Liisa Janssens (Ed.)

THE ART OF ETHICS IN THE INFORMATION SOCIETY

Amsterdam
University
Press

YOUR TOUCH IS FUTURE

MIND
YOU

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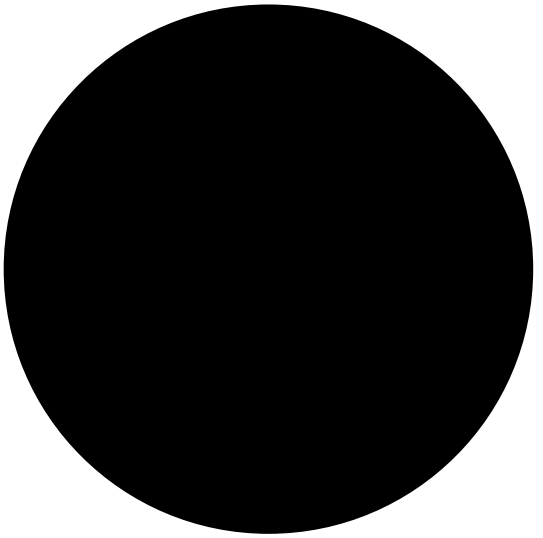
TABLE OF CONTENTS



WORLD

006

DIGITAL

PREFACE

We are very proud to present this essay collection *The Art of Ethics in the Information Society – Mind You*. The digital age is everywhere in our lives. It changes our jobs and employability. It disrupts existing models of trade, communication, care… life. It completely alters the range of actors, governors, and identities… Do we understand this? Do we want this? Can we stop this? Do we even want to stop this? These questions call for a visualisation of the ethical issues that are involved, since YOU, as a participant in the information society, need food for thought in this transitional phase. Food to be able to understand and decide, or even just to participate while preserving your own values and norms.

Since our start in 1999 the ambition of *ECP Platform for the Information Society,* is to establish a successful digital society that we can trust. ECP is leading, from a neutral non-profit position, in organising breakthrough programmes in the Netherlands. ECP and its members from business, science, government, and civil society foundations aim to stimulate the development of the information society, through creating the necessary economic, social, and political preconditions. A key element is to stimulate debate on ethics and technology; a debate that concerns the quality of life of all Dutch citizens as well as the economic competitiveness of the country.

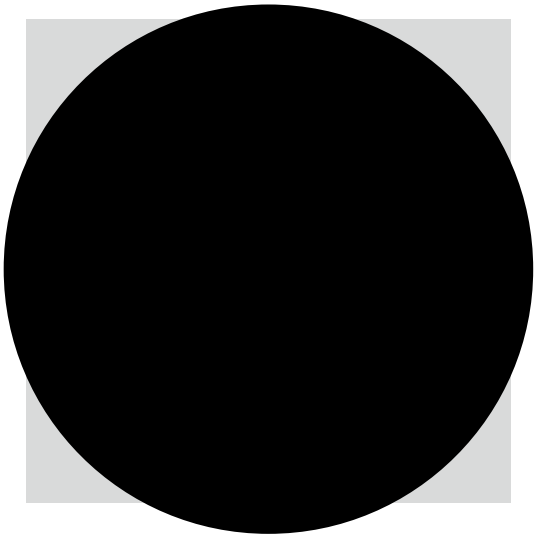
The content of this essay collection can spark the imagination of YOU and everyone else in the digital society: OUR twenty-first century society. It can certainly help to provoke a discussion about the design of our society in the digital age.

We're saving you a seat in our FUTURE, just in case you want to be part of the JOURNEY,

Arie van Bellen

Director
ECP Platform for the Information Society

008



WORLD

INTRODUCTION

How do the numerous, and often rather alluring, promises of technology change our perspectives on ethical values? Specialists in the fields of science, art-science, and philosophy of technology share their forward-looking thoughts in this interdisciplinary essay collection. These visions, which provide new perspectives on values in the information society, present a unique view on metaethics and technology.

The contributions in this collection re-approach the ethical values of a reality in which the digital is increasingly merging, mostly invisibly, with the world around us. Technologies are often implemented prior to questioning their ethical consequences. We are all users and makers of the information society; therefore it is key to awaken everyone's imagination concerning ethics and technology. What are the ethical crossroads? The questions that are asked address this issue from multiple angles in order to show you the complexity of the different ethical choices that lay ahead of us. Central in this collection are *your* life in this rapidly digitalising world, and the matter of how we can shape the future with outlined choices in mind.

Can you imagine what your future life would look like if we were to continue implementing (new) technologies in our day-to-day lives at this pace? How do, and can, we shape our world through the possibilities offered by technologies? With the world going digital many questions concerning ethics arise: Will we acquire a perfect memory, and what are the consequences thereof? What will our future judicial system look like? Can computers make ethical decisions for us? Will it be normal to have a (sexual) relationship with a robot or with a digital personal assistant? Do we need to protect and conserve our cultural heritage digitally to ensure that time and war will no longer inflict damages? What role can the technologies that enable mixed reality play in end-of-life discussions? Will Big Data be Big Brother? Will the faith that we put in Big Data lead us to a Dystopia or a Utopia?

