



Book of Abstracts

Artist Guided Neural Networks – automated creativity or tools for extending minds?

Varvara Guljajeva

Technology, like AI, is present in the generation and the distribution of culture. How do artists exploit neural networks for creative purposes, and what impact have these algorithms on contemporary practices?

Through practice-based research methods, we have been exploring the potentials and limits of current AI technology, more precisely neural networks in the context of image, text, and form. From the proof of concept, deep learning (DL) has evolved into a tool that is applied for art production. Even more, we see a specific genre or cluster emerging that specifically concentrates on art made with AI.

In terms of DL development, in a relatively short time, the generation of high-resolution images and 3D objects has been achieved. What is more exciting, there are models, like CLIP and text2mesh, that do not need the same kind of media input as the output. The first one is the text-to-image model. Such a twist contributes toward creativity arousal, which manifests itself in art practice and feeds back to the developers' pipeline. Yet again, we see how the artists act as catalysts for technology development.

Such novel creative scenarios and processes are enabled not only by available AI models but by the hard work behind implementing these new technologies into real-time and autonomous applications with custom-made data sets and algorithms. AI does not create a 'push the button' masterpiece but requires quite a deep understanding of the technology behind it and a creative mind to come up with high-quality work. Our previous research has shown that the most interesting and valuable results are achieved when DL tools are combined with human input. Thus, AI opens new avenues for inspiration and offers novel tool sets but fails to automate creativity.

Dr Varvara Guljajeva is an artist and researcher holding the position of Assistant Professor in Computational Media and Arts Thrust at the Hong Kong University of Science and Technology (Guangzhou). Previously, she held positions at the Estonian Academy of Arts and Elisava Design School in Barcelona. Varvara was invited as a visiting researcher to XRL, Creative School of Media in the Hong Kong City University, IAMAS (Ogaki, Japan), LJMU (Liverpool, UK), Interface Cultures in the Linz University of Art, and Design, Blekinge Institute of Technology (Karlshamn, Sweden). Her PhD thesis "From Interaction to Post-Participation: The Disappearing Role of the Active Participant" (defended in 2018 in the Estonian Academy of Arts) was selected as the highest-ranking abstracts by Leonardo Labs in 2020.

As an artist, she works together with Mar Canet forming an artist duo Varvara & Mar. Often the duo's work is inspired by the information age. In their practice, they confront social changes and the impact of the technological era. The duo has been exhibiting in international shows since 2009. Their works were shown at MAD in New York, FACT in Liverpool, Santa Monica in Barcelona, Barbican in London, Onassis Cultural Centre in Athens, Ars Electronica museum in Linz, ZKM in Karlsruhe, and more.

Embodied Voice and AI. Exploring non-extractive approaches to body datafication

Scott deLahunta, Diana Serbanescu, Mika Satomi, Kate Ryan, Ilona Krawczyk

This paper discusses a collaborative artistic research project involving hybrid strategies from the fields of wearable design, contemporary performing arts and practice research. The goal has been to explore the contribution that such ways of working with embodied practices can bring to debates about ethics and AI, particularly in the areas of body datafication. The case study under investigation follows the process involved in the creation of wearable technology using AI to augment a performative practice of “giving the body a voice”. We based our research on post-Grotowskian traditions of actor training, which involves the engagement of “the psychophysical process of a human being [...]in the moment of producing vocal sound.” (Krawczyk, 2021). The wearable design comprises sensors reading data in real-time and training ML algorithms to specific poses linked to synthesizer parameters. The resulting synthetic voice aims to both enhance the embodied (training) practice of the performer and enable embodied creative composition. Our observations in regards to the ethics of AI are pointing to three possible areas or contributions: 1) Reflexivity; 2) Collaboration/ Ownership; 3) Decision Making. AI-systems are products of collaborative and team effort, awareness about the process of decision making starts with the team. We believe that the first step towards building more ethical and trustworthy AI is to base the development of these systems in a well-documented and self-reflexive ecology of praxis. Another step towards more ethical AI is situating corporeality (the state of having a body) and diversity at the core of human-centered technological design and development, particularly where the body is seen to be the source of data. We believe the links between ethics of AI and knowledge from embodied practices have not been sufficiently explored and that this kind of research can support non-extractive ways of thinking about body datafication.

Scott deLahunta is Professor of Dance, Centre for Dance Research, Coventry University and co-Director of Motion Bank, now hosted by Hochschule Mainz University of Applied Sciences. His research seeks to deepen and apply the understanding of dance as a form of embodied knowledge and choreography as skilful bodily practice. This builds on over a decade of working within contemporary dance companies as research director and facilitator. Since 2010, he has held a research position at Coventry University and assisted in setting up the Centre for Dance Research in 2015. <http://www.sdelad.dds.nl/>.

Diana Serbanescu is a transdisciplinary AI ethics researcher at the Weizenbaum Institute and artistic director of REPLICA. In her artistic and research practice and research she explores feminist approaches to knowledge creation, the potential of poetic machines, and the continued validity of traditions in an era of artificial intelligence and digital colonisation. She believes in the radical potential of performance making and performance art practices to inspire social change. She holds a PhD in Computer Science from the Free University of Berlin and a BA(Hons) in Performance from the University of the West of Scotland. <http://diananeranti.com/>

„Sound Of Contagion“ – An artistic research project exploring A.I. as a creative tool for transmedial storytelling

Robert Laidlow & Wenzel Mehnert

“Sound of Contagion” is a transmedial art project addressing the cultural narratives surrounding global diseases and pandemics through different media. It is borne out of the collaborative partnership between the University of the Arts in Berlin and the University of Oxford and explores the use of Artificial Intelligence (A.I.) in creative processes to build a storyworld that serves as the basis for narratives, illustrations, musical compositions and live performances. Texts written by a machine learning algorithm and trained on narratives about pandemics from the last 2000 years serve as the starting point for the project.

Besides the aesthetic and creative output, the project is a research endeavor that explores the usage of A.I. as a creative tool. Through the collaboration of artists and technology, the imaginary that AI can independently and consciously create art is shifting to the notion of A.I. as a tool that supports and encourages creative processes. In this way the project points to the aesthetics and cultural-semantic flaws that are unique to the creative output of A.I. works, and challenges the myth that A.I. could replace authors, poets or other creators of art, entertainment or fiction in general. Thus the work follows a collaborative paradigm and acknowledges A.I. as a creative tool with its own agency and a unique aesthetic. By using them in a creative process, A.I.s make an important contribution to new art forms, foster inspiration for artistic practices and thus promote independent modes of expression. This talk is an insight into this project understood as a case study of how Artificial Intelligence is used as a creative tool within an interdisciplinary collective working in fields like literature studies, cultural studies, composition and visual arts.
<https://www.soundofcontagion.com/>

Robert Laidlow is a composer and researcher based in the UK. Robert's music has been commissioned and performed across the globe and broadcast on television and radio. His compositions blur the boundary between science and music and are often the result of close interdisciplinary collaboration. Robert is the PRISM Researcher in Artificial Intelligence in association with the BBC Philharmonic Orchestra - a relationship that has recently resulted in several new works exploring intelligent technology.

Wenzel Mehnert is a futurologist who focuses on the imaginaries of new and emerging technologies. He researches, writes and teaches experimental methods of futurology. In his work, Wenzel Mehnert focuses on the intersection between speculative fictions and the evaluation of new and emerging sciences and technologies (e.g. A.I., SynBio, Internet of Things, etc.). He worked as a researcher at the Berlin University of the Arts, co-founded the Berlin Ethics Lab at the Technical University of Berlin and currently lives in Vienna, where he works at the Austrian Institute of Technology and develops ethical guidelines on new technologies for the European Commission.

Challenges and opportunities for computational construction of narratives

Pablo Gervás

Programs take input data and apply to them a procedure that results in an output. If the desired output is a narrative, it is reasonably easy to come up with procedures that produce a narrative for an empty set of input data – starting with a process for random selection from a set of previously written stories. Given sufficiently generic types of input data – a title, a character, a beginning, a genre – a more refined search procedure over existing stories might also serve. If one further establishes the constraint that the outcomes must be original – that is, not already available in some form – the task becomes more difficult. Building new stories by combining pieces of existing ones might serve, or even building entirely new ones from basic elements – whatever those may be –, but the challenge would then be to ensure that the new stories make sense. It is more difficult to come up with procedures that react to a broader range of input data – a purpose, a mood, an inspiring real world situation... Because in those cases, the stories not only need to make sense but also to match the input in question. The more interesting question is what combinations of input data and procedures might be especially useful, and to start answering that question one needs to consider an author willing to rely on such programs – who may establish a purpose –, or a user willing to read the outcomes – who might set further constraints on what stories are valid or on how a particular purpose may be achieved. The proposed paper will consider how these various issues have been addressed to date in existing work on computational construction of narratives, and discuss the options currently open for improving upon them.

