Wilfried Martens Centre for European Studies

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Online Symposium

Artificial Intelligence and Democracy

An Overview

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Content

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Intro

Dear Reader,

Politics is, first and foremost, concerned with shaping the future. In the years to come, politicians will have to increasingly rely on artificial intelligence (AI) to support them in their efforts; especially when it is necessary to make well-informed decisions. The online symposium on “Artificial Intelligence and Democracy”, which was organised by the Political Academy in cooperation with the Wilfried Martens Centre for European Studies and transmitted in February 2022, examined what is important in political work with AI-supported decision-making tools, and what AI means for democracy.

Numerous national and international experts reflected on and explained “artificial intelligence” from various perspectives. We have summarised the contributions to this online symposium for you in this overview.

I would like to extend a warm invitation to you to visit our online education platform where you will be able to find the individual contributions to the symposium in their full length. Our education platform can be found at:

I wish you a stimulating and interesting read.

Best wishes,

Elisabeth Mayerhofer, Director

Vienna, March 2022

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Bettina Rausch

The need for a values-based digitalisation

Values and regulations are necessary in digital transformation if progress is to benefit people.

Only two years ago, it would not have been easy to imagine an online seminar like ours. In this area, the coronavirus boosted the use of digital technologies in everyday activities. The way in which we collaborate has permanently changed. This rapid increase in digitalisation took place in many spheres, including commerce, art, and politics. Of course, it was clear that digitalisation was a mega trend even before the coronavirus.

We at the Political Academylook at digitalisation and the opportunities it offers with optimism. However, there are also concerns and scepticism that must be considered. Our approach is to make a comprehensive observation of the social changes connected with digitalisation. This applies to the balance between the "early adopters" of digital transformation and those who are concerned about being left behind by the occurring developments.

Shaping Progress

A central question in connection with new technologies has always been what they can do, and what they should be allowed to do. Not everything that is doable is also desirable. Of course, the assessment of this question depends on the values one applies to these developments. Fundamentally, digitalisation also requires regulations as it makes its way forward. Jules Verne once said: "Everything a person can imagine, will be realised by other people". Or, to put it differently: Progress cannot be halted *per se*, but it can be shaped. This applies equally to technologies that already exist, as well as to new ones.

This means that our society is always called on to be open to discussion and make decisions in connection with the parameters and regulations. This applies particularly to politics that is, primarily, involved with creating structures for the future. And it is precisely this formative process that we – as the Political Academy – want to support on a sound basis.

Human-centred Design

Today, it is a matter of how artificial intelligence can support political strategy – and how data can be used to improve the quality of political decisions in our democracies. Countless technological possibilities already exist, but they are frequently accompanied by ethical questions. As the centre that is concerned with the values of the People's Party, it is especially important for us to discuss them. The philosopher and former politician Julian Nida-Rümelin rightly argues in favour of a "digital humanism", feeling that there should be no progress for the

sake of progress alone, but that progress should always be of service to the people and, consequently, needs to be shaped correspondingly.

Seen from our conservative perspective, this aspiration is self-evident. The Greek philosopher Protagoras stated that "people are the measure of all things". Thus, he had a very strong influence on Christian philosophy – on what we describe as the Christian-humanistic view of people. This should also be a guiding principle when dealing with the subject of "AI and democracy". People are the measure of all things when it is a matter of using artificial intelligence to benefit us and employing it in a meaningful manner in our political tasks.

Mag. Bettina Rausch, MBA, first became involved in politics in the Young People's Party. She was a federal councillor (2008–2013), member of the Lower Austrian Parliament (2013–2018) and has been a member of the National Council since 2018. She became President of the Political Academy in 2018 after previously serving as its Vice President. Mag. Rausch is co-editor of the "Jahrbuch für Politik" (Yearbook for Politics) and has contributed to many other publications. Bettina Rausch is the mother of two daughters and lives in Obritzberg, Lower Austria.

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Michael Hirschbrich

What artificial intelligence can achieve, and where it is used

Discussing the development and training of artificial intelligence; its diverse areas of application and dealing with ethical challenges.

