

The new era of Technology Mysticism: Generative Artificial Intelligence and its Effects

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Abstract: Generative Artificial Intelligence (GenAI) started to disrupt many application areas in the domain of information technology and is developing at a rapid pace. GenAI exhibits different systemic characteristics, it is a trained technology as opposed to the engineered technologies that have been developed in the IT domain in the past. As trained technologies are heavily depending on huge amounts of training data, their behaviour is not deterministic but of a stochastic nature, leading to a limited understanding of those systems. their behaviour is emergent. Assumptions and beliefs in the abilities of technologies by their users create a new age of mysticism that can be compared with our past and the relation of people in medieval times to the age of Mysticism with respect to their understanding of nature and their surroundings. We are facing AI today like our ancestors faced incomprehensible natural phenomena. This article is discussing the resulting effects from a technical but also from a philosophical perspective.

Keywords: Artificial intelligence, Technology adaptation, Mysticism, Large Language Models, Generative technologies

1. Introduction

Our modern world is already crammed with technology, and our daily routines and many parts of the economic ecosystem are dependent on networked information technology. We are already used to live in that symbiosis to a certain extent and only realize our dependency when technology fails on the individual level, on the infrastructure level or on a service/product level.

Despite being complex technologies and technical systems, up to now those complexities and functionalities are engineered technologies, meaning that they are designed and built by humans with a detailed understanding about the inner workings of each and every component, following the general principle of building large and complex machinery out of smaller components that are simple enough to understand, to design and to build. Although we are aware that complex systems sometimes exhibit behaviour that is hard to explain the general assumption is that engineered technologies *are understandable, the behaviour is deterministic, controllable and reliable*. Because of those properties, we trust those systems and rely on them. This dependency got stronger due to the accelerating process of a digital transformation in the economy and the society.

With the advent of Generative Artificial Intelligence (GenAI), these assumptions are substantially challenged, mostly unnoticed. While the GenAI systems are still engineered systems with regard to their basic building blocks, *their behaviour is emergent*, driven by massive amounts of training data that is used to derive a numeric model with billions of parameters. And while this process is deterministic and algorithmic, the resulting behaviour is of a stochastic nature. These *trained technologies* are fundamentally different from the technologies mentioned above, as they cannot be understood in the same way. Despite their limited explainability and technology weaknesses, users and organizations are applying them increasingly for a wide area of use-cases, trusting in technologies that they do not (fully) understand.

Assumptions and beliefs in the abilities of technologies by their users create a new age of mysticism that can be compared with our past and the relation of people in medieval times to the age of Mysticism with respect to their understanding of nature and their surroundings. We are facing AI today like our ancestors faced incomprehensible natural phenomena: We currently do not really understand what AI is, what effects AI currently has or will have in the future.

This has a wide variety of effects: Myth-making, fear, subjugation, general rejection, etc. Those who actively use AI sometimes misjudge its possibilities and limitations. This paper tries to shed light on those phenomena and relate them to the lessons learned from the past – both from a technical but also from a philosophical perspective.

As in the past (the Age of Enlightenment) education might be a way to address this issue. Building competences in different domains lead to informed decisions and usage: technical (How does AI work?), cognitive (How can AI be evaluated?) and also emotional (How to deal with uncertainties etc.?). As we are in the process of this

relatively new technology domain, there is a high development dynamic that will lead to new insights and learnings on every level: individual, economic and societal.

2. Review of Mysticism in History and Technology Development

2.1 Myth, Enlightenment and Technique

Technologies are accompanied by a mix of truths and misunderstandings about their capabilities and limitations. They evoke both fascination and fears, resulting in both glorification and condemnation. Therefore, technologies are often mystified. This is not a modern phenomenon: the interplay between myths and technology can be traced far back in human history. A well-known example of this connection is the legend of Talos. Talos was a giant bronze automaton created by Hephaestus, the god of blacksmithing. His task was to protect the island of Crete. To do this, he circled the coastline three times daily, defending it by hurling massive rocks at intruding ships or by heating himself and killing enemies with an embrace. This early mythological concept of robots and artificial life illustrates the deep-rooted connection between myths and technological visions (Mayor 2018).

