



ASPEN ANNUAL BERLIN AI CONFERENCE

HUMANITY DEFINED: POLITICS AND ETHICS IN THE AI AGE

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March 28-29, 2019

State Representation of Baden-Württemberg
Tiergartenstr. 15
10785 Berlin



Baden-Württemberg
VERTRETUNG DES LANDES BEIM BUND





Katarina Barley
*German Minister of Justice and
Consumer Protection*



Volker Ratzmann
*State Secretary and Head,
State Representation of Baden-
Württemberg Washington*



**AI and the Hippocratic Oath panel
discussion**



Kenneth Stanley
*Charles Millican Professor of
Computer Science, University of
Florida*



Thomas Metzinger
*Professor of Theoretical Philosophy,
Johannes Gutenberg University
Mainz*

Conference Summary

The second annual Berlin AI conference, “Humanity Defined: Politics and Ethics in the AI Age,” brought together more than 350 top policy-makers, philosophers, computer scientists, academics, and representatives from business, the media, and politics at the State Representation of Baden-Württemberg on March 28-29, 2019.

The conference was generously supported by our co-organizers: the Heinz and Heide Dürr Stiftung and the State Representation of Baden-Württemberg. Additionally, we thank our supporters and partners - the Friedrich Naumann Foundation, Microsoft, Pfizer, the Apen Initiative for Europe, KI-Bundesverband e.V., and our media partners KCRW Berlin, Berlin Policy Journal, Internationale Politik, and Deutschlandfunk Nova.

Starting Off with Humanity First

On March 28th, the Humanity Defined conference kicked off with a greeting by Rüdiger Lentz, Executive Director, Aspen Institute Germany, and welcome remarks from Volker Ratzmann, State Secretary and Head of the State Representation of Baden-Württemberg. Ratzmann noted that AI research is a key component in Stuttgart’s Cyber Valley cluster (including €150 million) and that Baden-Württemberg was the first German state to develop an AI strategy. Its strategy fed into the Federal government’s strategy. But he also voiced the frustration that the federal government has been too slow to engage researchers, research consortia like ALICE and CLAIRE and states like Baden-Württemberg who crave the chance to shape Germany’s AI future together with the federal government.

Katarina Barley, German Federal Minister of Justice and Consumer Protection, kicked off the first day’s discussions by linking the German constitution, human dignity, and the challenges posed by current and future AI developments. Barley emphasized that decisions of consequence for individuals and society should be made by humans to ensure human dignity is addressed and preserved in AI. She outlined four points for an ethical framework for AI: 1) significant decisions must be made by humans; 2) consumers must be informed when algorithms are making decisions on their behalf; 3) algorithms and training data must be open to scrutiny; and 4) we must always ask if the “possible” is the “desirable.”

After speaking, Barley sat down for a conversation with Shannon Valor, Professor of Philosophy at Santa Clara University, covering questions about the global AI race, Europe, and Germany, AI in society, the role of government. Notably, she stated that as societies address AI, we should be mindful that humans should never become the objects of AI decisions and that we are not a race - the role of technology and AI in society is an ongoing, open-ended task for humanity.

First Movers and First Principles for Ethical AI

For the first panel, titled “First Movers and First Principles: Values and Paradoxes in the Global AI Race,” discussants tackled the questions of whether there is an AI race globally and who the competitors are.

The conversation immediately focused on the relationship among the United States, Europe, and China. There was an agreement that the U.S. is the current AI technological leader, but that Europe, especially Germany, is leading the global AI ethical debate. Regarding China, panelist Ed Tse encouraged thinking in terms of opportunities for collaboration, but also that China is moving forward rapidly with the aim to be the global technological leader in AI powered by a different relationship with data usage.

Panelists also raised concerns about the potential for AI to intensify social inequalities, create “winners” and “losers,” and cautioned about thinking in terms of efficiency without considering “who” and “how” society will benefit.

The point was made that competitors in the global AI race – seen as nation states and their respective societies—do share common values among each other but differ as to what degree a particular value may be prioritized within a society. How a government or society prioritizes values has consequences for AI development. This point may best be illustrated by the balance between freedom and security while monitoring citizens' activities. As the conversation concluded, politician Danyal Bayaz spoke directly to the audience stating that we need to be clear about what values we are striving for in society and technology, especially in conversations about AI.

