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The Societal Challenges of AI from a Social Science Perspective

Theses of the research project "AI, Man and Society" (KI, Mensch und Gesellschaft)

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AI & SOCIETY: CHALLENGES AND SOCIAL SCIENCE PERSPECTIVES

AI raises a number of socially relevant questions:

- Which potentials and risks for humans and society arise from AI?

- How does AI change the human-technology relationship?

- What can/should guide the design of AI?

Noticeable finding: Social science perspectives underrepresented in public AI discourse

What can social science perspectives offer?

- Realistic views of societal potentials, limits and risks of AI

- Theoretical concepts and empirical findings on the dynamic and latent consequences of AI in society

- Development of a systematic knowledge base on design and embedding issues
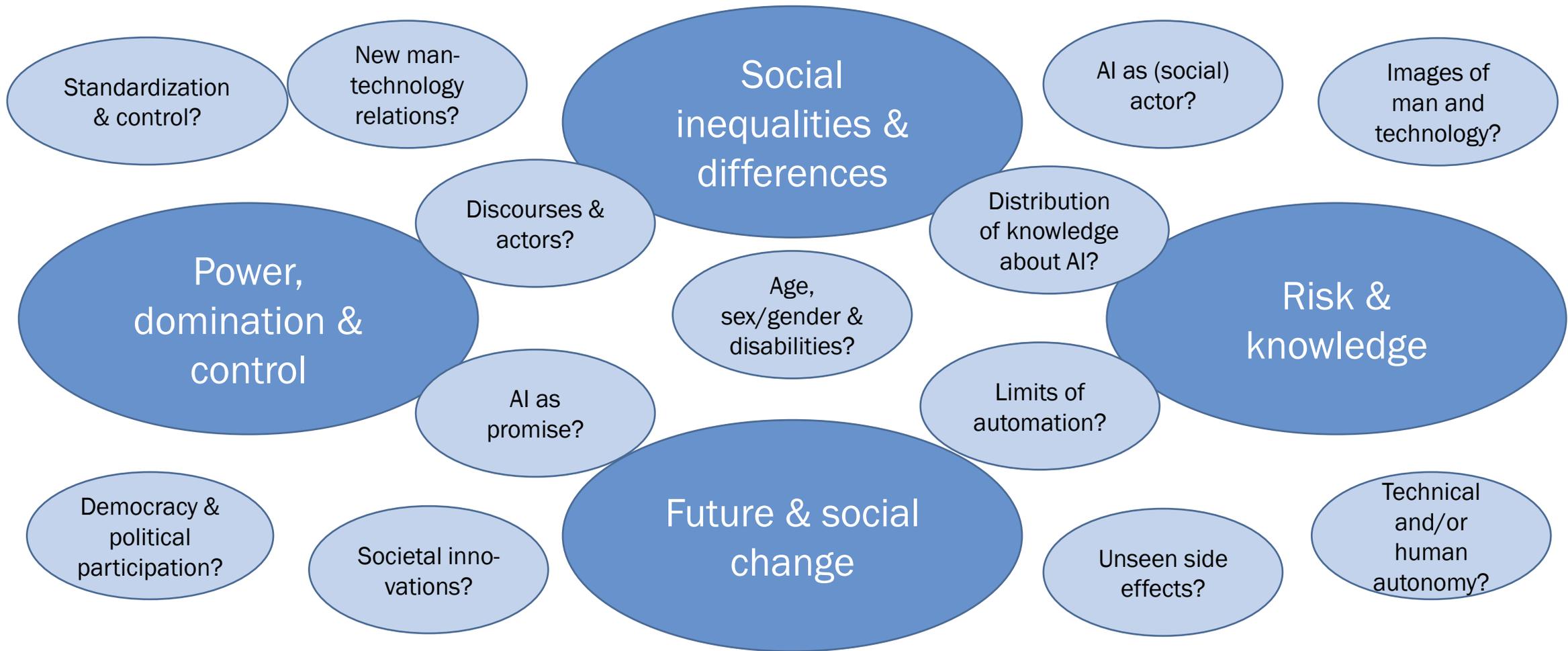
- Funded by the BMBF (Federal Ministry of Education and Research, Germany)

