019, https://tech.facebook.com/reality-labs/2019/3/codec-avatars-facebook-reality-labs/.

In language reminiscent of the earliest empiricists, such as Francis Bacon, Facebook discourse consistently emphasised the importance of experimentation and measurement. Bacon's scientific method relied upon a division between scientific researcher and 'nature'. Nature, separated from the scientist, was depicted as something that could be controlled, experimented upon, and even tortured in order to force it to reveal its secrets, and to harness it for use and for work.[637] In Facebook discourse, whilst the company is envisioned as following a tradition of scientific methods, the systems that the company were building and experimenting upon, were similarly 'naturalised'. Actors in and around Facebook sought to naturalise the objects of its 'scientific' experimentation, placing mass social interactions within the category of 'nature', and thus following Bacon, within a category of naturalised phenomena to be controlled and experimented upon.

From at least 2010, Mark Zuckerberg began framing Facebook products as not only 'platforms' but as 'ecosystems'. In 2010, Zuckerberg noted that "we've designed this whole ecosystem in a way where we just think it's going to get a lot better over time if there's a large creative element to it." Already we can see how the term 'ecosystem' is often combined with 'wholeness', with the imagined ability to view 'the whole'. This term is widely used throughout the next decade of Facebook's discourse. In 2014, Mark Zuckerberg talks of 'the mobile ecosystem'[638], in 2015, 'a whole communication ecosystem'[639], in 2016 'the ecosystem of video content'[640], and in 2020 'a growing ecosystem of developers'.[641]

Speaking at the F8 conference in 2016, Mark Zuckerberg told his audience of developers and media officials:

> "So now let's talk about the next five years, and we're gonna build ecosystems around our products that are already starting to be used by lots of people…Messenger just passed nine hundred million, monthly actives. And now, between messenger and WhatsApp, people are sending about sixty billion messages a day."[642]

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[637] Here I am drawing on Feminist critiques of Bacon's writings. See: Sandra Harding, *Whose Science? Whose Knowledge?* (Cornell University Press, 1989), 19-50.
[638] Mark Zuckerberg, "2014 F8 Developer Conference," *Zuckerberg Transcripts* 149, (2014).
[639] Facebook, "Facebook Q1 2015 Earnings Call," *Zuckerberg Transcripts* 230, (2015).
[640] Facebook, "Facebook Q4 2016 Earnings Call," *Zuckerberg Transcripts.* 285, (2017).
[641] Facebook, "Facebook Q4 2016 Earnings Call," *Zuckerberg Transcripts.* 285, (2017).
[642] Mark Zuckerberg, "Mark Zuckerberg's Keynote @ Facebook F8 2016," *Zuckerberg Transcripts* 172, (2016).

Ecosystem here refers to the totality of parts that interact with and through Facebook products, not only Facebook users, but also advertisers and developers. It includes the human and the non-human; the individual users but also the vast swathes of behavioural data being produced, analysed, and then repurposed into new products and constantly adapting algorithms, and the companies and businesses that seek the benefits of microtargeting. The previously hidden patterns that enable advertisers to target certain identities and characteristics, all exist within the ecosystem's cycle. In meetings with investors and speeches to developers, Facebook users are termed 'actives'. Within each ecosystem, the "organic" behaviour of 'actives' is induced for the purpose of ever-more engineering, surveillance, and aggregation.[643]

The use of ecological terms and imagery was used to naturalise the products that Facebook was producing, along with their extractive methodologies and business models. Ecosystems are imagined as almost flowing lifeforms in themselves that require attention, conservation, and engineering towards certain outcomes. Ecosystems are, in a sense, worlds in themselves, self-contained wholes that simultaneously, from the perspective of Facebook actors, require the outside engineer or conservationist to keep them "healthy" and balanced, progressing in the right direction.[644] Indeed, ecosystems have their own life path. Initially, they must be nurtured and seeded, before requiring conservation. Zuckerberg justified their investment of billions of dollars to creatives, "That's why we're investing so much capital in content to seed the ecosystem."[645] This sustainability is crucial for the continuation of the data that, it promised, would lead to ever more accurate and measurable advertising, and with it the sustainable harvest of profits. With ever-more data, and ever-improving computing power and machine learning, the future is one in which human-behaviour becomes ever-more knowable.

So, what did this language offer actors in Facebook? Here, I make three suggestions. Firstly, the language of nature and sustainability helped to again legitimate Facebook's products. It depicted actors in Facebook as something akin to conservationists, protecting natural and complex interactions and flows. It erased the artificial and instead elevated the imagery of nature to the heart of Facebook's products. As Chapter 4 (4.2) shows, the language of nature

[643] Computer History Museum, "The Facebook Effect (interview with Zuckerberg and Kirkpatrick)," *Zuckerberg Transcripts* 30, (2010).
[644] Casey Newton and Mark Zuckerberg, "Verge Interview - Zuckerberg on Facebook Metaverse" *Zuckerberg Transcripts* 1424, (2021).
[645] Facebook, "Facebook Q4 2016 Earnings Call," *Zuckerberg Transcripts* 285, (2017).

has a long history of being wielded so as to legitimate the artificial. How the language of nature is wielded, differs in different discursive contexts. So, for example, in the late 19th century the telegraph were depicted with metaphors of the nervous system and the social organism. In the early 21st century, actors in Facebook instead turned to the language of sustainability, conservation and ecosystems.

Secondly this language conceals the political and social dynamics, and the antagonism, that inevitably exist in social interactions. User activity in the ecosystem is depicted as a part within a larger totality that flows, interrelates and interacts. Instead of the political, there is only movement and flux. This erasure of the political, I suggest, emerges from the imagined positionality of viewing 'the whole', of the separation between the viewer and those inside these ecosystems. This brings us to the final point. Lurking behind this vocabulary is the presence of the Facebook engineer, their positionality as the creator, viewer, and optimiser of these ecosystems. Under Facebook's articulation, the language of ecology and sustainability is premised upon a particular positionality. It suggests a position of the viewer, the intervener, and the engineer as outside the ecological system, watching over it, and conserving it for the purpose of reaching certain goals.

7.2 The God Trick

What emerged from Facebook's particular systems-perspective, I suggest, was an emergent imagined God-like perspective. As their systems perspective spread from data engineering to all dimensions of life, human and non-human combined, what emerged was not only the system but also the engineer, imagined as existing outside the system, with a total perspective on the system as a 'whole'. Moreover, as systems came to be depicted as 'ecosystems', gaining a naturalistic shrouding, the engineer comes to sit outside this nature, gaining a God-like positionality and view.

Donna Haraway describes the fantasy of "seeing everything from nowhere" as "the God-trick".[646] It provides a fantasy of universal objectivity, of sitting outside time and space, to truly see a thing as it is. Whether it is a system the size of planet earth or the smallest part of

[646] Haraway, "Situated Knowledges," 581.

an atom, Haraway argues that the assumed "infinite vision" that can emerge from seeing these systems "is an illusion".[647] Haraway goes on to explain that

> "Only those occupying the positions of the dominators are self-identical, unmarked, disembodied, unmediated, transcendent, born again…Knowledge from the point of view of the unmarked is truly fantastic, distorted, and irrational. The only position from which objectivity could not possibly be practiced and honoured is the standpoint of the master, the Man, the One God, whose Eye produces, appropriates, and orders all difference."[648]

We can see evidence of this 'God Trick' within the history of American computer culture. The historian Fred Turner shows how cybernetics pervaded American counterculture and cyberculture through the influential Whole Earth Catalog, a catalogue of product listings, DIY instructions and countercultural ideas.[649] Produced by Stewart Brand and his team of volunteers, the WEC became influential amongst the communes of America, but also for early computer hobbyists, such as the Homebrew computer club in Palo Alto. For both historians of computer culture,[650] and figures such as Steve Jobs,[651] the WEC was a foundational document for how groups of proto-hackers and computer enthusiasts came to communicate and understand themselves. The *Whole Earth Catalog*, with its embrace of systems-thinking and cybernetics, is remarkable evidence of this God Trick. In the first page, it reminds readers and users that they "are as Gods" and so they "might as well get good at it."[652] Wielding a systems-perspective influenced by cybernetics, Brand encouraged people to see computers and societies as analogous systems. From this vantage point, Brand promised his readers the ability to see "the whole" and imagine themselves outside of it. Individuals were depicted as holding the transformative power to claim their God-like agency, and to reshape the world around them.[653]

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[647] Haraway, "Situated Knowledges," 582.
[648] Haraway, "Situated Knowledges," 587.
[649] Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism,* (University of Chicago Press, 2006).
[650] Turner, *Counterculture to Cyberculture;* John Markoff, *Whole Earth: The Many Lives of Stewart Brand*, (Penguin, 2022).
[651] Steve Jobs, "Steve Jobs' 2005 Stanford Commencement Address," June 12, 2005, posted March 8, 2008, by Stanford University. Youtube, https://www.youtube.com/watch?v=UF8uR6Z6KLc.
[652] *Whole Earth Catalog: Access to Tools,* Fall 1968*, https://wholeearth.info/p/whole- earth-catalog-fall-1968.*
[653] Solomon Katachie and Asher Kessler, "Imagining Identity in Meta's Metaverse: A Genealogy of Imagined Future Realms in Computer Culture," *Communication, Culture and Critique* 17, no. 4 (2024): 326–335, https://doi.org/10.1093/ccc/tcae015.

Here, I suggest that actors in Facebook emerged with a similar imagining of their own positionality. For many readers of the *Whole Earth Catalog* in the early 1970s, they used this perspective to found and inhabit new communes and imagine new ways of living together. In a sense, this God Trick became intertwined with the settling of land and the habitualising of a new way of being. For actors in Facebook, as this God-like positionality emerged, they came to see themselves as successfully reconstructing, engineering, and controlling ecosystems of sociality on a vast scale. Actors in and around Facebook came to depict themselves as gaining the ability to see 'the whole', and with this knowledge, they could optimise and direct whole worlds in directions that they saw fit. I suggest that in Facebook discourse, the imagined position of the engineer came to be talked about as almost 'God-like' in the knowledge and power it had over its ecosystems, and with it the intentions and behaviour of its users. It is not only that Facebook engineers created these 'ecosystems' that contained and sustained human behaviour, but that they understood themselves to be constantly testing different signals on users and tracking their reactions. Facebook users were to be tested upon and actors in Facebook were the ones who received the privileged insight into the malleability of human behaviour, as well as the previously unknown relationship between different parts of this new whole ecosystem.

In the following two sections, I argue that this emerging imagined 'God-like' positionality, manifested itself in the construction and pursuit of two of the company's missions: to gain total knowledge of the world, and to reconstruct the universe itself.

7.2.1 To Understand the World

By 2013, Facebook had over one billion users and was accumulating an enormous amount of data on how their users interacted with Facebook, and more broadly across the internet. For actors in Facebook, that data was being transformed into knowledge and used to optimise products and connect identities and characteristics with advertisers. Against this backdrop, speaking to shareholders only a year after Facebook's IPO, Mark Zuckerberg set out Facebook's "next big ambition". Alongside "connecting the world" and building "the

knowledge economy", Zuckerberg announced that Facebook sought to "understand the world".[654] In the next shareholder meeting, Zuckerberg explained this mission in more detail:

> "What I mean by this is that everyday people post billions of pieces of content and connections into the graph. In doing this, they are helping to build the clearest models of everything there is to know in the world. A big part of why this works is that people can share things with any audience they want. They don't have to share publicly with everyone at the time, they can share with just their friends, so this means that the model of the world that people are building our systems include things that people only want to share with just a few people. This has the potential to be really powerful."[655]

In startingly ambitious language, Zuckerberg explained that Facebook could "build the clearest models of everything there is to know in the world." With its system for capturing people's very personal data, Zuckerberg anticipated the creation of not only more accurate models of sociality, but of the totality of human knowledge. Moving on in the shareholder's meeting, Zuckerberg emphasised that Facebook's goal to understand the world would gain momentum through the formation of the 'Facebook AI Group'.[656] Zuckerberg explained that Facebook's AI team would "help make sense of all the content that people share so we can generate new insights about the world to answer people's questions."[657] The AI team's goal, Zuckerberg noted, "is really just to try to understand how everything on Facebook is connected".[658] With its vast swathes of data, and the potential of AI, connections and knowledge that had previously been undiscovered would emerge.

Three years later, in 2016, Facebook had dropped its official mission to understand the world, with the teams working on this goal incorporated in the company's increased focus on AI and the knowledge it could produce. In a 2016 Facebook post on the state of AI, Zuckerberg emphasised that "Many different problems can be reduced to pattern recognition tasks that sophisticated AIs can then solve."[659] Zuckerberg here is articulating an alternative way of

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[654] Facebook, "Facebook Q2 2013 Earnings Call," *Zuckerberg Transcripts* 238, (2013).
[655] Facebook, "Facebook Q3 2013 Earnings Call," *Zuckerberg Transcripts* 236, (2013).
[656] Ibid.
[657] Ibid.
[658] Facebook, "Facebook Q4 and Full Year 2013 Earnings Call," *Zuckerberg Transcripts* 235, (2014).
[659] Mark Zuckerberg, "Zuckerberg Facebook post about Summary of the State of the AI Field," *Zuckerberg Transcripts* 526, (2016).

imagining how new knowledge will emerge, one that is quite different from a traditional scientific method. Rather than constructing a hypothesis and then using data to test the validity or invalidity of that hypothesis, actors in Facebook boast of the prospect of AI finding patterns, connections, and knowledge that humans simply couldn't or didn't preconceive. With their vast stores of data, and the development of AI systems for finding unintuitive and previously hidden patterns, actors in Facebook placed themselves at the frontier of knowledge and discovery but through means that exceeded traditional science. In reconstructing sociality through computation, Facebook had created a means for producing, extracting, and analysing, enormous swathes of data. Simply in building this, actors in Facebook imagined themselves as having advanced the means for knowledge production. With the introduction of AI, however, Facebook actors imagined the possibility of accelerating the type of knowledge that could be produced from this system.