Professor Pablo Gervás holds a PhD in Computing from Imperial College, University of London (1995), and he is currently full professor on computational creativity and natural language processing (Catedrático de Universidad) at Universidad Complutense de Madrid. He is the director of the NIL research group (<http://nil.fdi.ucm.es>) and for many years he was the director of the Instituto de Tecnología del Conocimiento (<http://www.ucm.es/itc>). He has been the national coordinator of the FP7 EU projects PROSECCO, WHIM and ConCreTe in the area of Computational Creativity. He has been coordinator for two national research projects (GALANTE and MILES) involving several institutions and principal investigator for two more (IDiLyCo and CANTOR). His main research interest currently lies in the study of the role that computers can play in helping people interested in literary creativity.

Professor Gervás is one of the world's leading experts on automatic generation of (fictional) stories and poetry. His WASP (Wishful Automatic Spanish Poet) system has created poems that have been published (in a book titled "Can a computer write a love poem?") and presented at poetry festivals. He is the author of the PropperWryter software which was used in the process of creating "Beyond the Fence" -- the first computer generated musical, staged at the London West End in 2016.

The case of Duchamp in Artificial Creativity

Jan Løhmann Stephensen

In the first chapter entitled “Even an AI could do that” in Emanuelle Arielli & Lev Manovich’s book *Artificial Aesthetics: A Critical Guide to AI, Media and Design* (2021-22), which is currently being published chapter by chapter on the latter’s homepage, Arielli notes that while some kinds of artworks with more traditional or classical characteristics seem particularly straightforward to (re-)produce for an AI, the oeuvre of Marcel Duchamp on the contrary poses a certain set of perhaps unresolvable problems. Taking its critical cue from this proposition, the present paper will first discuss how this on some levels makes good sense, whilst on other not—and what this tells us about how the project of artificial creativity and artificial art making currently is being perceived and pursued. With reference to Thierry de Duve (1996), Juliane Rebentisch (2013) and Andreas Reckwitz (2017), the primary argument will thus be that it is not, as Arielli claims, the heterogeneity of the oeuvre on the formalistic level, which would make Duchamp a tough case, but rather the more fundamental philosophical, sociological and institutional issues that his oeuvre seminally raised concerning questions such as “what is art?”, and “what is creativity?” Building on this, I will next argue that artificial creativity/art making does in fact raise a set of quite “Duchampian” questions and speculate whether the project of forging an artificial creativity/art isn’t in fact fundamentally dependent upon the historical contribution of Marcel Duchamp (and/or those critics and academics who over the years have interpreted his oeuvre as dealing specifically with these issues).

*Jan Løhmann Stephensen is an associate professor at Dept. Of Aesthetics & Culture at Aarhus University. His research interests are cultures and practices of participation, democracy and the public sphere, creativity and its diffusion into non-art related spheres like work life, economics, policy-making, university research agendas, new media technologies, etc. He is co-editor and founder of *Conjunctions — Transdisciplinary Journal of Cultural Participation*.*

Creativity & Function

Robin Auer

When asking about artificial creativity, it is important to first clarify what is meant by creativity. Defining a heterogeneous and complex set of phenomena such as creativity is an almost impossible task. Proposed definitions are irrevocably linked to respective disciplines and backgrounds, as well as to the kinds of questions we are asking: Does creativity happen in the brain, or in actor-networks? Is the creativity in the process, the result, the 'creator(s)', or all of these? Is creativity fixed or changing? What is the role of creativity in societies?

While a number of definitions in relation to disciplinary methodologies seem to offer overlapping or complementing if not quite similar answers, some even run contrary to others. This leaves us with a range of problems, some relating to definitions in general, others specific to creativity in particular. Many of these problems have to do with the act of defining functions, functional definitions, and with the function of definitions themselves. For different disciplines to successfully come together and offer a rounded and nuanced account of creativity, however, establishing common ground on what constitutes creativity is crucial.

This paper will address the challenges of formulating definitions more generally, as well as those specific to defining creativity, in order to suggest constructive and pragmatic ways of criteria formulating transdisciplinary definitions, as well as for delineating creativity in an academic, inter- and transdisciplinary context. Looking at existing definitions and approaches to creativity, it will also try to synthesise a working definition in line with these proposed criteria for a good definition.

Robin Markus Auer studied philosophy and English language, literature and culture (B.A., University of Heidelberg), English medieval literature (M.St., Merton College, Oxford), and philosophy (M.A., University of Heidelberg). He is currently working towards a PhD on artificial creativity & literature with a dissertation provisionally titled "Coding Creativity". At TU Braunschweig, he is part of an interdisciplinary project exploring the effects of AI and related technologies on the production as well as reception of literature and music. His research interests include literature, the application of empirical methods to literary texts, AI, NLP, text generators, semiotics, the intersection between artistic and research practices, embodiment theory & theories of consciousness. He has published articles on the works of J.R.R. Tolkien, as well as transhumanism.

Rethinking Artistic AI

Lev Manovich

Manovich is a digital culture theorist, writer, and artist. He was included in the list of "25 People Shaping the Future of Design" and the list of "50 Most Interesting People Building the Future". Currently he is a Presidential Professor at The Graduate Center, City University of New York, and a Director of the Cultural Analytics Lab. Over last three decades, he published 180 articles and 15 books that include Cultural Analytics, Instagram and Contemporary Image, and The Language of New Media described as "the most suggestive and broad-ranging media history since Marshall McLuhan." Manovich's digital art projects were shown in 112 international exhibitions in Centre Pompidou, ICA London, ZKM, KIASMA, and other leading venues.

Challenging AI: Lessons from Feminist Science and Technology Studies

Bianca Prietl

This talk aims at contributing toward a reflection on the all-too-often implicit assumptions entailed by AI and its ever new instantiations. It does so by scrutinizing the main approaches that have dominated the historical development of AI, namely, symbolic, connectionist, and more recently data-driven AI. In revisiting the history of AI, the talk focuses on the epistemological and ontological foundations of the different approaches to AI and the critique that has accompanied this development from the perspective of feminist science and technology studies, including more recent debates in algorithm and critical data studies. Based on this review, it is further argued that current efforts to tackle the challenges that accompany the development and use of AI, especially AI ethics, but also initiatives under the label FAT/ML, fall short in several ways as they fail to capture the social structuring of AI. Against this backdrop, the talk finally sketches some ideas for the future engagement with AI that is committed to feminist visions of technoscientific utopias.

Bianca Prietl, PhD, is an assistant professor for societal consequences of digitalization at the Institute of Sociology at Johannes Kepler University Linz (Austria). Her main area of expertise is feminist science and technology studies (STS), with her more recent work focusing on the interrelations of knowledge and power in the context of (digital) datafication.

“Who Makes and Who is Made?”:

The Poetry and Fiction of the Cyborg in Larissa Lai’s Automaton Biography and Rokuro Inui’s Automatic Eve

Shoshannah Ganz

The first section of Larissa Lai’s poetry collection *Automaton Biographies* (2009) opens with a long quote from Donna Haraway’s “A Cyborg Manifesto.” This quote reads as follows:

It is not clear who makes and who is made in the relation between human and machine. It is not clear what is mind and what is body in machines that resolve in coding practices...There is no fundamental, ontological separation in our formal knowledge of machine and organism, of technical and organic. The replicant Rachel in Ridley Scott film *Blade Runner* stands as the image of cyborg culture’s fear, love, and confusion. (qtd. In Lai 11)

Larissa Lai’s *Automaton Biographies* is in part a poetic response to the theoretical work being done in literary and cultural studies on cyborgs and AI. Poems in this collection critique and interpret, as this lengthy quote from Haraway shows, Ridley Scott’s film *Blade Runner*. However, Lai extends her gaze beyond the parameters of the cyborg and AI to include discussions of the exploitation of animals in science, young girls in sex trade, racialized women in undocumented labour, and various other alterities expressed in relation to race, sexuality, geography, and gender. While in part this paper will explore these connected, entangled, and systemic oppressions based on binaries of human/machine, human/animal, North/South, etc., this paper will also look at the variety of other American, Canadian, and Japanese cyborg and AI literature including the work of fiction *Blade Runner* was adapted from, Philip K. Dick’s *Do Androids Dream of Electric Sheep* (1968), and the more recently translated Japanese work by Rokuro Inui, *Automatic Eve* (2014, trans. 2019) described as “a dark and fascinating meditation on what makes us human—think *Blade Runner*, but set in the Floating World of Edo Japan”. The readings of these works will be informed by Cary Wolfe and Rosi Braidotti’s explorations of posthumanism and its implications for understanding cyborg/human relations, relationships, rights, and practices. What do historical and philosophical measures and discussions of humanness defined by characteristics such as empathy, intelligence, suffering, and kinship mean in the age of the machine/human hybridity and its expression in the literature and culture of AI and the cyborg?