Myths are narratives that help humans explain natural phenomena or cultural practices. For the German philosopher Hans Blumenberg, myths are an anthropological constant: they aid in making an environment perceived as uncertain, mysterious and threatening more understandable (Blumenberg 1985). The story of Talos is a fitting example. The idea of a giant hurling rocks could have been an early interpretation of volcanic activity. This demonstrates how myths often served as explanatory models for natural events before scientific explanations were available. Such stories reflect human fears and desires and provide explanations for inexplicable phenomena. Myths function as narrative tools that allow people to address and rationalize their deepest existential questions. They are a means of gaining control over the unpredictability of nature and life. Through repeated telling and cultural embedding, myths gain significance and influence collective memory. Myths originated to provide answers to natural events that were not understandable. From a societal perspective, myths also served to legitimize existing power structures.

With the emergence of ancient philosophy, myth began to create a tension with the logos, the operative principle of the world. For Plato, philosophy had to overcome traditional myth through logos, questioning mythic narratives and replacing them with rational argumentation. Aristotle made a clear distinction between mythos and logos. For him, mythos had a poetic and narrative function, while logos held scientific and rational significance. This differentiation helped to solidify the role of logos in philosophy as a tool for gaining knowledge and explaining the natural world.

In the European Enlightenment, the tension between logos and mythos reached its culmination. The Enlightenment opposed a system of thought and society permeated by myths and uncritically followed authorities. In his famous essay "Answering the Question: What is Enlightenment?" Immanuel Kant defined Enlightenment as the "emergence of man from his self-imposed immaturity" (Kant 1991) and emphasized the importance of autonomy and the freedom to use reason publicly. This immaturity is self-imposed because people prefer to rely on authorities like priests and kings rather than thinking for themselves. It is not that people lack the intellectual capacity to think independently, but that they do not dare to do so. Thus, for Kant, the motto of the Enlightenment is "Sapere aude - Have the courage to use your own understanding" (Kant 1991). Enlightenment is demystifying. Compared to the mystically influenced medieval worldview, the Enlightenment represented a gain in reality, likely even a reality shock, due to the inevitable challenges that come with an unvarnished, unsparing view of the real world.

In the Age of Enlightenment, thinkers hoped that the application of reason would bring about the end of myths. However, this hope was ultimately disappointed, as the relationship between myth and logos is not a simple linear one but a complex and dialectical process. In "Dialectic of Enlightenment," Horkheimer and Adorno show that Enlightenment itself turns into a new form of myth. Rationality transforms into an all-pervasive instrumental rationality and gives rise to the myth of control and mastery. Similarly, proponents of postmodernism such as Richard Rorty and depth psychology such as Sigmund Freud and Carl Gustav Jung challenge the notion that modernity has overcome myth, emphasizing the "myth of mythlessness".

Myths continue to exist despite rationality and enlightenment. As mentioned, for Blumenberg, myth is an anthropological constant. Modern psychology has shown that we are not only rational beings but also non-rational and influenced by the unconscious. Myths seem to have their origins in this part of our psyche. Therefore, it is useful to distinguish between two levels of "myth."

The first level is characterized by misunderstandings and uncertainties that are initially not understandable but can be resolved through rationality. For example, thunder is no longer seen as a manifestation of divine wrath but as a natural event explainable by causal principles. This shift from mythical to scientific explanations marks the success of the natural sciences and promotes critical thinking. Rational Enlightenment explains what is empirically the case.

The second level contains mythical narratives—stories that cannot be fully replaced by rational explanations. Myths are more than just irrational views; they are complex narratives that help individuals and societies comprehend the world around them. These stories are imbued with symbolic meaning and cannot easily be displaced by scientific knowledge. Instead, they must be recognized and understood as myths. Often, these myths are shaped by deep-seated fears and hopes and serve as a cultural framework to grasp the mysteries of existence. One of the most powerful myths revolves around themes of salvation and damnation, heaven and hell.