Panelists included Danyal Bayaz, Member of the German Bundestag (Alliance 90/the Greens), Special Representative of Start-ups for the Greens; Aljoscha Burchardt, Speech and Language Technology Lab, DFKI and Member, Bundestag AI Investigative Commission; Cathy O'Neil, Mathematician and Author Weapons of Math Destruction; Aleksandra Przegalinska, Assistant Professor, Kozminski University and Research Fellow, MIT Sloan School of Management; and Ed Tse, Founder and CEO, Gao Feng Advisory Company, Ltd., Former Chair, Booz Allen Hamilton, Greater China, Author China's Disruptors. Martin Bialecki, Editor-in-Chief, Internationale Politik, Berlin Policy Journal, moderated the discussion.

How Can We Build an AI Future We Want?

Hans Peter Brondmo, Project Lead for Robotics and Machine Learning at X, took up the conversation thread with a presentation addressing society and ethics. He underscored how AI presents opportunities to build a shared future together – one that addresses humanity's most pressing social needs. AI's power to change the way we work, live and play also means that we need responsible innovation that invites cognitive diversity and dialogue to ensure we ask the best and most provocative questions. Brondmo emphasized that we can – and must – develop a “mission-based” technology policy that encompasses these elements. For example, he offered the questions, “How might AI and robots help people?” and “How can we make machines more human so that they can do the work that makes us less human?” as guideposts for current and future decision-making.

Life and Health in the Deep Digital Age

The conference's second mainstage panel, “AI and the Hippocratic Oath: Exploring Contours of Healthcare, Medicine and Life in the Deep Digital Age,” touched on patient data, modes of technology for reporting and receiving healthcare, and the associated opportunities and risks in the context of AI. Christiane Woopen underscored the point that AI in healthcare must assure patient sovereignty. The panelists agreed in general and discussed the contours of what it takes for patients to remain fully informed and able to take action regarding healthcare matters, especially regarding healthcare data.

The conversation also explored the modes of AI healthcare delivery and how the instrument of delivery may impact both diagnoses and treatment. Concerns were raised about whether, as AI moves further into healthcare, if individuals should have a choice to continue receiving healthcare through traditional means of doctor-patient visits even as technology presents new platforms for delivery, for example, via handheld devices absent a physician. In conclusion, panelists cautioned that the risks of AI in healthcare are unique and critical, but the opportunities for greater timeliness and accuracy in diagnoses as well as accuracy and clarity in data are promising for human health and society.

Discussants included Peter Albiez, Country Manager, Pfizer Germany; Anna Christmann, Member of the German Bundestag (Alliance 90/The Greens), Lead Member of The Greens, AI Investigative Commission; Gottfried Ludewig, Head of Directorate General “Digitalisation And Innovation,” German Federal Ministry of Health; Jonas Muff, CEO, Merantix; Christiane Woopen, Spokesperson, Data Ethics Commission of the German Federal Government, Director, CERES, University of Cologne. The session was moderated by Gregor Waschinski, Political Correspondent, Handelsblatt.

What is the Definition of AI?

The second day began with remarks from Heinz Dürr, Chairman of the Heinz and Heide Dürr Stiftung. He opened with remarks on his view of AI and the question of how one can understand: What is AI? Moving to a quote from the author, Ulla Hahn, Dürr reflected on the how AI will radically transform society worldwide in the way writing did thousands of years ago. With this radical transformation comes the potential for good and evil, just as we see both forces at work in society generally. As a result, some aspects of life may become easier, but there is also danger present. What do humans do when the computer learns and makes a proposal humans do not fully understand? Who is in control? How does society address these scenarios?

To help understand these matters, Dürr turned to the old master, Johann Wolfgang von Goethe. Dürr reimagined the work, the Sorcerer's Apprentice, by the great author and poet, complete with modern-day references, including bytes, passwords, social media and powerful algorithms. The audience was treated to an engaging and thought-provoking moment, bringing the old and new together, opening the second day of the conference.

Ballad of Artificial Intelligence and the Sorcerer's Apprentice

Freely interpreted from Johann
Wolfgang von Goethe,
by Heinz Dürr

(An Excerpt)

Hat der Mensch als Lebensmeister
Sich mit Kapital mal wegbegeben!

Jetzt nun sollen seine Geister
Und Computer auch
nach meinem Willen leben.

Seine Bytes und alle Werke
Merkt ich und den Brauch,
Und mit KI-Geistesstärke
Tu ich Wunder auch.

Sende! Sende!
Manche Strecke,
Dass zum Zwecke
Info fließe
Und mit reichem, vollen Schwalle
Zur Totalmacht sich ergieße.

Und nun komm, du alter Kasten,
Lass die alten Chips und Elektronen!
Brauchst nicht mehr
durch alte Algorithmen hasten:

Nun erfülle meinen Willen! Auf
Trillionen Beinen stehe, -
Nimm dir Facebook, Google und noch
mehr Eile nun und gehe
Füll mit Bytes die Welt und Meer.