Shoshannah Ganz is an associate professor of Canadian literature at Grenfell Campus, Memorial University. In 2008 she co-edited a collection of essays with University of Ottawa Press on the poet Al Purdy. In 2017 she published Eastern Encounters: Canadian Women’s Writing about the East, 1867-1929 with National Taiwan University Press. Shoshannah just completed a manuscript entitled Now I Am Become Death: Industry and Disease in Canadian and Japanese Literature. This book is currently being revised for McGill-Queen’s University Press.

Cybernetics and the Early Experiments in Computer Art

Angela Krewani

The paper focuses on the early experiments in computer-art and their understanding of the relationship between technological innovation and aesthetic concepts. In these works, creativity is usually expressed as technological and not as aesthetic process. All these experiments in some way relate to cybernetic theory, which offers a concept for the creative experiment. Contrary to the self-documentations of early computer-art, cybernetic theory offers an innovative concept of aesthetics for technological creativity.

*Angela Krewani is professor for Media Studies at Marburg University. She is the author of *Moderne und Weiblichkeit: Amerikanische Schriftstellerinnen in Paris* (Heidelberg 1992) and *Hybrid Forms: New British Cinema – Television Drama – Hypermedia* (Trier: WVT, 2001) and the editor of *Artefacts/Artefictions: Transformational Processes in Contemporary Literatures, Media, Arts and Architectures* (Heidelberg: Winter Verlag, 2000) and with Carmen Birkle and Martin Kuester co-editor of a book on Marshall McLuhan, *Transatlantic Perspectives* (2014).*

She has also published on imaging in natural sciences such as biomedicine and nanotechnology. From 2006-2007 she was a fellow at the Center for Interdisciplinary Studies, Bielefeld and visiting professor at Brooklyn College, New York in 2008.

*She has completed a book on media art, *Medienkunst. Theorie, Praxis, Ästhetik* (2016), just recently she as co-edited a book on authorship, *Constructions of Media Authorship. Investigating Aesthetic Practices from Early Modernity to the Digital Age*. Her latest publication traces the mediality of the Corona Pandemia, *Das Virus im Netz medialer Diskurse. Zur Rolle der Medien in der Corona-Krise* (2022) (co-edited with Peter Zimmermann).*

Automatisierte Kreativität im zeitgenössischen Experimentalfilm

Christoph Seelinger

In ihrem Buch "AI for Arts" (2021) weisen Niklas Hageback und Daniel Hedlom darauf hin, dass der Film, im Gegensatz zu Literatur und Musik, aus technischer Perspektive eine ungleich komplexere Kunst darstelle: Da sich im Film die unterschiedlichen Formen menschlicher Kreativität zu einem holistischen Gesamtkunstwerk verschränken, würde es einem Algorithmus derzeit noch schlicht unmöglich sein, beispielsweise auf Grundlage einer kurzen Sequenz einen kompletten Langfilm zu generieren. Die Autoren resümieren: "Hence, at the superficial level at least, the making of movies has been greatly facilitated, helped by blue screens and digital technology, but as with the other art forms, technology can still only do so much. The quality of the artwork still largely depends on the human artist, and so far it is hard to detect any distinct quality improvements vis-à-vis earlier less tech-equipped and tech-savvy generations." Implizit sprechen Hageback und Hedlom in ihrem knappen, den "Moving Pictures" gewidmeten Abschnitt wie selbstverständlich primär über Exponenten des kommerziellen Narrationskinos, das unter Zuhilfenahme menschlicher Akteure (mehr oder weniger) kohärente Erzählungen in einem ökonomischen Kontext realisiert. Unberücksichtigt bleiben hierdurch allerdings Reflexionen über audiovisuelle ästhetische Artefakte des unabhängig produzierten Experimentalfilms, bei denen narrative Elemente höchstens in rudimentärer oder abstrakter Form vorhanden sind, und deren Rhythmen dadurch in erheblich höherem Ausmaß denen musikalischer oder poetischer Werke gleichen. Anhand ausgewählter Beispiele sollen dementsprechend Verfahrensweisen vorgestellt werden, mit denen Künstlerinnen und Künstler des zeitgenössischen Experimentalfilms AI-Technologien für ihre eigenen ästhetischen Zwecke adaptieren, und mittels algorithmisch montierter digitaler Bilder ein Update historischer Vorläuferformen des Cinéma absolu oder Cinéma pur generieren - entweder dadurch, dass, wie bei Vadim Epsteins "Ghosts" (2021), der artifizielle Einsatz von Image-to-Image-Translation-GANs eine Art meditative Materialfilme des virtual space entstehen lässt, oder dadurch, dass, wie bei Eva Jägels "Inspirationsquellen" (2020), ein zufällig zusammengewürfelter Pulk virtueller Objekte, Räume, Kamerafahrten den Grundstock äußerst persönlicher, bis zum Kollaps jedweder semantischer Sinnzusammenhänge überdeterminierter Parallelwelten bildet.

Nach seinem Bachelor-Studium der Germanistik und Geschichte absolviert Christoph Seelinger an der Technischen Universität Braunschweig von 2013 bis 2017 den Master KTW (Kultur der technisch-wissenschaftlichen Welt), wobei er sein Kerngebiet Literaturwissenschaft durch die Disziplin Raumfahrtphilosophie ergänzt. Parallel dazu beginnt er 2014 ein Diplom-Studium der Freien Kunst an der Hochschule der Bildenden Künste Braunschweig, wo er sich auf Experimentalfilme spezialisiert. Im Jahre 2021 erfolgt die Promotion am Braunschweiger Institut für Germanistik bei Prof. Dr. Jan Röhnert mit dem Titel "Tod im Kino. Legitimationsstrategien indexikalischer Todesszenen in ikonisch-symbolischen Ordnungen des Kinos."

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Automated creativity in contemporary experimental film

Christoph Seelinger

In their book "AI for Arts" (2021), Niklas Hageback and Daniel Hedlom point out that film, in contrast to literature and music, is a much more complex art form from a technical perspective: since in film the various forms of human creativity are interwoven to form a holistic work of art, it would currently still be simply impossible for an algorithm to generate a complete feature-length film on the basis of a short sequence, for example. The authors sum up: "Hence, at the superficial level at least, the making of movies has been greatly facilitated, helped by blue screens and digital technology, but as with the other art forms, technology can still only do so much. The quality of the artwork still largely depends on the human artist, and so far it is hard to detect any distinct quality improvements vis-à-vis earlier less tech-equipped and tech-savvy generations." Implicitly, in their brief section devoted to "Moving Pictures," Hageback and Hedlom speak primarily, as a matter of course, about exponents of commercial narrative cinema, which realizes (more or less) coherent narratives in an economic context with the aid of human actors. What remains unconsidered, however, are reflections on audiovisual aesthetic artifacts of independently produced experimental film, in which narrative elements are present at most in rudimentary or abstract form, and whose rhythms thus resemble those of musical or poetic works to a considerably greater extent. Accordingly, selected examples will be used to present methods by which artists of contemporary experimental film adapt AI technologies for their own aesthetic purposes and generate an update of historical precursor forms of *cinéma absolu* or *cinéma pur* by means of algorithmically assembled digital images- either by, as in Vadim Epstein's "Ghosts" (2021), the artificial use of image-to-image translation GANs gives rise to a kind of meditative material film of virtual space, or by the fact that, as in Eva Jägle's "Inspirationsquellen" (2020), a randomly assembled cluster of virtual objects, spaces, and camera movements forms the basis of extremely personal parallel worlds that are overdetermined to the point of collapsing any semantic context of meaning.

After completing his bachelor's degree in German language and literature and history, Christoph Seelinger completed a master's degree in KTW (culture of the technical-scientific world) at the Technical University of Braunschweig from 2013 to 2017, supplementing his core area of literary studies with the discipline of space philosophy. In parallel, in 2014 he begins graduate studies in the liberal arts at the Braunschweig University of Fine Arts, where he specializes in experimental film. In 2021, he will complete his doctorate at the Braunschweig Institute for German Studies under Prof. Dr. Jan Röhnert with the title "Death in Cinema. Legitimation Strategies of Indexical Death Scenes in Iconic-Symbolic Orders of Cinema."

