The Human Imperative

Power, Freedom and Democracy in the age of Artificial Intelligence

By
Paul Nemitz and Matthias Pfeffer

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Reactions to the German language version of this book with the title "Prinzip Mensch"

"The book Silicon Valley won't like."
Janosch Delcker, Politico Europe, AI Decoded.

"Tech without democracy and rule of law cannot work. This book shows us a clear path forward that will allow us to integrate tech into our social fabric. The US Congress must act, for if America does not reign it in, others will."
Professor Alexander "Sandy" Pentland, MIT Media Lab, Boston, Author of "Social Physics".

"Ein großer Wurf zu einem wichtigen Thema unserer Zeit." (A big hit on an important topic of our time.)
Alexander Kluge, Filmmaker and Author, Munich.

More reviews and reactions at www.PrinzipMensch.eu.

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New Foreword for the English Language Edition

The worldwide hype about Chat GPT, generative AI and its problems shows that the analyses and demands of this book have become even more pressing.

Some readers of the German version - in particular, journalists - told us that we should have put the last chapter of the book first. It sets out the key suggestions for political action to create a legal and policy framework for AI and the digital economy. Those working on legislation for AI and the digital economy in Washington[1] and elsewhere may want to read this chapter first.

More generally, we hope that this book injects European thinking into the global debate on how we want to live with AI in the future. The European Union has adopted or proposed several legislative measures in order to give a democratic framework to AI and the digital economy.

In our book, we discuss in particular the General Data Protection Regulation (GDPR), which is the basis for the interim interdiction in Italy of ChatGPT by the Italian Data Protection Authority.[2]

The AI Act proposed by the European Commission in 2021 is still under negotiation between the European Council and the European

[1] Washington vows to tackle AI, as tech titans and critics descend, Cat Zakrzewski, Washington Post 8 April 2023, https://www.washingtonpost.com/technology/2023/04/08/washington-artificial-intelligence-regulation/

[2] Decision of the Italian Data Protection Authority ("Garante") of 31 March 2023, Nr. 112 (Doc. Web 9870832), https://www.garanteprivacy.it/web/guest/home/docweb/-/docweb-display/docweb/9870847#english

Parliament.[3] This book contains much of the underlying thinking for the AI Act which has been inspired by our work.[4] And the need to act in the face of fast advancing disruptive technology is greater than ever.

Immediately after generative speech AI began its breath-taking triumphant march in early 2023 a worldwide six-month moratorium on AI was put into play. OpenAI founder Elon Musk and more than a thousand other experts warned of an impending catastrophe if the unchecked development was not temporarily halted to develop safety measures against unintended consequences of the technology.[5] A moratorium in the sense of a pause for reflection would be a sensible step in principle. But it is completely unrealistic. Hardly anyone would adhere to it in the global race for the most powerful AI. And the appeal focuses too much attention only on one point, the dangers of an approaching uncontrolled superintelligence. But the danger lies in the fact that even non conscient AI can cause immense damage, precisely because it cannot know what it is doing.

The more important point however is the constantly evolving, "autonomous" i.e., self-learning AI and how it accumulates power and can be used to exercise power over both individuals and societies. It is this question of technology induced power that this book focuses on. And in the context of this power question, we need to examine the control problem. The control problem exists even if we do not assume that an Artificial General Intelligence (AGI) will

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[3] A European approach to artificial intelligence | Shaping Europe's digital future (europa.eu), https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence

[4] See already Paul Nemitz, Constitutional democracy and technology in the age of artificial intelligence, 15 October 2018, Philosophical Transactions of the Royal Society A, https://royalsocietypublishing.org/doi/full/10.1098/rsta.2018.0089

[5] https://futureoflife.org/open-letter/pause-giant-ai-experiments/

emerge soon. Because it has two sides: One the one hand, the danger of the loss of human control over technology. And on the other hand, the opposite danger of concentration of technological power in the hands of a few and the resulting problem of lack of democratic control and lack of accountability.

ChatGPT represents another open-air experiment by GAFAM companies: the profits will once again be reaped by these big companies. The technology will be trained and improved by people, the users, for purposes these companies determine alone, and which guarantee them maximum profits. The negative consequences, however, are once again borne by society, which is completely unprepared for this technology.