We ought to comprehend Facebook's public longing to 'understand the world' alongside a much deeper history of scientific imagining in the West. In Francis Bacon's 1621 utopian work *New Atlantis,* for example, Bacon imagines a society structured around and in reverence to an institution known as Salomon's House. Salomon's House seeks to understand "the knowledge of Causes, and secret motions of things; and the enlarging of the bounds of Human Empire, to the effecting of all things possible."[660] Centuries later, actors in Facebook seek to depict themselves as attempting to understand the knowledge of all things, to use AI to process and draw attention to secret patterns, and to use this knowledge to expand their own company. For Facebook, the aim was not the knowledge of 'causes' of things but instead of the occurrence of patterns. It didn't matter to understand why a thing might be happening but, instead, to understand that it reliably was occurring, and then to harness this knowledge for their own purposes.[661] Whilst Facebook wouldn't use the term 'Human Empire' they did depict themselves as consciously adding to the "knowledge base of the world" and, as we saw in Chapter 5, as spreading the internet and enlarging their own social network to encompass the entire globe.

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[660] Francis Bacon, "New Atlantis," in *Three Early Modern Utopias,* ed. S. Bruce, (Oxford University Press, 2008 [1626]), 177.

[661] Here Facebook's discourse reflects Chris Anderson's thesis in 'the end of theory'. For Anderson, the emergence of big data analytics was leading to a new revolution in the scientific method. No longer would scientists need to begin with a hypothesis or theory to direct their research. Instead, the analysis of big data sets would make visible patterns and knowledge that was previously hidden, without oversight from theoretical considerations. Chris Anderson, "The End of Theory," *Wired,* June 23, 2008, https://www.wired.com/2008/06/pb-theory/

Facebook's initial goal to understand all that could be known about the world reflected how actors in the company came to see themselves as holding the potential for God-like knowledge. Whilst Facebook eventually dropped this ambitious wording, the ethos behind it did not disappear. As Facebook's AI research team inherited the knowledge-production mantle, the desire to understand the world emerged in other Facebook research labs. As we shall see in the next section, it was particularly important as actors in the company not only sought to understand the world, but also to reconstruct it entirely.

7.4.2 To Reconstruct the Universe

In its early years, as already noted, actors in Facebook were concerned with the reconstruction of sociality through its models and, with the help of data extraction and algorithmic automation, through its own live system. As Facebook expanded into new domains, particularly VR, AR and AI, its ambitions grew. The systems it attempted to reconstruct also shifted. If Facebook could reconstruct the human social system, why could it not go one step further and reconstruct the entire universe?

In 2017, whilst Facebook was reeling from several scandals, the company continued to invest huge resources into the technologies it believed would shape the future. For Facebook, this largely meant vast investment into researching and developing VR, AR and AI. Three years earlier, in 2014, Facebook had purchased the VR company Oculus, which by 2017 was being partly led by its Chief Scientist Michael Abrash. In his 2017 blog *Inventing the Future,* Abrash introduces the reader to Facebook's 'Surreal team', located in Oculus, which, he explains, is concerned with the most "cutting-edge" research:

> "Ultimately, all of the Surreal team's work is directed toward answering a fundamental question: what is it possible to know about the world? What happened in the past; what can we know about the present; what can we predict about the future? Assuming we're not in the Matrix, there's a world of real things out there, but we only

> know about them by the various bits of information, such as sound waves, scents, and photons, that they transmit to our eyes, ears, nose, and so on."[662]

In language reflective of the enlightenment scientific tradition the company placed itself within, Abrash revealed that the 'Surreal Team's' continued ambition was to know all that is possible to know about the world. Knowledge is framed within temporal categories; it is the accumulation and analysis of the past into and alongside the present. This past is directly connected to, and indeed finds its use through its ability to inform our prediction of the future. Knowledge though has two potential limitations. Firstly, the chance (here framed in science fiction language) that the information we receive is faulty or deceitful. Secondly, knowledge is limited to the extent that humans can ingest and analyse information. The blog goes on to introduce us to the leader of the 'Surreal team', Richard Newcombe:

> "Richard's interest lies in extracting the maximum amount of information from those traces. That's really what computer vision is about: sensing energy from the real world—photons landing on a camera sensor, for example—then evaluating the probabilities of various possible states of the sensed region of the world in order to reconstruct the most probable one. (That's exactly what our own perceptual system does; optical illusions are simply instances where the most probable state happens to be wrong.) Thus, the process of reconstructing the state of the world is sometimes referred to as "collapsing the probability distribution."[663]

To understand all that can be known, the Surreal team attempted to adopt a methodology that would extract the maximum amount of information feasible, and then, using computing power, attempt to reconstruct the most possible state of the world inferred from that information, in a way that mimicked the human perceptual system. The total reconstruction of the state of the world, we are told, is called 'collapsing the probability distribution'. Newcombe, the blog goes on "leaned conspiratorially, a gleam in his eye, and said "What I'm really trying to figure out is how to collapse the probability distribution for the entire universe.""[664]

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[662] Michael Abrash, "Inventing the Future," *Meta Blog,* October 11, 2017, https://tech.facebook.com/reality-labs/2017/10/inventing-the-future/.
[663] Ibid.
[664] Ibid.

Thus, Abrash reveals to us a second startling ambition, not only knowing all that there is to know, but the actual reconstruction of the entire universe. In fact, Abrash is revealing Facebook's mission to reconstruct two fundamental systems at once. Not only was Facebook attempting the total reconstruction of the entire universal system into manageable data, but also the reconstruction of the system by which human bodies sense, understand, and interact with the external world. These two ambitions – true understanding and total reconstruction - are directly intertwined, linked together by what we might call 'maker's knowledge'.[665] Maker's knowledge is the argument that the best, and perhaps only way to understand Y is the creation or reconstruction of Y. Y could refer to a computer, an ecosystem, or at its most ambitious, an entire world or universe. This ambition and methodology emerges from, and is suffused with, a particular perspective; that of being outside or external from that system being understood or reconstructed.

Four years later, whilst setting out his vision of the metaverse, Mark Zuckerberg promised the audience that soon "a lot of us will be creating and inhabiting worlds that are just as detailed and convincing as this one on a daily basis."[666] Speaking at the same event, Michael Abrash emphasised Facebook/Meta's determination to produce "high fidelity, real time rendering of the space and the moving objects" that one interacts with in the world.[667] Doing so would, Abrash went on, enable Facebook/Meta to index "every single object" in the world, "including not only location but also the texture, geometry and function of each one" helping to produce a real-time 3D Map and reconstruction of the world. In a demonstration, Abrash shows the company's then technological ability to extract and analyse data in real-time in a limited closed system, such as an apartment, and use it to reconstruct this space for its VR and AR systems.

With their systems perspective, and their experience of building 'ecosystems', worlds of sociality and data that they imagined themselves viewing from the outside, and engineering in certain directions, actors in Facebook/Meta came to see the entire universe as a similar system. With their vision of the metaverse, actors in Facebook/Meta claimed that what they were building was nothing less than a new reconstructed and programmable world, which

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[665] Luciano Floridi, "What a maker's knowledge could be," *Synthese* 195, (2016): 465-481, http://doi.org/10.2139/ssrn.3832007.
[666] Mark Zuckerberg, "Connect 2021 Keynote: Our Vision for the Metaverse," *Zuckerberg Transcripts* 1460, (2021).
[667] Ibid.

could be optimised and manipulated to induce new experiences and new laws of nature. Instead of working on the world to shape it to our needs and desires, in this reconstructed universe one could simply design it to fit our fantasies, whether of teleportation or superhuman powers. Across several blogs, Facebook/Meta invited users "to explore an ever-expanding universe of virtual experiences".[668] The company portrayed its flagship metaverse software interface, Horizon, as a proto-space which would enable people "to build your own world and experiences" as this virtual universe continuously grows and expands. [669] In a Facebook post about VR, Mark Zuckerberg announced that "I can't wait to start working with the whole team at Oculus to bring this future of the world, and to unlock new worlds for all of us."[670]

Like the 'News Feed', and Facebook's system for data accumulation and knowledge production, the metaverse would provide actors in Facebook/Meta with unprecedented new swathes of data. Facebook/Meta could hope to extract the data of how humans interact with and respond to the world that they sense around them. If the Facebook social network captured our mediated social life for data extraction, then the metaverse would capture the latent and emergent data of how a person exists and is in the world.

Actors in Facebook/Meta would hold a different position to all of the users of the metaverse. Instead of being surveilled and aggregated, they would be the ones who not only created this world, but were everywhere within it, seeing everything that was going on, and engineering and optimising this world in directions that they would claim to be 'healthy' and 'balanced'. The select few at Facebook/Meta would claim the perspective and power that at least when concerned with this scale of constructing the entire universe, has historically been reserved to God. This analogy to God is directly taken up and pursued by early Facebook investor and board member Peter Thiel. In Zero to One, Thiel argued that, "humans are distinguished from other species by our ability to work miracles. We call these miracles technology.[671] The power that technology offers us, Thiel suggested, can only be made sense of through comparison to religious miracles. He goes on to explain why:

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[668] Meta, "Facebook Horizon Welcomes Its First Virtual Explorers" *Meta Blog,* August 27, 2020, https://about.fb.com/news/2020/08/facebook-horizon-welcomes-first-virtual-explorers/.
[669] Mark Zuckerberg, "Live from Oculus Connect 6 talking about the future of virtual and augmented reality," *Zuckerberg Transcripts* 1108, (2019).
[670] Mark Zuckerberg, "Zuckerberg Facebook post about Oculus VR," *Zuckerberg Transcripts* 122, (2014).
[671] Peter Thiel and Blake Masters, *Zero to One,* (Random House, 2014), 1.

> Technology is miraculous because it allows us to do more with less, ratcheting up our fundamental capabilities to a higher level. Other animals are instinctively driven to build things like dams or honeycombs, but we are the only ones that can invent new things and better ways of making them. Humans don't decide what to build by making choices from some cosmic catalog of options given in advance; instead, by creating new technologies, we rewrite the plan of the world.[672]

What is miraculous, Thiel suggests, is that through the conception of technology, humans can not only do more with less, and in a sense lead to their own self-development, but can 'rewrite the plan of the world.' Thiel's premise here, and indeed, his main premise of the book, is that the world is reshaped through the power of true creation, through going from Zero to One. Humans gain the power of miracle-making through their power over creation; through the creation of technology to reshape the world in a new image:

> Of course, it's easier to copy a model than to make something new. Doing what we already know how to do takes the world from 1 to n, adding more of something familiar. But every time we create something new, we go from 0 to 1. The act of creation is singular, as is the moment of creation, and the result is something fresh and strange.[673]

7.3 Fragments Concealed, Horizon Contested

In Chapter 2 (2.1), I draw on Gramsci to develop a framing of power based upon the concept of hegemony. Here I suggested that a hegemonic horizon always exists in a state of contestation with other less dominant ways of thinking about and being in the world.[674] Further, I argued that this contestation materialises in a process of concealment, in which an ascendent horizon attempts to obscure and cover over less-dominant ways of being in and rationalising the world. However, in this thesis I have so far focused entirely on one ascendant horizon of thought, one particular way of depicting and structuring the world, and

[672] Ibid.
[673] Ibid.
[674] Antonio Gramsci, *Selections from the Prison Notebooks,* ed. Q. Hoare and G. N. Smith, (International Publishers, 1971).

how it emerged through Facebook's discourse. What I have not yet made explicit were the alternative ways of being in and rationalising the world, the fragments of common sense, which were concealed and erased in this process. Here then, I briefly consider not only the concepts, logics and language which Facebook's discourse came to naturalise and universalise, but the other ways of seeing and other forms of collectivity, it overrode and faced contestation from.

In his Prison Notebooks, Gramsci suggests that all common senses, including the less-dominant, are never wholly coherent, but instead "fragmentary".[675] With this in mind, I want to begin by considering several fragmentary alternative ideas, ways of seeing and structuring the world which, I suggest, were overwritten and obscured by Facebook's own discourse. I connect these ideas to certain acts of protest, contestation, and rebuff which Facebook faced over these two decades from activists and institutions. I then finish by questioning the extent to which these counter-hegemonic ideas might constitute a less-dominant horizon.

7.3.1 Coloniality, Experimentation and the Human Subject

To begin with, I suggest that what this Big Tech horizon concealed was an alternative framework for understanding the human being, and its place in the world. We might describe this as a broadly humanist perspective in which human beings do not exist as objects for others' experimentation, nor as sources from which to extract information. From this perspective, neither the logics of producing profit nor of producing actionable knowledge legitimate such experimentation and extraction.