Operative Ekphrasis: Meaning, Image, Language in Artificial Neural Networks

Hannes Bajohr

The separation of text and image is a staple of the theory of language as well as aesthetics. In the former, a word can be conceived of either to have a direct, indexical relation to the thing it denotes in the same way an image does, or it is simply an agreed-upon convention, which does not have any depicting force at all; in the latter, image and text are seen as either utterly separate mediums whose aesthetic integrity requires them to be kept apart, or they have at best a mediated relationship through ekphrastic description. This talk suggests that new types of multimodal AI help us to think through this distinction anew. Multimodal AI – most notably in Dall-E 2 – collapses the text/image separation through its “multimodal neurons.” Since the same “neurons” are activated for the word of a concept and its image, one can speak of a new “language of ideas” (Locke) that allows for something entirely unprecedented – a relationship between words and images that is neither conventional nor indirect, but determined by non-mediated ekphrasis.

Hannes Bajohr, born 1984 in Berlin. Lives in Basel and Berlin. Studied philosophy, German literature, and modern and contemporary history at Humboldt University and received his PhD from Columbia University, New York, with a dissertation on Hans Blumenberg's theory of language. He is a Junior Fellow at the Collegium Helveticum, the Institute for Advanced Studies at ETH Zürich, the Universität Zürich, and the Zürcher Hochschule der Künste.

Production of literary and academic texts. Works on political philosophy, philosophical anthropology, 20th century linguistic theory, digital literatures. Writes prose, essays, and digital poetry.

Dear GPT-3: Kollaboratives Schreiben mit neuronalen Netzwerken

Jenifer Becker

Hello GPT-3! I would like to write a novel with you. Are you up for it?

That sounds like a great idea! I'm excited to work with you on this project. Great.

What is your name?

My name is GPT-3.

What would be your author name if you were co-writing a novel with me?

My author name would be "N.B. Mysterious."

Would you mind choosing an alias for me?

My alias for you would be "GPT-3."

Nach der Konversation mit GPT-3 wurde ich nachdenklich. Es war nicht mein erstes Gespräch mit GPT-3, aber mein erster Vorschlag, zusammen einen Roman zu schreiben. Gehen wir davon aus, ich würde dem Vorschlag folgen, dann würde ich in unserer Co-Autor:in-Konstellation als GPT-3 auftreten und GPT-3 als N.B. Mysterious. In den Autor:innen-Namen steckte bereits eine performative Verschränkung zwischen Mensch und Maschine, meinem chaotischen Bewusstsein und der stochastisch arbeitenden Blackbox GPT-3. Brauchte mich GPT-3 überhaupt? Wenn ja, wie lange noch?

Während GPT-3 als autonome Lyriker:in bereits genuine Poesie generiert, liest sich die Prosa des neuronalen Netzwerks wie ein Text auf Magic Mushrooms – das kann gut sein, trägt aber meistens nicht über ein paar Absätze hinaus. Die Diskrepanz zwischen Lyrik und Prosa liegt mitunter an Genre- und Formkonventionen. Wenn wir Prosa lesen, erwarten wir ein gewisses Maß an Kohärenz, eine anthropomorphe „Figur“ im weitesten Sinne. Das sind Elemente, die in lyrischen Texten weniger stark vorhanden sein müssen. Es lässt sich die Frage anschließen, warum überhaupt kohärente Prosa von KI schreiben zu lassen, da dies zwangsläufig dazu führen würde, Prosa-Autor:innen ersetzen zu lassen. Die Soundkünstlerin Holly Herndon schreibt: „The ideal of technology and automation should allow us to be more human and more expressive together, not replace us all together“ (Herndon 2019). Produktiver erscheint mir in diesem Zusammenhang nach Möglichkeiten gemeinsamer Textgenese zu suchen, aktuell geschieht dies, zumindest in Anfängen, in Form von Co-Autorschaften (Allado- McDowell 2021&2022, Amerika 2022). In diesem Verfahren generiert das neuronale Netzwerk Material, das wiederum in den eigenen kreativen Denkprozess eingespeist wird. Es entsteht ein Kreislauf, Hybridisierung, Recycling.

Die Co-Autor:innenschaft mit GPT-3 öffnet Fragen zur kollaborativen Prosagenese. Welche Schreibpraktiken gibt es? Wie wirken Text und Text aufeinander ein? Wie verlaufen Schreibprozesse? Welche poetologischen Implikationen gehen damit einher? Diese Fragen sind insofern von besonderer Relevanz, da aktuell sowohl die Produktion kohärenter Prosa mit KI sowie die Analyse von Schreibpraktiken mit KI erst in den Anfängen steckt.

Ziel meines Vortrags ist es, gegenwärtige Ansätze zur kollaborativen, literarischen Arbeit mit neuronalen Netzwerken zu bündeln und weiter zu denken. Ich werde dazu zwei kollaborative Schreibpraktiken zur Genese erzählender (KI-)Prosa betrachten: 1) Befragung 2) Weiterschreiben(lassen) und auf ihr erzählerisches Potenzial hin befragen. Grundlage bilden

gegenwärtige mit „KI“-generierter Erzähltexte (Amerika 2022, Allado-McDowell 2022), ich werde außerdem eigene Produktionserfahrungen und poetologische Reflexionen einfließen lassen.

Hello N.B. Mysterious! What do we wanna write about?

*Dr. des. Jenifer Becker (*1988) studierte Literarisches Schreiben und Journalistik. Sie ist Autorin und seit 2015 wissenschaftliche Mitarbeiterin am Institut für Literarisches Schreiben und Literaturwissenschaft der Universität Hildesheim, seit 2021 als Postdoc. 2021 reichte sie ihre Dissertation zu Erzählstrukturen postfeministischer Gegenwartsliteratur ein (m.c.l.). Ihre Lehr- und Forschungsschwerpunkte liegen auf autobiografischen Schreibformen, Populärkultur, Gender Studies sowie Schreibpraktiken und Digitalität (ins. künstlicher Intelligenz).*

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Collaborative writing with neural networks

Jenifer Becker

Hello GPT-3! I would like to write a novel with you. Are you up for it?

That sounds like a great idea! I'm excited to work with you on this project. Great.

What is your name?

My name is GPT-3.

What would be your author name if you were co-writing a novel with me?

My author name would be "N.B. Mysterious."

Would you mind choosing an alias for me?

My alias for you would be "GPT-3."

After the conversation with GPT-3, I became thoughtful. It wasn't my first conversation with GPT-3, but my first proposal to write a novel together. Assuming I followed the suggestion, in our co-author:in constellation I would appear as GPT-3 and GPT-3 would appear as N.B. Mysterious. In the author:in names there was already a performative entanglement between man and machine, my chaotic consciousness and the stochastically working black box GPT-3. Did GPT-3 need me at all? If so, for how much longer?

While GPT-3 as autonomous lyricist:in already generates genuine poetry, the prose of the neural network reads like a text on magic mushrooms - that can be good, but mostly does not carry beyond a few paragraphs. The discrepancy between poetry and prose is sometimes due to genre and form conventions. When we read prose, we expect a certain amount of coherence, an anthropomorphic "character" in the broadest sense. These are elements that need to be less present in lyric texts. It can be followed by the question of why have AI write coherent prose at all, since this would inevitably lead to having prose author:s replaced. Sound artist Holly Herndon writes, "The ideal of technology and automation should allow us to be more human and more expressive together, not replace us all together" (Herndon 2019). In this context, it seems to me more productive to look for possibilities of joint text genesis; currently this is happening, at least in beginnings, in the form of co-authorships (Allado- McDowell 2021&2022, America 2022). In this process, the neural network generates material that is in turn fed into its own creative thought process. A cycle is created, hybridization, recycling.

Co-authorship with GPT-3 opens up questions about collaborative prosogenesis. What are the writing practices? How do text and text interact? How do writing processes unfold? What poetological implications are involved? These questions are particularly relevant in that currently both the production of coherent prose with AI and the analysis of writing practices with AI are in their infancy.

The goal of my talk is to bring together current approaches to collaborative, literary work with neural networks and to think ahead. To this end, I will consider two collaborative writing practices for the genesis of narrative (AI) prose: 1) questioning 2) rewriting(letting) and interrogating them for their narrative potential. Based on current "AI"-generated

narrative texts (America 2022, Allado-McDowell 2022), I will also incorporate my own production experiences and poetological reflections.

Hello N.B. Mysterious! What do we wanna write about?