A semantic approach is valuable when clarifying the question of what artificial intelligence (AI) or "machine learning" actually is. In AI, an attempt is made to teach machines something. Machines are trained to learn something. Anybody who has children knows that children learn by copying or from a model. It is similar with artificial intelligence and machine learning. Machines are taught to learn from models. These models are of a statistical nature in the area of artificial intelligence. The machine's learning process takes place autonomously.

Training for Decision-Making

That one wants to teach machines how to learn in order to predict questions about the future more accurately has been a subject of discussion since the 1950s. A decisive factor is that there has been a massive increase in computer performance and data volume in recent years. This has also led to a rapid surge in the potential possibilities for training artificial intelligence. An almost exponential growth has been observed in AI applications. For example, this applies to deep learning, a special domain of artificial intelligence in which neuronal networks are employed. They are modelled on the human brain and arranged in layers. A decision stands at the end of neuronal impulse processes.

Against this background, my definition of artificial intelligence is the following: Artificial intelligence uses data from a specific area to train the capability of machines to make autonomous decisions.

According to Wikipedia, machine learning is a principle for the artificial generation of knowledge and experience. AI, therefore, learns from examples and is able to generalise these after completion of the learning phase. An AI-system is provided with training data – a so-called corpus or data set – that it uses to train until it is ultimately able to make decisions on this basis. The training is performed with the AI attempting to recognise patterns.

Transparency and responsibility

Transparency on how an AI-system takes a decision is frequently questioned during the public debate. That is the reason that attempts to make AI understandable – to "explain AI" – are necessary. However, this is extraordinarily complex in practice, and has not been possible so

far. Nevertheless, faced with social pressure and the regulatory efforts of the EU, there are attempts to create an explainable, fully transparent AI. A number of projects with high funding are being carried out; the largest of them is at the Massachusetts Institute of Technology (MIT).

A practicable way to make data use more transparent is "responsible AI". This is concerned with transparency about the data sets and corpora that are used for training the artificial intelligence. It is planned to issue Certificates indicating the usefulness of AI systems and their unlikelihood of harmful impacts are currently being planned. .

Artificial intelligence in practice

One of the best-known examples for explaining what AI is capable of, is the one about the recognition of dogs and cats. The challenge lies in teaching the AI how to differentiate cats from dogs. In addition to algorithms, a vast number of pictures of the two animals are required. First of all, the computer has to know what a dog or a cat is because it has no concept of that. To achieve this, we describe the images for the computer. We tell the computer: The picture you are looking at just now is of a cat. And the picture you are looking at now is of a dog.

Labelling is the name given to this process, which is extremely complicated in practice. Labelling makes human decisions tangible and processible for the computer. Many institutes and experts throughout the world are studying labelling today: They write down structured human decisions and attempt to convey these to machines.

Now, when a machine is fed with pictures of cats and dogs and trained through machine learning or with neuronal nets (deep learning), it can determine whether a new image shows a cat or dog based on the patterns it has learned. Artificial intelligence is even able to indicate why it reached its decision with concrete probability.

A multitude of fields of application

Artificial intelligence is currently widely used in language translation. For Google Translator, the artificial intelligence is fed with translations made by simultaneous interpreters at EU meetings. The protocoled translation in 24 languages provides an excellent training corpus. In any case, the progress made in language translation in recent years has been tremendous.

AI is not only an important factor in verifying identities at airports, but also in the healthcare sphere. There are already extremely powerful systems for diagnosing cancer based on MRI scans. For example, they help doctors to recognise breast cancer much better and at an earlier stage. In the future, AI will be able to make a diagnosis of this kind better than a human because the data set used for training is much larger and can contain millions of labelled data.

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Of course, AI has a certain power in this area. With regard to the ethical dimension, it is important to note that AI is used as an assistant in many areas. That is why we speak of "assisted AI"; the person decides on the operation – not the machine.

The breakthrough of mRNA vaccines, whose fundamentals have been the subject of research for more than ten years, was conducted in cooperation with AI industry. In future, it will be possible to develop cancer vaccines on this basis. An additional application for AI is in the development of fusion reactors that some see as a solution to the battle against climate change. In this area as well, AI has helped to make stable processes possible through pattern recognition.