2.2 Myth and Technique

This process of enlightenment and myth also accompanies the relationship between technology and humans. Traditionally, technology is considered a means to an end. However, technology becomes a myth when it is not only a means to an end but also part of a narrative of salvation. As "deficient beings", humans have always viewed technological developments with exaggerated expectations and visions of salvation. As seen in the example of the bronze giant Talos, such notions are found even in antiquity. The stories of Pandora and Pygmalion also illustrate such early technological myths of creating artificial life by humans.

These ancient myths often serve as cultural and intellectual forerunners for modern technological developments. They demonstrate that the human imagination and scientific impulses to use technology to create artificial life have existed for thousands of years. These narratives also contained ethical concerns and warnings about the potential dangers and abuses of such technologies. For example, the myth of Pandora indicates that technological gifts can be both blessings and curses, highlighting the ambivalent nature of technology (Mayor 2018).

This ambivalence of fascination and fear is also evident in many other technologies. Often, the myth of salvation prevails: for example, the invention of the steam engine in the 19th century or nanotechnology at the end of the last century were celebrated as solutions to all of humanity's major problems. In such narratives, technology is endowed with a quasi-religious salvific character, and engineers have been stylized as priests of the technological age since the end of the 19th century, fulfilling the longing for deliverance from the ambivalences of life.

In addition to the fundamental narrative of salvation and damnation, two other myths characterize technologies:

- The Myth of Progress: Since the 19th century, there has been a belief that technological innovations inevitably lead to societal progress. This belief was reinforced by the introduction of technologies such as the telephone, which was considered revolutionary even though it ultimately reflected existing social norms and behaviours.
- The Myth of Technological Determinism: The notion that technology is an autonomous force, acting independently of human influence and inevitably changing society, has solidified over time.

These myths contribute to the complex relationship between society and technology, where advancements are often viewed through a lens of both hope and apprehension.

2.3 Myth and Artificial Intelligence

Given this context, it is not surprising that the discussion around AI is heavily influenced by myths. In current debates, AI is often discussed from the perspective of whether it is a "hype." The term "hype," derived from the ancient Greek "hyperbole" (exaggeration), colloquially describes a short-lived trend created by the media. It often involves exaggerated attention that can be misleading and may quickly fade. The well-known Gartner Hype Cycle model by Jackie Fenn from the Gartner Group describes the phases of public attention towards technological innovations. According to the model, the cycle begins with a technological trigger that raises high hopes due to lofty expectations and performance promises. This leads to the "peak of inflated expectations," followed by a plunge into the "trough of disillusionment." Subsequently, the "slope of enlightenment" follows, ideally leading to a moderate and stable rise to the "plateau of productivity," where the technology finally finds practical and sustainable applications.

The hype corresponds to what was previously described as the first level of "myth." It questions the rational justifications for the possibilities and limitations of AI and separates media over-exaggeration from actual capabilities. The "real" myth of AI relates to the second level, concerning non-rational motivations. From the perspective of salvation and damnation, two main mythical motifs can be distinguished:

- Myth of the Thinking Machine: The notion that AI can perfectly simulate the cognitive abilities of the human mind is a cultural myth reinforced by analogies and future visions.
- Frankenstein Syndrome: The fear that AI will become super intelligent and take control over humans distracts from more realistic problems such as "artificial stupidity," where AI systems can thwart human goals.

These motifs can be readily identified as non-factual, mythical narratives when considering the limitations of AI. Artificial Intelligence operates based on data collected for specific purposes, which inherently lack objectivity. Different purposes would require different datasets, resulting in biases and discrimination intrinsic to the data used. Moreover, AI systems and the platforms, services, business models, and organizations built on them are developed by individuals with specific interests and values, further compromising the objectivity of AI. The frequently discussed issue of bias and lack of diversity is merely the most apparent symptom. Technological progress is deeply ambivalent and often leads to unintended and unforeseen consequences, such as increased CO₂-emissions. The idea of salvation through AI is not grounded in scientific research but rather resembles a quasi-religious belief. These themes will be further explored in the following chapters.