Knowledge of the future is vital for instigating and inspiring new and creative ideas to improve our lives. To design the ethical fundaments of the information society we need to use a futuristic approach in order to cope with the fast pace of the digital transition. The essayists wish to engage in a personal dialogue about the future with you, both as the user and maker, and it might be a dialogue that is beyond what you can foresee now. This collection can provide you with the knowledge on how you can take part in shaping the digital world. Since the secret to change is to focus all your energy on building the new, they hope to inspire you so that we can start building our future together.

Almost every successful person holds two beliefs: the future can be better than the present, and I have the power to make it so. In this endeavour, imagination of the ethical crossroads is a powerful tool; it is the source from which creativity springs. Artists can contribute to the reflections about the digital world and precarious technologies, scientists who look beyond the well-known possibilities can show us the challenges we are heading for, and philosophers with an open-minded reflection can awaken you through questions that we need to ask before technologies are implemented.

This collection revolves around you; you are challenged by visual and mental images, questions, and new ideas to reflect on your role during this transitional stage of a world that is moving into a digital era.

Do something today that your FUTURE will thank YOU for,

Go read this...

Liisa Janssens

BIOGRAPHIES

Nicky Assmann (1980) is a Dutch multidisciplinary artist, whose work is primarily perceived as a sensory experience, uniting the viewer with what lies before his eyes. A background in Film and Art Science combined with a keen interest in science and technology has lead Assmann to experiment with physical processes in the form of kinetic light installations, videos, and audiovisual performances. Her work has been exhibited amongst others at the Saatchi Gallery in London, at the Museum of Fine Arts of Taiwan, Woodstreet Galleries in Pittsburgh, Quartier 21 in Vienna, V2_Institute for the Unstable Media, and at Art Rotterdam Week. She holds a Bachelor of Arts in Media & Culture [Major Film Science] from the University of Amsterdam and a Master in ArtScience from the Interfaculty of the Royal Conservatoire & the Royal Academy of Art in The Hague. Assmann is a member of the art collective Macular, a collective research on art, science, technology, and perception. Since 2008 she has been part of the Sonic Acts curatorial team. She was nominated for the 2015 Prix de Rome and her work 'Solace' gained an Honorary Mention in the 2011 StartPoint Prize.

www.nickyassmann.net www.macular.nl

Arie. J. M van Bellen (1962) is the founder director of ECP Platform for the Information Society. Since the foundation of ECP in 1999 he has been in charge of the organisation that employs 30 professionals who work on programmes and projects wherein business, government, society, and science collaborate to create the cornerstones of a digital society. He has a background in law (Leiden University, LLM) and bears the responsibility for national programmes regarding digital skills, cyber security, and visioning the impact of digitalisation on the quality of both economy and society. As director of ECP, he chairs various national committees, publishes works, leads debates, and is often a guest speaker on national conferences. Additionally, as a driving force behind the spreading of knowledge regarding the Information Society he, as director of ECP, has been involved as an impartial party in the design of national and international policies, such as the EU and the UN, regarding the digital agenda. Together with ECP he is the initiator of the ECP discussion group Ethical Aspects of the Information Society.

Tanne van Bree (1989) is a digital designer with a bachelor in Communication and Multimedia Design and a masters in Information Design (Mdes). She graduated Cum Laude from Design Academy Eindhoven with her graduation project, 'Artificial Ignorance'. She is interested in critical design, especially on the subject of technology. By designing 'digital forgetting' she speculates the different ways of dealing with the abundance of digital information available nowadays. Human memory is a duality of remembering and forgetting. This inspired 'Artificial Ignorance' – a computer application that offers a digital equivalent of 'forgetting'. Instead of displaying your digital photographs, AI collects visually similar images from the internet. These new images serve as 'memory cues' to stimulate active remembering.

www.tannevanbree.nl

Wouter Dammers (1985) graduated cum laude in 2009 from Tilburg University with a Master's degree in Law & Technology. He earned a second Master (with merits) from TU in International and European Public Law, part of this programme was completed at the Katholieke Universiteit Leuven, in Belgium, with a Erasmus scholarschip. In 2016 he intends to successfully complete the Grotius specialisation IT-law course. Before founding LAWFOX in 2013, he worked at SOLV, a law firm in Amsterdam, and legal consultancy firm ICTRecht, also in Amsterdam. With LAWFOX, Dammers is fully dedicated to managing conflicts relating to technology and law. LAWFOX is established in Tilburg, The Netherlands. Additionally, he has several legal publications to his name, including the section for 'The Netherlands' in The International Free and Open Source Software

Law Book. He is regularly asked by the press for his opinion on the latest developments in Internet law. Wouter Dammers is a co-author of the books 'ICTRecht - Cookies' and 'ICTRecht - Privacy'. Dammers also blogs regularly on his own weblog.