As a result of reports in the media, AI is a technology that sometimes causes worries and anxiety. However, it is used successfully in many fields to improve our health and safety and preserve us from great harm.

Michael "mic" Hirschbrich is an internationally successful digital entrepreneur, digitalisation expert, and board member of the Political Academy.

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Julia Reuss

Artificial intelligence in practice – Meta as a partner in elections

The Meta technology company (formerly Facebook) uses artificial intelligence intensively and supports its ongoing development. Responsible use of AI means that people have the final say in decisions.

Artificial intelligence plays a significant role for Meta and on our platforms. We use AI technology to make our platforms better. This makes it possible for us to find information, as well as hate speech, more quickly. Meta also follows the philosophy of making contributions to the future development of AI in collaboration with research. We make a clear acknowledgement of the fundamental principles of science in our research. That is the reason that we not only provide solutions for users and industry, but also make our knowledge and code freely available.

Cooperation with research

For example, we work closely together with the Heimholz Centre in Munich, the German Research Centre for Environmental Health. An AI model accelerates the discovery of successful combinations of active ingredients. In this way, scientists can find out relatively quickly which active agent combinations are especially effective, and which might even be harmful, based on simulations.

In the course of the struggle against the pandemic, we carried out an extremely successful research project together with the Vienna University in which we developed forecasting models for the development of the pandemic based on publicly accessible health data. This was especially significant for procurement and has proved to be a very efficient tool.

Data quality is decisive

One thing that we have also learned in our developments is that the machines are always only as good as the data they are provided with. There are some data that are easy to read, and others that are more difficult. At Meta, we have developed a new learning algorithm to enable us to go one step further in labelling. The machine should continue to learn new things. Our new Few-Shot-Learner should make it possible to make extremely precise derivations with limited data inputs.

Clear standards

The pandemic once again revealed just how important it is to recognise and delete false information as quickly as possible. The basis for the decisions of what gets erased or removed from our platforms are the community standards that are the subject of continuous development and adaptation. Depending on the individual case, we have three approaches:

The first is the removal of content if this violates our community standards. We remove false information if it represents a threat to the life and limb of our users.

The second is the recognition and removal of false information that is purely intended to create a sensation (clickbait).

Thirdly, we attach warnings to content that has been identified as false or misleading by independent fact-checkers.

The machine does not make the decision by itself

On Facebook, 97% of the content matter containing hate speech is recognised automatically and removed. Before a person is able do this, machines have already discovered that hate speech is involved. The recognition of patterns and categories plays a central role in this process. A clear and transparent decision can be made through these methods, which can be reviewed on request.

Responsible AI is an important matter for us

Of crucial importance here is the concept of fairness that is closely linked with diversity and inclusion; namely, of not being discriminatory and intensifying any existing inequality in society. That is why we aim at avoiding biases – cognitive distortions – in technology that, for example, express cultural prejudices, to the best of our ability. In all its decisions – regardless of whether they are in connection with AI or other topics – Meta attempts to think about diversity and inclusion from the very beginning and include them in the development progress. Teams that are diverse in their composition, and technical analysis tools are two fundamental elements. We build products that are intended to function well for all people, worldwide

Partner at safe elections

Responsibility is an important topic for us when it concerns our expertise in dealing with elections. As early as in the spring of 2019, we began working together with the Federal Ministry for the Interior and the Federal Agency for Information Security on the elections to the German Bundestag that were held in September of the same year. Our expertise is very highly regarded. We have an extremely well-trained group of experts that work together with the authorities on elections. We are able to recognise cyber-attacks and irregularities – and, on account of our many users, are also able to think outside of the “national” box. Our

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performance as a sparring partner, as well as our ability to provide speedy information on possible infringements, is highly appreciated when it is a matter of guaranteeing the integrity of elections.

Julia Reuss is Director of Public Policy at Meta, Central Europe.