As we explored in Chapter 4 (4.1), the early development of empiricism and the scientific method obscured and masked over what was previously taken to be given: that 'nature' didn't exist as an object of experimentation. In his writings, Francis Bacon expressed an emerging scientific worldview as much as he did a method, and this worldview depicted 'nature' as something that ought to be controlled and manipulated in order to reveal knowledge that could then be put to use, put to work, and instrumentalised.[676] However, from its very beginning there was a contradiction in this scientific worldview as to where 'human beings'

[675] Gramsci, *Prison Notebooks,* 419.
[676] Francis Bacon, *Francis Bacon: The New Organon,* ed. L. Jardine and M. Silverthorne, (Cambridge University Press, 2000 [1620]), 101.

ended and ‘nature’ began. Conjoined with a colonial framework, this worldview enabled the experimentation and extraction of human beings, along with wider ‘nature’. In its deriding of Aristotelian scholasticism, and overriding of renaissance humanism, this scientific worldview covered up alternative frameworks for interacting with the world; horizons that were not founded on the right to exploit and vex nature in order to produce knowledge for the purpose of discovery and the relentless search for ‘the new’. In covering up other horizons, Bacon’s worldview also erased the value of non-instrumental questions that sought meaning rather than discovery.

The Big Tech horizon reaches towards and reassembles the logics and impulses of Baconian empiricism, as well as the language of the scientific method. Facebook legitimated its own constant experimentation on people and the social systems in which they live, by shrouding this in the language of nature, as ecosystems that needed to be managed and conserved. Whilst Facebook emphasised their place in the tradition of scientific progress, they concealed and obscured the extractive and exploitative foundations that have always been embedded in this worldview, and in the company’s own practice and discourse. Social interaction, the fabric of what it means to be human, was transformed into something that could be extracted and experimented, and depicted as any other natural resource. In this horizon, it became almost inconceivable that a social media company could treat its users in another way.

Over these two decades, this Big Tech horizon faced pushback over its treatment of the human subject. On this underlying issue, the most developed critiques often came from academia. Julie Cohen, for example, highlighted how information space, including the information patterns produced by people as part of social systems, was being treated by Facebook as ‘empty space’, analogous to earlier colonial territory, that Facebook could occupy and settle.[677] Nick Couldry and Ulises Mejias drew on decolonial thinkers such as Aníbal Quijano to connect this exploitation and extraction of information space to a broader history of colonialism and coloniality.[678] Meanwhile, Shoshana Zuboff argued that Big Tech companies, such as Google and Facebook, had produced an information and surveillance

[677] Julie. E Cohen, *Between Truth and Power: The Legal Constructions of Informational Capitalism,* (Oxford University Press, 2019), 48-74.
[678] Aníbal Quijano, “Coloniality and Modernity/Rationality,” *Cultural Studies* 21, no. 2-3 (2007): 168-178, https://doi.org/10.1080/09502380601164353; Nick Couldry and Ulises, A. Mejias, *The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*, (Stanford University Press, 2019)

leviathan which systematically extracted people's data and manipulated them in order to produce greater profit.[679]

7.3.2 Information Space and Social Democracy

In Chapter 4 we saw how developments in cybernetic thought helped produce an ontological framework which diminished the boundaries of the autonomous human subject, and made visible new forms of circulating flows of information. This framework was accompanied by a vision of control based upon the construction and engineering of feedback systems, of circular and potentially enormous currents of information. Control came less from manipulating nature in order to find truth, and more from optimising socio-technical environments in order to build systems.

In this Big Tech horizon, Facebook actors adopted and reassembled elements of this cybernetic ontological framework, whilst discarding and obscuring the concerns that initially accompanied these frameworks. In this historical process of inheritance, what came to be ignored and erased were the real warnings of people like Norbert Wiener over the potentially dire consequences for social and political life, for the prospect of work, and of democratic institutions, if companies motivated by profit were allowed to harness information systems and manipulate information space.

In the later years of this period, this Big Tech horizon faced deep contestation over this concealment, over the consequences to social democratic institutions when information space is manipulated. Most prominently, whistleblowers made visible the power that Facebook had accumulated over its users. In the Cambridge Analytica scandal of 2018, Facebook faced perhaps its most significant crisis over the company's engineering of social systems and people's data.[680] In these revelations, Facebook faced accusations of enabling the manipulation of elections worldwide, in Brazil, Kenya, Malaysia, the UK and the US. Three years later, another whistleblower, Frances Haugen, showed in *The Facebook Files* how the company knowingly manipulated people's data and encouraged self-loathing amongst

[679] Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, (Profile Books, 2019).
[680] Carol Cadwalladr and Emma Graham-Harrison. "Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach," *The Guardian,* March 17, 2018, https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election.

teenage girls in order to produce greater profit.[681] These whistleblower accounts pushed back against this Big Tech horizon and made visible the uncomfortable consequences of Facebook's social infrastructure.

7.3.3 Information, Materiality and Violence

Here we arrive at a third fragment which this Big Tech horizon concealed, namely that information can't be entirely separate from its material instantiation, from its context and its body. As Chapter 4 (4.3) notes, the artificial division between information and materiality emerged with the rise of cybernetics and information theory. This division enabled Facebook discourse to obscure the idea that people might have some right over, or fundamental relationship to, the information they produce as part of a social system. Entirely separating information from the person, enabled actors in and around Facebook to mask that they were dealing with and experimenting upon human beings, rather than just data.

It is this masking that enabled Facebook actors to treat human beings as components of data within broader and previously invisible flows of information, and to extract and exploit those information patterns, which remained invisible to the people being experimented on. Early on, as this ascendant horizon was emerging in Facebook's discourse, the company faced contestation over this issue, primarily through the prism of privacy. As early as 2007, Facebook users protested over the News Feed's manipulation of user data, and of Facebook's Beacon product. This protest led to the company's first official apology to its users and to the world, and to Facebook winding down and eventually withdrawing Beacon.[682] Again in 2010 and 2011, Facebook faced privacy protests and felt under enough pressure that they had to respond, if only temporarily, to this concern.[683]

Making invisible the relationship between information and context, between data and bodies, also aided the concealment of the violence that accompanied the construction and expansion of Facebook's algorithmic systems. By violence, I refer here to both the material violence that

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[681] Wall Street Journal, "the facebook files: A Wall Street Journal investigation," September 2021, https://www.wsj.com/articles/the-facebook-files-11631713039.
[682] Mark Zuckerberg, "Thoughts on Beacon," *Zuckerberg Transcripts*. 14, (2007); Eric Auchard, "Facebook alters notifications after privacy furore," *Reuters,* November 30, 2007, https://www.reuters.com/article/technology/facebook-alters-notifications-after-privacy-furore-idUSN29257361/
[683] Mark Zuckerberg, "From Facebook, answering privacy concerns with new settings," *Zuckerberg Transcripts* 26, (2010).

occurs as a result of Facebook use, but also to the "symbolic violence" embedded in this hegemonic horizon.[684] In her concept of "data violence", Anna Lauren Hoffman suggests that platforms enact symbolic violence by disrupting "ways of being", spreading new norms of behaviour and patterns of social interaction, which in turn lead to increased vulnerability.[685] In this thesis, I suggest that this hegemonic horizon, which entrenches norms of extraction and scalable expansion, conceals the symbolic violence produced through it.

7.3.4 Spatial Ordering and Destruction

Based upon the artificial division of information and context, Facebook actors could portray their own expansion through the language of scalability, and construct an image of expansion as clean and seamless. Anna Tsing stresses that, away from any fantasy of cleanliness, scalable expansion actually leaves behind "mounting piles of ruins" as it forces the external world to fit through its imagined seamless and frictionless mathematical relations.[686] Just as the language of colonial expansion and growth hid the violence that occurred alongside this discourse, the language of scalability obscured the destruction that occurred in Facebook's own expansion.[687] This horizon concealed how Facebook's scalable expansion relied on the erasure of friction, of anything that didn't fit seamlessly into its reordering of space. In Facebook's case, this included the inefficient and fragile ways in which people lived amongst each other. Against this discourse, activists, workers and institutions contested Facebook's expansion and the violence that was occurring through it. Take for example, the legal struggle undertaken by the hundreds of Kenyan workers against Facebook after they developed Post Traumatic Stress Disorder (PTSD) from working as content moderators for the company.[688] In this case, Facebook's expansion, and reorganisation of sociality and global space, could only be sustained through institutional practices that required the traumatisation of workers.

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[684] Anna L. Hoffman, "Terms of inclusion: Data, discourse, violence," *New media & society* 23, no. 12 (2021): 3539-3556, https://doi.org/10.1177/1461444820958725.
[685] Hoffman, "Terms of inclusion", 2021, 3543,
[686] Anna L. Tsing, "On Nonscalability," *Common Knowledge* 18, no. 3 (2012): 506, https//doi.org/10.1215/0961754X-1630424.
[687] In Chapter 4 (4.2) we saw how 19th century technologists ignored the violence and destruction of empire as they produced language which celebrated the global expansion of communication and togetherness, and the path of global progress.
[688] Robert Booth and Caroline Kimeu, "PTSD, depression and anxiety: why former Facebook moderators in Kenya are taking legal action," *The Guardian,* December 18, 2024. https://www.theguardian.com/world/2024/dec/18/why-former-facebook-moderators-in-kenya-are-taking-legal-action.

Perhaps most importantly of all, activists and human right organisations made visible Facebook's role in ethnic cleansing in Myanmar.[689] Whilst Facebook belittled the role of institutions in the 21st century, it was the United Nations which made explicit Facebook's significant role in mass murder, and its prioritisation of expansion over safety.[690] This material violence was obscured by this Big Tech horizon.

Here then we see a fourth fragment that Facebook's discourse conceals: scalability is destructive. What Tsing demonstrates is that scalability requires not only the transformation of internal operations and infrastructure, but the reconfiguration of the external world itself. We can see a similar process occur in Facebook's vision of universal global space. The world itself had to be transformed and reoriented to fit this spatial order. With its ideals of scalability and universality, the world had to be reduced and flattened, friction had to be eradicated, as the company sought to erase the complexities of social life that didn't align with its conceptual schema. What this horizon conceals then, is the demand that Facebook placed on the world; the attempt to reconstruct social interactions and enable algorithmic extraction and manipulation, as well as reorganize local and global space, in order to facilitate the company's scalable expansion or vision of universality. Much of this violence and destruction, although not all, has taken place and affected formerly colonised peoples and countries.

Facebook's attempt to reorder global information space based upon universality failed due to the pushback it attracted. Partly, Facebook's spatial order was resisted by civil society. In India, for example, a civil society campaign "Save the Internet" fought against the introduction of 'Free Basics'.[691] Most significantly though, Facebook faced contestation by nation states and supranational organisations. From 2009, China began blocking Facebook, and so too did Iran. Over the next decade, Russia gradually set the conditions for the removal of Facebook, and the European Union created increasing regulation to force Facebook to

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[689] Jeffrey Sablosky, "Dangerous organizations: Facebook's content moderation decisions and ethnic visibility in Myanmar," *Media, Culture & Society* 43, no. 6 (2021): 1017-1042, https://doi.org/10.1177/0163443720987751; Amnesty International, "Myanmar: Facebook's Systems Promoted Violence Against Rohingya; Meta Owes Reparations," *Amnesty.org,* September 29, 2022, https://www.amnesty.org/en/latest/news/2022/09/myanmar-facebooks-systems-promoted-violence-against-rohingya-meta-owes-reparations-new-report/.
[690] Tom Miles, "U.N. investigators cite Facebook role in Myanmar crisis," *Reuters,* March 12, 2018, https://www.reuters.com/article/world/un-investigators-cite-facebook-role-in-myanmar-crisis-idUSKCN1GO2Q4/.
[691] Revati Prasad, "Ascendant India, digital India: how net neutrality advocates defeated Facebook's Free Basics," *Media, Culture & Society* 40, no. 3 (2018): 415-431, https://doi.org/10.1177/0163443717736117.

submit to their rules. Facebook's vision of a universal communication space failed as the global information space fractured upon regional and national lines.

7.3.5 Wholeness and History

As outlined in this chapter, Facebook actors came to wield an ontological framework in which the world was imagined and structured as being constituted by systems of various scale and size, yet portraying themselves as holding a vantage-point outside and beyond these systems. In the words of Donna Haraway, they came to believe in the fantasy of "seeing everything from nowhere", what she calls "the God-trick".[692] This fantasy provides a comforting sense of universal objectivity, of sitting outside time and space.

This Big Tech horizon obscured what was previously common sense: the impossibility that any one perspective could view 'the whole'. Whilst these information systems might offer, in the words of David Gelernter, "some chunk of reality" or "an *image of the whole*", they can only ever mimic and promise wholeness.[693] In other words, these algorithmic systems, however sophisticated, can never offer a true understanding of totality, of the richness, depth, and diversity of social life. Nor can the imagined engineer-scientist ever sit outside of 'the whole' that they imagine themselves viewing and manipulating. Here then, this Big Tech horizon pushes aside and makes less visible the inevitably situated position of any scientist-engineer, and the historical processes which form them. Actors in and around Facebook, and the systems they have built, are situated like any other people, like any other technology.