The Large Language Models (LLMs) used in the case of Chat GPT embody a new special form of power technology because people organize their thinking, knowledge, and actions through language. This is why forging AI into logos is particularly problematic, even if it still seems rather clumsy, like mathematical intelligence without good judgment and wisdom.

AI has a deceptive nature. These programmes try to imitate human intelligence and pretend that they have really achieved it. LLMs, in combination with ML and generative AIs, are particularly "good" at this because, in addition to the appearance of intelligence, they also produce the appearance of creativity.

The nature of this type of “creativity” needs to be better understood: Since AIs still have no reference to the world, they infer meaning only from the syntactic use of words, which they find in gigantic quantities in training files, composed of all published texts in this world. Many of these texts are protected by copyright which LLMs simply ignore. They appropriate the langue of these texts and its

value without making explicit reference to them like any scientist would have to do nor pay their copyright dues. The language models train in this way on texts that are not published with the intent to be used subsequently as fragments to be completed with the help of probability calculations and to be the basis of "self-creation" by machines in the process.

The AIs then gather feedback and become "better" at calculating the effect of their new texts. But not with a view to their truth and relevance. They are trained purely on the effect of the texts on people who, as the AI very quickly finds out, are best controlled by emotions. By providing users with what they are most likely to want to hear, rather than what they should know, or need to know, AI focuses on emotions and avoiding cognitive dissonance, thus leading into a dangerous narrowing of thinking.

AI extrapolates, averages the data available to it, data from the past, but not creative solutions for the new, the surprising, for the challenge posed by an open future.

LLMs perform a stringing together of words according to statistical calculations. Probability takes the place of truth, which thus becomes an appearance only. Above all, AIs produce the appearance of a truthful intelligence. The “ought” is reduced to the stochastically calculated “having-been”. From data of the past probabilities of occurrence are calculated, which can block alternative really creative and therewith better solutions.

Let us not forget: Only humans can account for the truthfulness of texts and take responsibility for their ideas. It is for this reason that copyright does and should only protect human creators. And it is humans alone who have the ability to imagine the non-existent or not yet existent, thus, through criticism of the existing and dreams

and imagination of the new and better, create the really new which goes beyond just extrapolation of the past or a new remixing of the already existing.

But the texts produced by GPT look convincing. This is what makes them so dangerous, in addition to the opacity of the programme and of the operating company.

The problem: OpenAI has stated that neither the algorithms nor the training data of the software will be published. Officially for security reasons. The company is thus ‘re-arcanizing’ knowledge; making it more, not less, arcane - an enormously significant decision in the prevailing information economy. If, in today's information economy, not only significant parts of data processing, but also of language and knowledge generation are carried out according to criteria and algorithms that are not accessible to the public, a new arcane regime is de facto created that unites decisive information and decision-making power. The "Open" in OpenAI has thus become a farce.

While the initial aim was to make the blessing of the revolutionary new technology of self-learning AI available to as many people as possible, any demands for transparency of the software are now rebuffed by pointing out how dangerous this technology is in the wrong hands. What is worse, the texts do not even contain the footnotes which every writer needs to insert if using texts of others. Thus, OpenAI steals texts and ideas without referencing. A major sin in modern writing, an act of anti-enlightenment. The law thus needs to oblige such programmes not only to make their code inspectable to the public, but also to set out in every text their sources.

With Chat GPT, the apparent is taking over the reins of our information ecosystem, while the public does not know the rules according to which this new "knowledge" is generated. On what

basis, then, will informed decisions be made in the future? And by whom?

We cannot absolve the companies that develop and use this technology of the responsibility to be completely open and transparent and to respect the rules of reason and rules of law which society imposes on them. And we cannot absolve the democracies of this world and their legislators from the duty to adopt the necessary, strict rules for AIs which are necessary to ensure that these programmes do not harm to people and societies, do not undermine democracy and fundamental rights and the rule of law, now and in the future.

We must impose tough and binding rules on AIs, their producers and users, because of the tremendous consequences and the existential risks to humanity.

The thesis that technology will automatically improve people's lives and solve their problems is the great illusion of our time. If we are to see through this solutionism as a dangerous fallacy and ensure that the benefits of AI outweigh the harms, we must regulate extensively. Regulation has never been more needed than it is today.