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Harald Leitenmüller

Artificial intelligence in practice – The need for legal certainty and reliable parameters in industry

Entrepreneurs are confronted with many challenges in connection with AI. There is a need for reliable frameworks at the international level.

AI is an intelligent system that produces data from data. Recently, in the days of COVID-19, we saw that it was possible to make more suitable decisions through the use of data. As a business, we assume that AI – with the possibility of better decision making it provides – will also create economic added value.

Let's take a look at a concrete example in practice: It is possible for a traffic light to function – or not work – without AI. On the other hand, with AI, you know that there is a 70 per cent chance that the traffic light will be broken in two weeks. Based on this, a decision can be made with which you can manage the consequences of costs. The traffic light can be repaired immediately, it can be checked in a week, or you can wait until it really stops working.

Industry needs legal certainty

It is about using AI in line with the concept of "Responsible Artificial Intelligence". In theory, there is agreement about principles, values, and ethics. In practice, the question is: How can I implement this value framework? What parameters are necessary for implementing the promise of Responsible AI? It is a matter of standards and policies such as those in the EU Artificial Intelligence Act.

Of course, industry is massively interested in this because of their need for legal certainty. We don't want to count on a technology that is extremely powerful and, perhaps, also risky, a technology that will possibly have to be put out of action after three years because it could not be used in conformity with the law.

Therefore, businesses need parameters in order to be able to implement the promises and possibilities of new technologies in concrete use cases. We have to know: Am I even capable of using this innovative technology in a responsible manner? Do I have the knowhow? Do I have the right monitoring mechanisms? Can I completely manage the system? It is not a good idea to drive a car without a license or if you are not able to keep it under control.

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"Label" for AI

In addition to the frameworks for AI, another requirement is needed for its implementation: the "label" on an AI product. If you buy something in a supermarket, the label immediately lets you know: What is the expiry date? How should I use it? What is in it? Labelling products and services is an important approach. For example, we publish so-called *transparency notes* for our technologies and solutions. They answer questions about: What is the intended purpose of this system or technology? What is not supported? What handling do we forbid? If we become aware of any misuse, we have the right to put an end to this service.

Correct impact assessment

Modern industry makes an *impact assessment* before it introduces a new technology. In this way, they use formal testing to predict: What change will this bring about? Who is affected? Can I deal with it? A simple example is measuring *brand impact*. The damage for companies with a high brand value, such as Facebook or Microsoft, would be extremely great if a technology was not employed in an ethically acceptable way. Therefore, it is necessary to ask – as a minimal requirement: What does it mean for the image of my company if I employ this technology in a *use case* manner and am possibly not able to manage the risk that goes with it?

Learning to live with probabilities

There are two subjects that I pay the most attention to when I deal with AI: fairness and inclusion. It is a matter of the democratisation of artificial intelligence. How can it become possible for everybody to benefit? That is also important from a business perspective seeing that it's all about a large-scale market and not just a few users.

Of course, the purpose of the operation should be that everybody can use AI to make good decisions. I call them "informed choices". It is a matter of being able to make better decisions with the help of data. A comparison: If you ask a doctor why he recommends a specific therapy, it probably won't be easy for him to explain it. However, as the patient, you expect to be given justification for the decision-making process when there are various options available. This shows that we have to develop a special competence to process options and probabilities. What does it mean, in practice, if I have to decide based on probabilities? This is a subject that education and politics have to deal with.

Political will for international regulations

There are international platforms and meetings in many areas that facilitate worldwide collaboration. However, precisely with digitalisation, a large number of aspects are more or less unregulated. There are many unanswered questions including those dealing with digital attacks and how to combat them. An example: Does a digital attack permit a declaration of war

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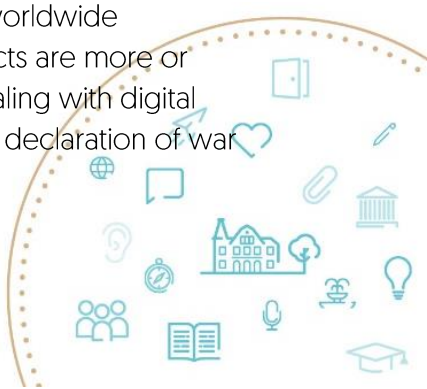

– or not? In any case, we are very committed to seeing that there are international platforms for digital technologies, from the World Economic Forum to the United Nations. As a business, it is not easy for us to propose political suggestions. We can only present and support innovative ideas. In any case, political will is needed for new regulations and frameworks for the digital world and artificial intelligence.