Sende! Sende!
Manche Strecke,
Dass zum Zwecke
Info fließe
Und mit reichem, vollen Schwalle
Zur Totalmacht sich ergieße.



Heinz Dürr
Heinz und Heide Dürr Stiftung

Why AI Innovation Cannot Be Planned

Kenneth Stanley, Charles Millican Professor of Computer Science at the University of Central Florida, followed on challenging the audience to let go of concepts of objectivity and planning in AI innovation. Using imagery from the collaborative art application, Picbreeder, Stanley presented the metaphor of stepping stones to illustrate how the path to success in AI is by abandoning the idea of following a plan in order to achieve our highest goals. Rather, we must remain open to unplanned discovery and see what stepping stones others lay in front of us to determine the course forward. Central to this concept, Stanley warned against collaboration that promotes convergent consensus as this can lead to wash-out and the narrowing of ideas rather than rewarding discovery.

To conclude, he pointed out that by not following a planned path we become “treasure hunters,” which allows us to build off of shared knowledge and collectively shape knowledge. This approach asks us to view progress as unpredictable and, therefore, difficult to control but results in rich AI- based outcomes and discoveries.

Europe - the Ethical AI Leader

The next speaker, Thomas Metzinger, Professor of Theoretical Philosophy at the Johannes Gutenberg University Mainz, focused the conversation on European leadership and ethical AI. Specifically, the presentation offered an overview of Europe's approach to developing trustworthy AI and applied ethics framed by the conveying of the Independent High-Level Expert Group on Artificial Intelligence by the European Commission in June 2018.

Metzinger first offered a critique of the commission, which was composed of representatives from academia, civil society and industry. Key points included the absence of non-negotiable ethical “red lines,” the outweighing of business interests, and the risk of “ethics-washing,” which employs delay or avoidance, for example, to deter from or substitute for AI policy making and regulation. He said what is needed are new experts in applied ethics of AI, additional discussion involving applied ethicists, and clear communication of AI and AI ethics research results to the public. Europe is the current leader in this space because, despite short-comings, the 2018 European Commission report is the best discussion platform currently available worldwide, and we must (carefully) scale AI ethics up to the global level. As a final point, we were reminded that decisions about AI rules must and will not kill innovation, but we also must facilitate rules that are binding.

AI and Our Everyday Lives

Next, the program hosted a mainstage panel entitled, AI for the People: Fulfilling the Promise of Everyday Benefit. Kenza Ait Si Abbou Lyadini made the point that Europe is not only leading in the ethical debate but is doing better than we think from a technological development standpoint. The panelists then built on the previous presentation, discussing how we have to decide what computers should be able to do in society and in our lives. There was consensus that we must remain cognizant that humankind should lead, not systems. Additionally, since AI offers great risks and opportunities, society and experts need to think about what our dream is for AI in our lives. This project requires putting our minds together and dreaming of an optimistic future. Jeff Bullwinkel echoed themes from earlier in this conference, emphasizing that there needs to be new AI laws and regulations because we need guidance, including in the business sphere – as only with guidance can we begin to use AI to solve the world's biggest problems.

Panelists in the session included Jeff Bullwinkel, Associate General Counsel and Director of Corporate, External & Legal Affairs, Microsoft; Kenza Ait Si Abbou Lyadini, Senior Manager, Robotics & Artificial Intelligence, Deutsche Telekom; Julie Maupin, Director of Social Impact & Public Regulatory Affairs, IOTA Foundation; Jörg Müller-Lietzkow, Professor for Media Economics and Media Management, University of Paderborn, Speaker, Cnetz, Member, Bundestag AI Investigative Commission. The panel was moderated by Nancy Nemes, Founder, Ms. AI, Artificial Intelligence for and with Women.

Tandem Seminars: Diving Deeper into Disciplines Influencing AI

The conference then split into three breakout sessions aimed at exploring how AI is impacting thought across disciplines. Conference attendees were able to attend any one of the concurrent sessions. Seminar topics focused on gaining perspective on AI robotics in military warfare and the intersection with ethics, the role of timely and comprehensive standard setting to ensure human safety and security in AI, and how design offers a wealth of guidance as we seek to humanize technology as a means of strengthening our societies and democratic systems.

