Silicon Valley's "AI Revolution":
A revolutionary narrative serving the status quo

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Public Governance across Borders

University of Twente

Enschede (Netherlands), 29th of June 2022

A Thesis submitted for the Degree of
Bachelor of Science

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Word count: 12000

Enschede (Netherlands), 29th of June 2022

Abstract:

Revolutionary narratives about technology emerge from Silicon Valley on a regular basis. Most of the time it remains, however, unclear what kind of revolution it is referred to and whether a classification of the technology of interest justified. This paper critically investigates the most recent revolutionary narrative of Silicon Valley: the "AI Revolution". Based on scientific literature AI does not present a social, political, industrial nor as scientific revolution. A qualitative content analysis, conducted on 177 blogposts, press releases, as well as newspaper and magazine articles reflecting the narrative, reveals the portrayal of the "AI Revolution" as industrial revolution. The narrative equally reflects language related to political revolutions and the prospect of a social revolution and is structured by capitalist and Enlightenment thinking as well as technological determinism. Ultimately, the conservative character of the narrative is uncovered in response to the question *"To what extent can Silicon Valley's alleged 'AI Revolution' be typified as a revolution?" and finally reveals that the "AI Revolution".* The narrative of the "AI Revolution" not only masks the reinforcement of existing social and economic dynamics by AI. It also fosters trust and investment in Silicon Valley companies, consolidating their economic and cultural power.

198 words

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1. Introduction

1.1. Background & knowledge gap

"Revolution" in the first Copernican understanding implied a "recurring, cyclical movement" (Arendt 1990, p.42) aimed at restoring the initial status quo. Nowadays, revolutions are understood as "radical change, that is not a 'return' but a new beginning" (von Redecker 2021, p.3). The first Industrial Revolution, for instance, invoked new patterns of work and property, enabled by new technologies. The transformation from a feudal to a capitalist system ultimately changed the economic and social structures radically. The product was a new class society (von Redecker 2021). Contrary to that,

> "political revolutions locate the domination they aim to overthrow between governments and people, social ones attack the oppressive relations between groups brought into hierarchy by material distribution and identity formation" (von Redecker 2021, p.VII).

All these different types of revolution may differ in their conception of how society is changed, but they all come with the claim of extensive structural change on multiple levels, a transformation of the status quo. According to the media and scientific debates, the so-called "AI Revolution" is the most recently emerging type of revolution. Until now it remains unclear how this revolution is characterized and what claims it entails.

The term seems to be applied as soon as the strong impact of Artificial Intelligence (AI) on our daily lives is discussed. *Forbes* for instance uses the title "The AI Revolution is happening now" (Cheishvili 2021) in 2021 when addressing the changes AI assumably brings to education, banking, finances, retail, e-commerce and entertainment. In addition, there exists a broad body of scientific research, focused on identifying the current and future advantages and challenges the alleged "AI Revolution" invokes in our society. AI technologies may enable communication and political participation, but also hold the power of threatening democracy by manipulating the public's perception through algorithmic targeting and deepfakes (Schippers 2020). Further, AI is seen to radically impact the world of work by facilitating production and service delivery, while eliminating middle-range jobs and making personal data a new economic resource (Makridakis 2017; Duff 2016). Just to name a few examples. But is this sufficient to classify AI as a revolution? What claims come with the use of the term "revolution" in this context and does AI really fulfill them?

There is a major research gap regarding these questions, which shall be filled with this research. The state of the art on this topic is extremely thin. Some scholars only indirectly touch upon it. Ian Moll for example seeks to uncover, that AI neither constitutes a revolutionary technology nor is it part of a fourth Industrial Revolution (Moll 2021). Katz describes the "AI Revolution" as "manufactured" (Katz 2017,

p.13) by Silicon Valley corporations. This is in line with many scholars that have argued before that the portrayal of technology as revolutionary is a common practice within Silicon Valley and reflects the ideological foundations of its leaders and pioneers (Ferrari 2020, Tuner 2006, Duff 2016, Morozov 2013). Whereby these scholars all examine Silicon Valley's revolutionary narratives of the past, no one seems to have taken a look at the most recent phenomenon of the alleged "AI Revolution" and the meaning it holds for Silicon Valley so far. Furthermore, their reflections might be critical of the use of stories and (revolutionary) narratives by Silicon Valley to transport their ideas, interests and beliefs. Their works, however, lack a differentiated discussion about the conceptions of revolution and the claims that are made about the power of technology when calling it revolutionary.

1.2. Research question

This research gap concerning the claims, values and interests that stand behind the term "AI Revolution" shall be filled by critically examining this narrative along with the question

"To what extent can Silicon Valley's alleged 'AI Revolution' be typified as a revolution?".

This will generate insights not only about whether AI actually can be classified as revolutionary but also about the ideological elements and power structures reflected in it. The search for an answer to the primary research question is guided by three sub-questions. First, it is asked, *"In which aspects is AI presented to be revolutionary in statements/publications of Silicon Valley corporations, actors and their stakeholders about the AI Revolution?"*. This delivers a detailed description of the claims Silicon Valley makes about AI as a revolutionary force. The results are then analyzed for their correspondence to the theoretical definitions of revolutions. For this purpose the second question *"In which aspects does the portrayal of the 'AI Revolution' correspond/not correspond with the definitions of revolution, provided by theory?"* is addressed. Based on this, Silicon Valley's portrayal of the "AI Revolution" can be classified along with the theoretical concepts of revolutions. This in turn allows for a confrontation with scientific literature by asking: *"In which aspects is the portrayal of the 'AI Revolution' supported/not supported by scientific knowledge about AI?"*. At the center of the whole research stands the close examination of the language used to portray AI as revolutionary and the confrontation thereof. The ultimate answer to the primary research question is then not only descriptive but aims at uncovering the misconceptions and ideological beliefs shaping the narrative.

This is a very urgent project. Silicon Valley is known for creating myths and narratives for strategically influencing the public's perception not only of technology, but also of society, politics, and the economy (Bell/Dourish 2011). Consequently, "there is a need for a systematic critique of the discourses and practices that emerge out of and about the Valley, because they influence the way we think about technology, political change and economic development" (Levina/Hasinoff 2016, p.491). If the claim

of the "AI Revolution" rather builds on the ideology of the rich men leading Silicon Valley than on scientific evidence, such a narrative might be considered a tool of delusion. This is especially dangerous, as this underlying ideology certainly shows elements of technocracy (Ferrari 2020).

1.3. Research approach

To answer the three sub-questions as well as the stated primary research question, it is necessary to understand the meaning of words and their use in certain contexts. More specifically, the research approach must enable an understanding of the claims that come with talking about AI in revolutionary terms and what images and interests are transported by such language. This research thus aims at the theoretically and contextually guided interpretation of the content of the "AI Revolution". Considering the interpretive nature of this research, qualitative content analysis is required as it constituted the only method able of providing a transparent and consistent interpretation, which is not driven by subjectivity of the researcher.

This method and other methodological issues are discussed in Chapter 3 after a typology of revolutions and their defining criteria were outlined in Chapter 2. Chapter 4 then presents the results of the analysis, leading to answering the three sub-questions, followed by a conclusion on the primary research question in Chapter 5.

2. Theory

2.1. Introduction

The core idea of this chapter is that declaring AI as revolutionary comes with certain claims about the impact and nature of AI. To understand what these claims are, a typology of the four key types of revolutions (social, political, industrial and scientific) and their defining criteria is provided. This contributes to this research in two ways. First, it provides a theoretical framework, that allows concluding as which type(s) of revolution, Silicon Valley portrays the "AI Revolution". More importantly, however, it enables the development of a theoretical and evidence-based answer to the research question. This is done by checking for each of these criteria in the scientific literature on AI and its impact. The findings on whether AI is found to fulfill the criteria of one or more types of revolution, based on theory and scientific knowledge, then can be used to critically reflect, and confront Silicon Valley's portrayal.