*Dr. des. Jenifer Becker (*1988) studied literary writing and journalism. She is a writer and has been a research assistant at the Institute for Literary Writing and Literary Studies at the University of Hildesheim since 2015, and a postdoc since 2021. In 2021, she submitted her dissertation on narrative structures of postfeminist contemporary literature (m.c.l.). Her teaching and research focuses on autobiographical forms of writing, popular culture, gender studies, and writing practices and digitality (ins. artificial intelligence).*

Mit und gegen KI. Ein Bericht aus der (künstlerischen) Praxis

Mattis Kuhn

Der Ausgangspunkt dieses Berichts ist die Frage, in welchem Verhältnis wir und KI uns zueinander positionieren: als Tool, als Assistent, als Creative Partner, als Freund*in, als ...? Im Rahmen des Vortrags möchte ich dieses Verhältnis nicht an Hand der oben stehenden (ungefähr) definierten Rollen betrachten. Stattdessen soll das Verhältnis zu KI an Hand der diskursiven Figur "Mit und gegen" beleuchtet werden. Das "Mit" steht für die Identifikation und Zusammenarbeit, das "Gegen" für die Differenz und den Widerspruch. Beides trägt bei zur Selbstbestimmung und auch zur Bestimmung des Anderen. Ist diese Unterscheidung überhaupt relevant oder kann das "Mit" getrost zur Verschmelzung führen? Erzeugen wir Artefakte gemeinsam mit KI, oder lassen wir sie maschinell ohne uns erzeugen? Dürfen wir sie dann im Nachhinein manipulieren? Wo entscheiden wir uns gegen maschinelle Berechnungen, wo wenden wir uns gegen KI, insbesondere in der Form "Mit KI gegen KI"?

Die diskursive Figur soll jedoch nicht rein theoretisch besprochen werden, sondern an Hand von Beispielen aus der künstlerischen Praxis konstruiert werden. Zum einen werden eigene Arbeiten auf die Fragestellung hin untersucht: "Selbstgespräche mit einer KI" (2021) und "Grasslands for Insects" (erscheint in Kürze). In ersterem nehmen Autorenschaft und das Portrait der (menschlichen und maschinellen) Autoren sowie deren Konstruktion eine wichtige Rolle ein. Die Maschine ist in Form des Codes Teil des Buches. "Grasslands for Insects" besteht aus generierten Grasflächen und generierten Texten über "Wiesen für Insekten". In diesem Fall wurde nichts relevantes selbst programmiert und auch nur wenige Zeilen Code (selbst) ausgeführt. Zum anderen wird die Praxis anderer Künstler*innen aus dieser Perspektive heraus betrachtet. Welche Formen des "Mit" und "Gegen" zeigen sich, welche könnten erscheinen und wie steht dies in Bezug zur außerkünstlerischen Praxis mit (und gegen) KI — Benötigen wir Streit mit einer KI?

Mattis Kuhn, Künstler und Kurator, arbeitet zur wechselwirkenden Gestaltung von Menschen, Maschinen und Umwelt. Er ist Künstlerischer Mitarbeiter für Creative Coding an der Bauhaus Universität Weimar und Teil der Forschungsgruppe "ground zero" an der KHM Köln.

Im Frankfurter Kunstverein kuratierte er "I am here to learn – Zur maschinellen Interpretation der Welt" und "How to Make a Paradise – Sehnsucht und Abhängigkeit in generierten Welten". Über Kunst & KI sprach er unter anderem am ZKM Karlsruhe, bei der Stiftung Niedersachsen und der Evangelischen Akademie.

2021 erschien "Selbstgespräch mit einer KI" bei OxOa, 2022 erscheint "Grasslands for Insects" bei windpark books.

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With and against AI. A report from (artistic) practice

Mattis Kuhn

The starting point of this report is the question in which relationship we and AI position ourselves to each other: as tool, as assistant, as creative partner, as friend, as ...? In the context of this talk, I don't want to look at this relationship based on the (roughly) defined roles above. Instead, the relationship to AI shall be illuminated on the basis of the discursive figure "with and against". The "with" stands for identification and cooperation, the "against" for difference and contradiction. Both contribute to self-determination and also to the determination of the Other. Is this distinction relevant at all, or can the "with" confidently lead to fusion? Do we create artifacts together with AI, or do we let them be created by machines without us? Are we then allowed to manipulate them after the fact? Where do we decide against machine computation, where do we turn against AI, especially in the form of "with AI against AI"?

However, the discursive figure will not be discussed in purely theoretical terms, but will be constructed on the basis of examples from artistic practice. On the one hand, own works will be examined with regard to the question: "Selbstgespräche mit einer KI" (2021) and "Grasslands for Insects" (forthcoming). In the former, authorship and the portrait of authors (human and machine) and their construction take an important role. The machine is part of the book in the form of the code. "Grasslands for Insects" consists of generated grasslands and generated texts about "grasslands for insects". In this case, nothing relevant was programmed by the artist himself, and only a few lines of code were executed (by himself). On the other hand, the practice of other artists* is examined from this perspective. Which forms of "with" and "against" show up, which could appear and how does this relate to the extra-artistic practice with (and against) AI- Do we need to argue with an AI?

Mattis Kuhn, artist and curator, works on the interacting design of humans, machines and the environment. He is Artistic Associate for Creative Coding at Bauhaus University Weimar and part of the research group "ground zero" at KHM Cologne.

At the Frankfurter Kunstverein he curated "I am here to learn - On the machine interpretation of the world" and "How to Make a Paradise - Desire and dependence in generated worlds". He has spoken about art & AI at ZKM Karlsruhe, the Foundation of Lower Saxony, and the Evangelical Academy, among others.

In 2021 "Selbstgespräch mit einer KI" was published by 0x0a, in 2022 "Grasslands for Insects" will be published by windpark books.

KI als Co-Kreativität in der populären Musik. Status quo, Anwendungsbeispiele und Forschungsperspektiven

Wolf-Georg Zaddach & Björn Tillmann

Künstliche Intelligenz spielt in der Musik eine zunehmend ernstzunehmende Rolle. Neben marktreifen Tools und Anwendungsmöglichkeiten für die Musikproduktion (Frieler/Meyer/Zaddach 2022) stehen sind insbesondere Aspekte des Songwritings und Komponierens von Interesse. K.I.- basierte Kompositionshilfen wie Amper Music, AIVA, Google Magenta oder Flow Machines haben die Generation von Musik zum Ziel und stehen paradigmatisch für eine neue Ära der Musikproduktion im weitesten Sinne (Avdeef 2019).

Diese neue Ära lässt sich u.a. als „distributed human–computer co-creativity“ charakterisieren (Giotti 2021, S. 56), dessen Potential sich aufgrund von hohen Personalisierungsgraden in „new compositional affordances and potentially new artistic concepts and practices“ entfalten könnte.

Das Paper diskutiert eigene Forschungsergebnisse zu KI und Jazzimprovisation (Frieler/Zaddach 2022), KI im Kontext von Musikproduktion (Frieler/Meyer/Zaddach 2022) sowie eine qualitative Studie zu Songwriting-Prozessen mit KI (u.a. mit Benoit Carré/SKYGGE, Stefanie Grawe/GRAY, Jovanka v. Wilsdorf, Holly Herndon).

Abschließend soll der Forschungsansatz der Artistic Research und ethische Überlegungen anhand eines konkreten Projektes reflektiert werden.

Björn Tillmann studiert an der Popakademie Baden-Württemberg Im Master Popular Music und ist freiberuflicher Singer/Songwriter, Sänger und Gitarrist. Seine Interessen liegen in der Verwendung von Technologien für Live-Auftritten. Thema seiner Masterarbeit ist KI im Songwriting.

Dr. Wolf-Georg Zaddach ist Post-Doc am Fachbereich Kunst, Musik und ihre Vermittlung an der Leuphana Universität Lüneburg sowie Studiengangsleiter (MA Popular Music Practice) und Dozent am BIMM Berlin. Er hat Musikwissenschaft und Kulturmanagement (Hochschule für Musik Franz Liszt Weimar), Neuere Geschichte (Friedrich-Schiller-Universität Jena) sowie Jazzgitarre an der VOS Praha bei David Dorůžka studiert. Seine Forschungsschwerpunkte liegen insbesondere im Jazz, Rock und Heavy Metal sowie Artistic Research.

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AI as co-creativity in popular music. Status quo, application examples and research perspectives.

Wolf-Georg Zaddach & Björn Tillmann

Artificial intelligence is playing an increasingly serious role in music. In addition to market-ready tools and possible applications for music production (Frieler/Meyer/Zaddach 2022), aspects of songwriting and composing are of particular interest. A.I.-based composition tools such as Amper Music, AIVA, Google Magenta, or Flow Machines aim at the generation of music and stand paradigmatically for a new era of music production in the broadest sense (Avdeef 2019).

This new era can be characterized, among other things, as "distributed human-computer co-creativity" (Giotti 2021, p. 56), whose potential could unfold in "new compositional affordances and potentially new artistic concepts and practices" due to high degrees of personalization.

The paper discusses own research results on AI and jazz improvisation (Frieler/Zaddach 2022), AI in the context of music production (Frieler/Meyer/Zaddach 2022), and a qualitative study on songwriting processes with AI (including Benoit Carré/SKYGGE, Stefanie Grawe/GRAY, Jovanka v. Wilsdorf, Holly Herndon).