www.lawfox.nl

Frederik De Wilde (1975) works at the interstice of the art, science, and technology. The conceptual crux of his artistic praxis are the notions of the inaudible, intangible and invisible. De Wilde holds a master in Fine Arts and New Media, Art and Design (MA), and combined his studies in philosophy with a contemporary dance education. His art is often experimental and tries to offer new insights into the nature of art, science, and technology, how they interact (process) and how it can take shape (result). An excellent example is the conceptualisation, and creation, of the Blackest-Black art made in collaboration with American universities and NASA. The project received the Ars Electronica Next Idea Award and the Best European Collaboration Award between an artist and scientist, and was extensively covered (e.g. Huffington post, Creators Project, TED). In 2017 De Wilde will bring the Blackest-Black art to the Moon in collaboration with Carnegie Mellon, NASA, AstroRobotic, and Space-X. De Wilde collaborated with the KIT micro- and collective robotics lab, Rice University, Wyoming University, University Hasselt, KUL, and is both laureate and member of the Royal Belgian Academy of Sciences and Arts, a frequent speaker (e.g. TED ideas worth spreading), guest professor (e.g. interfaculty of art and science Amsterdam), publicist, and essayist (e.g. Experiencing the Unconventional, Science in Art). Currently De Wilde is developing several apps (e.g. VR and data visualisation apps), and is busy preparing his first short film as director and co-writer and is supported by the Flanders Audio visual Fund.

www.frederik-de-wilde.com

Bob van Dijk (1967) graduated cum laude at KABK (Royal Academy of Fine Arts, The Hague) and was immediately recruited by Studio Dumbar. Bob van Dijk was commissioned to work on the European side of the Euro coin. Two years later he was awarded the prestigious 'Dutch Design Prize' for his posters for 'Holland Dance Festival'. This campaign was recognised by a 'Typography Excellence Award' in New York and London. Van Dijk worked for clients like Telecom Italia, Hewlett Packard, NIKE, Coca Cola and SKODA. He cooperated with: Leagas Delaney - R/GA - Goodby, Silverstein & Partners - W+K - The Martin Agency - Ogilvy – Fallon. After van Dijk became Design Director at LAVA Amsterdam, they were awarded 'European Design Agency of the Year' that same year. The work of Bob van Dijk is part of the permanent collections of MOMA, Museum of Modern Art in New York and The Stedelijk Museum in Amsterdam. His work is published in several international books and magazines on graphic design and communication. Most recent and comprehensive is a fifteen- page interview in 'New Graphic Magazine' China. In 2006 van Dijk became a member of Alliance Graphique International (AGI).

www.bobvandijk.com

Rinie van Est and Lambèr Royakkers

Rinie van Est (1964) works as a research coordinator at the Rathenau Instituut, in the Netherlands. He is a physicist, a political scientist, and is specialised in the politics of innovation. He is primarily concerned with emerging technologies such as nanotechnology, cognitive sciences, persuasive technology, robotics, artificial intelligence, and synthetic biology. He has more than twenty years of experience in signaling trends in innovation and designing studies and debates about their meaning for society and democracy. He also lectures at the School of Innovation Sciences of the Eindhoven University of Technology. Some relevant publications: *Just ordinary robots: Automation from love to war (2016), Working on the robot society (2015), Intimate tech-*

nology: The battle for our body and behaviour (2014), From bio to NBIC: From medical practice to daily life (2014), Check in / check out: The public space as an Internet of Things (2011).

Lambèr Royakkers (1967) is the associate professor of Ethics and Technology at the Department School of Innovation Sciences of the Eindhoven University of Technology. Lambèr Royakkers has studied mathematics, philosophy, and law. In 1996, he obtained his PhD on the logic of legal norms. During the last few years, he has done research and published in the following areas: military ethics, robo-ethics, deontic logic and the moral responsibility in research networks. His research has an interdisciplinary character and focuses on the interface between ethics, law, and technology. In 2009, he started as project leader of the NWO-MVI research program: 'Moral fitness of military personnel in a networked operational environment' (2009 - 2014). He was involved in a European project, as chairman of the ethics advisory board of the FP7-project SUBCOP (SUicide Bomber COunteraction and Prevention, 2013 - 2016). Royakkers has authored and co-authored more than 10 books, including; Ethics, Engineering and Technology (Wiley-Blackwell, 2011), Moral Responsibility and the Problem of Many Hands (Taylor & Francis Gropup, 2015), and Just Ordinary Robots: Automation from love to War (CRC Press, 2016).

Jaap van den Herik and Cees de Laat

Jaap van den Herik (1947) studied mathematics at the Vrije Universiteit Amsterdam (with honours), received his PhD degree at Delft University of Technology in 1983 and was appointed as full Professor of Computer Science at Maastricht University in 1987. In 1988 he was appointed as part-time Professor of Law and Computer Science at the Leiden University. In 2008, he moved as Professor of Computer Science at the Tilburg University (2008 - 2016). In the Netherlands, he initiated the research area e-Humanities. Moreover, he was the supervisor of 71 PhD researchers. He was active in many organisations, such as JURIX (Honorary Chair), the BNVKI (Honorary Member), the CSVN (Honorary Member), the ICGA, NWO-NCF, ToKeN, CATCH, and the consortium BIGGRID. Van den Herik is ECCAI fellow since 2003, a member of the TWINS (the research council for sciences of the KNAW) and a member of the Royal Holland Society of Sciences and Humanities (KHMW). In 2012 he was co-recipient of an ERC Advanced Research Grant (together with Jos Vermaseren (PI, Nikhef) and Aske Plaat). On January 1, 2014, the appointment at the Faculty of Law was broadened to the Faculty of Science. Together with Joost Kok and Jacqueline Meulman he launched Leiden Centre of Data Science (LCDS) and is Chair of the Board of LCDS.