Additionally, the last section of this chapter provides an overview of the core beliefs and ideas that prevail in the Valley regarding technology in general. From this, first expectations can be stated about as which type(s) of revolution, Silicon Valley is going to classify the "AI Revolution". Beyond that, this knowledge is necessary to accomplish the final goal of interpreting the meaning of the alleged "AI Revolution", as it becomes possible to understand where possible wrong claims of Silicon Valley about the revolutionary character of AI come from and which purposes they serve.

2.2. The "AI Revolution" as a social revolution?

The concept of social revolutions originates from Marxist theory. They are seen as the result of the dialectical character of history itself, in which technological progress is expected to continuously create new social contradictions. This is exemplified by the first industrial revolution. Back then, new technologies enabled the mechanization of production processes. This changed the relations of work and property, resulting in a class society. In this society, the bourgeoisie holds wealth and power, while the working class suffers from precarious living conditions. To overcome this precarity, overthrowing the existing conditions of production and property through the rise of the working class becomes a necessity (Bayertz 2016). A social revolution is thus characterized by "[t]he coincidence of societal structural change with class upheaval; and the coincidence of political with social transformation" (Skocpol 1979, p.4). In this understanding of a revolution, talking about an "AI Revolution" comes with the claim that AI transforms existing social and class structures.

AI can broadly be defined as an

> "umbrella term, that refers to a series of general purpose and diverse technologies, which are propelled by computational power, and which build on methods in fields such as machine learning

to advance automated and increasingly autonomous decision-making and actions. Through the use of algorithms, AI has the capacity to generate and analyse huge data sets; to guide a diverse group of hardware systems, ranging from mobile phones [...] to surveillance cameras and autonomous weapon systems; and to draw inferences about humans and human behaviour" (Schippers 2020, p.33).

The impacts AI has on our societies are as diverse as the technologies belonging to it. "AI for Social Good" (AI4SG) projects show that AI is believed to have the potential of impacting society positively in the social dimension. In healthcare, for instance, AI is used for specialist diagnosing or for tracing Covid-19 in daily life (Holzmeyer 2021). The mere contribution to the well-being of society, however, is not sufficient to typify as a social revolution, as long as class structures are not changed.

Concerning this, Moll states that AI rather reinforces social inequality. According to him, the increasing automation of middle-skill and middle-class jobs through AI-driven technologies results in a "hollowing out" of the labor market and society: "at the top the highly skilled, very highly paid jobs that steer the networked digital economy; at the bottom the unstable, low-wage, low-skill jobs; and in the middle is the systematic demise of mid-level, middle-wage, 'blue collar' jobs" (Moll 2021, p.17). This contradicts the optimistic predictions of others, who expect AI to increase productivity and wealth to a level that makes at least routine labor obsolete (Makridakis 2017). Further, the algorithms, designed by humans, reflect racial or gender biases which are deeply embedded in our minds and societies. Consequently, biased thinking as a source of social inequalities is reproduced (Ashraf 2021). The AI sector and AI4SG projects themselves are also marked by biases, hierarchies, inequalities and exploitation (Holzmeyer 2021).

The changes AI evokes in the class structure rather represent a reinforcement or contribution to already existing dynamics. As it cannot be associated with the overthrow of class structures or radical transformation towards more social equality, AI does not constitute or spur a social revolution. However, the proclaimed "AI Revolution" might refer to a political one.

2.3. The "AI Revolution" as a political revolution?

Hannah Arendt criticizes Marx for his view, in which economic conditions create the necessity for revolution (Arendt 1990). She emphasizes the purely political character of revolutions:

> "only where change occurs in the sense of a new beginning, where violence is used to constitute an altogether different form of government, to bring about the formation of a new body politic, where the liberation of oppression aims at least at the constitution of freedom can we speak of revolution" (Arendt 1990, p.35).

A mere change of government is thus not enough. If the "AI Revolution" refers to this concept of revolution, it is claimed that there is freedom and a completely new form of government established. Thus, there must be a sense of a new beginning. But most importantly agency needs to be displayed, meaning that the "AI Revolution" is the result of purposive and intentional action.

Concerning freedom, "[w]e benefit from AI-driven communication platforms that facilitate public debate, connect people, and ease the flow of information" (Schippers 2020, p.33). Such platforms theoretically create a space for free expression and exchange of opinion, empowering individuals within a democratic context or supporting those who fight for democracy. At the same time, the freedom of expression and the freedom of belief and religion may be threatened if the algorithms running these platforms are flawed. Missing contextual information or biased decision-making then can lead to the unintentional classification of lawful content as unlawful, impeding the freedom of expression. Similarly, the recommendation of content based on the level of user interaction it creates leads to the displaying of one-sided and homogenous information (Ashraf 2021). Contrary to such unwanted side-effects, Cambridge Analytica has shown that AI-based technologies can also be used for the intentional manipulation of democratic elections. Algorithms were used to identify uncertain voters and target them with advertisement for one specific party (Schippers 2020). Furthermore, AI-driven surveillance technologies enable "governments around the world to monitor dissidents and silence dissent, identify and deal with threats pre-emptively, and build data-bases of individuals and groups who are believed to pose dangers to the state" (Ashraf 2021, p.19). AI can thus also infringe freedom and personal rights and undermine democracy.

Nevertheless, AI can also be beneficial for democratic politics by making the policy cycle more efficient, accurate and legitimate. The data-based analysis of citizens' interests, for instance, can contribute to a more responsive and participative agenda setting. Monitoring performance enables precise decision-making during the policy implementation and policy evaluation may be improved by AI-informed long-term predictions and analyses of the policy's effects (Pencheva et al. 2020). However, these are only improvements within democracy. The condition of the formation of a completely new form of government as a criterion for political revolution is not fulfilled.

In conclusion, AI is used to create virtual space for free expression and deliberation but is also used intentionally and unintentionally to silence opinions and manipulate public debate. So far, AI also has not brought forward a completely new form of government. In the end, AI remains a human creation. Up to this point, it is not autonomous, in the sense of being able "to decide by oneself what one's goal or principle of action will be" (Totschning 2020, p.2474). AI can only pursue freedom if humans determine this as its goal. Therefore, it may be used to augment, improve or support the agency of people, maybe even within a social or political revolution. But as AI is not predominantly used for establishing freedom and new forms of governments, there is no political "AI Revolution".

Alternatively, it could constitute an industrial revolution which will be examined in the following section.

2.4. The "AI Revolution as an industrial revolution?

Industrial revolutions, as mentioned before, are marked by the transformation of labor processes and relations with a strong impact on the social life of people and "international trade and agglomerations of power" (Moll 2021, p.8f.). The change of socio-economic structures and global impact are thus key criteria. Further, they are triggered by technological revolutions. Bringing in another term of revolution here might be confusing, but necessary.

Technological revolutions "can be defined as a set of interrelated breakthroughs, forming a major constellation of interdependent technologies; a cluster of clusters or a system of systems" (Perez 2010, p.189). They

> "can be seen more generally as a major upheaval of the wealth-creating potential of the economy, opening a vast innovation opportunity space and providing a new set of associated generic technologies, infrastructures and organizational principles that can significantly increase the efficiency and effectiveness of all industries and activities" (Perez 2010, p.190).

Technological revolutions are thus the condition for the vast socio-economic change, that defines industrial revolutions. As opposed to social and political revolutions, which are short moments of violence and rebellious action, industrial revolutions are understood as slow processes, in which humans only have a passive role in the complex interplay of innovation and socio-economic structural change (Moll 2021). If the "AI Revolution" referred to an industrial revolution, it would thus need to follow a technological revolution, evoke the transformation of socio-economic structures with global effects and display human passivity. The capitalist structures were only modified. Personal data and information are the new resource of capital and power, centered in the hands of Silicon Valley tech-giants (Duff 2016). Venture and surveillance capitalism thrives due to the success it has brought to these companies (Makridakis 2017; Ashraf 2021). Thus, no transformation of socio-economic structures can be observed. On the global level, the third industrial revolution "pattern of the marginalization of the south continues" (Moll 2021, p.28), too.