Regulation means developing clear rules for transparency and liability. This applies to AI just as it does to nuclear technology, bioengineering and genetics.

If we do not regulate, we allow the development of the biggest chaos machine imaginable for our information ecosystem, inventing new facts in places where they are not expected, producing lies and disinformation that feel very likely right but are actually totally wrong. These machines will persuade readers instead of convincing them with arguments.

ChatGPT enjoys too great popularity. The next stages of the chatbot will undoubtedly lead more and more to the readers of the texts loving the inventions of the machine, rather than texts written by critical and protesting humans, telling them the truth they need to know to face new challenges as autonomous beings. Humans unfortunately are lazy, and prefer entertainment and jokes to thinking and political engagement.

That would not be the *Human Imperative* which we describe in this book, but its mockery.

The basic theses and questions of the book gain considerable weight through the introduction of large language models: Will generative language AI undermine the language in which humans must formulate not only their knowledge of the world and their moral convictions, but which is altogether fundamental for any culture and civilization? The Philosopher of Language Wilhelm von Humboldt told us that understanding of the world only functions via language. Will language AI rule over our understanding of the world? The human as *zoon logon echon*, as the animal endowed with language and thus with thinking, reason and spirit, is in the process of outsourcing language production and thus its most powerful tool, to an inscrutable black box. Humans thereby promise themselves higher insights but could just as well forfeit the ability of reasonable self-determination, public discourse, mutual understanding and compromise, so necessary for peaceful co-existence and democracy. This technology thus becomes a potential direct threat to peace and democracy; just looking at the immense disinformation it makes possible is enough to confirm this thesis. And we have not even mentioned yet the use of AI for hot war, which is now back in Europe with the Russian aggression against the Ukraine.

The impact of AI on individual autonomy and democracy is the focus of this book. Since the publication of the German edition in

2020, numerous international groups and institutions have dealt with the demands derived from the threat potential of AI.

We want to highlight the EU AI Act,[6] which will be the world's first comprehensive law to regulate Artificial Intelligence. It combines a risk-based classification of the powerful technology with a new ex ante approach that enables forward-looking design of AI based on clear obligations. And it creates a new governance system for AI. A separate legislative proposal will establish an appropriate civil liability regime.[7]

The near-exponential growth of technology must be mastered by the intentionally slow deliberation and decision-making processes of democratic institutions. They are based on the need to take the people along and on that power is not concentrated, as it is in dictatorships like China or in the platform economy, but shared, critiqued, and decisions legitimized in a democratic deliberative way. The fact that the GAFAM companies Google, Amazon, Facebook and Microsoft immediately lobbied massively against key obligations of the AI Act will not surprise the reader of our book.[8]

The fact that the Italian data protection authority referred to violations of the GDPR in its ban of ChatGPT shows once again how important binding law is to prevent negative consequences of technology.

But the new technology also raises other questions. Never before has political action and legislation been so challenged by technology as it is today.

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[6] Text of draft legislation proposed: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:52021PC0206

[7] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022PC0496

[8] https://corporateeurope.org/sites/default/files/2023-02/The%20Lobbying%20Ghost%20in%20the%20Machine.pdf

The results of the Transatlantic working group on Democracy and the Rule of Law, which published a manifesto on June 14, 2021, calling for democratic regulation of AI and the digital economy on both sides of the Atlantic, can provide further inspiration.[9] As can the EU proposal of a regulation for Internet-based advertisement in election campaigns.[10] A complete list of all official texts on policy and ethics globally can be found at CAIDP.[11]

Let's get back to the control problem: The control problem of AI is about who decides and who will be in control in the future. It is about power. An increasingly powerful AI raises the control problem, and on two levels: Should a super intelligent AI be created, which experts increasingly believe is possible, humanity faces the problem of whether this AI could still be controlled by humans at all, and if so, how. If the answer to this is no, the question of the possibility of human freedom is also decided negatively, because an uncontrollable AI wins every game against humans. The risk of such a superintelligence being created may still be low today. But since its consequences would be so massive, it must be investigated, and the developments of today's AI must be steered accordingly so that the risks remain as controllable as possible.