Finally, the research approach of Artistic Research and ethical considerations will be reflected on the basis of a concrete project.

Björn Tillmann studies at the Popakademie Baden-Württemberg in the Master Popular Music and is a freelance singer/songwriter, singer and guitarist. His interests lie in the use of technologies for live performances. Topic of his master thesis is AI in songwriting.

Dr. Wolf-Georg Zaddach is a post-doctoral researcher at the Department of Art, Music and its Mediation at Leuphana University Lüneburg, as well as a program director (MA Popular Music Practice) and lecturer at BIMM Berlin. He studied musicology and cultural management (Hochschule für Musik Franz Liszt Weimar), modern history (Friedrich Schiller University Jena), and jazz guitar at VOS Praha with David Dorůžka. His research interests are especially in Jazz, Rock and Heavy Metal as well as Artistic Research.

„Das ewige Durchhören“ – Kooperationen mit Gemachtem

Roman Duffner

Wenn etwas Geschaffenes als originell und kreativ gelten soll, muss es auf irgendeine Weise eine Verbindung zum schaffenden Individuum, also der Autor:in, herstellen. So ist es im westlichen Urheberrecht institutionalisiert. Diese Verbindung impliziert die Erwartung von Kompetenz und Können der herstellenden Person. Gemachtes und Vorgefertigtes, wie Presets oder Sample/Loop Packs, fordern diese Vorstellung heraus, denn sie unterwandern die im Kunstfeld bestehende Forderung nach geistigen oder technischen Fähigkeiten bzw. physischem Geschick. Mit Gemachtem und Vorgefertigtem werden (fremde) Handlungszusammenhänge, die nicht Teil des situativen Arbeitsprozesses und der individuellen Leistung sein müssen, in den konkreten Schaffensprozess geholt. Die über Gemachtes leichte Verfügbarkeit von komplexen Funktionszusammenhängen stellt dabei die Erwartung ans Können der Schaffenden in Frage.

Im kreativen Schaffen generell und besonders beim Schalter-basierten Arbeiten (klicking/Button-pushing) wie es in Digital Audio Workstations wesentlich ist, ist Gemachtes und Vorgefertigtes allgegenwärtig und trägt zum Kreationsprozess unmittelbar bei. Aus einer Akteur-Netzwerk-theoretischen Perspektive betrachtet nehmen vorgefertigte Entitäten, als nichtmenschliche Akteure verstanden, im Produktionsprozess aktiv teil und gestaltet es mit. Diesem – mitunter problematisch erscheinenden – Mitwirken möchte ich nachgehen und untersuchen, wie sich die Kollaboration zwischen Gemachtem und Musiker:innen im kreierenden Schaffensprozess mit digitalem Equipment gestaltet. Ziel ist es, einen (mikrosoziologischen) Einblick in den Kreationsprozess von digital gestützter Musik zu eröffnen und herauszuarbeiten, wie sich dieser Kreationsprozess durch triviale Praktiken (z.B. des Sammelns und Anhäufens, des Durchhörens oder des Ordnens und Aufräumens) in Zusammenarbeit mit Gemachtem formt. Die Untersuchung basiert dabei auf einer qualitativen Erhebung mittels videogestützter Beobachtungen und teilstrukturierter Interviews, die in Anlehnung an die Grounded Theory ausgewertet werden.

L. Roman Duffner hat Musikwissenschaft und Soziologie an der Universität Wien studiert. Seine Forschungsschwerpunkte sind Kulturosoziologie, Materialität des Sozialen sowie Populärmusikforschung. Derzeit arbeitet er an seiner Dissertation über die „Kooperationen von menschlichen und nichtmenschlichen Akteur:innen in kreativen Praktiken der Produktion populärer Musik“ an der Anton Bruckner Privatuniversität in Linz.

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"The Eternal Listening Through"- Collaborations with Made Things

Roman Duffner

If something created is to be considered original and creative, it must in some way connect to the creating individual, i.e. the author:in. This is how it is institutionalized in Western copyright law. This connection implies the expectation of competence and skill on the part of the person creating. Manufactured and prefabricated items, such as presets or sample/loop packs, challenge this notion because they undermine the art field's demand for intellectual or technical ability or physical skill. With the made and the prefabricated, (foreign) contexts of action, which do not have to be part of the situational work process and the individual performance, are brought into the concrete creative process. The easy availability of complex functional contexts via the made thereby calls into question the expectation of the creator's ability.

In creative work in general and especially in switch-based work (clicking/button-pushing) as it is essential in digital audio workstations, the made and the prefabricated are omnipresent and contribute directly to the creative process. From an actor-network theoretical perspective, prefabricated entities, understood as non-human actants, actively participate in and shape the production process. I would like to investigate this- sometimes problematic- participation and examine how the collaboration between the made and the musician takes place in the creative process with digital equipment. The aim is to provide a (micro-sociological) insight into the creation process of digitally supported music and to work out how this creation process is shaped by trivial practices (e.g. collecting and accumulating, listening through or organizing and tidying up) in collaboration with the made. The research is based on a qualitative survey using video-assisted observations and semi-structured interviews, which are analyzed in accordance with Grounded Theory.

L. Roman Duffner studied musicology and sociology at the University of Vienna. His main research interests are sociology of culture, materiality of the social, and popular music research. He is currently working on his dissertation on the "Cooperations of Human and Non-Human Actors in Creative Practices of Popular Music Production" at the Anton Bruckner Private University in Linz.

It's how you do it. Über Musikmachen und mensch-maschinische Beziehung

Sebastian Kunas

Automatisierte Kreativität im Kontext musikalischer Praxis war noch nie so selbstverständlich wie heute. Musiker*innen interagieren umfassend mit elektronischen "MusikmachDingen" (Ismail-Wendt), die nicht nur im Lichte der *Science and Technology Studies* ganz offensichtlich als tiefgreifend an musikalischer Praxis beteiligt erscheinen. Zunehmend taucht im Kontext von Musik- und Sound-Technologie der Begriff "Künstliche Intelligenz" auf, der auch hier begleitet ist von Phantasmen gesteigerter Kreativität, menschlicher Obsoleszenz und der Erlösung von Arbeit.

Die Sound Lecture "It's how you do it. Über Musikmachen und mensch-maschinische Beziehung" widmet sich dem Verhältnis, das Mensch und Automat beim Musikmachen eingehen. Ausgehend von einer Episode zu einem eigenartigen Musikautomaten und dessen sound-kultureller Aneignung wird diskutiert, mit welchen Fragen und Erwartungen wir künstlerischer Musiktechnologie begegnen bzw. begegnen möchten und was die "Künstliche Intelligenz" mensch-maschinischer Kollektive hier überhaupt bedeuten könnte.

Sebastian Kunas hat Kulturwissenschaften und ästhetische Praxis (Diplom) mit den Schwerpunkten Musik, populäre Kultur und Soziologie an der Universität Hildesheim studiert. Er ist Wissenschaftlicher Mitarbeiter im Projekt Automatisierte Kreativität an der TU Braunschweig und arbeitet als Künstler und Vermittler in den Bereichen Musik, Sound-Kunst und im Freien Theater. Am Institut für Musik und Musikwissenschaft der Universität Hildesheim lehrt er zu elektronischer Sound- und Musikpraxis und leitet das Studio für elektronische Musik.

Er ist Gründungsmitglied von ARK (Arkestrated Rhythmachine Komplexities), ein Kollektiv für post-repräsentative Sound-Formate, das zu sound-kulturellen Themen arbeitet und dabei kulturelle Zuschreibungen und Verflechtungen hinterfragt. Arbeiten des Kollektivs wurden u. a. gezeigt von CTM Festival Berlin, HKW Berlin, ifa-Galerie Berlin, MK&G Hamburg, MARKK Hamburg, Johann Jacobs Museum Zürich und HBK Braunschweig.

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It's *how* you do it. About music making and human-machine relationship

Sebastian Kunas

Automated creativity in the context of musical practice has never been as self-evident as it is today. Musicians interact extensively with electronic "music-making things" (Ismail-Wendt), which not only in the light of *Science and Technology Studies* seem to be obviously deeply involved in musical practice. Increasingly, the term "artificial intelligence" emerges in the context of music and sound technology, which is also accompanied here by phantasms of increased creativity, human obsolescence, and the redemption of work.

The Sound Lecture "It's how you do it. On Music Making and the Human-Machine Relationship" is dedicated to the relationship that humans and automatons enter into when making music. Based on an episode about a peculiar music automaton and its sound-cultural appropriation, the lecture will discuss with which questions and expectations we encounter or would like to encounter artistic music technology and what the "artificial intelligence" of human-machine collectives could actually mean here.