Cees de Laat (1956) chairs the System and Network Engineering (SNE) laboratory in the Informatics Institute of the Faculty of Science at The University of Amsterdam. The SNE lab conducts research on leading computer systems of all scales, ranging from global-scale systems and networks to embedded devices. Across these multiple scales, our particular interest is on extra-functional properties of systems, such as; performance, programmability, productivity, security, trust, sustainability, and, last but not least, the societal impact of emerging systems-related technologies. De Laat serves on the Lawrence Berkeley Laboratory Policy Board on matters regarding ESnet, he is also co-founder of the Global Lambda Integrated Facility (GLIF), the founder of GRIDforum.nl and the founding member of CineGrid.org. His group is/was part of the EU projects SWITCH, CYCLONE, ENVRIplus and ENVRI, EuroBrazil, Geysers, NOVI, NEXTGRID, EGEE, and others. He is a member of the Advisory Board Internet Society Netherlands and Scientific technical advisory board of SURF Netherlands.

delaat.net

Mireille Hildebrandt (1958) is a lawyer and a philosopher. She is a Tenured Research Professor of 'Interfacing Law and Technology' at Vrije Universiteit Brussels, where she works with the research group on Law, Science, Technology & Society studies (LSTS) of the Faculty of Law

and Criminology. She also holds the Chair of 'Smart Environments, Data Protection and the Rule of Law' at the institute of Computing and Information Sciences (iCIS) of the Science Faculty at Radboud University Nijmegen. Hildebrandt has led research teams in numerous funded research projects, been editor, advisory board member and part of scientific committees and organised a number of conferences, workshops and seminars. She has given a number of keynotes on topics such as 'Slaves to Big Data. Or Are We?' (Barcelona 2013), 'Law as Information in the Era of Datadriven Agency' (London School of Economics 2015), and 'Learning as a Machine. Crossovers Between Humans and Machines' (Edinburgh 2016). She was part of the Onlife Initiative that published the Onlife Manifesto and is a founding member of the Digital Enlightenment Forum. She publishes extensively on the nexus of artificial intelligence, philosophy and law, for instance Profiling the European Citizen. Cross-Disciplinary Perspectives (Springer 2008), and the Routledge studies on The Philosophy of Law Meets the Philosophy of Technology (2011, 2013, 2016). Her most recent monograph is Smart Technologies and the End(s) of Law. Novel Entanglements of Law and Technology (Edward Elgar 2015).

works.bepress.com/mireille_hildebrandt

Liisa Janssens (1986) is Advisor Ethics at ECP Platform for the Information Society. Her responsibilities at ECP are introducing ethics and art by creating and initiating new programs on these subjects. She initiated projects such as a technology and art exhibition and a think-tank on ethics to constitute a multi-disciplinary and cross over cooperation between science, technology-art, philosophy of technology and the public and private sector. She obtained a Master's degree in Law at Leiden Law School (LLM) and a Master's degree in Philosophy at Leiden University (MA). She was assigned to the project on ethics and 'The Internet of Things' by the Dutch Cyber Security Council (National Coordinator for Security and Counterterrorism of the Dutch Ministry of Security and Justice). During her studies she was a trainee at SOLV, a law firm in the Netherlands that is fully dedicated to technology, media and communications, and she was a trainee at the Dutch Scientific Council for Government Policy (WRR) where she did research in the domain of the philosophy of technology and law for the book The Public Core of the Internet.

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Esther Keymolen (1982) is an assistant professor at Leiden University. Within the Law School, she works at eLaw, the Center for Law and Digital Technologies. She is the Academic Coordinator of the Advanced Master Law and Digital Technologies (LLM). Keymolen has research interests in the Philosophy of Technology, online trust, privacy, digital governance, and data ethics. Recently, her PhD thesis 'Trust on the Line. A Philosophical Exploration of Trust in the Networked Era' has been published by Wolf Legal Publisher. Previously, she worked at the Scientific Council for Government Policy (WRR). As a scientific staff member, she co-authored the book iGovernment and conducted research in the domain of digital youth care. In 2008, she completed her Master's degree in philosophy with a distinction and her Bachelor's degree with honours in 2007. She also holds a Bachelor's degree in Music (2004).

www.estherkeymolen.nl

Yolande Kolstee (1955) studied Social Sciences at Leiden University. In 2002 she started to work at the Royal Academy of Art, The Hague. She founded the AR (augmented reality) Lab in 2006. The AR Lab was a cooperation of the Academy, research groups of Delft, University of Technology and, after 2010, also with Media Technology from Leiden University. She and her team of students, teachers, artists, and scientists were part of new-media networks. In 2008 TUD developed the first optical see-through augmented reality headset. The AR Lab accomplished various projects with museums as Boijmans van Beuningen, Van Gogh Museum, and

Catharijne Convent as well as with SME. From 2011 to 2015 she held the post of Lector (Dutch for a researcher at universities of applied sciences (HBO) in the field of Innovative Visualisation Techniques in Art Education. Additional to her current position as officer for educational and international affairs at the Academy, she researches people's (lack of) interest in sustainability.