Harald Leitenmüller supports future-oriented IT initiatives to ensure that the most modern technologies can be employed successfully and appropriately. Subjects such as the ICT location Austria, a fair and open marketplace, artificial intelligence, and the future of work were always among his core concerns.

As a member of the board of the Internetoffensive Österreich, he heads the working group on "Education, Science, and Research" that is concerned with up-to-date parameters for the digitalisation of education and the future of work.

DI Harald Leitenmüller, CTO, Microsoft Österreich GmbH

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Viktor Mayer-Schönberger

A more efficient future - The need for both improved mental models, and better utilisation of data through AI

The better use of data through AI is decisive for making the right decisions. However, mental models are necessary to improve going forward

All of us make countless decisions every day. In this way, we determine our lives, and the life of all people per se. Decisions come with consequences. The disconcerting thing about this is that we are often not particularly good at making decisions. Scientific work carried out over the past 50 years has revealed biases – cognitive distortions – in the way we think when deciding. Studies show us that, not only in politics and society, but – above all – in business, many managers rely more on their gut feeling than facts. That is rather alarming seeing that we have scientifically proven that the gut is not a particularly good mentor when it comes to making decisions. Persons who trust their gut might *feel* that they have done the right thing but, in reality, it they could have reached the wrong decision.

Artificial intelligence helps

The Swedish expert for health and statistics, Hans Rosling, made us clearly aware that we should base our decisions on facts. If we do that, we see the world from another perspective – like with a good pair of glasses. Seeing that better information gives us a new perspective on reality, we are also able to make better decisions – and artificial intelligence can help us in this. That sounds good, but conceals two problems:

We have often trusted our gut and not data – and have, therefore made wrong decisions

More than 80% – in Europe, more than 85% – of all data collected is not even used once. That means that we spend money on collecting and storing information without taking advantage of it to answer questions and assist us in making better decisions.

With the support of enormous amounts of data, AI should help us to gain insights from this data and learn to make better decisions. The following examples show that this is possible in various areas.

Learn languages better

Duolingo makes it possible to use an app on a smartphone to learn a foreign language. Currently, tens of millions are studying another language every day. Each one of these

students' interactions is recorded as data and passed on to Duolingo. The organisation then carries out an analysis and looks for unexpected patterns in the data. For example, native Spanish speakers were learning English in the wrong way. They stopped studying after a specific lesson. Duolingo changed the learning sequence – and the rate of success went through the roof.

What interests me about this example is why my colleagues at Oxford, who also teach English, never realised this. The answer is simple: Duolingo does not only have ten or fifteen students taking part in experiments; it has the data of millions of real learners at its disposal. It is fascinating to note that Duolingo did not collect this data to answer this question, but that it only came across this pattern with the help of data analysis and artificial intelligence. AI helps us to come up with the right questions – and supply answers to them.

Protecting premature babies from infection

Premature babies often die from infections that are recognised too late. Consequently, these cannot be combatted rapidly and effectively at such a disproportionate rate. Therefore, the Canadian health informatician Carolyn McGregor equipped premature babies with sensors that recorded their vital functions (heart rate, blood pressure, oxygen saturation, ECG, etc.). She collected more than 1000 data points of vital functions for each premature infant in order to identify patterns that could predict a later infection with high probability. The researcher found these patterns – and it is now possible to single out premature babies who could get an infection at an earlier stage. Medical intervention and medication can be administered rapidly, and these babies survive. Incidentally, the pattern was not that heart rate and body temperature rise, but that the vital functions suddenly stabilise. Recognising this, and making better decisions in connection with treatment, is made possible by AI and complex data systems.