Furthermore, AI is not a groundbreaking technological innovation. AI is "a field of knowledge and research which originated in the 1950s" (Moll 2021, p.20), not a technology. AI knowledge surely has contributed to many new technologies that radically transform our lives. However, these technologies also rather "represent the gradual evolution of the defining technological transformation of the 3IR" (Moll 2021, p.24). Since the 1960s there has been no technological revolution with which AI could be associated (Perez 2010, Moll 2021).

However, it cannot be denied that there is a certain passivity. It is often stated, that companies and individuals must adapt to new technologies. This passivity is however not necessarily a given fact. Barais and Katzenbach analyze the framing of AI by governments and detect a complex interplay of different elements shaping this narrative of passivity. Not only the belief in autonomously progressing technology but also the embeddedness in the competitive environment of capitalism plays a role (Barais/Katzenbach 2021). Furthermore, there is a geopolitical factor as "[t]echnological advancement acts as an essential pillar of civilizing progress in modern capitalist societies (Barais/Katzenbach 2021, 14), implying that the degree of development of societies is often measured by their technological progress. Therefore, the sensed passivity rather is a product of the capitalist order, than of AI itself. Anyways, "There Is No Fourth Industrial Revolution" (Moll 2021:25) because the existing socio-economic dynamics are only reinforced, and no technological revolution is observed. We are rather experiencing the progress of the third industrial revolution, to which AI may contribute but surely is not central. Thus, AI cannot be associated with an industrial revolution. The last option for AI to be revolutionary is in the context of a scientific revolution.

2.5. The "AI Revolution as a scientific revolution?

According to Thomas Kuhn, scientific revolutions consist of the shift of the prevailing "paradigm". This implies that "normal science" may present itself as universal and progressive, but actually operates only within a particular set of methods and theories, corresponding to a worldview on which the scientific community temporarily has agreed (Kuhn 1996). He states that a paradigm shift arises from anomaly (problems that cannot be solved) within the current paradigm, which then develops into a crisis. Finally, this leads to the establishment of a new paradigm, after the old one is destroyed (Kuhn 1996). To constitute such a revolution, AI would need to evoke a paradigm shift.

It seems like multiple paradigms compete around AI. More specifically there is a clash between the paradigms of the Enlightenment and Romanticism as well as between humanism and post-/transhumanism.
Humanist and Enlightenment thinking often come together (Coeckelbergh 2020). Enlightenment thinking supposes that everything in this world can be described in mathematical terms and that humanity has a superior status, enabling the mastery of nature. These elements are reflected in AI, as it pursues to (partly) recreate human intelligence in form of an algorithm and is often used to master nature, for instance in the fight against climate change (Fjelland 2020, Cave 2020). This corresponds with the humanist "argument for the centrality of humans and their values in the development and future of AI" (Coeckelbergh 2020, p.40). This argument can, however, also build on the postmodern and Romanticist emphasis on the "mystery of being human" (Coeckelbergh 2020, p.39), fearing the disenchantment of humanity.

The relationship between humanism and transhumanism is complex. Transhumanism aims at augmenting human capabilities through biotechnological modifications. This can either be interpreted as a threat to the essence of being human or as a mean for optimizing the superior human (Coeckelbergh 2020). Coeckelbergh presents posthumanism as an intermediate form that allows surpassing the traditional opposition between Enlightenment and Romanticism as well as humanism. Post-humanism corresponds with Floridi's observations, although he rejects the term. Through modern technologies, we do no longer perceive ourselves to be

> "standalone and unique agents […] but rather informational organisms (inforgs), mutually connected and embedded in an informational environment, the infosphere, which we share with other informational agents, both natural and artificial" (Floridi 2014, p.23).

This implies that humans lose their centrality in the world but remain untouched in their essence. Consequently, AI would also no longer be restrained to human intelligence but could be based on "other forms of being, intelligence, creativity and so on" (Coeckelbergh 2020, p.43). While it surely contradicts humanism, it can be debated if posthumanism really constitutes a new paradigm as it only merges existing Enlightenment and Romanticist thinking and is not broadly realized yet.

Although AI challenges our self-perception and the ways we relate to the world, it does not neatly fit into the definition of a scientific revolution. It represents the clash of multiple paradigms, rather than the shift from one to another. It can thus be concluded that AI does not fulfil the claims of any of the four types of revolution. Nevertheless, Silicon Valley proclaims an "AI Revolution".

2.6. The "AI Revolution" as an ideological construct of Silicon Valley

Considering the powerful claims that come with talking about no matter which type of revolution, proclaiming an "AI Revolution" seems like an overestimation of AI's capabilities and power. This is not surprising for Silicon Valley. Since it became the global center for the semiconductor industry after the Second World War,

> "[e]ach innovation in this 'dream factory' was accompanied by a wave of grandiloquent promises and utopic visions aimed at fueling consumption and maintaining faith in the unlimited progress of technology" (Sereni 2021, p.6).

This suggests that Silicon Valley companies strategically seek to influence the public's perception of technology out of economic interest and for stabilizing the belief in technological progress. There are "several mutually supporting ideologies that converge in the Silicon Valley worldview" (Sereni 2021, p.6).

At the core stands a confluence of technological substantivism and determinism. Technological substantivism refers to the conception of technology as "an autonomous system with its own internal logic, whose development and progress are inevitable" (Sereni 2021, p.6). This belief in technological progress as a natural and evolutionary phenomenon and a self-regulating system corresponds to the ideas of free-market capitalism. It is assumed that technology must remain unregulated to unfold its full potential. It is furthermore assumed that technology shapes our social and cultural structure, indicating technological determinism (Salehan et al. 2018). From this perspective, it is argued that "there is no need for institutional, cultural, economic or power structure changes" (Sereni 2021, p.7). Technology alone will solve all kinds of societal problems. Morozov calls this "technological solutionism" (Morozov 2013).

Furthermore, it is expected that technological advancement will liberate the individual from political authority and social hierarchies. Alternatively, a new horizontal form of democracy enabled through virtual networks, shall be established. This might seem to represent the goals of the 1960's counterculture at first sight but serves the interest of an unregulated market (Mosco 2004). More importantly, this suggests the transfer of power to those who design technology. Finally, this gives room to the technocratic ambitions of Silicon Valley leaders, like Mark Zuckerberg who suggests that public institutions should follow the model of Facebook (Ferrari 2020).

This complex interplay of ideological elements that reinforce and legitimize each other is unique. This so-called "Californian Ideology" (Barbrook/Cameron 1996) emerged in the 1960s, when the career opportunities in worldwide known companies like Hewlett-Packard Co. and Intel as well as the academic offer of Stanford University thrived due to governmental funding, guided by military interest (Saxenian 1983). This attracted many young middle-class data scientists with their countercultural and utopian worldviews. In this utopia, technology not only solves humanity's problems but also "release[s] the imperfect human being from being condemned to being human" (Sereni 2021). Post- and transhumanist ambitions are commonly declared within Silicon Valley (Sereni 2021).

Silicon Valley's general beliefs about technology lead to the expectation that AI will be presented as having the power to alter social, economic, and political structures. This probably comes with the claim of liberating the individual from political authority and hierarchies and the quest for de-regulation. This suggests the portrayal of the "AI Revolution" as a social, political and industrial revolution. Furthermore, claims about the mastery of nature and the move towards post- and transhumanism is expected, whereby it remains unclear if Silicon Valley sees a proper paradigm shift happening (see Figure 1). Finally, an instrumental role of the "AI Revolution" in legitimizing their economic interests and exporting their ideology can be assumed.