Marjolein Lanzing (1988) is a PhD candidate at the 3TU Centre for Ethics and Technology and works at the department of Philosophy and Ethics at the school of Innovation Sciences at Eindhoven University of Technology. Her PhD-project 'The Transparent Self: Identity and Relationships in a Digital Age' will contain a normative interpretation of the changing norms of privacy under the perspective of the changing meaning of the Self in a digital age. Her research entails an analysis of changing privacy norms ensuing from new ICTs and what this entails for the meaningfulness of self-relations and social relationships. Lanzing is the editorial assistant at the Philosophical Explorations, a peer-reviewed philosophy journal, specialising in the philosophy of mind and action and a member of the Amsterdam Platform for Privacy Research.

Ben van Lier (1957) is the director of Strategy & Innovation at Centric, a Dutch IT company with offices in Norway, Sweden, Germany, Belgium, and Romania. In this capacity, he focuses on research and analysis of developments in the interface between organisations and technology. Alongside his work at Centric, he obtained his PhD from the Rotterdam School of Management in 2009 (Erasmus University Rotterdam) on a doctoral thesis: 'Luhmann meets the Matrix: Exchanging and Sharing information within Network Centric Environments'. In 2013, he was appointed Professor at Steinbeis University Berlin. In this role, he focuses on qualitative research into topics such as systems and complexity theory, interoperability of information, and the network-centric approach. In 2015 he was also appointed Professor at the University of Applied Science Rotterdam, which focused on the development of the (industrial) Internet of Things. Both roles he fulfils next to his work at Centric.

Koert van Mensvoort (1974) is an artist, technologist, and philosopher who holds a MSc in computer sciences from Eindhoven University of Technology (1997) a MFA from the Sandberg Institute, Masters of Rietveld Academy, Amsterdam (2000) and a PhD in industrial design from Eindhoven University of Technology (2009). Van Mensvoort is best known for his work on the philosophical concept of Next Nature, which revolves around the idea that our technological environment has become so complex, omnipresent, and autonomous that it is best perceived as a nature of its own. It is his aim to better understand our co-evolutionary relationship with technology and help set out a track towards a future that is rewarding for both humankind and the planet at large. Among his works are the NANO Supermarket (a travelling exhibition disguised as a supermarket that presents speculative future technologies) the Datafountain (an internet enabled water fountain connected to money currency rates), the book *Next Nature: Nature changes along with us*, the Rayfish Footwear project (about a fictional company that creates bio-customised sneakers from genetically engineered stingray leather) and the In Vitro Meat Cookbook (exploring the potential impact of lab-grown meat on our food culture). Van Mensvoort directs the Next Nature Network in Amsterdam. He is a fellow at the Eindhoven University of Technology, board member of the Society of Arts at the Dutch Royal Academy of Sciences and gives presentations worldwide.

www.mensvoort.com www.nextnature.net

Elize de Mul (1987) studied film and theatre studies (BA) and game studies and new media studies (MA) at the University of Utrecht and philosophy at the Erasmus University Rotterdam (MA). Her broad education reflects her fascination with a large range of things, mainly in the sphere of popular culture and the everyday life. This leads to a colourful assembly of topics and publications, amongst which a philosophical exploration of plastic bags published in book form (*Dansen met een plastic zak - Kleine filosofie van een onooglijk ding*, Klement 2014), a study of

narrative identity in the television series *How I Met Your Mother,* and an attack on modern dualism using *Alice in Wonderland* as a philosophical tool. Currently, she works as a PhD candidate at the eLaw institute (Leiden University), where she researches the influence of the use of (popular) technologies on human identity and privacy, focusing on Internet memes, selfies, and quantified baby technologies. One day per week she is a lecturer of philosophy at ArtEZ, School of the Arts, where she tries to evoke a fascination and wonderment of 'the every day' in her students.

René P.H. Munnik (1952) studied chemistry, theology, and philosophy. His PhD thesis (1987) concerned the relation of mathematics, and metaphysics in the later works of Alfred North Whitehead. At the moment he owes the Thomas More chair of philosophy at the University of Twente and is senior lecturer in philosophical anthropology, hermeneutics, and metaphysics at Tilburg University, both in the Netherlands. Initially, his research was devoted to the interplay of natural sciences and humanities from a process perspective. See his: 'Whitehead's Hermeneutical Cosmology' (D.J.N. Middleton ed. *God, Literature and Process Thought*, Ashgate, Aldershot/ Burlington 2002, p. 63-75). But gradually it evolved into research concerning the anthropological and cultural significance of technology. See his: 'Donna Haraway: Cyborgs for Earthly Survival' (H. Achterhuis ed. 2001. *American Philosophy of Technology: The Empirical Turn.* Indiana Univ. Press: Bloomington/Indianapolis, 95-118) and 'ICT and the Character of Finitude' (U. Görman, W. B. Drees, and H. Meisinger eds., 2005. *Creative Creatures. Values and Ethical Issues in Theology, Science and Technology.* T&T Clark: London/New York, 15-33). This contribution comprises parts of his Dutch book: *Tijdmachines* ('Time Machines'), mentioned in the bibliography.