Winograd and Flores make explicit this historical situatedness of, and inheritances in, computer culture and design; they argue that "all new technologies develop within the background of a tacit understanding of human nature and human work".[694] New design emerges from particular traditions of thought and being that are inherited from the past. In other words, technologies are always shaped by the contexts they emerge from. They argue that "to become aware of the effects that computers have on society" requires us to "reveal

[692] Haraway, "Situated Knowledges," 587.
[693] David Gelernter, *Mirror Worlds: Or: The Day Software Puts the Universe in a Shoebox...How It Will Happen and What It Will Mean,* (Oxford University Press, 1991), 3.
[694] Terry Winograd and Fernando Flores, *Understanding Computers and Cognition: A New Foundation for Design,* (Pearson Education, 1987), xi.

the implicit understanding of human language, thought, and work that serves as a background for developments in computer technology."[695] To do this, they suggest, we need to go back and examine the past, and how it has inscribed the present, with certain power-relations and also structures of implicit as well as explicit backgrounds of information. Researchers and historians over these decades have attempted to do just this, confronting the relentless momentum and claimed vantage point of Big Tech.[696]

7.3.6 A Counter-Hegemonic Horizon?

Here I have acknowledged that what existed over these decades was not only the emergence of one ascendent horizon of thought, an attempt to explain and depict the world in its totality, but also a dynamic in which other ways of experiencing and interacting with the world were pushed aside and obscured, and a constant process of contestation and resistance. What does this culminate in then? I suggest that through these fragmentary ideas, we see the indication of a counter-hegemonic worldview.

At its core, this is a counterhegemonic horizon based around the human being, and an uneasiness over the ways in which the human being, like 'nature' more broadly, has been turned into an object of experimentation and extraction. We might describe this as a horizon which weaves together certain ideals of critical humanism. It emerges from an uneasiness of how this Big Tech horizon comes to view and treat the human subject. This is a framework which makes visible the vulnerability and fragility of human beings, the material effects of a shifting information space on people in the world. At the same time, it emphasises the historically situated nature of knowledge and people's relation to and understanding of the world.

Yet it is worth reiterating Gramsci's argument that a worldview is never entirely coherent; it always contains tensions and paradoxes. Weaving together these fragments, it is clear that

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[695] Winograd & Flores, *Understanding Computers*, 7.
[696] Robin Mansell, *Imagining the Internet: Communication, Innovation, and Governance*, (Oxford University Press, 2013), 157; Wendy, H. K. Chun, "On Software, or the Persistence of Visual Knowledge," *Grey Room* 18, (2005): 33-37, https://doi.org/10.1162/1526381043320741; Lisa Nakamura, "Indigenous Circuits: Navajo Women and the Racialization of Early Electronic Manufacture," *American Quarterly* 66, no. 4 (2014): 919–941, https://doi.org/10.1353/aq.2014.0070.

there are tensions between and within them. These are tensions over the extent to which human beings ought to be valued over and above other forms of nature, tensions over the history of humanism's complicity in forming ideal archetypes of what it is to be a human – a European, a Man – and how easy it has been with a humanist framework to construct new categories of non-human or sub-human for people to fall into. There are tensions over the degree to which capitalism is the destructive propulsion driving Big Tech's development, and tensions over the degree with which Big Tech succeeds in manipulating people's actions and behaviours. Yet regardless of these tensions, I suggest, it is here that a counter-hegemonic contestation against this Big Tech horizon has emerged over these decades.

7.4 Conclusion

In this chapter, I have analysed the ways in which Facebook actors came to talk about their own positionality and relation to the world around them, as well as the products and infrastructure they built. Beginning with the building of their own algorithmic systems for the reconstruction of sociality, and the production of knowledge, I suggest that Facebook actors came to articulate a particular systems-thinking. This perspective came to offer a more expansive ontological framework in which all problems, whether social, political, or code, were flattened onto the same plane, as systems to be optimised. In relation to these systems, actors in Facebook understood themselves as possessing an 'engineering mindset' which enabled them to see how the systems of the world interlinked with each other, could be broken down, and could be optimised.

This research showed how actors in and around Facebook came to borrow and wield the language and logics of the scientific method, as well as the naturalising vocabulary of ecology. Actors in and around Facebook reassembled and relied upon these vocabularies and logics so as to depict the products they were building, as well as their own sense of position and agency.

By the end of this period, I suggest that what ultimately emerged was an imagined 'God-like' positionality and agency, what Donna Haraway describes as the 'God Trick'. Although actors in Facebook/Meta did not begin with any notion of their God-likeness, this was an emergent perspective. Increasingly actors in the company depicted themselves as gaining new heights

of omniscience about user behaviour, and omnipotence in the building and engineering of worlds. I argue that Facebook's audacious attempts to 'understand the world' and 'reconstruct the universe' were evidence of this emerging mindset.

I finish the chapter by considering not what was articulated by Facebook's discourse but what came to be left out and erased through it. Here, I suggested that what was primarily concealed in this horizon was an alternative way of understanding the human subject, and its place in the world. Tied to this, Facebook's discourse obscured the symbolic and material violence that its own expansion and scalability had on the world, and on the human body. Finally, this future-oriented horizon diminished the role of the past, and with it how Facebook's own perspective was historically situated.

Chapter 8
Conclusion: A Big Tech Horizon

This thesis examines how actors in and around Facebook came to understand and depict the world around them in the first two decades of the 21st century. It analyses a set of concepts, language, and logics that these actors relied upon to make sense of the world, how this evolved, and what this evolution tells us about the recent past. At one level then, this thesis is concerned with questions of meaning, of how Big Tech has come to construct meaning over the past two decades. Yet, at the same time, this thesis is concerned with more than meaning, with questions of power and action. It asks why certain concepts and vocabularies came to be useful to these Facebook actors, what they were used to see and do, as well as conceal and erase? To pursue these questions of meaning and power and its consequences, I have argued that we understand the texts and utterances of actors in and around Facebook as evidence of an emerging and evolving hegemonic horizon over this period.

As an intellectual history, this thesis has not only analysed the emergence and evolution of one hegemonic horizon over the past two decades but has also sought to contextualise it within a broader Western intellectual history. The concepts, language and logics that actors in and around Facebook came to rely upon did not emerge in a vacuum; they were inherited, adapted, and reassembled from different historical and geographical contexts. Whilst examining what was inherited, this thesis has also sought to highlight what came to be lost or left behind, and what comes to again be visible when we attend to less pervasive, but nonetheless, important worldviews. Placing this contemporary hegemonic horizon alongside past ways of depicting and structuring the world, I have suggested, can help us reveal what came to be largely concealed by Facebook's discourse. Specifically, I have argued that Facebook discourse concealed a strand of humanist thought which offered a competing way of understanding and structuring human-computer interaction.

In this final chapter, I elaborate on the arguments of my thesis and focus particularly on how I have addressed my overarching conceptual question: *which hegemonic horizon came to be normalised by Big Tech from 2004-2021?* To do so, I return to my three empirical research questions:

1. How did actors in and around Facebook/Meta come to depict the world around them between 2004-2021?
    a. How did they talk about space, time, and their own relationship to it?
    b. What historical times and spatial imaginings did they articulate?
2. What concepts, logics, and vocabularies did actors in and around Facebook/Meta inherit from the past?
    a. How did actors in and around Facebook/Meta reassemble and wield these inheritances?
    b. What was overwritten and what came to be left behind in this reassembling?
3. What was concealed as a hegemonic horizon was normalised?
    a. What subordinate fragments of common sense were obscured?

In this final chapter I begin by summarising how this thesis answered its first empirical question, outlining the findings of each chapter before considering how these different discursive strands might interfold with one and another. I then move to my second empirical question and consider how this thesis historicised Facebook's intellectual development. Next, I return to my overarching conceptual question, before considering the third empirical question, what was concealed by this horizon. After that, I outline several of this thesis' contributions to the broader scholarship before also considering certain limitations of this research. I finish this thesis with a consideration of the future, what future research does this thesis point towards, where might this Big Tech horizon be heading, and what might be necessary for not only critiquing but resisting it.

8.1 Facebook's Intellectual Development

In order to answer the first empirical question, I analysed my corpus so as to produce, over three chapters (5-7), a historical narrative which charted the ways in which actors in and around Facebook used language in order to depict the world around them. These three chapters are based on a loosely chronological story, and here I summarise the historical arguments and findings that this thesis has revealed regarding a set of intellectual developments in Big Tech over the first two decades of the 21st century.

8.1.1 Facebook's Spaces

In Chapter 5, this thesis analysed how actors in and around Facebook articulated their own spatial imaginings and attempts to reorder space. Understanding space as "always in the process of being made", this research examined Facebook's texts and utterances as spatially productive, as interventions in the production of space.[697] In its formative first years, I argued, expansion was absolutely central to how Facebook actors interacted with and talked about space. Here, in section 5.1.1, I contended that actors in and around Facebook drew upon and reassembled the concept of scalability to convey the company's own spatial expansion. I showed how scalability offered a semantic vagueness and conceptual space that enabled Facebook actors to convey meanings and pursue conceptual manoeuvrings that other terms, particularly the analogous metaphor of growth, could not. The language of scaling could refer to accelerated growth within boundaries, as well as the 'scaling up' between inherited and constructed boundaries, it was used to convey the benefits of network effects, as well as the importance of built infrastructure which could support different scales of usage (See 5.1.1). In the following sub-sections (5.1.2-5.1.3), I explored how actors in and around Facebook harnessed the language of scalability to depict the company's expansion across latent communities, nations, and globally. Across these sections then, I argued that the concept of scalability became an important conceptual resource for actors in and around Facebook

Next, I analysed how actors in and around Facebook sought to expand the company's operations through different layers of the internet and in so doing accelerate its expansion into and across information space (5.2.1). I argued that actors in the company not only sought to expand into and across information space, but to discursively, as well as infrastructurally, blur the boundaries between Facebook and the internet more broadly.

As Facebook's infrastructure and services expanded, I showed how these actors increasingly became fixated on 'the global' scale (5.2.2). I analysed the global spatial order which Facebook actors imagined, one based upon universalism, the production of a global community, and images of seamless data flow and instant communication. Here, I suggested that Facebook discourse repeatedly used the spectre of global threats as a means to legitimate

[697] Doreen Massey, *For Space*, (SAGE, 2005), 32.

their particular reordering of 'the space of the world' (5.2.3). Yet, lurking underneath this universalism, I contended, was an alternative global spatial imagining, one marked by division and multipolarity. Evidence of this came not only from its placement of data centres in the West, but from an emergent discursive tendency, particularly in the late 2010s, in which actors in and around Facebook depicted global space as split into different regions, with their own particular boundaries and inherited traditions (5.2.4). Here then, I argued that as Facebook increasingly turned to the global scale, discourse produced by actors in and around the company conveyed two differing orderings of global space, which could be wielded in different contexts and for different purposes.

I finished this chapter by analysing Facebook/Meta's vision for the metaverse as an attempt to imagine a radical reordering of space in three ways (5.3-5.3.1). Firstly, the metaverse discourse promised the production of vast new swathes of space, of a territorialised internet, which people could inhabit, possess, and accumulate within. Not only did it promise the production of new digital territory, but it promised to extend Facebook/Meta's own norms and rules beyond the limits of its own 'walled garden', and further into information space. Lastly, actors in and around Facebook/Meta depicted the metaverse, I showed, as the means of reversing centuries-long processes of urbanisation. People, it was argued, would no longer need to congregate close to each other in cities, but instead could gain the benefits of presence and intimacy through virtual experiences.

8.1.2 The Historical Times of Facebook

In Chapter 6, this thesis moved away from spatiality and focused on how actors in and around Facebook came to articulate a "polyphony" of historical times.[698] As set out in my conceptual framework (2.6), this thesis disaggregated several of the different layers of historical time which were articulated in Facebook's discourse.[699] Beginning again in their earliest years (6.1.1), I argued that Facebook actors were initially fixated on an urgency to move quickly. This apparent consciousness of speed, I suggested, could be thought of as an example of

[698] Anna L. Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins,* (Princeton University Press, 2015), 24.
[699] Reinhart Koselleck, *The Practice of Conceptual History: Timing History, Spacing Concepts,* trans by T. Presner, K. Behnke, and J. Welge, (Stanford University Press, 2002); Reinhart Koselleck, *Futures Past: On the Semantics of Historical Time,* trans. K. Tribe, (Columbia University Press, 2004).

Castells' notion of timeless time, or what is known in historical theory as presentism.[700] This is to say, an experience of time reduced to an all-enduring present, in this case, marked by the vanishing experience of speed. Yet rather than enduring, I argued, actors in and around Facebook soon moved away from this fixation with speed and the present, and were drawn towards broader historical narratives that could offer a sense of direction, and point towards a different future (6.1.1-6.1.3).

As it turned towards the future, I argued that Facebook articulated two different layers of historical time – progress and exponentiality. In sections 6.1.2-6.1.3, I distinguished between these different historical-temporal articulations, showing how each was embedded in Facebook's discourse, and wielded to so as to convey and do different things. Yet together, I argued, these two layers of historical time, coalesced into a discourse drenched in futurity (6.2). Facebook discourse increasingly stressed the significance of the future for making sense of and legitimating one's present. With the future holding such importance, actors in Facebook depicted it, at certain times, as both knowable and shapable from the present (6.2.2). As Facebook's discourse became increasingly anticipatory, I showed, it also came to diminish the past's role in informing one's actions in the here and now. It was to the imagined future that the present could find legitimation.