- Project duration: 12/2020 – 11/2022

- Multi-perspective and -methodological research project in the social science spectrum: sociology, philosophy, law, ethics, political science, gender studies, methodology, qualitative and quantitative methods of empirical social research

SOCIETAL CHALLENGES OF AI: KEY ISSUES

Power, domination & control	Risk & knowledge	Social inequalities & differences	Societal futures & social change
• How does AI change the relations and conditions of (il)legitimate economic, political and social power and domination? • What are the consequences of AI for democracy and political participation? • How does AI transform and standardize social processes? • How can AI and its effects be socially controlled and standardized?	• What are the societal risks and (side) consequences associated with AI? • How is social knowledge distributed in the risk regime of AI? • Which methods can be used to generate social scientific knowledge about AI?	• What systematic differences exist between humans and AI with regard to action/agency and learning? • Which images of humans and technology are taken up and generated in discourses about AI? • How does AI affect existing social inequalities and what new inequalities are created?	• How does AI development proceed as a social process and what distinguishes it from other technological developments? • What promises does AI generate and what impact do these promises have? • Which social actors appear in the current AI discourse and which narratives do they generate?

SOCIETAL CHALLENGES OF AI: KEY ISSUES

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Standardization & control?

New man-technology relations?

Social inequalities & differences

AI as (social) actor?

Images of man and technology?

Discourses & actors?

Distribution of knowledge about AI?

Power, domination & control

Age, sex/gender & disabilities?

Risk & knowledge

AI as promise?

Limits of automation?

Democracy & political participation?

Societal inno-vations?

Future & social change

Unseen side effects?

Technical and/or human autonomy?

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Realistic view of societal potentials, limits and risks of AI

Social science knowledge base on AI design and embedding issues

AI atlas as a design and reflection tool

Thesis paper with key statements on the relationship "Humans - AI - Society"

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AI carries the risk of reproducing and exacerbating existing biases and inequalities.

Not only is there a risk that biases in the data accessed by AI solutions will be reproduced or exacerbated. Also, women and non-whites continue to be underrepresented as active actors in AI development. This bias manifests itself in AI programming (coded bias), in AI deployments, and in public discourses about AI.

AI structures social spaces of experience and knowledge in latent and unseen ways.
What AI does and how AI works in social contexts is not always apparent to the actors who deal with it. As AI processes data from the respective application context and feeds back data generated by it into this context, a subliminal structuring of the spaces of experience and knowledge takes place in which social actors interact with AI. What can be experienced and known depends largely on how AI influences and relates to a social practice.

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Humans are not a risk factor that must be kept out.
Complex technical and social contexts increasingly require socio-technical solutions in order to achieve security and stability, but also adaptability and innovation. This requires an understanding of the strengths and weaknesses of AI solutions on the one hand and human thought and action on the other, as well as an allocation of functions and tasks based on this.

AI carries the risk of undermining the principles of democracy and political participation.
The plurality of opinions and perspectives in democratic discourse runs the risk of being replaced by AI-based conclusions. AI adds a new quality to the consequences of digitization: By making the patterns of past decisions the basis for decisions about the future, the path dependencies of political decisions and thus structurally conservative positions are reinforced.

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AI is intensifying the struggle for social power and domination.
The possession of large volumes of data, their disposal and their exploitation ("big data") give rise to new types of power potentials and techniques of domination that considerably strengthen the power positions of already powerful (economic) actors. At the same time, new centers of power are emerging that are accumulating knowledge reserves and, in their way, elude social and democratic legitimation.

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If the limits of AI solutions are not seen and taken into account, numerous social risks arise.

AI is subject to systematic limits of technical complexity handling in socio-technical environments. Complexity increases enormously from the step of AI development in the laboratory to implementation in real physical and social environments. The use of AI itself constantly generates new requirements and problems that cannot be solved by AI alone.

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Thank you!

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