Eric Parren (1983) is an interdisciplinary artist operating out of Los Angeles. His work lives at the intersection of art, science, and technology and investigates human connections to the ideas and technologies that shape our future. Eric Parren's works are often deeply sensory experiences dealing with modes of perception and the physics of light and sound. Through close study of the histories of media arts, electronic music composition, as well as abstract film, his work makes the link between the past, the present, and what is to come. Parren is a member of the art collective Macular and hosts the experimental music show La Force Sauvage on KCHUNG Radio. He is an instructor at Art Center College of Design where he teaches courses on programming for artists, virtual reality, and app development. Parren received his MFA from the Design Media Arts department at UCLA. His work has been shown at galleries and festivals across Europe, North America, and Asia since 2008.

www.ericparren.net

Marleen Postma (1989) is a graduate student in the MA Philosophy of the Humanities and the Research MA Literary Studies at the University of Amsterdam. She specialises in the relationship between ethics and literature and currently investigates how the influence of new technologies (such as lifelogging technology) may impact the way we live our lives and how it is represented in literature and the arts. Furthermore, she investigates, from a moral point of view, whether the act of reading literature can make us 'better people'. She is a member of the Brainwash Academy and has previously worked as a teaching assistant in the department of Media Studies and at the Institute of Interdisciplinary Studies of the University of Amsterdam, where she has contributed to the Big Data course.

Bart van der Sloot specialises in the area of Privacy and Big Data. He also publishes regularly on the liability of Internet Intermediaries, data protection and internet regulation. Key issues are the recently adopted General Data Protection Regulation, international data flows, especially between Europe and the United States, and data leaks. Bart van der Sloot has studied philosophy and law in the Netherlands, Italy and has also successfully completed the Honours Programme at the Radboud University. He is currently working at the Tilburg Institute for Law, Technology, and

Society at the University of Tilburg, Netherlands. Bart formerly worked at the Scientific Council for Government Policy (WRR) (part of the Prime Minister's Office of the Netherlands) to co-author a report on the regulation of Big Data in relation to security and privacy. In that context, he served as the first editor of a scientific book with contributions by leading international scholars and as the first author of an international comparative study on the regulation of Big Data.

bartvandersloot.com/index.html

Sabine Roeser (1970) is a professor of ethics and head of the Ethics and Philosophy of Technology Section of TU Delft, Netherlands. Sabine Roeser holds degrees in fine arts (BA), political science (MA) and philosophy (MA, PhD). Roeser has published numerous books and articles on risk, ethics, and emotions. She has obtained various competitive research grants. Roeser serves on various Dutch governmental advisory boards on risky technologies. Her research covers theoretical, foundational topics concerning the nature of moral knowledge, intuitions, emotions, and evaluative aspects of risk, but also urgent and hotly debated public issues on which her theoretical research can shed new light, such as nuclear energy, climate change, and public health issues. Recently she started studying the contribution that art can make to emotional-moral reflection on technological risks.

Floor Soesbergen language editor (1985) is an English teacher by profession and a storyteller by heart. She graduated from Utrecht University, with an MA in English Language and Literature (2008) and completed her second MA in Education (2011) after spending a year as an ESL teacher in Iran. As part of the Harting Programme she spent one academic year at the University of York (2006) where she specialised in metaphysical literature. She also completed a Pre-Master course at the University of Humanistic Studies (2014) and wrote her thesis titled 'The Art of Suffering - what can literature contribute to an ethics of humanism?' on bildung and personal growth achieved through reading and reflecting on Shakespeare's *Othello*. She enjoys finding and amplifying the unique sound of (academic) writers to strengthen the delivery of their message. Her passion lies in creating images and conveying stories and information that touch people's lives and stress a common humanity. In the weekends she can be found on various stages as a professional story teller.

Jelte Timmer (1986) is a researcher at the Rathenau Institute. His research discusses the social and ethical impacts of new and emerging information technologies, covering subjects from social networking, to smart mobility, big data, and persuasive technology. He has a background in psychology (Bsc), creative development (MA) and new media studies (MA). He has worked in the creative industry with Mediamatic in Amsterdam and he was one of the founding members of the Utrecht medialab- SETUP. Timmer combines the insights derived from psychology and cultural practices to reflect on societal-technological developments. Over the past years, he has published multiple books and essays on digital technologies. He has done studies on the ethics of digitisation for the Council of Europe and the Global summit of National Ethics Committees and brought together industry leaders at a Silicon Valley expert workshop on privacy in The Internet of Things. He has presented his work at international scientific conferences, industry meetings, and popular music festivals.