With this temporal foundation, actors in and around Facebook/Meta imagined and disseminated two broad visions of the future – a world connected and the metaverse – which this thesis examined in sections 6.3-6.3.2. Here, building on my conceptual framework (2.6), I examined the "future as a field of struggle", showing how these visions for the future were embedded with imagined demands on the present to fulfil them, legitimating Facebook/Meta's activity, and in so doing serving the interest of the company. [701] Further, I suggested that Facebook's imagined futures, particularly its vision for a connected world, was accompanied by a particular retelling of the past. Memories, events, and narratives were, I argued, reassembled to fit behind the future's slipstream. The past was transformed into a story of humanity coming together at ever-greater scales, from tribesmen to a global community.

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[700] Manuel Castells, *The Rise of the Network Society: The Information Age – Economy, Society and Culture,* (John Wiley & Sons, 2010); François Hartog, *Regimes of Historicity: Presentism and Experiences of Time,* trans. S. Brown. (Columbia University Press, 2015 [2003]).
[701] Jenny Andersson, *The Future of the World,* (Oxford University Press, 2018), 5.

8.1.3 Systems of the World

In Chapter 7, I explored the language with which actors in and around Facebook articulated their own positionality in relation to space and time, and their imagined ability to shape it. This chapter began by examining how Facebook actors depicted their products as a multifaceted system, or set of systems, for not only the reconstruction of sociality, but also for knowledge production and the creation of profit. Beginning with their early digital infrastructure, particularly their first algorithmic system through the News Feed (7.1.1), I argued that actors in and around Facebook moved towards a very particular understanding of their own positionality, and relation to the broader built environment.

In section 7.1.2, I showed how Facebook actors represented themselves as holding an 'engineering mindset', which flattened all problems, whether technological, social, or political, onto the same ontological plane, as systems that can be equally enhanced. This self-professed mindset, I suggested, elevated the engineer's perspective and role as the primary actor in optimising social change. I argued that this mindset was intrinsically totalising; whilst it emerged from experiences of data engineering it soon spread to cover the entirety of the world. Not only did Facebook discourse depict themselves as having an engineer-mindset, and utilising scientific methods to produce new knowledge, but it depicted people's social interactions, and its representation in data, as ecosystems (7.1.3). I argued that this language was used to naturalise information space, depicting it as something open and free for the company to extract.

In this chapter then, I suggested that Facebook emerged with a particular ontological framework for constituting and understand the world, and one which led it to a certain epistemological position. What emerged from this engineering mindset, and systems-thinking, I argued, was an imagined God-like vantage point and agency, or as Donna Haraway calls it, 'the God Trick' (7.2).[702] I showed how, in the 2010s, this particular epistemological perspective manifested in the startingly ambitious mission to understand

[702] Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," *Feminist Studies* 14, no.3 (1988): 581, https://doi.org/10.2307/3178066.

everything there was to know in the world, as well as a mission to reconstruct the entire universe (7.2.1-7.2.2). In attempting to reconstruct the world that people inhabit, actors in and around Facebook/Meta sought to gain not only unprecedented knowledge, I argued, but to make claims over a form of power that, in key respects, was understood as universal. I finished this chapter with the suggestion that by 2021, Facebook discourse, with its search for a type of maker's knowledge of the universe itself, reflected an almost religious self-regard for their own actions of creation and world-building.

8.1.4 Interfolding Space, Time & Systems

In Chapters 5-7 of this thesis, I explored a cluster of terms and concepts and their crystallisation into a broader conceptual schema for organising the world, whether spatially, temporally, or their own positionality and relationship to space and time. Whilst this thesis splits these different discursive dimensions into three strands, in this section I want to briefly consider how, as a single ascendant horizon, these discursive dimensions interfold with each other.

Let us begin with the interfolding of space and time. As I argued in my conceptual framework (2.4-5), spatiality and temporality are never entirely distinct from the other. Although I do not suggest that they are symbiotic or entirely reducible, visions of space do inherently relate to the temporal, and experiences of time are inextricably linked to space. Here, I point towards two spatial-temporal configurations that emerge clearly in Facebook's discourse.

Firstly, consider the relationship between progressive time and global space ordered around universality. Progressive time, as noted in Chapter 2 (2.4) and Chapter 4 (4.2), claims a stance of universality, a claim over universal history fitting its own progressive narrative of historical change. It is no surprise, as shown in this thesis, that when actors in and around Facebook predominantly articulated a progressive sense of historical time, they combined this with an imagined ordering of space based upon universality (6.3.1, 5.2.2). It is when Facebook's discourse was fixated on universal global space, that it becomes more concerned with a retelling of the past as a movement of humanity from tribes to a global community

(6.3.1).[703] With this progressive historical consciousness, both history and space came to be saturated with a sense of universality and totality.

Taking a wider historical perspective, we can see that this connection between historical progress and universal space is not new. As Chapter 4 (4.2) emphasises, this connection is embedded in the language, imagery and visions for the future articulated by technologists from the 19th century onwards. Indeed, this vision of a global coming-together as an inevitable next step of history pervaded this past discursive context. Given how well-trodden this spatial-temporal imagining has been, its presumed inevitability is in some sense an inherited Western tradition, which actors in and around Facebook could play with and use for their own ambitions of transforming global space and the infrastructures which underlie social environments. Building upon Walter Benjamin's analysis of progress, this thesis points to the idea that the totalising nature of progressive time, when wielded by Big Tech, continues to require not only global history, but also global space to fit its own logic and narrative.[704]

Secondly, let us consider the relationship between scalability and time. In his analysis of scalability, Nick Seaver notes that the "intentionally abstract and open-ended" nature of the term means those working in computer culture can wield the term so as to "make a loose comparison between the present and an anticipated future…For software startups, scale is not a matter of size – it is a kind of promise."[705] Seaver is right to suggest that there is something intrinsically temporal about scalability. Scalability is in some way a promise because it is an attempt to convey how an entity will change between now and the future, between here and there. Going on, Seaver argues that, for actors in Silicon Valley, "Scalability is not an intrinsic quality of particular techniques, but rather a consequence of where project boundaries are drawn, in the service of particular visions of corporate futures."[706] Scalability does not convey only expansion across space but lurking underneath this is also a vision for expansion across time. It is the promise that an entity can seamlessly transform into a far bigger or far smaller entity in the future.

[703] Later we see that when Facebook/Meta actors focus on the metaverse, which was less tied to a progressive sense of time, this discourse about a progressive history dissipates.
[704] Benjamin, *Theses*.
[705] Nick Seaver, "Care and Scale: Decorrelative Ethics in Algorithmic Recommendation," *Cultural Anthropology* 36, no. 3 (2021): 527, https://doi.org/10.14506/ca36.3.11.
[706] Seaver, "Care and Scale," 528.

This thesis shows how the concepts of scalability and exponentiality might interfold with one and another. After all, at its core exponentiality is a concept defined by a scalar relationship, it is the exponential expansion across scales. As actors in Facebook sought to become the first mover at scale within different boundaries, they did so alongside an exponential consciousness. It was in reference to Metcalfe's law that actors in Facebook, and their venture capital supporters, believed that mathematically the value of their social network, barring external developments, would grow exponentially with the number of users connected to it. In his discussion of 'blitzscaling', Reid Hoffman makes explicit how, 'scaling up' refers, in some sense, to successfully expanding exponentially over time, as well as space. Hoffman writes that "The real story is that the world keeps getting faster – Silicon Valley is just the first place to figure out how to keep pace."[707] For Hoffman, it was the ability to scale-up which enabled actors in Silicon Valley to simply keep pace with the accelerated historical change which was occurring, harnessing exponentiality for their own purposes.

Taking a broader historical perspective, we can see how this connection between expansion-as-scaling and exponentiality in some way mirrors a previous spatial-temporal configuration between expansion-as-growth and progress. As noted in Chapter 4 (4.2), with the onset of the industrial revolution, the conceptual relationship between growth and decay was severed.[708] A concept of growth without decay came to compete with and eventually replace a sense of historical time based upon circularity and metaphors of aging, and in so doing pointed towards progress as never-ending growth

Returning to the first two decades of the 21st century, and to the empirical chapters of this thesis, I suggest that we can see evidence of a progressive sense of time, based around a sense of never-ending growth, facing competition from an alternative spatial-temporal configuration of exponentiality and expansion-as-scalability. Whilst these different spatial-temporal frameworks do not neatly coalesce or align, I understand this as evidence of the paradoxical nature of any single hegemonic horizon, rather than any serious contestation in Facebook's discourse between a dominant and a subordinate horizon. For actors in and around Facebook, both spatial-temporal frameworks offered different means for articulating unceasing expansion and a future-oriented discourse, that could be wielded in different

[707] Reid Hoffman and Chris Yeh, *Blitzscaling: The Lightning-Fast Path to Building Massively Valuable Companies,* (Harper Collins, 2018), 17.
[708] Koselleck, *Conceptual History.*

contexts. Whether these spatial-temporal frameworks pull apart in future years could be an important question for future research.

Finally, I want to point towards how these different spatial-temporal configurations ultimately interfold with the epistemological and ontological framework, which is analysed in Chapter 7. In articulating these spatial and historical-temporal claims of the world, I contend, actors in and around Facebook relied upon an ontological and epistemological framework, which although particular to their own context, claimed universality.

In Chapter 7, I show how a particular brand of systems-thinking emerged as Facebook actors depicted the world as being constituted by many systems of various scales, all interlinked and self-referential to each other. This perspective offered actors in Facebook the fantasy of being able to view and to shape 'the whole' of a system. Through this chapter, we followed how this totalizing perspective expanded its gaze, claiming an ability to make sense of more and more of the world and to scale up the systems that Facebook could optimise and engineer.

Facebook discourse came to promise that the company would be able to view and manipulate the whole of sociality, the whole of knowledge, and even the whole of the universe. Global information space for example, was depicted as type of system that required optimisation, and which could be used by Facebook on a global scale "to organize everyone together".[709] Later, the metaverse was not only a vision of the future or the production and discovery of new space, but an articulation of a universe made programmable and optimisable (7.4.2). It was positioned discursively as the end-point of an inherently totalizing systems-perspective. By this point we can see explicitly in Facebook/Meta's language a vision of totality; a claim to be able to make sense of all there is to know in the world.

8.2 Historicising Facebook

Whilst the first aim of the thesis was to chart and analyse how actors in and around Facebook came to understand and depict the world around them, in order to answer the second

[709] Mark Zuckerberg, "Zuckerberg Facebook video: First ever Live Q&A on Facebook (with Jerry Seinfeld)," *Zuckerberg Transcripts* 263, (2016).

empirical question this thesis sought to bring Facebook's own depiction of the world alongside the broader histories that it existed in relation to. By locating Facebook's discourse alongside the utterances of the deeper past, this thesis explored how actors in and around Facebook inherited, reassembled, and transformed the language and concepts that they wielded. Exploring these inheritances, enabled this research to not only highlight conceptual recycling and transformation, but to draw out and forge connections between different historically situated discursive contexts as part of a 'transtemporal history'. Bringing the deeper past into this intellectual history has helped us ask valuable questions of Facebook's discursive output. What meanings, objects, and uses were these terms and concepts connected to in the past? What has fallen away and what new meanings, objects and uses are they connected to now? What were they used to do in the past and what does that tell us about their more contemporary usage?

Intellectual and cultural historians of computing have demonstrated the influence that 1960s counterculture had on computer culture and internet technologists, tracking the spread of certain ideas and imaginaries through key figures.[710] This thesis does not refute these arguments. It shows how actors in and around Facebook used and reassembled certain ideas that decades earlier emerged from cybernetics and information theory. For example, this thesis argues that the cybernetic reimagining of ontological boundaries became an important conceptual resource that Facebook actors adapted for their purposes. In Chapter 4, we noted how Norbert Wiener, beginning with limited socio-technical systems, developed an ontological and epistemological framework which expanded to view and claim the whole universe through its own systems lens. We see a similar process occur in this Big Tech horizon as actors in and around Facebook came to imagine the universe as a system which could be made programmable and optimisable (See Chapter 7).

Yet, this thesis also sought to analyse what was lost and erased from the discourse of actors in and around Facebook as they adapted these ideas. It emphasised that, alongside his cybernetics, Wiener also offered a warning of the threat that this framework could have for a social-democratic society, as well as the human subject. These concerns were lost as these ideas were adapted by Facebook actors. Whilst Wiener concluded his introduction to

[710] Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism,* (University of Chicago Press, 2006); John Markoff, *What the Dormouse Said: How the Sixties Counterculture Shaped the Personal Computer Industry*, (Penguin, 2006).

Cybernetics warning that society would face disaster if it allowed people or companies driven primarily by market logics to engineer social information systems, this is exactly what Facebook and other Big Tech companies did. Any humanistic concern, or felt need to prioritise social democratic institutions fell away, as actors in and around Facebook wielded cybernetic framings to describe and celebrate the power that they were accruing.