Following the economy in real time

A spin-off of MIT called PriceStats collects price information on the products offered by E-commerce providers such as eBay and Amazon, as well as platforms such as booking.com. A billion pieces of price information are collected every day. PriceStats analyses the data and, in this way, is able to identify price developments and, consequently, inflation in real time (official inflation data is usually only available 30 days later). The industry succeeded in this 15 years ago during the global economic crisis. However, nobody in Washington listened and important decisions to combat the crisis were made too late.

Analysing commuter flows correctly

Navigation systems on smartphones help people to get from A to B. This data was also used in the greater London area to analyse how commuter flows really develop and it was recognised

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that this occurred differently than in the predetermined model calculations. The findings from the analysis led to the network of public transportation being significantly adapted. It was also possible to make more appropriate decisions in this sphere.

Better use of data does not mean the end of data protection. In many areas, no personalised data is necessary, and we can rely on machine or sensor data. Much of the data that is collected are not even personalised. In addition, there are increasingly better possibilities to depersonalise personalised data. This is not perfect – but then, nothing is perfect in this world. However, it permits us to make pragmatic solutions.

Data is not enough

Artificial intelligence provides a first step towards better decision making, but data alone is not enough. Just think back to the beginning of the pandemic in March 2020: At that time, decision makers worldwide had approximately the same data. However, New Zealand and the United Kingdom reacted completely differently. In New Zealand, people thought about SARS and imposed a strict lockdown. In Great Britain, they considered it to be more like a common cold that would soon be over and decided to "keep calm and carry on". Three months later, New Zealand was virus free – and Great Britain was experiencing the highest death rate since the beginning of pandemic.

It is all a matter of the intellectual model with which we understand the data and the recognised patterns. At best, we can choose the mental model we use, but we are not able to think without a mental model. Here, it is important to understand that, with the help of data, mental models enable us to imagine a world that is yet to come. That is what make us different from machines. We can dream purposefully and imagine things that do not yet exist. AI cannot do that. AI projects the past into the future. That is helpful in many cases, but precisely not when the future is dramatically different from the past. Making the right decision means having the necessary data *and* using it properly in a mental model.

Pragmatism is needed

Many people believe that the most difficult stage of humankind lies behind us – and that is not completely false. We have radically improved our living conditions in the past 100, 200 years. We live longer, we live healthier. In relative terms, far fewer people are faced with hunger. In spite of that, I am convinced that the greatest challenges are still in front of us. We face major threats in connection with the environment and sustainability, with social inequality, and the digital transformation of the economy. We need better decisions in all of these fields. On the one hand, that means more data and, on the other, better use of our mental models. More than 100 years ago, Marie Curie said: "Nothing in life is to be feared, it only needs to be understood". Now is the time to understand more, so that we fear less.

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For this, we need more data – but, above all, more agility in our brains. We need to be more prepared to work with the mental models we have at our disposal – as cognitive tools to make better decisions, together with data.

Victor Mayer-Schönberger is Professor for Internet Governance at the University of Oxford. Before that, he was a professor at the Harvard University for a decade. He is the author or co-author of a dozen books including the bestseller "Big Data" and the prize-winning "Das Digital". His most recent book is "Framers" [together with Kenneth Cukier and Francis de Véricourt]. Mayer-Schönberger was also a digital consultant of the German Federal Chancellor Angela Merkel until the year 2021.

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Armin Grunwald

Advantages and disadvantages of AI – The necessity of evaluating its consequences

Political organisation is more than continuing with patterns from the past. Like all other technologies, AI has advantages and disadvantages, the consequences of which we need to evaluate level-headedly.

Democracy is a genuine concern for assessing the consequences of technology. This technology assessment itself was actually initiated in the American Congress. One of its fathers in the late 1960s was Senator Edward Kennedy. Participative technology assessment can be traced back to the concept of the deliberative democracy of Jürgen Habermas for one, or "strong democracy" in line with Benjamin Barber according to which democracy was not only restricted to elections but also includes participation in lively public debates.

Light and darkness of AI

In connection with this subject, the question of how artificial intelligence reacts to a lively democratic debate like the one over vaccine mandates arises. AI is also being increasingly used by social media.