Maarten J. Verkerk (1953) studied chemistry and theoretical physics at the State University of Utrecht. In 1982 he earned a PhD from the University of Twente with a PhD thesis titled, 'Electrical Conductivity and Interface Properties of Oxygen Ion Conducting Materials'. In 2004 he earned a second PhD from the University of Maastricht with his thesis, 'Trust and Power on the Shop's Floor'. For several years he worked as a senior researcher in Philips's Laboratory for Physics in Eindhoven, the Netherlands. From 1986 to 2002 Verkerk was on several management teams and boards of various factories and developmental groups both in- and outside the Netherlands. From 2003 - 2007 he chaired the management board of psychiatric hospital 'Vijverdal' in Maastricht. Since 2008 he has

been on the management board of VitaValley, an innovative network in healthcare. He has been an extraordinary professor in Reformational Philosophy at the University of Technology in Eindhoven since 2004 and at the University of Maastricht since 2008. He has published, amongst others, in the areas of materials science, feminism, business ethics, and philosophy of technology.

ABSTRACTS AND KEYWORDS

Nicky Assmann

Embodied Experience

The immaterial and intangible character of light, colour, and movement form the starting point of Nicky Assmann's spatial installations in which she tries to heighten the perception. In this essay she describes how she combines artistic, scientific, technological, and cinematographic knowledge in experiments with physical processes aimed at sensorial interference. She embeds her work in a context of visual music, expanded cinema, and the concept of synaesthesia. Set against the backdrop of our visual culture, where the perception of reality increasingly occurs in the virtual domain, she returns to the physical foundations of 'seeing' in which the embodied experience is central.

Keywords: art, science, perception, film, light, colour, movement, transition, sensorial, embodied experience, synaesthesia, technology, kinetic installation, video installation, visual music, expanded cinema, sublime, ephemeral, affect.

Tanne van Bree

Digital Hyperthymesia - On the Consequences of Living with Perfect Memory

Through the digitisation of the externalisation of human memory and a shift in cultural perspectives, a non-forgetting artificial memory evolves. In this essay Tanne van Bree uses a metaphor for this recently emerged phenomenon: she states that we are living with Digital Hyperthymesia. This is derived from the memory condition 'hyperthymesia', which gives a person a superior autobiographical memory, meaning that the person can recall, without conscious effort, nearly every day of their life with great detail. The emergence of Digital Hyperthymesia is researched from a technological and cultural perspective, and possible consequences in the context of human memory are formulated. Human memory consists of a duality of remembering and forgetting. This inspired experiments in designing a digital equivalent of forgetting, which resulted in Artificial Ignorance; a product aimed to counter the mentioned influences, and was intended to instigate debate on this subject.

Keywords: technology, digitisation, human memory, total recall, digital forgetting, algorithm, critical design.

Wouter Dammers

How to Govern King Code

With the convergence of technical revolutions, the regulating capabilities of code are becoming a threat to our human rights. As this new regulator is as non-transparent and uncontrollable as a metaphorical King in comparison to a democratic parliament, IT-attorney-at-law Wouter Dammers advocates to govern code. However, governance has its own issues, as our current democratic institutions struggle to keep up with technological advancements. Are we left to our (coded) fate? Or is our human intervention still necessary?

Keywords: governance, regulation, code, human rights, democracy.

Frederik De Wilde

Deep Learning Through Cinematic Space

This short essay is an attempt to question the power we attribute to technology by drawing potentially new connections between the use of Artificial Intelligences in Stanley Kubrick's *2001, A Space Odyssey* and contemporary usages of artificial intelligences like 'The Innovation Engine'. Kubrick gave us a warning. The subject of artificial intelligences, and their potentially far-reaching impact on society, will demand a moral and ethical compass and a global collaborative debate concerning the question how we want to evolve as a species.

Keywords: AI, evolution, art, *2001, A Space Odyssey*, Stanley Kubrick.

Rinie van Est and Lambèr Royakkers
Robotisation as Rationalisation – In Search for a Human Robot Future
This essay sees robotisation as a form of rationalisation. Driven by the belief in rationality and efficiency we have redesigned factories, offices and kitchens. Nowadays rationalisation touches every intimate aspect of our lives, from caring for the elderly to sex. Robots may contribute to this. Rationalisation is a double-edged phenomenon: besides benefits, it may reduce the freedom of people and lead to dehumanisation. The authors claim that robots can act as both humanising and dehumanising systems. They stress that even apparently typically human trades like face-to-face and skin-to-skin intimacy can eventually be lost to technology. Exactly because robots can have a profound effect on our humanity, we are in need of common moral principles and criteria for orienting ourselves into the robot future.
Keywords: robotisation, rationalisation, care robots, sex robots, dehumanisation.