Away from cybernetics, I also suggested that actors in and around Facebook recycled certain arguments and images that were prevalent in 1990s computer discourse. Most notably, actors in Facebook drew upon and reassembled themes which emerged in earlier cyber-libertarian manifestos. In their espousal of an inherently universal cyberspace, their belief in the overthrowing of matter, and their depiction of networked computers as liberational, these cyber-libertarian texts provided intellectual resources that actors in and around Facebook could adapt and reconfigure in their context. Facebook actors were also able to adapt and wield language which was prevalent in how international institutions, such as the ITU, spoke of global digital divides and the role that ICTs could play in international development. Facebook's future imagining, I argued, also recycled vocabularies and images from science fiction. This thesis considers, for example, Facebook/Meta's vision of the metaverse alongside Neal Stephenson's cyberpunk novel *Snow Crash,* which coined the term (see Chapter 6). Whilst borrowing some of the vocabulary and imagery of cyberpunk, as well as the earlier cyberlibertarian manifestoes, Facebook/Meta's discourse erased much of the radicalism that had originally been associated with them in the 1990s. What is notable is that, although Facebook was happy to adopt and adapt much of the language and concepts from 1990s discourse, from different factions of this context, it left behind and erased the more critical perspectives, whether on the control of and power over computer technology, or the effect that computer-human interaction was having on the human subject.

Yet, beyond these intellectual inheritances from 20th century American subcultures, this thesis has also analysed how actors in and around Facebook wielded ideas, language and narratives inherited from broader histories of Western colonialism, imperialism and modernity. Here, this thesis follows others who, in different ways and through different arguments, make explicit the continuities between Big Tech discourses and these histories.[711] In this thesis, I go

[711] Paola Ricaurte, "Data Epistemologies, The Coloniality of Power, and Resistance," *Television & New Media* 20, no.4 (2019): 350–65, https://doi.org/10.1177/1527476419831640; Nick Couldry and Ulises, A. Mejias, *The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*, (Stanford

back to the mid-17th century to explore the forging of what, following Quijano, we could call the emergence of a 'Coloniality' in the English-speaking world.[712]

In Chapter 4, I explored how colonial discovery and a new ordering of global space, helped produce a scientific worldview based upon the experimentation, control and instrumentalization of nature and knowledge. Here, I explored how Francis Bacon developed an early scientific method based around a search for new discoveries, and the instrumentalization of knowledge. Bacon elevated experimentation above other forms of knowledge production, whilst arguing that 'Man' had a right to control, manipulate and even torture nature.[713] Facebook's own discourse depicted itself as harnessing the power of experiments to produce knowledge and lead a new frontier of scientific discovery. In Chapter 7, for example, I show how Mark Zuckerberg portrayed Facebook as a scientific organisation, and how Facebook's discourse depicted itself as universal testing machine. I also show how social information patterns were represented by actors in Facebook as a natural ecosystem, something that was naturally unpossessed, and thus open to the company's extraction and experimentation.

In Chapter 5, I considered how Facebook/Meta's advertisements and depictions of the metaverse, and its reordering of global space, recycled logics and fantasies of colonial expansion and land settling. I considered the discourse around the metaverse alongside a broader history of colonial exploration and land appropriation. In particular, I suggested that the depiction of this territory reflected both the legal strand of *terra nullius,* as well as the colonial promise to ordinary people of being able to gain great riches and inhabit greater spaces. However, as Julie Cohen argues, the logics of *terra nullius* exist not only in the discovery and appropriation of land but in the extraction of information exploitation of what in this thesis I have called information space.[714] In their recycling of fantasies of land-settling,

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University Press, 2019); Malcolm Harris, *Palo Alto: A History of California, Capitalism, and the World,* (Little Brown and Company, 2023); Miryam Aouragh and Paula Chakravartty, "Infrastructures of Empire: Towards a Critical Geopolitics of Media and Information Studies," *Media, Culture & Society* 38, no. 4 (2016): 559-575, https://doi-org.lse.idm.oclc.org/10.1177/0163443716643007; Sebastián Lehuedé, "The Coloniality of Collaboration: Sources of Epistemic Obedience in Data-Intensive Astronomy in Chile," *Information, Communication & Society* 26, no. 2 (2023): 425–440, https://doi.org/10.1080/1369118X.2021.1954229.

[712] Aníbal Quijano, "Coloniality and Modernity/Rationality," *Cultural Studies* 21, no. 2-3 (2007): 168-178, https://doi.org/10.1080/09502380601164353.

[713] Sandra Harding, *Whose Science? Whose Knowledge?* (Cornell University Press, 1989), 19-50.

[714] Julie. E Cohen, *Between Truth and Power: The Legal Constructions of Informational Capitalism,* (Oxford University Press, 2019), 48-74.

as well as in their natural right to extract and exploit information space, depicted as a natural ecosystem, Facebook/Meta's discourse can be seen to have inherited and reassembled strands of coloniality.

Moving away from the 17th century, I suggested that Facebook's vision of universal global space and a future world of global connection, recycled arguments and images that were particularly embedded in the mid-19th century. Here, I noted how a vocabulary of global community and an imagining of global space based upon universality, had been articulated by earlier technologists of the late 19th century, such as Samuel Morse and Guglielmo Marconi. Beyond these individual figures, Facebook's vision for the 21st century was infused by imagery and logics that, as I show in Chapter 4, emerged as part of broader discursive context around the electric telegraph.[715] Tied to this vision of global space and an emerging global community, I suggested, Facebook's articulation of progressive historical time, adapted concepts and logics that were articulated by the major philosophers of history of the 19th century, such as Hegel. In Chapter 6, I showed how this collection of progressive narratives, arguments and language came to be a useful resource for actors in and around Facebook, who could renew and play with these inheritances in their own particular context.

In Chapter 5, I also argued that, just as the concept of expansion-as-growth had been central to imperial discourse in the late 19th century, the concept of scalable expansion became central to Facebook as well as to other technology companies of the early 21st century. The linked concepts of scale and scalability offered actors in and around Facebook the conceptual means of representing their own global expansion. Whilst earlier constructions of expansion were central to 19th century imperial projects, I suggested here that the scalable expansion in space and time can be thought of as an essential concept for 21st century "data colonialism".[716]

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[715] James W. Carey, "Technology and Ideology: The Case of the Telegraph," *Prospects* 8, (1983): 303–325, https://doi.org/10.1017/S0361233300003793 pp.308-309; Duncan Bell, *Dreamworlds of Race: Empire and the Utopian Destiny of Anglo-America*, (Princeton University Press, 2020); Marc Raboy, *Marconi: The Man Who Networked the World*, (Oxford University Press, 2016).

[716] Jim Thatcher, David O'Sullivan, and Dillon Mahmoudi, "Data Colonialism through Accumulation by Dispossession: New Metaphors for Daily Data," *Environment and Planning D, Society & Space* 34, no.6 (2016): 990–1006, https://doi.org/10.1177/0263775816633195; Couldry and Mejias, *Costs of Connection.*

I analyse these inheritances from the histories of colonialism, imperialism and modernity to highlight and reveal how these logics, images, and vocabularies have their own longer rhythms; emerging and dissipating over time but not yet gone. In the first two decades of the 21st century these inheritances emerged and were reassembled alongside other inheritances from the history of cybernetics, exponential thinking, and science fiction, into a new discursive context.

Finally, I should here note that historicising Facebook is itself a critique and response to arguments articulated by actors in and around Facebook, and others within American computer culture, that the past is increasingly irrelevant. As Mark Zuckerberg tells his audiences, "I don't tend to look back on things and care that much. I mean, I try to look forward and see what more needs to be done."[717] In contradiction to much Silicon Valley discourse, I have emphasised that the past matters. I have argued that the past is both a constraint and a resource; something that is inescapably and constantly inherited. It is through historicising Facebook, I argue, that we can resist an hegemonic horizon which suggests that what has occurred over the past decades, what continues to occur now, has been so unprecedented, so fast-moving and dizzyingly new that it largely cannot be understood in relation to the past. In doing so, as a historian, I am suggesting that we cannot treat the past as some neutral sediment, but instead must bring it forward into this contemporary history, to help us navigate and interrogate the present's most immediate context and its consequences.

8.3 A Big Tech Hegemonic Horizon

In Chapter 2, this thesis set out an understanding of power based upon Gramsci's concept of hegemony. That is to say that in this thesis power is understood to exist through the winning of consent by one collective group over others, through the production and spread of a particular worldview and common sense, what in this thesis is called an 'hegemonic horizon'. Based upon this theoretical framing, the overarching conceptual question of this thesis was concerned with which hegemonic horizon came to be normalised by Big Tech in this period?

[717] Mark Zuckerberg, "Zuckerberg Facebook video about Q&A at Facebook with Mark Zuckerberg," *Zuckerberg Transcripts* 254, (2015).

As noted in Chapter 1, Facebook's emergence and evolution in the first two decades of the 21st century occurred alongside a wider process of platformisation, as well as the emergence and entrenchment of Big Tech. Facebook itself can be understood as an exemplar of both broader historical processes. In this thesis, I have shown that what occurred in these decades, alongside these processes, was the emergence of a particular way of seeing and being in the world. In charting Facebook's discourse, I have shown, we can see the emergence and evolution of this particular horizon for imagining, structuring and interacting with the world.

To answer this thesis' overarching conceptual question, this research examined a set of underlying discursive dimensions embedded in Facebook's language, and how this shifted and changed over two decades. Here then we can make explicit and reiterate some of the boundaries and particularities of this hegemonic horizon, that were uncovered by this thesis, as it emerged over the first two decades of the 21st century. Firstly, this thesis has shown how this hegemonic horizon is saturated with future-oriented discourse. It was to the imagined future, to a shared horizon of expectation, that legitimacy for actions in the present was to be found. This futurity is reflected in Facebook's shift away from presentist historical articulations to ones more oriented towards the future, whether progressive time or exponentiality. Secondly, this Big Tech horizon was fixated on the possibilities of reordering global space through the control and harnessing of information space itself. The language of scalability was used to convey an anticipation of expansion that would, it was understood, reorder the world's space. In what way this global space would be reordered shifted throughout the decades, whether it was based upon universality, regional difference and hierarchies, or the production of a new world itself (the metaverse). Finally, this hegemonic horizon was based upon an underlying ontological framework which saw the world as being constituted by systems, and an epistemological perspective which left the 'engineer' outside of these systems, gaining a 'God-like' vantage point to see and to shape them. It is here, in uncovering these three broad dimensions in Facebook's discourse, I suggest, that we can make visible how Big Tech has come to see and structure not just a specific issue over these two decades, but the world in totality.

8.3 What was Concealed by this Horizon?

Drawing on my framing of hegemonic power (2.1), in Chapter 7 (7.3), I argued that this hegemonic horizon works to obscure less-dominant ways of being in and rationalising the world. Specifically, I suggested that this horizon conceals fragments of an alternative critical humanist framework for structuring and understanding the relationship between humans and technology. Here, I make explicit this process of concealment before, in the final section of this chapter (8.6), considering how this counter-hegemonic horizon might represent a foundation for an alternative path for computer-human interaction.

In 2017, Alaimo & Kallinikos described how Facebook's algorithmic systems reconstitute people not just as users but as a collection of clicks:

> "In the case of social media platforms, individual users and collectives of users are new distinct social objects established against the rules and practices of data operations… The claim that individual users are objects established by social media may feel unsettling. But in online environments, such as those represented by social media, there are no irreducible entities, in the sense of flesh-and-blood individuals… It is thus important to make clear that from the point of view of social media platforms, individual users are no more than the aggregation of the clicks they perform."[718]

What Alaimo & Kallinikos highlight here is a process in which the human subject becomes decentred in how the world is constructed and imagined. Through the building of digital infrastructure, the person and their social community, becomes an object, an instrumentalised representation in data. This is a two-fold process. It is not only that the user of algorithmic systems becomes objectified, but that those who build and maintain those systems, hollow out the subjective and feeling being from the way in which they construct and imagine the world. In other words, for those working in Big Tech, and those more broadly who share in this ascending horizon, the world becomes imagined and structured in a way which both objectifies the human being, and diminishes the autonomy and boundaries of the human subject.

[718] Cristina Alaimo, Cristina and Jannis Kallinikos, "Computing the everyday: Social media as data platforms," *The Information Society* 33, no. 4 (2017): 176, https://doi.org/10.1080/01972243.2017.1318327.

What emerges from my research, I suggest, is an historical narrative in which this process of dehumanisation isn't an outlier but rather is representative of a deeper intellectual trend that has occurred over the past two decades and beyond. This is a trend in which the human subject has been increasingly dislodged discursively from the times, orders and ontologies articulated by actors in and around Facebook, and more broadly the Big Tech actors in Silicon Valley. It is not only that, as Facebook developed over these decades, it became more fixated on the digital representation of users, on the digital reconstruction of the universe, or the increasing use of AI to produce knowledge. What this thesis reveals is that the very terms and images that actors in and around Facebook turned to, reassembled, and wielded so as to depict the world, were ones that empty the subjective being of meaning and value. Taking a Gramscian perspective on the relationship between hegemonic power and contestation, and returning to this thesis' third empirical question, we can see this erasure as evidence of what this Big Tech horizon conceals and covers over, the aspects of the social world which are omitted from this way of depicting and structuring the world.