But the control problem exists even without creating a superintelligence: A technology that changes itself at lightning speed and makes decisions without our understanding at the time poses existential risks without requiring consciousness or our own will: it is enough that unintended side effects occur that can have

[9] Paul Nemitz, Democracy through law: The Transatlantic Reflection Group and its manifesto in defence of democracy and the rule of law in the age of "artificial intelligence", 01 December 2021, European Law Journal, https://onlinelibrary.wiley.com/doi/full/10.1111/eulj.12407 and https://doi.org/10.1111/eulj.12407

[10] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52021PC0731

[11] https://www.caidp.org/resources/

existential consequences for people in a highly interconnected world. The negative side effects of an originally effective tool of the advertising industry, micro targeting, on social media users and thus on societies worldwide have given us a taste of this.

Artificial Intelligence is a high-risk technology; its use must not result in future generations no longer being able to live in freedom or not being able to decide the important matters of their lives themselves. The restriction of freedom through digital technologies can be as irreversible as climate change. This is because the possibilities of surveillance and manipulation could rule out a return to freedom, just as the heating of the earth beyond a certain tipping point could hardly be slowed down.

Such a process is by no means without alternatives - not yet. A comprehensive technology impact assessment must therefore explore the consequences of this powerful technology for future generations today and draw clear boundaries: The consequences of AI must not destroy institutional conditions for living in freedom and democracy today and in the future. To this end, red lines must be drawn on the development and use of AI, just as they are drawn on the growing power of digital corporations.

For a humane life in the digital future, it will be indispensable to solve the control problem of AI. It must be solved technologically by finding ways and means that make AI controllable and manageable, even as a potential superintelligence. And it must be solved through processes and institutions that ensure that AI is aligned with the law of the land and its constitutional values.[12] And the political problem of control over an immense technological-economic power, which is

[12] See also https://www.sarahspiekermann.com/blog-en/6-months-ethical-diet-for-chatgpt-with-iso-iec-ieee-24748-7000

owed to digital technologies and AI, combined with the brute force of capitalism, must also already be solved today. The question is how the immense power of surveillance and manipulation made possible by AI systems in the hands of a few mega corporations in Silicon Valley and governments can be democratically controlled. The answer can only be law and strong institutions to enforce the law.

It is questionable how effective such control can be when power accumulation is allowed to the extent it has been during the past three decades, in which the Internet was not sufficiently regulated, and power concentration remained largely unchecked. The right lesson to learn from this concentration of power due to underregulating and underenforcement is to introduce the principle of separation of powers, well known in Democracies, in technology and networks as well. The question must not be what we can do with technology, but what we should do to use its effects for the general good. To this end, democratically legitimized legislation must demand responsibility for this powerful technology through clear rules and tough sanctions. Self-regulation of the powerful is an illusion, as the failure of AI Ethics and Ethics Boards set up by companies demonstrate over and over again.

The dangers and necessary limits of AI must be addressed in a broad public discussion, across all disciplines and borders. This is what this book is calling for.

If the positives and benefits of this technology are to be seen at all, the negative effects must be clearly recognized and mitigated through regulation. We must take the necessary political decisions today in order to be able to still decide as citizens and in democracy tomorrow. We can still do that now. And this book shows how.

Paul Nemitz and Matthias Pfeffer, Brussels/Munich, April 2023

Part A

Introduction: Why this Book?

This book is about power in the age of Artificial Intelligence. It looks at what the new technical powers that have accrued over the last decades mean for the freedom of people and for our democracies. Our starting point is that AI must not be considered in isolation, but rather in a very specific context: the concentration of economic and digital-technological power that we see today. Analysis of the effects of AI requires that we take a holistic view of the business models of digital technologies and of the power they exercise.

Technology, economic and political power are entering into ever closer symbiosis. Digital technologies and their corporate masters now know more than people know about themselves or governments know about the world. These technologies accumulate more and more decision-making powers. Taken together this leads to a massive asymmetry of knowledge and power in the relationship between man and machine.

The classical models of action and decision-making in democratic societies are being gradually undermined by such developments. In a new way, the question of the control of technical power arises.

Who will decide in future? And who decides, who decides?