On one hand, it makes possible for the citizens to get more targeted information than was previously the case. Simplified access to information is further improved by AI.

On the other hand, this targeted information goes hand in hand with some problematic effects: the development of filter bubbles, snowball effects, escalation. One only accepts the information that confirms one's own prejudices. We are already aware of this without AI; this phenomenon will be further strengthened and increased through artificial intelligence.

There can be no doubt that possibilities for manipulation will be expanded through AI, such as through social bots. We carried out a study on this topic for the German Bundestag. It showed that things are not as bad as they are reported in the media, but that it was still necessary to be vigilant. The manipulation of election campaigns – remember Cambridge Analytics – and the fact that fake news gets transmitted with astonishing speed, are major challenges. If fake news is corrected, this correction does not usually get to most of the people who had had their prejudices confirmed by the original false report.

In any case, one thing is noticeable: There is an intrinsic link between the advantages and disadvantages of AI. With AI, it is a question of how the potentials are implemented in reality.

AI for democracy and better decisions

When dealing with the question of how AI affects the democratic debate – in connection with elections, for example – our findings reveal that AI can definitely be used for malpractice. However, it can also recognise malpractice and help prevent it. AI is, *per se,* neither good nor bad; it is a matter of what we do with it. AI will not upgrade democracy, nor will it damage it. In a nutshell: AI couldn't care less about democracy. What we make of AI, and how we use it, is important. That is an old experience made when dealing with technology.

When dealing with decisions made through AI, it has to be clear that these are based on algorithms and data and not on human feelings. Digital visionaries in the USA criticise that politicians are egoistical, narcissistic, and corrupt – and compare them with the objective, just algorithm that makes correct decisions in emotionless rationality. The algorithm is omniscient because it is able to access all the data at its disposal in a split second. By the way, attributes of this kind remind one of mediaeval predicates of God. Against this background, calls are made to do away with democracy and replace it with an AI algorithm. This algorithm should subsequently calculate the common good and its implementation based on data. This story sounds attractive, but it is extremely dangerous. Because: Who programmes the algorithm? Who enters the data?

The problem with data is that they all come from the past, therefore, AI can only recognise patterns in these data. If we give the AI this decision-making authority within the framework of "Automatic Decision Making" systems, we ultimately eradicate the future that is actually a space of open alternatives.

In contrast to AI, we humans have the capability of being able to think consciously against the data. We can learn from data by taking notice of them but, instead of continuing to follow patterns from the past, we can make things different for the future. This is an amazing skill. Under this premise, we are also able to deal with AI as a new sensory organ and discover how we can incorporate it into better decisions.

Encouraging diversity and openness

Understanding the future as a space of possibilities is the opposite of determinism. A technical determinism has set into our way of thinking since the 19th century – and that has increased with digitalisation and AI. There is the expectation that technical progress runs the way it does – and there is nothing we can do about it. Digitalisation is sometimes even described as a tsunami – a force of nature that we people have to adapt to as quickly as possible. Nobody asks the question: Isn't is possible to influence it? Isn't it our duty to configure the world of AI with a democratic impulse? Possibly with a view on human rights and solidarity?

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Seen against this background, politics has a great deal to do to promote diversity in AI. To combat the formation of monopolies and guarantee structural openness. It is already possible to make allowances for legitimised democratic values in the programming when AI is being developed.

Understanding AI and using it for a better life

Education is an old subject in the media world. As early as in the 1970s, concerns were expressed about too much television consumption and too little media competence. Today, the demand is for digital competence and AI competence. However, that must not be reduced to equipping students with laptops and smartphones and seeing that they are able to programme. It is much more a matter of developing a deeper understanding of digitalisation and AI. The nimbus of AI is a problem both in connection with the exaggerated hopes placed in it, and the exaggerated fears that are felt. Assessing the consequences of technology means that one should approach the subject unemotionally and say: Technology must remain a means to an end. AI must also be a means to an end – it must not be allowed to become an end in itself. It is not the purpose of AI to accelerate digitalisation, but to make it possible for us to live a better life – individually and socially – and that in the greatest number of regions of the world possible.