3. Generative Artificial Intelligence

Artificial Intelligence (AI) refers to the concept of implementing a behaviour of computer systems that resembles human intelligence. These processes include learning, reasoning and the ability to adapt.

In the initial phase of AI, research focused on symbolic AI, which aimed to encode human knowledge explicitly through logical rules and symbolic representations, much in the tradition of the classical programming approach for the engineering of computer systems. This approach led to the development of early AI systems capable of performing tasks such as theorem proving and game playing and led to promising results, but did not scale well. In the 1980s, a paradigm shift occurred with the advent of machine learning, a subfield of AI that emphasizes the development of algorithms enabling machines to be trained from data without explicit programming and make predictions based on the models generated from that data. The rise of the so-called neural networks, particularly deep learning around 2009, revolutionized AI by allowing models to automatically discover intricate patterns in large datasets. Once again scaling the models was tricky and took decades to be resolved benefitting from a) the availability of larger computational resources, b) the increasing amount of digital data and c) new algorithmic approaches (deep learning).

The concept of Generative AI (GenAI) refers to systems that can generate content mostly in the form of text, but also as images, music, movies, or even code in programming languages. Among the various architectures propelling this innovation, Large Language Models (LLMs) have become central, offering unprecedented capabilities in natural language understanding and generation. The availability of the application ChatGPT by OpenAI in 2022 put these technologies and generative AI in general into the awareness of ordinary users and has emerged as one of the most transformative technologies within the IT sector since then.

The origins of GenAI can be traced back to foundational models like Recurrent Neural Networks (RNNs) and their variants, such as Long Short-Term Memory (LSTM) networks. These models were adept at handling sequential data and capturing temporal dependencies. Limitations in parallelization and handling long-term dependencies prompted the search for more robust architectures. A seminal moment in the history of generative AI was the introduction of the Transformer model (Vaswani et al. 2017). This architecture is utilizing a mechanism known as self-attention to process entire sequences of data simultaneously. This innovation allowed for greater parallelization, significantly enhancing computational efficiency and the capacity to model long-range dependencies in data.

Transformers paved the way for the development of foundation models in subsequent years. Foundation models are referring to large-scale models that pre-trained on vast datasets encompassing diverse domains, endowing them with a broad understanding of language and world knowledge and that serve as a robust base for a variety of downstream tasks. Fine-tuning these pre-trained models on specific tasks or domains allows for the rapid development of highly specialized AI applications.

Among the first applications of the transformer architectures have been BERT and T5 both by Google. While BERT focuses on understanding the context of words in a sentence by considering both the left and right context simultaneously, T5 has been trained on a massive dataset of text and code using a text-to-text framework that enables it to perform the text-based tasks that they were pretrained for such as translation, restoring corrupted text and analysing grammar in sentences. The GPT family by OpenAI also apply the transformer technology, and version three becoming the backbone of the first version of the successful ChatGPT application. GPT and ChatGPT still stand as one of the most prominent LLMs as it can generate human-like text based on a given prompt. Its strengths lie in its versatility and fluency, capable of performing a wide array of tasks without task-specific training. However, competing models such as Google's Gemini, Anthropic's Claude and the open-source models Mistral and Llama (by Meta) are representing a strong competition and the technologies and the related products evolve at rapid speed. Chatbot Arena is an interesting resource to get an overview on the dynamic developments in the field of LLMs (Chiang et al. 2024).