Figure 1:

social revolution	political revolution	industrial revolution	scientific revolution
Change of class/social structures	Constitution of freedom	Change of socio-economic structures	Paradigm shift
	Sense of a new beginning	Global impact	
	New form of government	Technological revolution	
	Agency	Passivity	

Expected portrayal of the "AI Revolution" by Silicon Valley

2.7. Conclusion

Four types of revolutions and their corresponding criteria have been presented. Social revolutions are marked by the change of social/class structures, while political ones imply a sense of a new beginning, the constitution of freedom as well as a new form of government and displayed agency. Industrial Revolutions are determined by passivity, technological revolution, and socio-economic structural change with global impact. Lastly, scientific revolutions consist of a paradigm shift. Based on scientific literature it is argued that AI cannot be classified as any type of these types of revolution. The ideological background of Silicon Valley, however, suggests that the "AI Revolution" will be presented as revolutionary at least on the social, political and industrial level, in the pursuit of creating a certain image of AI that corresponds to their economic and ideological interests. To uncover the meaning of the alleged "AI Revolution" as an instrument of delusion and power stands at the center of the analysis.

3. Methods

3.1. Introduction

Interpretation is of subjective nature. Interpretive research, therefore, comes with several challenges regarding transparency, consistency and reproducibility. Specifically, three issues are relevant and the subject of discussion in this chapter.

First of all, a clearly defined and delimited research object is required. Here, a difficulty arises as the narrative of the "AI Revolution" is not physically observable. Secondly, successful contextual interpretation rests on fitting data representation of the research object. Decisions on data types and sources as well as the method of data collection must be reasoned and justified. Based on the choices made and with having the stated goal in mind, the most adequate method of data analysis must be selected. The interplay of all choices and the necessary activities resulting from it should then enable the discovery of implicit meaning and a critical contextual reflection of the narrative of the "AI Revolution".

3.2. Case selection

Already when ubiquitous computing came up, Silicon Valley created several myths and narratives. These were mostly "stories about how technology would fit into the world […]. They prefaced new realities and new promises, and in doing so they echoed previous technology visions" (Dourish/Bell 2011, p.1). These stories and narratives strongly influenced the public perception of technology and determine its present and future use and development (Sartori/Theodorous 2022). They continue to do so, as the constantly emerging narratives in the context of AI exemplify. The history of AI, for instance, is often told in terms of "winters" and "summers" or portrayed as a "race". More recently, the main narrative aims at replacing the "black-box" approach with explainable and transparent AI (Sartori/Theodorou 2022).

The alleged "AI Revolution" can be seen as the successor of former technological narratives of Silicon Valley, as it also comes with equally powerful claims about the impact of technology. Like former technological narratives, which were communicated in traditional media, especially in *the New York Times* and Silicon Valley's own magazines like *the Whole Earth Catalogue* and later *Wired* (Turner 2006), the "AI Revolution" is also represented in newspapers and tech magazines.

Narratives are "embedded within larger social systems and processes, inscribed with the rules, values and interests of the typically dominant group" (Sartori/Theodorou 2022, p.7). The alleged "AI

Revolution" not only tells a story and creates an image about AI but also transports the views and values of those creating it, namely Silicon Valley companies and actors.

The "AI Revolution" belongs to a set of revolutionary narratives that originate from the same belief in technology as a revolutionary force and are sometimes used interchangeably. Related terms are the "Information Revolution" that arose during digitization or the "4th Industrial Revolution", introduced in 2016 by the founder of the World Economic Forum. However, there are slight differences in the meaning, as the case of the "4th Industrial Revolution" exemplifies, as it perceives AI only as one technology amongst many contributors to a new industrial revolution. The research object of this thesis is thus only the "AI Revolution", delimited from these other narratives. Nevertheless, special attention is directed towards the relation of the "AI Revolution" and other revolutionary narratives. After the delimitation of the research object, data representative of the narrative must be collected.

3.3. Method of data collection

Textual data is chosen for the analysis of the "AI Revolution" because the narrative is found, discussed and reproduced in the media. Considering the exclusive focus on the "AI Revolution", documents that only refer to the "4th Industrial Revolution" or other variants of revolution are excluded. The explicit mentioning of the "AI Revolution", "Artificial Intelligence Revolution" or "Intelligence Revolution" constitutes the main criteria of selection. Additionally, documents in which it is referred to AI as "revolutionary" are included.

It is unknown when the term of "AI Revolution" appeared for the first time. However, it seems like a phenomenon that can be associated with the rebranding of AI in the early 2010s. Back then, "the term 'artificial intelligence,' with its nebulous air, refreshed the narratives about big data that Snowden's revelations began disrupting in 2013" (Katz 2020, p.69). By only selecting data from 2010 onwards, it is ensured that the contemporary understanding of AI itself is represented. The fact, that almost no documents referring to the "AI Revolution" were found older than 2010 confirms the chosen timeframe as being appropriate for capturing the narrative.

Similar to former technological narratives of Silicon Valley, the "AI Revolution" is discussed in articles published by traditional newspapers like *The New York Times*, *The Washington Post* and *The Atlantic*. However, these provide only a few articles, as they are traditional newspapers covering a broad variety of topics. Nevertheless, they are important to capture the public narrative of the "AI Revolution". Predominantly, the "AI Revolution" is discussed in the world of tech-business and venture capitalism. Magazines, like *Wired*, *Venture Beat, Forbes, Quartz* and *Fortune* all present themselves as having a special focus on AI and Machine learning or the tech business. Paywalls presented a challenge for accessing other magazines. To nevertheless create a dataset of adequate size, the variety of data sources

is increased. Blogposts on *medium* are included as they represent opinions and statements on the "AI Revolution", by individuals as well as companies.

To also gather data directly from Silicon Valley companies, Google was used. Their websites were searched for official publications that address the "AI Revolution". Similarly, it was googled for personal statements of (former) leaders of these companies with regard to the "AI Revolution". Finally, NexisUni allowed for accessing press releases by or about Silicon Valley companies in relation to the "AI Revolution", stemming from the two biggest United States distributors of press releases: *PR Newswire* and *Business Wire*. Social media platforms were not included as posts on Twitter or Facebook only provide limited space and are less informative. Despite the challenges due to limited access and availability a sample of 200 documents is selected collected. Due to technical reasons only 184 could be transferred to Atlas.ti.

The great variety of data sources must be criticized, as it is impossible to consider the interests of each of the media companies and their authors in the interpretation. At the same time, it presents an advantage. The great variety facilitates the detection of major discussions and contradictions about and within the narrative. Furthermore, it is ensured that observed trends and patterns are not depending on the view of one newspaper redaction, Silicon Valley company or, personal opinion, but are representative for a broader discourse.

Another weakness is the required subjective assessment of the researcher for the clearing of the dataset. Transparency is ensured by giving a short reasoning for the exclusion of documents in the Data Appendix. The analysis is based on the cleared dataset of 177 documents (see Data Appendix).

Keeping the nature of the research object and the collected data in mind, the choice of method of data analysis is discussed.

3.4. Method of data analysis

At the center of this research stands not only the discovery of the story Silicon Valley tells about AI and its revolutionary character but also the interpretation of the interests, beliefs and power it reflects and reproduces. This goal can only be accomplished by conducting a qualitative content analysis, which builds on the assumption that the meaning of a text is always constructed (Schreier 2012). As the interpretation of the narrative is directed towards the correspondence of Silicon Valley's portrayal of the "AI Revolution" with theoretical concepts of revolution and scientific literature, a directed approach guided by these theoretical concepts (deductive) is used (Shannon/Hsieh 2005).

In concrete, the description of the aspects that are presented to be revolutionary about AI is ordered by the four dimensions or revolutions (social, political, industrial and scientific) and their defining criteria (9 in total).