Respect democracy

The way we handle data always depends on the purpose for which they were collected and, subsequently, on their use. In the meantime, we have developed a certain sensibility in connection with personal data. In the case of health data – in view of the pandemic, for instance – they should be gathered and used by public authorities under strict democratic control. In special situations such as the pandemic it should also be permitted to reduce the data protection regulations somewhat in order to be able to combat the situation more successfully. However, this must always be democratically controlled and only effected over time. The purpose must be clear, and misuse prevented.

At the same time, it should be borne in mind that our democracies are fragile. Should a dictatorship take hold, our AI applications would provide it with instruments for surveillance and control that would make those of the Stasi look like children's toys. This should cause us to be concerned – and should be one more impulse to take good care of democracy.

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Conclusion

Artificial intelligence (AI) is a term that has entered dictionaries across Europe. Most European citizens are aware of its existence and of some technologies based on AI. However as with every new technological development, concerns are being raised about whether the impact of AI is positive or negative. As Bettina Rausch claims 'there are also concerns and scepticism that must be considered'. Hence it is the central role of policymakers to take into account people's concerns while forming the legal framework for AI.

This study sought to outline several topics relevant to the basic understanding of AI. Starting with the importance of values when drafting regulations on AI, its outreach and employment in practice, to the advantages and disadvantages of its use, the authors have offered a comprehensive guide to AI.

Common within all articles is a positive assessment of the future employment of AI while comprehending ethical dilemmas. As AI technology impacts everyone, everyone should be included in this debate. To do so, first and foremost, a rudimentary knowledge of what AI is, how it works, and why it matters should be acquired. According to Michael Hirschbrich's definition, artificial intelligence 'uses data from a specific area to train the capability of machines to make autonomous decisions'. In other words, AI simulates human intelligence by using programmed machines which are trained to mimic human thoughts and actions. To achieve this, AI needs industrial data flows to train the algorithms.

Facial recognition for unlocking phones, voice assistants, online translation platforms, the inner workings of social media, autonomous vehicles and aircraft, food ordering applications, media and music streaming services, banking operations, and navigation are some of the many prominent applications of artificial intelligence in our daily life.

Moreover, the next level of digital innovation involves the use of AI in election campaigns. For instance, Meta, the parent company of Facebook, cooperated with the German Federal Ministry of the Interior and the Federal Agency for Information Security on the Elections ahead of the 2019 Bundestag elections in order to 'recognise cyber-attacks and irregularities' as well as to 'provide

speedy information on possible infringements' (Julia Reuss). Meta's comprehensive AI usage encompasses its own laboratory aiming at developing various forms of AI, while prioritising the importance of ethics.

Following the practical perspective, Harald Leitenmüller emphasises the need for 'legal certainty and reliable parameters' for enterprises. The first ever regulation on AI is already on its way, currently awaiting committee decision. The EU Artificial Intelligence Act is a horizontal regulation aiming to lay down rules for the development, marketing, and use of AI products and services in the EU. The goal of the AI Act is to have a balanced approach in order to minimize risks and protect users without curtailing innovation. Hence artificial intelligence for the European market must be human-centred, safe, sustainable, ethical and trustworthy.

When it comes to data, Viktor Mayer-Schönberger argues that the vast majority of collected data is not being used. He believes that with the support of enormous amounts of data, AI can improve language learning processes, identify early-onset neonatal infections, identify price developments and thus inflation in real-time, analysing traffic jams, etc.

In connection with the main concerns with AI, it is safe to conclude that privacy, biases, discrimination, safety and security present major areas of ethical concern for society. Overall, 'AI is, *per se*, neither good nor bad' (Armin Grunwald). The EU's AI act has a unique pyramidal approach to evaluating the risks of AI systems. Hence, systems that present a clear threat to citizens' safety and their fundamental rights would be banned from the EU market.

Finally, the AI Act is expected to move fast on the EU legislative train over the next couple of months. This will be crucial in assuring that it will achieve its twin aims of ensuring safety and protecting fundamental rights while stimulating the innovation and development of AI-based technologies.

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