Partially, this has emerged as concepts, terms and times have slipped and travelled from the realm of mathematics and engineering into the realm of sociality. Exponential time, for example, emerges from the algebraic formulae and log scales of mathematics. It is an intrinsically unintuitive sense of time for humans; far more aligned with clean and unemotional mathematical metaphors and images than with anything deriving from nature, cycles of life, and generational change. Space, reduced to scalability, flattens the complexity of social and material interactions and interrelations into similarly mathematical relations. We have seen how in Facebook discourse, social interactions are depicted as and within ecosystems. Yet, these are artificial ecosystems; instead of life there is the reconstitution of life through data, instead of social interactions there are data flows. Finally, knowledge becomes reduced to the amount and type of data which can be extracted and analysed through algorithmic systems. In this hegemonic horizon, I suggest, is a distinct hollowness, an absence of life and humans. A process has occurred in which the very terms that actors in and around Facebook can turn to and wield, to represent and make sense of the world, have become dehumanised. It is this process, I suggest, that is redrawing the terrain of the common sense which prevails more generally within this particular context.

In Chapter 7, I show how, as Facebook developed, it placed increasing importance on the company's ability to construct and optimise systems based around the extraction of data, as

well as the experimentation of and on users. These systems were legitimated in reference both to the need of producing profit and, more grandly, for the purpose of increasing the "knowledge base of the world".[719] What emerged was a framing of the world as a system which was constituted by systems of different sizes and complexities. People themselves were imagined as systems, and existing in a world of systems, all of which were optimisable. What this systems-perspective obscured was a discursive framework in which people are imagined as autonomous subjects rather objects to be engineered for purposes of 'balance', optimisation, or extraction (see 7.3).

What this also covered over, as my analysis shows, was any consideration of how information is inherently entangled with materiality; that information can never be cleanly separated from its material instantiation including in and on the body. Concealing the relationship between information and its materiality enabled the company to obscure the symbolic and material violence that occurred through the company's own expansion. Whilst Facebook's discourse depicted scalability as clean and seamless, it concealed the destruction arising from scalability. The scalability discourse did not only demand the transformation of work practices and infrastructure to create a scalable company, but the transformation of the world to fit demands of scalability. We see a similar process occur with Facebook's overarching vision of global space based upon universality. Where the world didn't fit this vision of universality, the world had to be reoriented and reconfigured, to fit this spatial order.

This discursive erasure of the human subject also emerged as actors in and around Facebook came to position themselves as harnessing and having access to a God-like vantage point over ecosystems and worlds, and a God-like power to build and engineer them. I have argued that this 'God Trick' has a deeper past within the history of Western intellectual thought, and that it emerges in Facebook's own discourse, as the company developed without any strong corrective force to push back against it. This imagined God-like positionality, I suggest, also erases the human subject and their situated positionality in the world. Minimising the importance of the past in inscribing and situating the position and perspective of Facebook engineers and workers (as they appear in my corpus), as well as the systems they built, is also reflected in Facebook's future-oriented discourse. In Chapter 6, I explore how it was

[719] Facebook, "Facebook 2015 Annual Stockholder Meeting". *Zuckerberg Transcripts* 240, (2015).

increasingly in reference to the future, rather than the past, that Facebook's action in the present was increasingly legitimated and oriented.

8.5 Contributions

Having explored the main conclusions of this thesis, I now consider several contributions that this thesis has produced in relation to the literature, theories and methods I referenced in the previous chapters.

8.5.1 Historicising Platform Discourse

In Chapter 1, I suggested that much of the most important research on Facebook, and Big Tech more broadly, has in the past decade emerged from the field of platform studies. This thesis has made two contributions to this literature, particularly to the strand of platform studies more concerned with interrogating platform discourses.

Firstly, it has followed Van Dijk and Nieborg's call to deconstruct the discourses of Web 2.0.[720] Whilst much of the research on Facebook's discourse has so far focused on concepts of connection and community, this thesis has attempted to go deeper by examining and revealing a set underlying discursive dimensions which emerged and evolved over these two decades.[721] By analysing the temporal and spatial dimensions, as well as Facebook's ontological positions and frameworks, this thesis has uncovered some of the discursive boundaries embedded in this Big Tech horizon. It is within and through these evolving discursive dimensions, this thesis has shown, that actors in and around Facebook imagined, constructed, and explained the infrastructure they were building, whether that was the social graph (5.1.2), the News Feed (7.1.1), or infrastructure for a world connected (6.3.1). Through its conceptual framework and methodology, which combined a hegemonic framing of power with an in-depth analysis of the texts and utterances of actors in and around Facebook, this

[720] José van Dijck and David Nieborg, "Wikinomics and its discontents: a critical analysis of Web 2.0 business manifestos," *New Media & Society* 11, no. 5 (2009): 855-874, https://doi.org/10.1177/1461444809105356.
[721] José van Dijck, *The Culture of Connectivity: A Critical History of Social Media,* (Oxford University Press, 2013), 45-67; Karina Rider and David M Wood. "Condemned to connection? Network communitarianism in Mark Zuckerberg's "Facebook Manifesto,"" *New Media & Society* 21, no. 3 (2019): 639–654, https://doi.org/10.1177/1461444818804772

thesis has shone a new light on the deeper discursive dimensions which have underlay Big Tech's development in the first two decades of the 21st century.

Secondly, whilst much research in platform studies has gone into deconstructing the discourses of Big Tech, less research has done so primarily from a historical perspective.[722] This thesis has interrogated Facebook's discourse as located within deeper historical rhythms and patterns. Specifically, this thesis has shown how Facebook's expansive systems-perspective followed a similar pattern to Norbert Wiener's cybernetics, sliding towards increasingly totalising ontological commitments. However, it has also reached back further showing that Facebook's discourse follows a longer Western tradition of claiming a universal spatial and historical perspective. Finally, it has demonstrated that Facebook's discourse inherits a deeper colonial configuration in which Western intellectuals combine a search for 'discovery' and 'the new' with practices of extraction and exploitation, of both the human and the non-human.

It is by examining Big Tech's development alongside broader histories, I have shown, that we can understand why these actors have imagined the world in the way they have, and pursued certain infrastructural transformations over others. It is also by taking this wider historical approach, I argue, that we can make visible that which was obscured by this Big Tech horizon, namely a strand of humanist thought which offered a competing way of understanding and structuring human and computer interaction.

8.5.2 Extending the Intellectual History of Computing

This thesis has also contributed to the history of computer culture and the intellectual history of computing. As I suggested in Chapter 1, historians have so far largely not turned to the first decades of the 21st century. By doing so here, this thesis has advanced the field by showing how earlier trends, identified by historians such as Fred Turner, have continued and evolved into these decades. Turner, for example, has shown how cybernetic thought and 1960s countercultural ideas shaped cyberculture in the 1990s. This thesis demonstrates how

[722] As already noted, exceptions to this include van Dijck, *Culture of Connectivity;* Andreas Hepp, "Pioneer communities: collective actors in deep mediatisation," *Media, Culture & Society* 38, no. 6 (2016): 918-933, https://doi.org/10.1177/0163443716664484; Andreas Hepp, "Curators of digital futures: The Life cycle of pioneer communities," *New Media & Society*, (2024): 1-20, https://doi.org/10.1177/14614448241253766.

aspects of cybernetic language continue to be embedded in the thinking of elite figures in Big Tech, even if they do not explicitly reference cybernetic thinkers any longer. Although the aesthetics and rhetoric of 1960s counterculture faded as an important cultural reference point as Big Tech grew in power over these decades, certain cybernetic positionalities and ontological frameworks continue to be recycled and adapted.

Yet this thesis also suggests that something important is missing from our historical account when we focus only on how American counterculture shaped contemporary computer culture. We have to go beyond the overly comfortable narrative of 1960s countercultural influence and examine how actors in Big Tech inherited and reassembled ideas, language, and logics from other discursive contexts. A second contribution of this thesis then has been to strengthen connections between different historical literatures and the development of Big Tech over these decades. This thesis brings together literatures from the cultural history of computing, the history of Victorian future-imagining and communication infrastructure, as well as decolonial and feminist analysis of the early scientific method in the English-speaking world. Whilst in isolation, different theorists and historians have connected these pasts to the recent development of computer-human interaction, this thesis brings these different strands together.[723] By connecting these literatures and histories, this thesis has shown how deeper historical patterns and rhythms have also conditioned the intellectual development of Facebook, and Big Tech more broadly.

Pursuing this 'big' historical approach has its limitations.[724] Yet this broad history, I argue, helps us uncover and examine the less comfortable content and lineages of the narratives that Big Tech spread, and enables us to wrestle with the dangers that these narratives pose.

8.5.3 Intellectual History and the Internet

[723] Katherine N. Hayles, *How we Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, (University of Chicago Press, 1999); Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism,* (University of Chicago Press, 2006); Marc Raboy, *Marconi: The Man Who Networked the World*, (Oxford University Press, 2016); Nick Couldry and Ulises, A. Mejias, *The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*, (Stanford University Press, 2019); Malcolm Harris, *Palo Alto: A History of California, Capitalism, and the World,* (Little Brown and Company, 2023).

[724] David Armitage, "What's the Big Idea? Intellectual History and the Longue Durée," *History of European Ideas* 38, no.4 (2012): 493-507, http://dx.doi.org/10.1080/01916599.2012.714635. These limitations will be discussed in the next section.

What would an intellectual history of the internet look like?[725] This is a question that the field of intellectual history must begin asking, and which this thesis pursues. The conceptual framework and methodology of this thesis has pointed towards one way of navigating the intellectual history of the first two decades of the 21st century, a period saturated with content, information, and texts, and where much of the relevant documents and artifacts lie dispersed across the internet. I have demonstrated an approach to investigating these contemporary decades, of analysing digital archives and documents scattered on the internet, and I have done so in conversation with important developments in intellectual historical theory, "combining tools from the workshops in Cambridge and Bielefeld" as Jan-Werner Müller called for.[726]

Although interdisciplinary, this research has drawn upon previous generations of intellectual historiographical research and debate, searching for ways in which these writings and approaches might be useful for an intellectual history of the first two decades of the 21st century. Drawing on Reinhart Koselleck it has attempted to disaggregate the different historical times that are articulated in Big Tech discourse, whilst remaining attentive to the orienting power of temporality. Building on Quentin Skinner it has attempted to examine texts and utterances of Facebook actors as existing within and acting upon a broader Silicon Valley discursive context. More than this though, it has examined Facebook's contemporary discourse alongside earlier discursive contexts, with their own particular hegemonic frameworks. It has not abandoned 'longer' and 'bigger' history as many followers of Skinner do, but instead has attempted to interrogate the recent past, and the values within it, as part of a deeper 'transtemporal history'. In doing so, it has developed one approach to what an intellectual history of the internet could look like.

8.6 Limitations

[725] I pose this question in recognition of Fred Turner's similar provocation. See: Fred Turner, "Can We Write a Cultural History of the Internet? If so, How?" *Internet Histories* 1, no.1-2 (2017): 39, https://doi.org/10.1080/24701475.2017.1307540.
[726] Jan-Werner Müller, "European Intellectual History as Contemporary History," *Journal of Contemporary History* 46, no. 3 (2011): 576, https://doi.org/10.1177/0022009411403339.

Having set out some of the contributions of this research, here I consider some of the limitations which emerged with this particular conceptual framework and methodology.

8.6.1 Obscuring power dynamics within Facebook

Whilst combining a Gramscian analysis with insights from the historiography of intellectual history has been helpful for examining the broader hegemonic struggle that existed over this period, and its relation to other historically-situated contexts, it has limited this research's ability to focus on the more granular power dynamics between actors within and around Facebook. The methodology developed by this research, and guided by its conceptual framework, was more sensitive to understanding and uncovering discourse as part of a broader hegemonic struggle, than as particular contestations between individuals with different positions and varying contextual power relations. This research hasn't, for example, been able to investigate the relationship between Sheryl Sandberg and Mark Zuckerberg, the extent to which they positioned themselves in different ways within the company holding different motives, ambitions, and ideas. It is likely that, by taking this framing of power, this thesis has brushed over conflicts that existed between actors in and around Facebook, which in turn shaped their texts and utterances.

8.6.2 Minimising Capitalism

A second limitation of this research has been the relatively little it has been able to say concerning the relationship between the texts and utterances of actors in and around Facebook, and the logics of the market, capital accumulation and investment, and structural economic inequalities. It is not that this thesis suggests that there is no relationship between capitalism and Facebook's discourse, far from it, but instead that this relationship is never properly explored or analysed. This is largely, I would suggest, a result of the conceptual framework which underlies this research. The conceptual framework is oriented towards revealing the concepts and terms which emerge and crystalise in Facebook actor's discussion of time, space, and their relationship to it. Whilst this discourse occurs within the contours of already existing structural inequalities around the location and possibility of investment, broader logics of market competition, as well as the governing rules and norms of American political economy, this research doesn't analyse the relationship between Facebook's thinking and these realities of political economy.

8.6.3 Broad strokes and broad history

In this thesis I seek to locate Facebook's discourse and place it within a broader history. I do so, primarily through Chapter 4, in which I set out a historical background, shaped by my conceptual framework, before moving on to the empirical chapters based upon the analysis of my own corpus. Here I want to note several limitations of this chapter, as well as the arguments which can be derived from it on the relationship between Facebook's discourse and this broader history.