The criteria are in a next step translated into descriptive codes, meaning short descriptive expressions that represents aspects of the theoretical concepts which are expected to be found in parts of the data (Saldaña 2009). "AI for social good" for instance is used to code passages that imply that AI contributes to the well-being of society and therefore attributes a social dimension to the alleged "AI Revolution. However, a purely deductive procedure bears the risk of overemphasizing theory and finding results that only support the expectations from theory (Shannon/Hsieh 2005). Consequently, the qualitative content analysis is conducted with an open mind and with a consistent critical assessment of the coding scheme's accuracy. If Silicon Valley uses completely different concepts of revolution, suggesting other criteria and codes, the analysis is run a second time with the adapted coding scheme. Due to limits of capacity and time, a "comparison across points in time" or "across persons", which would increase the reliability of the research, is not feasible (Schreier 2012, pp. 6,167). To ensure an ordered and transparent procedure the software of Atlas.ti is used. The systematic description, resulting from the application of the coding scheme, then provides an overview over all the aspects that are seen as revolutionary about AI. This allows for a descriptive answer to the first sub-question: *"In which aspects is AI presented to be revolutionary in statements/publications of Silicon Valley corporations, actors and their stakeholders about the AI Revolution?"*.

Departing from the systematic description of the data, it is examined whether the portrayal of the "AI Revolution" fulfills any of the criteria for one or more types of the revolutions presented in the theory chapter. Special attention is directed towards patterns and connections of codes. Based on this, an answer to the next sub-question *"In which aspects does the portrayal of the 'AI Revolution' correspond/not correspond with the definitions of revolution, provided by theory?"* is formulated. Finally, the results are set into context by confronting the claims about the revolutionary character of AI with scientific knowledge. The answer to the last sub-question *"In which aspects is the portrayal of the 'AI Revolution' supported/not supported by scientific knowledge about AI?"* helps to detect contradictions between Silicon Valley's portrayal and the scientific literature. These are then interpreted by considering the ideological background and interests of Silicon Valley.

The results of the conducted analysis are presented in the next chapter. During the process, changes were made for three of the 26 codes to better capture the terminology used in the data: the codes "new technologies" and "tipping point" were replaced by "disruptive technologies" and "on the cusp of a revolution". "Mastery of nature" became "surpass of human capabilities", as theory suggested that the artificial creation of a human mind or something that has similar of even better capabilities can be considered as the ultimate form of mastery of nature. Four codes have been developed directly from the data, as they represent key elements of the narrative that need attention ("fueled/powered 'AI Revolution'", "business transformation", "international competition"). However, they could all be assigned to the predetermined criteria. The final coding scheme (see Table 1) entails 29 codes.

Table 1:

Coding Scheme Dimensions	Theory	Category	Code (descriptive)
Social	Marxist theory	Change of class/social structures	AI for social good; social justice
Political	Arendt's theory	Constitution of freedom	empowerment; gain in freedom
		Sense of a new beginning	new era; new age; on the cusp of a revolution
		New form of government	democratization; technocracy
		Agency	leading the "AI revolution"; starting the "AI revolution"; contributing to the "AI revolution"
Industrial	Moll's theory	Change of economic structures	transformation of work; increase in productivity; increase in efficiency; economic growth; business transformation;
		Global impact	global wealth; international competition
		Technological revolution	innovation; disruptive technologies
		Passivity	adaptation; facing the "AI revolution"; fueled/powered "AI revolution";
Scientific	Kuhn's theory	Paradigm shift	surpassing of human capabilities; human-centered AI; post-humanism; trans-humanism

3.5. Conclusion

This chapter presented the "AI Revolution" as the research object. It is a technological narrative, found in newspaper and magazine articles, press releases and publications of Silicon Valley actors, companies and their stakeholders and transports predictions and believes about AI and reflects the values and power of its creators. The discovery of the narrative's implicit meaning requires a directed content analysis, which asks for the exercise of several research activities.

First, the data needs to be described in an organized way by applying the coding scheme. In the next step, the findings must be interpreted concerning their correspondence to the theoretical concepts of revolution. Lastly, the setting into context is necessary to enable a differentiated conclusion on *"To what extent can Silicon Valley's alleged 'AI Revolution' be typified as a Revolution?"*.

4. Analysis

4.1. Introduction

The findings of the analysis are presented in this chapter. The "AI Revolution" is characterized as an autonomously progressing development, following technological progress and capitalist logic. Furthermore, the narrative creates uncertainty by suggesting two possible outcomes of the "AI Revolution". It is stated that under the condition of adaptation, AI will make our society more equal, free and rich. Without adaptation, negative consequences are predicted. It is uncovered that the narrative, in both of its contradictory appearances, ultimately serves to keep up the status quo in two ways. On the one hand, the fact that AI, the way it is currently used and the structures it is embedded in, cannot evoke radical transformation but reinforces existing dynamics is masked. On the other hand, trust and investment in Silicon Valley companies are legitimized, contributing to the status quo of their economic power. At the same time, their ideology is reproduced. There were some very surprising and partly contradictory findings, that are addressed in more detail in the following sections, that are ordered by the theoretical concepts along which the narrative was analyzed.

4.2. Silicon Valley's vision of a social revolution

With the alleged "AI Revolution" the great social impact of AI is often emphasized. The use of "AI to tackle social, health and environmental challenges" (62, p.1) as well as detecting criminality and fake news is commonly mentioned (22; 141; 87). Beyond, it is predicted that humans will have more time to work towards social good, as AI will exercise simple and repetitive labor (106).

At the same time, there exists concern that AI "could perpetuate social injustices" (152, p.8) for example through gender and racial bias in facial-recognition algorithms or the unequal distribution of the benefits generated by AI (120; 152). Moreover, AI is predicted to replace many jobs, inequality is expected to increase, if society doesn't adapt (146; 157; 162). The suggested measures reach from redistribution, for instance by a universal basic income or a social investment stipend, to the (re)training of workers and the investment in social start-ups (93; 106, 155; 157). Especially, governmental intervention is seen to "make the society of the future much less divisive" (106, p.1) and "a little kinder and a little more loving" (157, p.2).

Clearly, a social dimension is attributed to the "AI Revolution". The offering of technical solutions to social problems and the general contribution to social good, however, is not sufficient for the classification as a social revolution. The prediction of increasing inequality through an enforced polarization on the labor market neither corresponds to the definition of a social revolution. The mentioned potential of AI to make society more equal if the right adaptive measures are taken, on the

contrary, proposes a possible transformation of social structures. While there is no social revolution claimed in the present, the potential of a future social revolution is stated. To realize this potential, governmental action and investment are demanded. Therefore, AI itself is not presented as the revolutionary force. The "AI Revolution" is portrayed as autonomous development with an uncertain outcome. To unfold as a social revolution, regulation and redistribution are needed. The frequent mentioning of AI being used for social good seems to serve as proof that AI can be beneficial for society, although there are no structures altered, yet.

Thus, it is not claimed that AI will transform the social structures by its own. The core claim is rather that governments can use AI for transforming the social structures to increase equality. If redistributive systems and the investment in social start-ups suffice to evoke a social revolution can be doubted but is a question of its own. Nevertheless, this argument must be addressed, as it negates technological solutionism. While the recurring praise of technology application to social problems of the present seems to be in line with technological solutionism, the call for governmental intervention equals the admission that technology itself is not sufficient.

Therefore, the presentation of AI and its impact is in line with scientific literature. The fact that AI can solve specific social problems or at least contribute to their solution, cannot be doubted (Holzmeyer 2021). AI's potential to negatively impact social equality equally corresponds to scientific findings but partly illustrated in dramatic language. Kai-fu Lee, who worked for Apple and Microsoft in Silicon Valley before becoming president of Google China, for instance, states that if there is not some kind of redistribution, AI will

> "bring a new caste system, split into a plutocratic elite and the powerless struggling masses" (155, p.12).

This reflects the idea that AI is an autonomously progressing force, representing technological substantivism.