As generative models generate data samples that resemble the training data as a general mode of operation, their internal model represents only an implicit representation of the common-sense world knowledge that was embedded in the source data. This leads to a black box system that cannot be understood in the same way as engineered systems could be studied and understood. This situation is amplified by the fact that the models are large making it impossible to be understood at the lowest level of detail. Secondly, due to the algorithmic determination to forecast the most likely next sequence of words that follow the words already generated, the models tend to "hallucinate" by generating wrong or misleading statements or data. Both facts combined create a potential problem in application and reliability of those systems, contributing to the fact that the systems are mystified in a sense – mystification is by design, one could say, due to the architecture. Those issues are being worked on under the context of explainable AI (xAI), which often also uses LLM to explain the output of another LLM – once again adding to the mystification of the overall system, if no or little human control is incorporated in the process. A detailed explanation of GenAI systems can be found in (Patil and Gudivada 2024).

4. Effects of the Mystification of AI

In the following section the effects of mystification are discussed in respect to AI, more specifically the novel forms of Generative AI (GenAI), that became prominent with the release of the first Large Language Model by OpenAI in 2022 and subsequent models by the company and its competitors. Several perspectives are taken, namely economics, education, society, transhumanity and superintelligence to point out the mystifying aspects and current and potential future impacts that they might have.

4.1 Economics

Companies worldwide invest billions of dollars in AI to optimize their businesses, reduce costs, and boost productivity. According to a report by Bloomberg Intelligence, "the generative AI market is poised to explode, growing to \$1.3 trillion over the next 10 years from a market size of just \$40 billion in 2022" (Bloomberg Intelligence 2023). However, these developments are accompanied by myths and misconceptions.

One prominent misconception is that AI systems make autonomous decisions and act independently. This notion, often referred to as "The Myth of Technological Determinism," suggests that technology directs its own development and application without human intervention. Headlines like "AI could replace the equivalent of 300 million jobs" give the impression that AI systems have their own initiative. In reality, it is always humans who decide how AI is used and what economic, social, and societal consequences these decisions have.

These misunderstandings lead to "sociotechnical blindness", where the human influence on these systems is overlooked or underestimated. AI systems do not act independently; rather, it is the developers, managers, and users who set their goals and parameters. By ignoring the human contribution and decision-making in technology development, we risk failing to recognize the responsibility for the consequences of these decisions. The process of finding an agreement or a position on how to steer and regulate the use of AI technologies is currently underway and emerging. It is interesting to note that those regulations initiatives are different in different countries such as Europe and in China and the United States, also representing different approaches on technology management in general.

4.2 Education

The education sector is impacted heavily by the availability of GenAI technologies and applications, both on the student side and on the lecturer side. An immediate reaction on the use of GenAI applications for writing assignments by students was the regulation by education organizations, to ban the new technology. Meanwhile,

the reactions are more nuanced and the awareness is building up, that the new technology will not go away. The education process will change over the next years. There are positive and negative aspects to be discussed in turn.

On the positive side we see the advent of new tools that might help to accelerate the cumbersome steps in academic processes, e.g., a support in the research process by providing more sophisticated tools to find relevant research works, provides new ways of accessing them by using natural language-based interfaces and even multimodal access to relevant information sources. The writing process might be supported with tools to improve language and style of the written artifacts as well as writing out full paragraphs based on a set of instructions, keywords, and notes by prompting. These techniques might make research activities more accessible for those students that have an issue in writing up their research findings. While the tooling in GenAI might support academic work, there is still a debate how beneficial the acceleration or automation really is.

For the learning process on the student side there is a strong potential to support the individual learner with individualized content that is tailored to his or her needs, again being inquired using the language and style of the student and being able to take into account different levels. This aspect of explaining in a repeated way in a human fashion can support self-directed learning quite efficiently. It also addresses learning support in a scalable way as there is human bottleneck in terms of limited amount of time or availability of tutors. On the side of the lecturer, we do see the advantage of a faster creation of teaching materials with the help of GenAI as a part of the preparation or even during the lecture as a live teaching element. Further, the technologies can be used to generate candidates for questions for the students that they use to verify their learning progress.