Waging Ethical Warfare

On the main stage of the conference tandem seminar presentations, the topic was the emerging AI in the military context. Ronald C. Arkin, Regents' Professor & Director of the Mobile Robot Laboratory, College of Computing, Georgia Institute of Technology, presented *Edge in Warfare: The Ethical Dimension*. Emerging AI military technologies include lethal autonomous weapons, warfighter augmentation, non-lethal weapons and cyberwarfare. Motivators for military robotics range from force multiplication (limiting the number of soldiers needed), expanding the battlespace (expanding combat over larger areas) and allowing individual soldiers a greater weapons reach. Arkin expressed that, at best, the use of AI and robotics for reducing ethical infractions is at present limited. Further, despite protestations to the contrary from all sides, autonomous lethality seems inevitable. Despite this state of affairs, he said society must not accept the status quo with respect to innocent civilian casualties but must work to develop AI and robots that follow an ethical code.

Safety Standards - Before It's Too Late

Aleksandra Sowa, Book Author, Privacy Auditor, Senior Manager, Cyber & Privacy, PwC GmbH WPG presented on the topic of AI security with the seminar titled, *Is AI Safe? Setting the Rules of the Road for AI Security and Safety*. The dynamic we currently face is that AI is rapidly developing, but we have not yet decided on a uniform and universal set of standards to guide all levels of the field – from development to implementation to new uses in society. Right now, we know we need more tools and standard-setting. We also have the tools to establish effective standards and controls, then effectively audit systems for adherence, compliance and performance. What we need to also hold in mind is that we need to implement these before the AI software becomes more independent as is operating outside or without agreed upon standards.

AI Design Principles as Human Principles

Luis Villa, Principal Director, Accenture Interactive and Aspen España Fellow, brought in the dimension of design to the seminar titled, *Humanizing Technology and Strengthening Democracy: A Strategic Design Perspective*. Villa walked the seminar attendees through elements of a design perspective to illustrate the point that STEM (science, technology, engineering and mathematics) needs the humanities. Specifically, the humanities – philosophy, art and history, sociology, and politics – ask different questions to guide society as AI develops. For example, philosophy asks us to consider the nature of what makes us human and sociology questions, “How do we best build a society that is fair and inclusive?” The humanities, therefore, helps us successfully achieve an AI that reflects simple principles for a complex reality: people and dignity first, people should not act like machines, machines should not act like people – get the best from both of them.

Oxford-style Debate: A Battle of Words for Worldview

In an exciting new format for the Aspen AI Conference, four presenters argued in teams of two “for” and “against” the motion: Artificial Intelligence will be a Net Positive for Human Dignity. Following the Oxford-style, debaters were asked to think quick as they argued across four rapid fire rounds. Both the moderator and audience had a chance to question the debaters and the event concluded with closing arguments by each participant. We also asked the audience to vote online immediately before and after the debate to gauge the persuasiveness of the dueling teams. Prior to debate commencement, 52% of the audience was “for” the motion, 26% “against” and 22% were unsure of their position.

Shannon Vallor took the stage first arguing “for” the motion on the point that AI can help us deliver on the delayed promise of increased leisure and quality of human life. An improved quality of life gives society back the dignity of the human person that the industrial ages and labor have stripped away – through repetitive tasks, for example. Cathy O’Neil quickly countered, arguing that AI and algorithms are a new way we have actually created a model to violate human dignity. For example, with AI we can now hide behind expertise and corporate interests to keep individuals from fully understanding and participating in the AI conversation impacting society.



Ronald C. Arkin

Regents' Professor & Director of the Mobile Robot Laboratory, College of Computing, Georgia Institute of Technology



Jeff Bullwinkel

Associate General Counsel and Regional Director of Corporate, Legal & External Affairs, Microsoft Europe



Shannon Vallor

Regis and Diane McKenna Professor, Department of Philosophy, Santa Clara University

&

Holger Hoos, *Professor of Machine Learning, University of Leiden, Co-Founder, Confederation of Laboratories for Artificial Intelligence Research in Europe (CLAIRE)*



Cathy O'Neil

Mathematician and Author of "Weapons of Math Destruction"

&

Konstantinos Karachalios
Managing Director, IEEE Standards Association

Holger Hoos was up next, supporting the motion with the point that AI helps us achieve what we want as humans since machines enable us to do many new things previously not possible. Additionally, he emphasized, humans can control and understand AI to use it for societal benefit. With a spirited conclusion to Round 1, Konstantinos Karachalios positioned himself front and center on the main stage (noted as a "power move" by Ali Aslan, keeping order as moderator). Karachalios argued fiercely against the motion warning that AI allows human being to become transparent as we share more and more of ourselves. Further, we cannot allow machines to be humanized and we should not abandon human decision-making, values or sensibilities that form our democracies to algorithms.