In conclusion, AI and its social impact are not specifically mispresented. By stating AI's negative effect on social equality, the "AI Revolution" an uncertain future is predicted. To this, Silicon Valley offers an alternative scenario in which AI does not reinforce the existing social structures but transforms them for the better under the condition of adaptive measures. The possibility of the "AI Revolution" appearing in form of a social revolution is stated. This contradicts the expectation that the belief in technological solutionism will lead to the portrayal of the "AI Revolution" as a social revolution.

4.3. The politicization of the "AI Revolution" by Silicon Valley

The impression that tremendous change is going to happen, not only on the social dimension, is underlined by the use of certain language. The "AI Revolution" is associated with a "turning point in

human history" (33, p.1), as we "we transition from the industrial age to the AI age" (157, p.8) or enter a "new era of artificial intelligence" (15, p.2). The impression of standing "on the cusp of a revolution" (171, p.1) is created. This gives rise to many different scenarios about what the future possibly holds. On the political dimension, it is claimed that the

> "AI Revolution underpins the current contest of values between democracy and authoritarianism" (145, p.1).

This contest is strongly tied to AI's impact on freedom. China is exposed for using AI to surveillance and control its citizens, while western democracies are attested an exclusively ethical use (37; 145). Nevertheless, concerns are raised regarding the manipulation of information and the related threat to democratic elections (22; 23; 64). This comes with the frequent emphasis on the need for ethical and responsible use of AI, also by states and companies (45). It is assumed that

> "organizations that prioritize positive impact and responsible development of their AI systems will ultimately be the leaders of the AI revolution" (45, p.1).

Here, the competitive nature of the "AI Revolution" is illustrated again, although unclear which kind of competition it is referred to.

Under the condition of competition, the "AI Revolution" is presented as something which needs to be led, started and participated in. Especially companies and nations lead the revolution. It is for example stated that "Canada has all of the key elements to lead a truly inclusive AI revolution" (63, p.1) and that there are currently "20 companies at the forefront of the AI revolution" (160, p.1). It is started mostly by data scientists and their developments (57; 60), while the form of contribution mainly consists in investment (96; 121) and the adoption of AI-driven products (76). Finally, "it's people who make a difference in developing revolutionary systems" (49, p.1).

Two defining criteria of political revolutions are thus fulfilled. Agency is displayed and a sense of a new beginning is created. However, there are no indications of a specific new form of government, enabled by AI. Freedom seems more threatened than constituted by AI.

Interestingly, the vocabulary of freedom and empowerment is applied to the business context. The possibility of "personalizing in-store services based on analysis of a consumer's facial expressions" (91, p.2), for instance, is understood as empowerment of the customer. Equally enterprises and employees are empowered by AI (108, 147, 169). Moreover, the people are seen to gain freedom as AI takes over simple and repetitive tasks (106, 116). Similarly, the term "democratization" is commonly used. When Silicon Valley companies state the "democratization of AI" or the need thereof, they certainly refer not to a political system of collective decision-making, as this statement of a company reveals:

"We're democratizing the use of AI so that enterprises of any size can reap the tremendous competitive advantage that comes with today's AI revolution" (50, p.1).

"Democratization" in their understanding is about ensuring equal access to AI, and more importantly increasing efficiency and providing innovation potential for all competitors.
Thus, Silicon does not substantively claim a political revolution, as there is no new government and freedom established in the classical sense. However, language associated with such a revolution is used.

The transfer of the revolutionary language from the political sphere into the economic context helps to present the uncertain consequences of AI in a positive light. For instance, the replacement of jobs that could lead to unemployment becomes "freedom" (43, 64). Where it is referred to freedom in a political context, an equally one-sided presentation of facts can be observed. Although negative and positive effects are mentioned in line with scientific literature, one side is usually overemphasized, depending on what image shall be created. To claim that democracies are use AI only for good and authoritarian states only for evil is simplistic. It cannot be denied that China applies AI to create systems of social control and for silencing opposition. However, AI is also used for surveillance, warfare and the manipulation of elections in and by the US and other western states (Ashraf 2021, Schipppers 2020), even though in different scope.
The issues regarding privacy and free decision-making that come with the analysis of facial expressions are also completely ignored. Communicating on own practices in ways that omit aspects of moral questionability probably aims at presenting Silicon Valley companies as defenders of freedom and democracy. Besides creating moral superiority, this aims at evoking trust from customers and citizens who stand at the center of public AI initiatives and the commercial adoption of AI (34, 45, 51).
As China is also presented as the main market competitor (37; 119), trustworthiness and morality can be considered an advantage. Customers may choose Silicon Valley firms over Chinese ones. Furthermore, it is hinted in one document that

"[t]he big tech companies tried to steal a march on regulators and public criticism by embracing the idea of AI Ethics" (153, p.14).

This underlines the pursued creation of trust, but also the goal of avoiding governmental regulation. If AI is used in a flawless way, there is no need for governmental action. Beyond that, appealing to individuals' consciousness and morality in their decision of purchase, the task of ensuring ethical use of AI is shifted away from governments to individuals and the market. Not only is the neo-liberal request of de-regulation stated, but governmental authority as a whole is undermined. However, not technology is challenging governmental authority, as Silicon Valley's belief in technological determinism would suggest, the market is.

Considering the competitive nature of the "AI Revolution", politically and economically, as well as the assumption of an autonomously progressing technology with vast social impacts, expressions of agency seem contradictory. This is a core tension that needs more attention. The preliminary conclusion is that the way in which Silicon Valley presents the "AI Revolution", it is rather about the conservation of democracy than about transformation. No political revolution claimed, but related language is used to create a positive image of AI's impact on freedom. Moreover, Silicon Valley companies present themselves as defenders of freedom and democracy, without questioning their own practices. In doing so, terms of "empowerment" and "democratization" are emptied of their initial meaning and the fight over democracy and freedom is shifted from the political stage to the market. Customers and investors are forced to choose on which side they are within the alleged "AI Revolution". But what do customers and investors face on the economic dimension, when they follow Silicon Valley's call?

4.4. Silicon Valley's illusion of an industrial revolution

The prediction that AI will automate and consequently replace many human jobs, leading to an increase in productivity, efficiency and economic growth on the national and global level, is shared uniformly (50; 174; 106). Most attention is by far directed towards how "the AI revolution is transforming every aspect of a business" as "[i]t has led to the creation of new revenue streams, new opportunities, and different ways of engaging with customers" (15, p.2).

These developments are conceived as unstoppable and inevitable, requiring adaptation (78; 154; 159). Besides redistribution and retraining as means of adaptation, the focus lies on businesses that are advised to adapt by adopting new AI-driven technologies as fast as possible (91; 147).

Adaption is presented as the key to staying competitive within the capitalist competition (91; 111). However, the "AI Revolution" is also seen as a race of innovation and technological progress (27; 55). The relation between the "AI Revolution" and innovation is presented in somewhat contradictory ways. Sometimes the "AI Revolution" is portrayed as being driven by innovation and disruptive technologies, other times it is seen to cause them (6; 23). Several times, AI is associated with a technological revolution (6; 106; 145). At other points in the data the "AI Revolution" is defined as the technological innovation within a certain sector, especially healthcare, or the field of AI itself (67; 165).

It can be derived that the "AI Revolution" is expected to radically transform the socio-economic structures, especially by its impact on processes of production and service delivery. These transformations are expected to unfold globally. Additionally, the "AI Revolution" is presented as an autonomously progressing phenomenon, following the rules of competition for profit and innovation. This reflects passivity of humans towards this process. Therefore, three of the four criteria of an industrial revolution are clearly fulfilled by the portrayal of the "AI Revolution" by Silicon Valley.

However, there exists confusion about whether the "AI Revolution" presents an industrial revolution by itself, or if it is only the technological revolution leading to one. This confusion can also be found when looking at the explicit references to industrial revolutions. In some part, the "AI Revolution" equals the "4th Industrial Revolution" (34, p.3). In others, it is only one driver of an ongoing industrial revolution (175). There are comparisons based on similarity as well as difference between previous industrial revolutions and the "AI Revolution" (22; 33; 155). Despite these differences, in sum, the claims about AI and its impact correspond to all four criteria of an industrial revolution.