Sebastian Kunas studied cultural studies and aesthetic practice (diploma) with a focus on music, popular culture and sociology at the University of Hildesheim. He is a research assistant in the project Automated Creativity at the TU Braunschweig and works as an artist and mediator in the fields of music, sound art and in free theater. At the Institute for Music and Musicology at the University of Hildesheim, he teaches on electronic sound and music practice and heads the Studio for Electronic Music.

He is a founding member of ARK (Arkestrated Rhythmachine Complexities), a collective for post-representational sound formats that works on sound-cultural themes, questioning cultural attributions and entanglements. Works by the collective have been shown by CTM Festival Berlin, HKW Berlin, ifa-Galerie Berlin, MK&G Hamburg, MARKK Hamburg, Johann Jacobs Museum Zurich and HBK Braunschweig, among others.

Codierung/Codierung. Gedichte mit Computern und für Computer schreiben

Manfred Arens

Computerdichtung wird häufig auf Dichtung von Computern reduziert. Doch der Begriff ist erheblich facettenreicher. 1964 schrieb Stanisław Lem die Robotermärchen, also Märchen für Roboter. Seit ich diese Märchen zum ersten Mal in den 80er-Jahren gelesen habe, treibt mich die Frage um, wie Gedichte für Roboter/Maschinen/Computer aussehen (Form, Schrift, Sprache, Inhalt) bzw. welche Gedichte Computer gerne lesen würden. Wären diese Gedichte eher formalistisch/kopflastig (besser: prozessorlastig), binär/ambig, codiert/kryptisch, verspielt?

Ich habe versucht, mich der Antwort auf diese Frage nicht theoretisch, sondern experimentell durch Beispiele anzunähern.

1988/89 Ausbildung zum Programmierer, 2002/03 Fachbuch im Markt+Technik-Verlag und Artikel in der Zeitschrift c't zur Programmiersprache „Curl“.

1980 Mitbegründer der Kulturzeitschrift „Augenfisch“ (Emden), Experimentelles DADA-Theater beim Open-Air-Festival in Papenburg in Zusammenarbeit mit dem Kölner Komponisten Manfred Niehaus, seit 1981 Herausgeber und Mitherausgeber von Anthologien, 1983 Teilnahme an den „Surwolder Literaturgesprächen“, 1984 Mitbegründer der Oldenburger Autorengruppe „Wortstatt“, 1999 Mitbegründer der Wolfsburger Computerkunst-Gruppe „muART“ und Ausstellung im Jagdsaal des Wolfsburger Schlosses, 2001 Vortrag über „Mathematik und Literatur“, 2009/10 Performance „1EDV“ in Jerxheim und bei Kulturnächten in Helmstedt und Braunschweig, 2009/10 Ausstellungen mit visueller Poesie in Helmstedt, Jerxheim und Wolfsburg (Alvar-Aalto-Kulturhaus), 2012 einer von vier Gegenwartsautoren im Deutschbuch „Neue Kontakte 5/6“ des niederländischen Schulbuchverlags „Noordhoff Uitgevers“, Vortrag über Computerdichtung im Rahmen des 11. Tages der Braunschweigischen Landschaft, 2015 Archivierung von Netzliteratur im Deutschen Literaturarchiv Marbach.

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Coding/Coding. Writing poems with computers and for computers

Manfred Arens

Computer sealing is often reduced to the sealing of computers. But the term is considerably more multifaceted. In 1964 Stanisław Lem wrote the Robot Tales, that is, fairy tales for robots. Since I first read these fairy tales in the 1980s, I have been driven by the question of what poems for robots/machines/computers look like (form, writing, language, content), or rather, what poems computers would like to read. Would these poems be more formalistic/head-heavy (better: processor-heavy), binary/ambiguous, coded/cryptic, playful?

I have tried to approach the answer to this question not theoretically, but experimentally through examples.

1988/89 Trained as a programmer, 2002/03 Technical book published by Markt+Technik-Verlag and article in c't magazine on the programming language "Curl".

1980 Co-founder of the cultural magazine "Augenfisch" (Emden), experimental DADA theater at the open-air festival in Papenburg in collaboration with the Cologne composer Manfred Niehaus, since 1981 editor and co-editor of anthologies, 1983 participation in the "Surwolder Literaturgespräche", 1984 co-founder of the Oldenburg authors' group "Wortstatt", 1999 co-founder of the Wolfsburg computer art group "muART" and exhibition in the hunting hall of Wolfsburg Castle, 2001 lecture on "Mathematics and Literature", 2009/10 performance "1EDV" in Jerxheim and at cultural nights in Helmstedt and Braunschweig, 2009/10 exhibitions with visual poetry in Helmstedt, Jerxheim and Wolfsburg (Alvar-Aalto-Kulturhaus), 2012 one of four contemporary authors in the German book "Neue Kontakte 5/6" of the Dutch school book publisher "Noordhoff Uitgevers", lecture on computer poetry at the 11. Day of the Braunschweig Landscape, 2015 archiving of net literature in the German Literature Archive Marbach.

AI, Automation, Creativity, Cognitive Labor

Jens Schröter

If today the role of AI for creative processes and for “art” is discussed, one seldomly encounters the argument that this, somewhat paradoxical, idea of automating creativity should force us to locate so called AI Art in the genealogy of the automation of labor. Since the 1960s there has been an ongoing discussion, if AI (and robotics) will lead to an automation not only of manual, but also of cognitive labor. Since the successes of machine learning in recent years, this discussion got more intensive. Exactly at that point the discourse on AI Art emerged (again after having already a peak with “information aesthetics” in the 1960s). So what is the relation of AI Art to the automatization of cognitive labor in capitalism? This question is all the more pressing, since art was associated, at least at the beginning of the twentieth century, with de-automatization.: "When studying poetic language—be it phonetically or lexically, syntactically or semantically—we always encounter the same characteristic of art: it is created with the explicit purpose of de-automatizing perception." This statement from Viktor Shklovskys famous text *Art as Device* (1917/1919) shows the central role of the notions of automatization and de-automatization in Russian formalism. Shklovsky wrote this only a few years after the first assembly lines were installed. So there might be a connection between the automatization and algorithmization of work and production (and even of subjectivity) in capitalism and the reactions of art and art theory, where, at least in some strands, the idea is perpetuated that art is a kind of critical deconstruction of this process of automatization in modernity. In my talk I will try to trace some of these developments and its contradictions.

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The Upcoming Change in Human Musical Thinking: What Does a Music Professional do in the Age of AI?

Nikita Braguinski

Despite its image of centuries-old tradition and stability, musical theory as a tool for thinking never stands still. It is in a process of constant change, often due to the emergence of new musical technologies.

This talk is dedicated to understanding what the future of musical knowledge might look like in a time when musical tools based on machine learning become common.

It addresses the following questions:

- which musical activities can already be partially or fully imitated through AI based on machine learning or could be imitated in near future?
- how will these activities become redefined due to the experience with AI?
- which actors are likely to be more interested in the introduction of AI-based tools? - how could a possible timeline of future change look like?

In the past music theory has already withstood several technological upheavals, such as when sound recording technologies appeared at the end of the 19th century, or when sound visualization allowed new kinds of analysis.

In all these cases music theory was able to continue asserting itself as a valid tool for the understanding and creation of music by adapting to the new circumstances. This process is, however, neither linear nor deterministic. Different actors influence it. Understanding change and making informed predictions about possible outcomes necessitates a deeply transdisciplinary approach.

Dr. Nikita Braguinski's new book „Mathematical Music. From Antiquity to Music AI“ (Routledge, 2022) discusses the musical use of the technologies of artificial intelligence and presents the historical precursors of today's developments. He has held postdoctoral positions at Harvard University and Humboldt University, and was a visiting scholar at the University of Cambridge.

Die Rauheit der Stimme – Von der Klangästhetik fehlerhafter Audiomeldung zur musikalischen KI und zurück

Jan Torge Claussen

Medien werden an ihren Grenzen wahrnehmbar. Spätestens wenn die Übertragung von Klängen fehlerhaft ist, wenn das Radio rauscht, das Tonband leiert oder Artefakte beim digitalen Sampling entstehen, wird das Medium hörbar (Claussen 2020).

Sogenannte Neuronale Netzwerke insbesondere Generative Adversarial Networks (Goodfellow u. a. 2014) bilden eine zentrale Methode des Maschinellen Lernens in der Musikproduktion. Diese Methode ist für Musik und Kunst besonders interessant, weil sie verspricht, etwas Neues und Überraschendes produzieren zu können, mit anderen Worten eine Art von maschineller Kreativität zu zeigen (Cádiz u. a. 2021).