Firstly, Chapter 4 is guided overwhelmingly by my reading of secondary literature. Whilst I try to examine and interrogate key primary texts, it is not based upon my own thorough archival research (which shapes the following chapters). Thus, this chapter does not offer any definitive history of any of these contexts, but instead outlines a way of understanding this history as guided both by the secondary literature and my own conceptual framework.

Secondly, Chapter 4 offers a broad history and one which necessarily relies on broad historical brush strokes. Whilst I attempted to offset this by structuring the chapter around four more narrow discursive contexts, it is still the case that this chapter prioritises breadth over depth. One criticism of this approach might be that such a broad approach to history stands in contradiction, or at least in an uneasy relationship, to Quentin Skinner's approach to intellectual history. Contextualist approaches to history are far more associated with in-depth analysis of language in context, than with the broad approach I set out in this chapter. I acknowledge that this is a tension, and a limitation to how successfully I have made use of Quentin Skinner's historiographical writings, even when, as noted earlier, I draw on his later and more flexible approaches to intellectual history.[727] Future research could be directed towards building a more detailed analysis of these discursive contexts, with greater space to dwell in the details of this history.

[727] As already noted, I draw particularly on Skinner's later works, which have been criticised for ignoring and going back on contextualist maxims. Skinner, *Liberty.* Quentin Skinner, "A Genealogy of the Modern State," *Proceedings of the British Academy* 162, (2009): 325-370; Paul A. Rahe, *"*Review of *Quentin Skinner's "Third Way,"* by Quentin Skinner," *The Review of Politics 62, no. 2 (2000): 395–98, http://www.jstor.org/stable/1408053*

Thirdly, another criticism might be directed towards the boundaries of a discursive context. In the first two sections of Chapter 4, I include utterances and texts produced decades apart within the same context. In the second two sections, this narrows to a more focused set of years or a decade. This variance might reflect a weakness in how I applied the concept of a 'discursive context'. I acknowledge that the boundaries of my four discursive contexts are porous. Yet, I would suggest that this is a limitation and issue with a contextualist approach to intellectual history more broadly, and the difficulty of finding boundaries for meaning.[728]

Finally, whilst this research has a lot to say about the broader intellectual histories underlying Facebook's development, it has been less focused on an in-depth analysis of the transmission of ideas. By choosing to amplify a broader history, this thesis has minimised its ability to excavate sites and moments of transmission, of the important work of charting just how ideas have been transmitted through people and texts. One might, for example, critique the claims this thesis makes of transtemporal inheritance and reassembling of language. Whilst this thesis relies on secondary literature, which does chart some of these intellectual transmissions, further archival research could go into expanding the analysis that I set out briefly in Chapter 4.[729]

8.7 To the Future: Reforging the Subject

Finally, I would like to consider how this conceptual framework and this empirical research might help us think about the future. Specifically, I want to explore how this research points towards pathways to future research, questions of where Big Tech's hegemonic horizon might be moving, and finally how it might be subverted?

Stalking any account of how ideas have developed and shifted is the question of where these logics and concepts might be taken to and what could they be used to achieve? In this sense, I see this research, partly, as a future-oriented warning. What could this ascendant hegemonic horizon, that my analysis reveals, unleash and how might this be subverted? This is inevitably

[728] Peter E. Gordon, "Contextualism and Criticism in the History of Ideas," in *Rethinking Modern European Intellectual History*, ed. D. M. McMahon and S. Moyn (Oxford University Press, 2014).
[729] For example: Turner, *Counterculture to Cyberculture;* Raboy, *Marconi.*

speculative, yet given that this contemporary history ends in 2021, the subsequent years have given some indication of where this process is leading.

As large-language models develop, we can expect a continued acceleration of the spread and adoption of exponential historical thinking and an increased focus on scalability. The most recent development of these models is derived, in part, from the identification of "scaling laws" for neural language models.[730] The infiltration of scalability as a concept within a broader shared sense of how the world works is likely to increase and captivate the imagination of those working in Big Tech. Just as the language of scalability concealed the violence of Facebook's expansion, the language of scalability continues to cover over the ecological violence of AI.[731] In this context of transformative AI development, the leaders of Big Tech are at the forefront of imagining the future and attracting the attention of social and political leaders. Infused with exponentiality, these imagined futures will likely continue to be full of scientific and medical wonder, and social and political stasis.[732] Future research could examine the ways in which AI discourses wield the language and logics of scalability and exponentiality in order to pursue certain goals and obscure less dominant ways of understanding the world.

Secondly, we have already seen a convergence between those working in Big Tech and those who straddle the far right, neo-Nazism and fascism.[733] Taking an historical perspective this might seem unsurprising. In the first decades of the 20th century there was also a convergence between a particular technological imagination and fascism, whether in the futurist movement or the Nazi fetishization of infrastructure.[734] Moreover, this thesis has emphasised how Facebook discourse, in the first two decades of the 21st century inherited images, vocabulary, and arguments from deeper histories of imperial projects and discourse. As figures such as Hannah Arendt and Aimé Césaire have shown, fascist discourse and projects themselves

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[730] Jared Kaplan et al., "Scaling Laws for Neural Language Models," arXiv:2001.08361v1, (2020), https://doi.org/10.48550/arXiv.2001.08361.
[731] Sebastián Lehuedé, "An Elemental Ethics for Artificial Intelligence: Water as Resistance Within AI's Value Chain," *AI & Society* 40, (2023): 1761-1774, https://doi.org/10.1007/s00146-024-01922-2.
[732] Dario Amodei, "Machines of Loving Grace: How AI Could Transform the World for the Better," *Dario Amodei,* October 2024, https://www.darioamodei.com/essay/machines-of-loving-grace
[733] Becca Lewis, "Headed for Technofascism: The Rightwing Roots of Silicon Valley," *The Guardian,* January 29, 2025, https://www.theguardian.com/technology/ng-interactive/2025/jan/29/silicon-valley-rightwing-technofascism; Kyle Chayka, "Techno-Fascism comes to America," *The New Yorker,* February 26, 2025, https://www.newyorker.com/culture/infinite-scroll/techno-fascism-comes-to-america-elon-musk.
[734] Simonetta Falasca-Zamponi, "The Artist to Power?: Futurism, Fascism and the Avant-Garde," *Theory, Culture & Society* 13, no. 2 (1996): 39–58, https://doi.org/10.1177/026327696013002003.

inherited and reassembled logics and language from the history of imperialism and colonialism. In other words, that these inheritances from 19th century imperial contexts come to mutate into more fascist-aligned ideas, seems predictable.[735]

I want here to consider briefly how we might understand this contemporary convergence with the intellectual development that I have charted in this thesis. Firstly, fascism is based upon a rejection of the idea that all human beings ought to be recognised as holding value. This erosion of humanism, as Arendt reminds us, leads to a situation in which not everyone is seen as having 'the right to have rights'.[736] When people are removed from the category of humanity, when they are dehumanised, rights show themselves to be only the result of social and political recognition, rather than a natural given. The objectification of the human subject in this hegemonic horizon, I suggest, can help us make sense of this recent convergence. In this horizon, whilst people will always be understood as holding data of some kind of value, their right to have rights is less fixed. Secondly, fascism doesn't just dehumanise but it elevates and fetishizes certain people as holding far greater agency, power, and value than others. The conceptual and linguistic terrain to support both these tendencies, I suggest, develops in the hegemonic horizon I have charted in this thesis. Over the decades, what emerged was a framework which elevated scientist-engineers above and beyond ordinary human beings and the social systems they exist in. These scientist-engineers came to be imagined as being outside systems, and holding far greater knowledge and agency to shape the world and the future than ordinary people.[737] Finally, I suggest that future research might consider and analyse the relationship between the experience of exponential, unprecedented, and disconcerting technological change and the promise of fascist order. Might it be that Big Tech's convergence with fascism, and fascism's claimed guarantee of order, offers a compensation for the disorientation and change that Big Tech has been unleashing?[738]

However, I don't only want to speculate about where these logics and concepts are being taken, and what they could be used to achieve, but also to consider how they might be

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[735] Aimé Césaire, *Discourse on Colonialism*, (Monthly Review Press, 1972); Hannah Arendt, *The Origins of Totalitarianism*, (Meridian Books, 1962).
[736] Arendt, *Origins,* 123-158.
[737] On this point, see also: Julie E. Cohen, "Oligarchy, State, and Cryptopia," *Fordham Law Review* 94, (forthcoming), http://dx.doi.org/10.2139/ssrn.5171050.
[738] Here I am partly inspired by Ernst Bloch's analysis of fascism which centres the role of temporalities and historical times. See: Anson Rabinach, "Unclaimed Heritage: Ernst Bloch's Heritage of our Times and the Theory of Fascism," *New German Critique,* no. 11 (1977): 5-21, https://doi.org/10.2307/487801.

subverted. Here, I want to emphasise our agency as critical researchers and as political citizens. This thesis developed a conceptual framework in which power is something that is always struggled over and never fixed. Moreover, I have argued that whenever we produce texts or utterances, they are interventions that in themselves can hold power. With this recognition of our own productive agency in mind, I suggest here that one path forward is to reforge and renew a discourse about critical humanism which can recover the human subject. This must begin, not only through the critiquing of Big Tech discourses, but also in the language and theories we use to do so. Our arguments are productive just as they are critical; they make worlds just as they question others.[739] In wielding methods and approaches which recognise the significance of the subject, of who it is that speaks, and of human agency, a critical humanist perspective can reforge people and life into our imaginaries, our ways of being, and visions for the future. It is through this process, this remembering and recovery of the value of each human life, that critical researcher can subvert and counter the ascendent hegemonic horizon I have been charting in this thesis.

So how might we recover and renew a critical humanist framework in the context of computer culture and beyond? Future research could focus on the past less-dominant ways in which computer-human relations and interaction were imagined and depicted; to that which has been largely concealed by this Big Tech hegemonic horizon. Here of particular note is Terry Winograd and Fernando Flores' *Understanding Computers and Cognition* and Joseph Weizenabum's *Computer Power and Human Reason.*[740] Both pieces of research stress not only the type of questions that we should be asking, productive approaches to these questions, but also the fundamentals of why we need to continue interrogating human-computer relations. But going back further to figures who have come to be elevated in the history of computer culture, such as Norbert Wiener, we need to recover and reassemble their own critiques of where computer-human relations might go, and how human beings might be transformed through these interactions.[741]

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[739] Amia Srinivasan, "VII-Genealogy, Epistemology and Worldmaking," *Proceedings of the Aristotelian Society* 119, no. 2 (2019): 127–156, https://doi.org/10.1093/arisoc/aoz009.
[740] Terry Winograd and Fernando Flores, *Understanding Computers and Cognition: A New Foundation for Design,* (Pearson Education, 1987); Joseph Weizenbaum, *Computer Power and Human Reason: From Judgment to Calculation*, (W. H. Freeman and Company, 1976).
[741] See: Norbert Wiener, *Cybernetics: or Control and Communication in the Animal and the Machine,* (MIT Press, 1948); Norbert Wiener, *God and Golem, Inc: A Comment on Certain Points Where Cybernetics Impinges on Religion*. (MIT Press, 1964).

The task of wresting the future from the grasp of the Big Tech horizon of expectation requires a reckoning with the reductive drive to make legible and orderly the sheer uncertainty of human experience; a shaking off of the will to control and to submit to the promise of a predictable and optimized existence. To pursue this, I have suggested that we need to recover and renew a critical humanism. Yet, any humanistic focus will always have a danger of becoming, in itself, a totalizing one; a way of applying one framework of what it is to be human to all people. Any human-centred alternative to the hegemonic Big Tech discourses must avoid this threat. As Quijano emphasises, outside the particular Western tradition of rationality/modernity, there are "perspective[s] of totality in knowledge" which "includes the acknowledgement of the heterogeneity of all reality; of the irreducible, contradictory character of the latter".[742] We must pursue a vision of humanity which is founded on particularity, on the diversity and heterogeneity of the world and of society.

One avenue forward, I suggest, is historical research based upon conceptual frameworks which show us, rather than erase, the complexity and messiness of human relations; with it and through it comes the ability to resist totalizing ideas. Histories, developed following the traditions I have embraced in my conceptual framework, can show us the complex and multiple ways in which people have lived with one another, and claimed their agency to both imagine and remake the world. The histories of our pasts demonstrate time and time again the feats of human endurance, creativity, and capacity for imagining other ways of being in the face of horror. It is perhaps only by embracing uncertainty and turning to the past, rather than the next Big Tech future, that we can imagine ways of collective life that maintain the complexity and variability that is inherent to the human condition. It is this universal reference point, the explicit universal heterogeneity of human life, that is being ignored and overridden by Big Tech's horizon, and that we must base any resistance upon.

[742] Aníbal Quijano, "Coloniality and Modernity/Rationality," *Cultural Studies* 21, no. 2-3 (2007): 177, https://doi.org/10.1080/09502380601164353.

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https://epublications.marquette.edu/zuckerberg_files/

Silicon Valley Archives, Stanford University, Green Library, 557 Escondido Mall Stanford, CA 94305-6063, https://library.stanford.edu/libraries/silicon-valley-archives

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