The debate went on with the audience fully engaged. Round 2 raised points in favor of AI such as questioning whether our fear of AI is really based in reality or, if we are unnecessarily worried about ascribing human characteristics to machines, characteristics that machines do not have. On balance, an approach of cautious optimism was argued as appropriate as humans have shown great ability to adapt and reform when confronted with unknown situations impacting our societies. On the other hand, AI presents risk, including the overpowering of human autonomy in society with machine-based decisions that target human behaviors.

After a round of applause, the audience voting results were in – revealing a surprise outcome – the crowd was now evenly split with 40% supporting the motion and 40% against. The remainder of the audience was unsure of their position.

Shannon Vallor, Regis and Diane McKenna Professor, Department of Philosophy, Santa Clara University returned to the stage with debating partner Holger Hoos, Professor of Machine Learning, University of Leiden, Co-Founder, Confederation of Laboratories for Artificial Intelligence Research in Europe (CLAIRE) argued for the motion. Cathy O'Neil, Mathematician and Author of Weapons of Math Destruction joined the main stage again with teammate Konstantinos Karachalios, Managing Director, IEEE Standards Association. Ali Aslan, TV presenter and Journalist moderated.

Syncing the Strategy for Germany

The final panel of the conference brought together policy, government and business actors for the presentation titled, The Devil's in the Details: Germany's AI Strategy in Action. Our presenters focused on Germany's role, strategy, strengths and weaknesses in relation to other global AI players as well as internal initiatives and attitudes.

Thomas Metzinger reiterated his appeal for the increased AI ethics training in technical universities and programs across Germany and the EU. Continuing with points from his earlier presentations, Metzinger pointed out that, as the arguable leader in AI ethics, Germany can make great contributions to the EU and beyond. By asserting its position and shaping AI ethics, Germany remains central to the development of AI.

Moving towards assessment of the commercial and business environment, Jörg Bienen discussed how Germany has taken many steps in recent years to support AI start-ups. While the country may not have the same capital and funding networks found in the U.S., or the enormous government investment of the Chinese government, Germany is moving in the right direction to open-up opportunities. However, he did concede that "big steps," necessary to build a robust venture capital ecosystem in Germany have not yet been taken. Sabine Leutheusser-Schnarrenberger noted that the siloed nature of the German government's AI competency; the slowness with which German government machine powers into action; the lack of primed recipients for public investment; and the excuse that it is because of poor digital infrastructure all contribute to a lackluster approach to AI by the German government.

Aspen's own, Tyson Barker, built on the discussion point regarding Germany and venture capital networks. There is an enormous opportunity for German collaboration with the U.S. Barker encouraged Germany to consider thinking of alternatives to Silicon Valley. For example, he proposed, look to building relationships and beginning conversations with other cities from which technology is likely to be regulated, such as Sacramento or Washington state.

Panelists included Jörg Bienert, Founder and CEO, aiso-lab, President, Federal Association of Artificial Intelligence; Sabine Leutheusser-Schnarrenberger, Member of the Board, Friedrich Naumann Stiftung, Former German Federal Minister of Justice; Thomas Metzinger, Professor of Theoretical Philosophy, Johannes Gutenberg University Mainz and Tyson Barker, Director of the Digital Program and Fellow, Aspen Institute Germany. Janosch Delcker, Artificial Intelligence Correspondent, Politico moderated.

Robo Football Match: Kicking Off #AspenAI19

As the conference speakers, participants and partners arrived each day, they were welcomed from the sideline pitch by AI Robo Footballers representing teams from Leipzig and Berlin. Throughout two days, these robot players faced off and tolerated numerous photo sessions with conference participants turned fascinated and enthused AI Robo Football fans. The robots sported their respective team jerseys with Leipzig prevailing at the conclusion of the second day.

The impressive demonstration is the hard work of student roboticists at the HTWK Leipzig and the Humboldt University Berlin. We thank them again for sharing their project with us at the Aspen Institute Germany, Digital Program's Conference – Humanity Defined: Politics and Ethics in the AI Age.

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BACKGROUND: THE ASPEN INSTITUTE GERMANY

The Aspen Institute Germany was founded in 1974 as the first Aspen Institute outside the USA. Its mission is to foster values-based leadership, encouraging individuals to reflect on the ideals and ideas that define a good society, and to provide a neutral and balanced venue for discussion and acting on critical issues. The individual and social values of the humanistic tradition are promoted through long lasting networks as well as a continued open-minded and critical discourse among top executives from Europe, America, and the whole world. Since its foundation in 1974, Aspen Germany has established a unique track record in building German-U.S. cooperation and in fostering the East-West dialogue with representatives of the former Soviet Union during the Cold War. Until today, Aspen Germany facilitates non-partisan, substantive dialogues on sensitive international policy issues.

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