GenAI technologies and applications are currently mostly available in a centralized way as web-applications or using programmable interfaces. This is due to the high demands on computational resources needed to build and run these models. Smaller and more affordable models will become available in the (near) future. This situation leads to a black-box-characteristic when being used by engineers to build custom application. The functionality of such a black box is by definition not known and thus becomes a myth in terms of functions and abilities. Which leads to a partly speculative behaviour of the overall system. For technical engineering professions, it becomes paramount to develop a good understanding of the inner workings of GenAI technology.

Finally, the motivation to learn a skill from the grounds up before using that skill with the help of GenAI will be a challenge in the education domain. It is important to convey to the coming generation of students, that it is very valuable to study a skill and to obtain a competence, before that skill is being augmented and amplified by the use of GenAI.

4.3 Society

Generative AI technologies have a high application potential in the generation of multimodal digital content in the form of texts, images and even short movies. This aspect relates to the media sector and is impacting the classical field of Journalism as well as the social media domain, challenging the importance of human authorship and the originality and trustworthiness of generated content. AI-Generated Content (AIGC) poses new challenges on the ethics of creating and consuming in the digital context and Deepfakes, Misinformation and Dis-information are posing an immediate threat on the way how the society perceives the dominant digital information sector. Due to the amount of generated digital content, we might create a digital reality that cannot be trusted anymore, since one cannot tell the difference between generated and original content and between fact and fiction. As a result, this might lead to a minimizing of trust in any form of digital content, putting more importance on the aspect of social interactions in the physical reality ("face-to-face"). While this form of interaction might have the advantage of better connecting and bonding (Böhm, Sammet, and Schmidt 2023) it also reduces communication productivity. We might not use digital communication for important settings and rely on physical meetings instead. Taken to the extreme, we might not even rely on written communication, as this could be generated as well. Which brings us back to the society of spoken language (only) and direct interaction with (known) peers, which would be a step back in the past. Therefore, it is quite significant to be able to maintain trustworthy digital relations despite the use of generative technologies, working against a mystification of the digital reality.

Related to the observations above is the impact on societal opinion building and the need to protect important societal processes like elections and other democratic decision processes. Generative AI can be used as an amplifier to generate false or misleading information at large scale to create strong opinion leaders that are not driven by facts, realities, and majorities but ideology.

Finally, and overuse of GenAI can also have a substantial impact for the social networks. Negative aspects being that the flooding with generated content might make it unusable (e.g., too much content to cope with) or not interesting (e.g., too generic content), rendering a social medium less useful. On the optimistic side there might be the option that relevant content might be created faster and in a more precise way (correct language, spelling, tone and length) and in a more intriguing way (by adding captivating illustrations, visual representations and the like), making it more attractive and even more accessible for content creators with an important message but not unlimited resources to create professional and compelling content otherwise.

4.4 Transhumanism and Superintelligence

Transhumanism and superintelligence are popular concepts that claim to offer realistic views on AI's potential, but are quickly revealed as myths upon closer examination.

The core idea of transhumanism aims to optimize the human body and mind through technological means. In transhumanist thinking, the human body is primarily viewed as a machine that can be improved by technology. The goal is to transcend the limitations of the human body and mind. The grand utopia of transhumanism is the conquest of death. Through the concept of "mind uploading," it is envisioned that consciousness can be stored in digital form, thereby achieving immortality. This idea strongly resembles religious notions of the afterlife. The crucial difference is that, in transhumanism, immortality is not granted by the grace of a transcendent God. Rather, transhumanism sees humans as fundamentally capable of redeeming themselves. Such self-redemption through technology has the character of a belief and is not the result of scientific research. This expectation of redemption is associated with a devaluation of the present, as it is something to be overcome. This attitude can lead to a certain passivity toward current challenges, since the "real" objective lies in the future—a motive that parallels the expectations of early Christian communities convinced of the imminent return of Jesus Christ.