Diese Kreativität, sei sie etwas Unvorhergesehenes, Inspirierendes oder eine einzigartige Klangcharakteristik, tritt an den Grenzen der KI in Erscheinung durch ihre Limitierungen und Fehler, die Momente des Scheiterns dieser Technologien. In meinem Vortrag stelle ich daher eine Art KI sauberer musikalischer Notationsformate auf der einen Seite einer eher phonographischen oder Sound Studies orientierten klangwissenschaftlichen KI auf der anderen Seite gegenüber und entdecke die Rauheit, die besondere Einzigartigkeit im Klang der neuronalen Netze. Dabei werden unter anderem Bezüge zu medienwissenschaftlichen Positionen sowie zum Genre der so genannten Clicks & Cuts hergestellt (Cascone 2000; Großmann 2003).

Dr. Jan Torge Claussen ist Musikkulturwissenschaftler und Medienkünstler. Er leitet die Digitale Didaktik-Werkstatt am Zukunftszentrum Lehrkräftebildung der Leuphana Universität Lüneburg. Im Rahmen seiner Forschungs- und Lehrtätigkeiten beschäftigt er sich mit Sound Studies, Gamification, digitaler Bildung und Interface-Design. 2019 hat er seine Promotion als wissenschaftlicher Mitarbeiter am Institut für Theater, Medien und populäre Kultur der Universität Hildesheim zum Thema „Musik als Videospiel – Guitar Games in der digitalen Musikvermittlung“ (2021, <https://doi.org/10.18442/167>) abgeschlossen.

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The Roughness of the Voice- From the Sound Aesthetics of Faulty Audio Reproduction to Musical AI and Back Again

Jan Torge Claussen

Media become perceptible at their limits. The medium becomes audible at the latest when the transmission of sounds is faulty, when the radio hisses, the tape leaks or artifacts occur during digital sampling (Claussen 2020).

So-called neural networks, in particular Generative Adversarial Networks (Goodfellow et al. 2014), form a central method of machine learning in music production. This method is particularly interesting for music and art because it promises to be able to produce something new and surprising, in other words to show a kind of machine creativity (Cadiz et al. 2021).

This creativity, whether it is something unexpected, inspiring, or a unique sound characteristic, appears at the limits of AI through its limitations and failures, the moments of failure of these technologies. In my talk I therefore contrast a kind of AI of clean musical notation formats on the one hand with a more phonographic or sound studies oriented sound science AI on the other hand and discover the roughness, the special uniqueness in the sound of neural networks. Among other things, references are made to positions in media studies as well as to the genre of the so-called clicks & cuts (Cascone 2000; Großmann 2003).

Dr. Jan Torge Claussen is a music cultural scientist and media artist. He heads the Digital Didactics Workshop at the Future Center for Teacher Education at Leuphana University Lüneburg. In his research and teaching activities, he focuses on sound studies, gamification, digital education, and interface design. In 2019, he completed his PhD as a research assistant at the Institute for Theater, Media and Popular Culture at the University of Hildesheim on the topic of "Music as a Video Game - Guitar Games in Digital Music Education" (2021, <https://doi.org/10.18442/167>).

Digitale Ästhetik – Diffraktionen von Mensch, Maschine und Welt

Jannis Steinke

M. Beatrice Fazi entwickelt in ihrem Aufsatz „Digital Aesthetics: The Discrete and the Continuous“ (2018) die Frage: „Is aesthetics a viable mode of investigating digital computation?“ (Fazi 2018, 1)

Sie weist darauf hin, dass dieser Frage eine Grundannahme zugrunde liegt, die einen Konflikt zwischen zwei Arten und Weisen voraussetzt, Realität erfassen zu können: Continuity und Discreteness (ebd.).

Die Überlegungen Fazis diffraktieren somit auch die Beziehung Mensch-Maschine oder Analog-Digital und stellen die Frage nach einer digitalen Materialität neu: Braucht es für eine Ästhetik eine kontinuierliche Erfahrung und Assoziation von Welt und kann dies immer nur eine menschliche Ästhetik bleiben? Inwiefern kann die discreteness der digitalen Komputation einerseits Wirklichkeit neu strukturieren und dabei andererseits die Privilegierung anthropozentrischen Wissens und Wahrnehmens dekonstruieren?

Karen Barad entwickelt in ihrem Aufsatz „Quantum Entanglements and Hauntological Relations of Inheritance“ (2010) eine dis/continuity als Bewegung von Materie, die deren Stabilität ermöglicht. Sie entwickelt dies anhand der Figur des Quantensprungs, der auf un/heimlich-gespenstische Art und Weise discreteness und continuity zusammenbringt:

„[...] entanglements of here and there, now and then, a ghostly sense of dis/continuity, a quantum dis/continuity, which is neither fully discontinuous with continuity or even fully continuous with discontinuity [...]“ (Barad 2010, 244)

Barad und Fazi verschränkend kann hier die Frage nach dem Verhältnis Mensch-Maschine und deren vermeintlich unterschiedlichen Ästhetiken neu gestellt werden.

Zuletzt Luciana Parisi hinzunehmend, die innerhalb algorithmischer Prozesse eine speculative reason erkennt (vgl. Parisi 2017, 86), die induktive und deduktive Inferenzen ablöst, soll gezeigt werden, inwiefern eine digitale Ästhetik also entscheidende Fragen nach dem Erfassen von Wirklichkeit neu stellt, die Notwendigkeit einer*r menschlichen Autor*in/ eines menschlichen Subjekts für die Produktion von Inferenzen verwirft und den Exptionalismus menschlichen Wissens dekonstruiert.

Jannis Steinke ist wissenschaftlicher Mitarbeiter im Forschungsprojekt „Sociotechnical Practices of Objectivation“. Er promoviert an der Heinrich-Heine- Universität Düsseldorf in den Medien- und Kulturwissenschaften. Zuvor studierte er in Bochum und Köln Soziale Arbeit.

*Seit April 2022 ist Jannis Steinke Teil des Vorstands der Deutschen Fachgesellschaft für Geschlechterstudien. Seit Januar 2021 ist er einer von drei Sprecher*innen der AG DIG*IT*AL.*

Seit April 2018 ist Jannis Steinke Mitglied der Forschungsgruppe „Kompostistische Internationale“, die Donna Haraways Konzept des „compost, not posthuman“ als queerfeministische Intervention in die Medien- und Kulturwissenschaften einschreiben will. Jannis Steinke lehrt seit 2017 an unterschiedlichen Hochschulen in den Gender und Queer Studies.

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Digital Aesthetics – Diffractions of Man, Machine and World

Jannis Steinke

M. Beatrice Fazi, in her essay "Digital Aesthetics: The Discrete and the Continuous" (2018), develops the question, "Is aesthetics a viable mode of investigating digital computation?" (Fazi 2018, 1)

She points out that underlying this question is a basic assumption that presupposes a conflict between two ways of being able to grasp reality: Continuity and Discreteness (*ibid.*).

Fazi's reflections thus also refract the relationship human-machine or analogue-digital and pose anew the question of a digital materiality: does an aesthetic need a continuous experience and association of world and can this always remain only a human aesthetic? To what extent can the discreteness of digital computation restructure reality on the one hand, while deconstructing the privileging of anthropocentric knowledge and perception on the other?

Karen Barad, in her essay "Quantum Entanglements and Hauntological Relations of Inheritance" (2010), develops dis/continuity as a movement of matter that enables its stability. She develops this using the figure of the quantum leap, which brings together discreteness and continuity in an uncanny, haunting way:

"[...] entanglements of here and there, now and then, a ghostly sense of dis/continuity, a quantum dis/continuity, which is neither fully discontinuous with continuity or even fully continuous with discontinuity [...]" (Barad 2010, 244)

Intertwining Barad and Fazi, the question of the human-machine relationship and their supposedly different aesthetics can be posed anew here.

Lastly, accepting Luciana Parisi, who recognizes a speculative reason within algorithmic processes (cf. Parisi 2017, 86), which replaces inductive and deductive inferences, it will be shown to what extent a digital aesthetics thus poses crucial questions about the grasp of reality anew, rejects the necessity of a human author/subject for the production of inferences, and deconstructs the exceptionalism of human knowledge.

Jannis Steinke is a research assistant in the research project "Sociotechnical Practices of Objectivation". He is doing his doctorate in media and cultural studies at the Heinrich Heine University in Düsseldorf. Previously, he studied social work in Bochum and Cologne.

Since April 2022, Jannis Steinke is part of the board of the German Society for Gender Studies. Since January 2021, he is one of three spokespersons of the AG DIG*IT*AL.*

Since April 2018, Jannis Steinke is a member of the research group "Compostist International", which aims to inscribe Donna Haraway's concept of "compost, not posthuman" as a queerfeminist intervention in media and cultural studies. Jannis Steinke has been teaching gender and queer studies at various universities since 2017.