The power to shape reality through technology is currently undergoing a fundamental change. This is a real stress test for the fundamental intellectual and cultural models on which modern societies are based. And it is unavoidable. Since we are already experiencing the second stage of the digital revolution with the current upheavals caused by AI and quantum computers on the horizon, it is worth taking a look back at the beginning of the

digital age - to understand and learn why the great hopes that were associated with it have largely not been fulfilled.

In this second phase of the revolution we are currently in, we can no longer afford to make mistakes like those made in the early days of digital technology and the global Internet. Technology and knowledge seem to be exploding. Some speak of an exponential increase. In the near future this could turn into a whole new - uncontrollable - dimension.

This is contrasted by the intentionally slow processes of change in deliberative democracies. The reason for this is that experience has shown how important it is to include reflection and discussion in questions of the human exercise of power in democracies before opinion-forming and decision-making. Another consequence of this insight is the separation of powers with the checks and balances between the arms of the state.

If technology creates facts and if it develops faster than democracies decide, then that means in this game of hare and hedgehog, technology is sure to win. Does technology even have its own developmental logic, a logic that could at some point be immune to democratic control? Today, technology creates facts at a pace that could decide the question of power in its favour just because of this tempo.

We believe that the question of who will rule in the future and who will make the decisions must be asked today. Whoever wants to answer it in the spirit of democracy must bring together the representatives of technology and democracy into a new discussion.

We know that we are standing on the shoulders of giants: Immanuel Kant, Jürgen Habermas and, yes, also Edward Snowden, without

whose courage the world might never have known how intensively the most powerful digital surveillance machines ever conceived by humans are already observing and manipulating us all today. The title of this book also reveals that we are drawing from Hans Jonas and Ernst Bloch, two exiles in life and thought. With their works *The Imperative of Responsibility*[13] and *The Principle of Hope*[14], they shaped the authors of this book in their youth. This book wants to analyse, orient and appeal for considered political thinking and action relating to technological change in the age of AI. It therefore concludes with a series of concrete recommendations for political action necessary to safeguard and further develop liberty, democracy and the rule of law in times of AI.

[13] Jonas, Hans. The Imperative of Responsibility: In Search of an Ethics for the Technological Age University of Chicago Press, 1985.

[14] Bloch, Ernst. The Principle of Hope: V. 1. Reprint edition. Cambridge, Mass: MIT Press, 1995.

Part B

Critique of Technological Power

> *Creon: Orders are manifold. Yet: Who orders?*
> *Antigone, Sophocles*[15]

It is important to understand how technological power is acquired and used today. Whether and how we - both individuals and the decision-making systems of market and democracy - are dominated by this power determines the degree of our freedom and, in the long term, the prosperity of our circumstances.

In a simpler way, you could say: The control of technological power is a central function of democracy (B1). But with the domination by economic power through *its* technology, which we are already experiencing today, we are still before the phase in which technology itself takes over: namely the domination by a strong AI that can set itself goals. We urgently need to deal with both forms of domination today. It is still unclear when exactly systems of AI, i.e., technology alone, will be able to exercise power for their own purposes directly, due to a loss of control by humans. But we must address the problem of the centralization of technical power, which seeks to escape democratic control, which is already dramatic today (B2).

We need a whole system view of the technically dominated future (B3). This begins with an individual analysis of the ten central technologies of digital power that connect to the Internet (B4). The adoption of such a holistic view of these technologies demonstrates their potential power (B5).

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[15] Brecht's Antigone, 116, see Brecht, Bertold. Collected Plays: The Antigone of Sophocles. The Days of the Commune. Turandot or the Whitewasher's Congress (Methuen 2003).

We then turn to the problem of the concentration of power in the hands of the digital-technological-economic complex (B6).

The technology companies *Google, Amazon, Facebook, Apple* and *Microsoft*, the so-called Terrible Five[16] collectively named GAFAM, are now the richest, most powerful companies in the world. Their business models influence in one way or another all of our lives (B7). How they gain their power and how they use it is demonstrated in an analysis of the eight sources of their power including the ideology of total technical feasibility, the *Californian Ideology* (B8).

[16] Manjoo F, 'Tech's Frightful Five: They've Got Us' The New York Times. 10 May 2017 https://www.nytimes.com/2017/05/10/technology/techs-frightful-five-theyve-got-us.html