The concept of an Artificial Superintelligence (ASI) also takes up the mythical motif of overcoming the inherently flawed human condition. It refers to the idea that it is possible to develop an artificial intelligence that significantly surpasses human cognitive abilities in all areas. This concept is often discussed in the context of the "technological singularity", a hypothetical future point at which artificial intelligence exceeds human intelligence and possibly leads to an explosive improvement of its own capabilities. The term was coined by the mathematician and science fiction author Vernor Vinge, who predicted in 1993 that superintelligence would be achieved within 30 years. One of the most prominent advocates of the singularity is Ray Kurzweil, Director of Engineering at Google. He predicts that by 2029, artificial intelligence will reach human intelligence, referred to as Artificial General Intelligence (AGI) and surpass it by 2045 (ASI). However, the feasibility of superintelligence is highly contested. Various studies discuss the energetic, technological, and economic challenges involved. For instance, one study concludes that superintelligence would consume more energy than is available in industrialized countries. Additionally, the potential dangers posed by such superintelligence are also debated, such as the coexistence between human intelligence and the artificial superintelligence (Russell 2019).

Similar to transhumanism, the concept of superintelligence draws on familiar myths: predictions of the singularity create a constant sense of anticipation, which persists despite missed deadlines, fostering a sense of inevitability akin to the early Christian belief in the impending end times. The promise "The Singularity is near" echoes the eschatological formula of the end of the world and the arrival of the kingdom of God (Rayhan 2023).

5. Conclusion

Enlightenment thinkers have long known that education is the most important tool in demystifying myths. In "The Age of Technology Mysticism," comprehensive skill development appears to be the decisive point. Only through extensive knowledge and abilities can misunderstandings be clarified and technologies like AI be properly classified and evaluated. Education serves as a basis for knowledge that enables distinguishing between myth and reality. This requires skills, knowledge, and attitudes that allow people to handle AI critically.

Many organizations and orders of governance have accepted this need and have built elaborate frameworks of so-called "Future Skills" (Kotsiou et al. 2022). For enlightenment in the age of digital mysticism, three skills seem particularly appropriate, both for the system and application designers but also for the users of those applications:

- Knowledge of How GenAI-systems operate: To properly classify AI, a basic understanding of how Generative AI Systems function is essential. Without understanding how these models operate, their work remains opaque, leading to misplaced trust or mistrust and one cannot critically assess their procedures and outcomes.

- Dealing with Uncertainty: Despite comprehensive knowledge about GenAI and LLMs, it is (currently) impossible to explain how AI arrives at its conclusions. This “black-box phenomenon” makes it difficult to interpret and trust the results of LLMs (Von Eschenbach 2021). Current approaches of Explainable AI (xAI) are partial solutions at most as they counterfeit a black box with another black box explaining the first one. A competent approach to deal with this uncertainty is crucial.
- Critical Thinking: Critical thinking is indispensable for analysing and evaluating AI results. It is also essential for uncovering the narratives and myths surrounding AI. Historically, Socrates exposed myths through targeted questioning in his dialogues, and Kant urged people to use their own reason. This applies today as well: we must be brave enough to question the promises of AI and recognize the underlying economic and political interests.

Enlightenment in the “Age of Digital Mysticism” can be understood as the constantly ongoing project of protecting people from irrational fears and exaggerated hopes. Kant emphasized the importance of using one's own reason. Today, this means demystifying the myths of the digital era. Through education and scientific enlightenment, we can better understand the actual capabilities and limitations of AI technologies and make informed decisions. Its good or bad uses, can only be ensured if we have “the courage to use our own understanding”, according to Emanuel Kant.

To conclude, it seems that technological complexity and the exponential development of new models, functions, and applications in the domain of Generative Artificial Intelligence currently increases the myths that are built and perceived around it leading to a phase of technology mysticism. Connecting to the history of human development we are optimistic that phase of technology enlightenment with respect to the emerging technologies lies ahead that will help us to understand and use the generative technologies in a responsible and beneficial way. As the past teaches us, this future will not happen automatically, but requires active shaping by all of us.

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