Both, the presentation of the "AI Revolution", as a technological or industrial revolution, contradict the findings from scientific literature. Contemporary technologies are only an evolution of the technologies that emerged during the last technological revolution, which evoked the third industrial revolution (Moll 2021). Considering, that the "AI Revolution" is commonly associated with being the start of a new age or era or is associated with the "4th Industrial Revolution", the "AI Revolution" clearly does not refer to the ongoing third industrial revolution, but claims a new one.

Regardless of whether the "AI Revolution" is presented as the "4th Industrial Revolution" or the technological revolution that leads to is, this always comes with the claim of inevitable technological progress and radical transformation, that follows its own rules. When talking about the value of Diffbot, a Silicon Valley company, a venture capitalist states:

> "Structured data will be to the AI revolution and intelligent applications what oil was to the second
> industrial revolution and the combustion engine" (18, p.1).

When the "AI Revolution" is described as being fueled or powered by data and technologies (48; 124), this draws parallels to a motor running on its own as long as it is fueled. This suggests that there is input in form of resources (data) and human action (developing, training algorithms) needed. But once this input is guaranteed, the "AI Revolution" unfolds its own dynamic which cannot be foreseen, but only presumed.

This dynamic is marked by a paradoxical interplay of agency and passivity. As the metaphor of an engine shows, technology is perceived as autonomously progressing, having vast effects on how we work and live. The inevitability of technological progress is emphasized by the sense of rupture and the references to previous revolutions. Agency is directed away from people towards technology, while at the same time the impression of leadership through governmental intervention, adoption and investment is held up. Interestingly, Barais and Katzenbach (2021) have detected the very same pattern in the rhetoric of governments in their AI strategies. They observe that "the articulation of expectations, hopes, and fears provokes a mobilizing momentum. It serves as an open window of incertitude, which […] offers a suitable opportunity for national leaders to demand initiative and uncritical commitment to coproduce the very futures they envision" (Barais/Katzenabch 2021, p.16). The revolutionary narratives about technology that emerge from Silicon Valley are thus of great use for governments to legitimize

and stabilize their power. More importantly, they show how Silicon Valley's narrative of the "AI Revolution" is not only about telling a story about AI but creates a moment of uncertainty that directs blind trust towards them, consolidating their power.

Being embedded in capitalist context and reflecting capitalist thinking, the passivity is amplified by the autonomous system of the market and the competitive environment it relies on. The proposed forms of agency are also influenced by this context. Individuals and companies are sometimes directly advised to invest but and adopt AI technologies (25). However, the pressure to do so is built up much more implicitly by frequently emphasizing that everybody else is doing so. When it is stated that "investment in AI is surging worldwide" (3, p.2) or that "AI adoption is growing faster than many had predicted" (82, p.2), this puts pressure on companies to do it similar to stay competitive.

In the end, the Silicon Valley companies are those who profit from this, as it is invested in them and their technologies are purchased in order to be prepared for the revolution. Growing economic power, as well as the export of their ideas about technology, only stabilizes Silicon Valley's economic and ideological power, which in the first place enabled them to even create and spread narratives. The "AI Revolution" thus reflects the status quo of power structures and is a tool for consolidating them.

The false proclamation of an industrial revolution by Silicon Valley was expected from theory. As the revolutionary narrative has been uncovered as a tool for conserving the status quo by fostering trust and investment in Silicon Valley companies, the paradigmatic dimension bears the last revolutionary potential.

4.5. The assurance of human centrality

The narrative of the "AI Revolution" is dominated by claims about the impact AI has on the economy. Nevertheless, human thought and its role in the world are also addressed from time to time. There is no doubt about the fact that AI concurs with human capabilities. For instance, it is asserted a better vision and ability to analyze the reactions of humans (33; 129). The idea of "AI surpassing human capabilities has divided leaders in science and technology" (7, p.3). However, in most cases, it is emphasized that AI might take over humans' technical tasks but is not capable of replacing their imagination, intuition and empathy (7; 157; 10; 144). Based on this, it is often argued for a "human-centered AI" (89, p.1; 170, p.1) that mainly assists humans (28; 83; 179). With this comes the request for a "peaceful coexistence with AI" (74, p.1). AI-driven technologies, devices and robots must be accepted as part of our environment. Although the "AI Revolution remains at the service of human beings" (49, p.2), this does not mean that humans are untouched by AI. Many state the "transformation of human reasoning and decision-making" (87, p.2), but without specifying how exactly this transformation looks like.

When AI is stated presented as being able to perform tasks way better than humans or at least assist them, this implies the surpassing of limits nature imposes on humans. In addition to this mastery of

nature, the special status of humans is emphasized. Both can be interpreted as a reflection of enlightenment and humanist thinking. The centrality of humanity, however, stems not from the traditional humanist thinking that humans need to be protected from technology. In one article, published in *WIRED,* it is concluded:

> "In its earlier days, artificial intelligence was weighted with controversy and grave doubt, as humanists feared the ramifications of thinking machines. Now the machines are embedded in our lives, and those fears seem irrelevant" (141, p.5).

Nevertheless, it is emphasized frequently that AI serves humanity and is designed to do so. Human centrality thus remains. There are some indications about a future in which we interact with machines like humans, indicating post-humanist ideas (151). However, these are only a few. Additionall, no indication of transhumanist views can be found.

Thus, a clear dominance of the humanist and Enlightenment thinking can be stated. Even though there remain unspecified hints that our self-understanding and the perception of the world are going to change, the "AI Revolution" cannot be associated with the shift from one paradigm to another. Instead, two paradigms with a long tradition in human history build the core pillars of the narrative. Silicon Valley does not declare the "AI Revolution" to be a scientific revolution.

The fact that no scientific revolution is claimed, corresponds to the findings based on scientific literature. Nevertheless, Silicon Valley's portrayal is rather one-sided as the clash of competing paradigms is not reflected. Considering, that the section on the ideology of Silicon Valley proposed the occurrence of especially post-humanist and transhumanist elements, this is rather surprising. Nevertheless, there is an important core belief of Silicon Valley represented, even though indirectly. This becomes visible for instance in this passage:

> "We are only at the start of the AI revolution but battlelines are already being drawn between giants, deploying   huge   resources,   stockpiling   talent,   building   proprietary hardware/infrastructure/platforms, all in the name of harnessing AI and data for their own benefits" (99, p.4).

AI is described here as something that needs to be "harnessed" (42; p.2; 172, p.2), or "capitalized" (11, p.5). The use of these terms creates the impression that AI is something that exists independently from humans and can be used for their benefit, but only after competing for it. All of this resembles the description of newly discovered natural resources, for which the big companies are in their starting blocks. This not necessarily contradicts the frequent presentation of technology as an autonomously progressing force. It rather suggests that humanity is able to keep the control over their own creation, which holds the potential of surpassing them.

Ultimately, keeping up humanity's centrality is essential for ensuring a positive outcome of the "AI Revolution", as it is expressed here:

> "Data science and artificial intelligence can solve our greatest challenges and make the world a better place if we keep the AI revolution human" (62, p.1).

The building of the narrative on only enlightenment and humanist thinking serves the building of trust in AI, as humanity's control over AI and its centrality is reassured. More importantly, the impression is created that the "AI Revolution" itself can be mastered, meaning that it unfolds in a way that is beneficial for society and the economy. The resulting trust in AI and the "AI Revolution" then again is beneficial for Silicon Valley companies as this equally signifies that people will invest in AI and purchase their technologies. The narrative thus not only reproduces long-established paradigms but conserves Silicon Valley's economic and cultural power.

4.6. Conclusion

Finally, the three sub-questions can be answered. There are many things to be mentioned concernging the question *"In which aspects is AI presented to be revolutionary in statements/publications of Silicon Valley corporations, actors and their stakeholders about the AI Revolution?"*. On the social level, the contribution to social good and the potential of making society more equal are seen as revolutionary. Moreover, the empowerment of customers and envisaged liberation of people from work are central elements of the "AI Revolution". AI is furthermore associated with technological progress that disrupts markets and ultimately transforms the global economy by increasing productivity and generating wealth. Lastly, AI is revolutionary due to its capability of assisting its creators in the surpass of their own natural limits and the mastery of everything.

Building on this, the second sub-question *"In which aspects does the portrayal of the 'AI Revolution' correspond/not correspond with the definitions of revolution, provided by theory?"* can be answered. The portrayal of the "AI Revolution" mainly corresponds with one of an industrial revolution, as there is the transformation of socio-economic structures with global impact as well as a technological revolution in which humans have a passive role, stated. The "AI Revolution" is further pictured as possibly unfolding in a social revolution, as there is a potential for the transformation of social structures projected. The stated contribution of AI to social good however is not sufficient to classify the AI as revolutionary in the social context. Furthermore, there is agency and a new beginning claimed, as well as the constitution of freedom claimed, but no new form of government. As the core criteria of constituted freedom is alienated from the political context, which is decisive for Hanna Arendt, there is no substantive political revolution claimed. As the narrative is dominated by enlightenment and humanist thinking, there is no paradigm shift, characterizing a scientific revolution, indicated. In the end, the so-called "AI Revolution" is presented predominantly as industrial revolution. There is also a

potential social revolution indicated, whereas the claims about AI do not correspond with the definitions that would characterize the "AI Revolution" as political or scientific revolution.

By addressing the question *"In which aspects is the portrayal of the 'AI Revolution' supported/not supported by scientific knowledge about AI?",* a critical reflection of Silicon Valley's narrative is enabled. The narrative ignores the ongoing contest of paradigms around AI and only builds on enlightenment and humanist tradition. Both, the positive and negative implications of AI for freedom are mentioned, whereas the positive effects are predominantly associated with Silicon Valley's use of AI. The negative aspects only appear in the context of China's unethical use. This cannot be considered a wrong, but one-sided presentation of the impacts of AI. The impacts of AI on work and the predictions of increasing productivity and wealth, irrespective of the exact number, can equally be assumed as an accurate presentation. However, they are misinterpreted as changing social and economic structures to the better, which is not in line with scientific literature. Equally wrong is the proclamation of new technological revolution, in which technology progresses autonomously and humans have to adapt.

With considering the patterns and assumptions that build the basis of the narrative, a differentiated conclusion for the main research question of this thesis is developed.

5. Conclusion

5.1. Answer to the research question

The alleged "AI Revolution" cannot be classified as any kind of revolution. Instead, it was uncovered as a narrative that masks the conservative effect AI has on social and economic structures and serves the building of trust and the legitimization of investing in Silicon Valley companies, ultimately consolidating their economic and cultural power. This is the compact answer to the primary research question *"To what extent can Silicon Valley's alleged 'AI Revolution' be typified as a Revolution?"*.

The "AI Revolution" is portrayed as a development that is based on the assumption of technology as an autonomously progressing force, that will evoke vast transformations of our socio-economic structures on a global level and to which humans have to adapt. Thus, a new industrial revolution is declared, although scientific literature states that AI rather contributes to the dynamic of the previous third industrial revolution. At the same time, the revolutionary narrative itself also shows conservative elements, as it is about securing freedom and democracy as well as humanity's centrality in the world and the ability to master everything and make a profit from it. Contrary to the expectations, no political or scientific revolution was claimed. Nevertheless, there are severe implications of the "AI Revolution" for democracy, freedom and social equality stated in line with scientific literature but presented in a one-sided manner to create the image of two possible outcomes of the "AI Revolution". The positive outcome, which eventually leads to a social revolution, is then guaranteed under the condition of trusting and investing in Silicon Valley companies, which promise an ethical and human-centered use of AI.

It is suggested that the current social, economic and power structures are left behind, only so that Silicon Valley can present itself as the guarantee for making the best out of this by securing a comfortable future in which humans remain at the center of the world and keep their ability to master everything and make profit from it.

The narrative of the "AI Revolution" not only masks the conservative power of AI, which reinforces the current socio-economic dynamics. It also consolidates Silicon Valley's power as the illusion of a revolution is created to provoke exactly those actions that preserve the status quo: trust and investment in Silicon Valley companies. Their power is consolidated and the alleged revolution resolves in the position of departure. This corresponds more to a revolution in the Copernican sense, outlined at the very begging, than to a revolution in a modern understanding.

Contrary to the expectations, the ideological elements within the narrative did not lead to a characterization of the "AI Revolution" as a revolution of all four types. Ideas of technological solutionism and governmental de-regulation were even directly opposed in some parts. The narrative seems to be less based on the interest of spreading ideological beliefs than on the goal of legitimizing trust and investment in the pursuit of economic profit.

5.2. Filled research gap

This research confirms Katz' statement of the "AI Revolution" as "manufactured" and is line with the statements of Duff, Ferrari, Turner etc. who already detected the misleading use of revolutionary narratives by Silicon Valley to spread their ideas about technology and foster the consume thereof. This thesis finally delivers the evidence for their statements, which are rather vague and based more on suspicion than on a scientific analysis of narratives and their critical confrontation with theoretical concepts of revolution. Moreover, this is the first time it is detected in detail, how a revolutionary narrative of Silicon Valley is structured and that is not a mere overestimation of technology's power but a strategical tool of power. However, the findings of this research indicate that the transport of ideology plays a less important role, as the focus lies on using ideological elements for legitimizing economic profit and consolidating power. Especially, the frequent calls for redistribution through the state contradict the neo-liberal belief in deregulation and technological solutionism of Mosco, Turner etc.. However, this not necessarily mean that they overestimate the ideological importance. As their works stem from the early 2000s, it might very well be that certain events and development evoked an ideological shift. In any way, this research should be a strong reminder for scholars like Makridakis or Philbeck and Davis who reproduce the narratives of the "AI Revolution" and the "4th Industrial Revolution" without questioning them.

At this point, it would be to useful conduct similar analyses on related revolutionary narratives regarding technology to prevent the further alienation of the term "revolution" and its instrumentalization in the interests of Silicon Valley. Certainly, there is also more research needed on who holds the power within the Valley. Looking at this research it seems like some powerful individuals bring forward the ideas about AI as a revolution, which are then picked up by companies and the public media adopt and reproduce. To know how exactly such narratives diffuse could then help for reveal their real content in a earlier stage, allowing for their countering and rectification.

5.3. Practical implications

The results of this research underline the importance of being critical of the narratives of Silicon Valley, but also of the technologies and practices emerging from there. If we are interested in a constructive discourse about how we can use AI for good and how negative impacts can be mitigated, we should refrain from using the term of "AI Revolution". This counts especially for scientists who pursue reliable research about AI and its impacts. Only if we do not build our discussions on one-sided and instrumental narratives and are critical of the uses of AI by western democracies and companies as well, while considering the consequences for freedom and social equality, we can ensure that AI remains beneficial for humans. Finally, we must stay conscious of the fact that if a change of the current social and

economic structures, resulting from the third industrial revolution is pursued, if freedom or a new form of government shall be constituted, neither AI nor any other technology by itself will do this for us.

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7. Appendix A: Data List

Note: all data documents, which were used for the analysis are listed here as references in APA style (7th Edition). The official APA guidelines provide that those articles that are retrieved from the database NexisUni must not be presented with a link. For all other documents a link is provided.

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8. Appendix B: Statutory Declaration

I hereby declare that I have authored this thesis independently, that I have not used other that the declared sources, and that I have explicitly marked all material which has been quoted wither literally or by content from the used sources.

29.06.2022
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(Date)

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(Signature)