Jaap van den Herik and Cees de Laat
The Future of Ethical Decisions Made by Computers
Moral issues and ethical decisions are usually seen as signs of civilisation. The idea that human beings and, in particular, human judges possess a privilege to judge upon ethical issues is widespread and ubiquitously accepted. However, the current development of disruptive technologies makes the following question acute: can computers outperform the best human judges in the area of moral issues? In this article, we discuss five fundamental problems (called invariants) with respect to the current state of the art. Our conclusion is that within two waves of disruptive developments (each taking, say, 25 years) computers will be on a par with, or even better in, taking ethical decisions than human beings.
Keywords: ethical decisions, privacy, security, invariants, disruptive technologies.

Mireille Hildebrandt
The New Imbroglio – Living with Machine Algorithms
This essay will discuss two types of algorithms: those capable of learning from their own 'mistakes' and those that are not fitted with such capacities. The first concern machine learning (ML), the second can be categorised as 'dumb' 'if this then that' algorithms (IFTTTs). I will suggest that each can have added value as well as drawbacks, depending on how they are used, in what context and for what purpose. As the decision to engage either one of them may have far-reaching consequences for those subjected to their outcome, I propose that both should be constraint in ways that open them up to scrutiny and render their computational judgements liable to being nullified as a result of legal proceedings.
Keywords: machine learning, dumb algorithms, automation, autonomic, uncertainty, legal certainty, Rule of Law, public administration.

Liisa Janssens
Freedom and Data Profiling
What would happen if a set of algorithms could identify our behaviour and possibly even our thoughts? Such sets of algorithms would drastically change our interactions and relationships as human beings. Today, sets of algorithms can already generate profiles on the basis of data about an individual user. In doing so, an 'average you' is mapped; this process is called data profiling. In data profiling, however, lies the risk that human beings will only be seen through conceptions that follow from a system that is guided by probability analyses. At a time when data analyses are increasingly present in our day-to-day reality, we ought to reflect on the question as to whether human beings can completely be categorised on the basis of their data profile, or whether man as 'the Other' also contains a mystery that reaches further than these analyses can reach.
Keywords: algorithms, data profiling, probability analyses, freedom, meta-ethics, dystopia, Nicolai Berdyaev, Jacques Ellul, The Internet of Things.

Esther Keymolen

A Utopian Belief in Big Data

This essay aims to unravel the reason why policy makers –and others as well- persistently believe that Big Data will make the future completely knowable and consequently solve a myriad of societal problems. Based on insights deriving from the philosophy of technology, it will be argued that although human life is always 'under construction', nevertheless, there exists a Utopian longing for a final ground that contemporary technology should provide us with. This one-sided belief in the power of technology makes people blind for the unforeseen consequences technology may have. Technology, and more specifically Big Data, can only serve as a temporary shelter, which time and time again human beings will have to improve and alter. Moreover, this all-encompassing desire for certainty and safety is not as desirable as it may seem at first sight. After all, a life stripped from its complexity, may turn out to be a boring life.

Keywords: Big Data, Utopian belief, contingency, data-driven policy, philosophy of technology.

Yolande Kolstee

Digital Conservation of Cultural Heritage

Digital conservation of cultural heritage is important for safeguarding, research, education, preservation, and virtual exchange of historical artefacts. Future developments will be, for example, an increasing digitalisation of archives to make them accessible for research since their content is sometimes unknown. Various scanning methods make it possible to compare artworks to learn about the materials used and the construction of the artefacts. Techniques like Artificial Reality and Virtual Reality make it possible to annotate in an interactive way. By converting the physical material to a digital format and by making the results available through the Internet, we make our cultural heritage available to anyone, anywhere, whether it be solely for taking pleasure in an esthetical sense but also for study and research purposes. In doing so we can contribute to a world in transition in which sharing, co-creating, and shared responsibility will overcome exclusiveness and loss of identity caused by the inaccessibility of artefacts of our own or our neighbours' roots.

Keywords: digitisation, cultural heritage, sharing, scanning, safe-guarding.

Marjolein Lanzing

Pasts, Presents, and Prophecies - On Your Life Story and the (Re)Collection and Future Use of Your Data

Big Data is a revolutionary promise that carries implications for our sense of self and identity development that we cannot yet fully grasp. Where our personal data goes and what traces it leaves on its way will slowly become more apparent. The information we share of ourselves could make our lives easier by eliminating choices. However, the digital identity that we create is one that we cannot easily shake and we should be aware of the images of ourselves that we create, like, and share. The information trail we leave behind fuels the predictive power of profiles. Can we still forgive, forget, be forgiven, and be forgotten in a digital society? And if not, what does that mean for our freedom of choice, sense of agency and our future selves?

Keywords: profiling, predictive analysis, forgetting, identity, agency.

Ben van Lier

Can Connected Machines Learn to Behave Ethically?

The rapid development of artificial intelligence, the huge volume of data available in 'the cloud', and machines and software's increasing capacity for learning have prompted an ever more widespread debate on the social consequences of these developments. Autonomous cars or the application of autonomous weapon systems that run based on self-learning software are deemed capable of making life-and-death decisions, leading to questions about whether we as human beings will be able to control this kind of intelligent and interconnected machines. It is still unclear which basic features could be exploited in shaping an autonomous moral status for these intelligent systems. For learning and intelligent machines to develop ethical cognition, feedback loops

would have to be inserted between the autonomous and intelligent systems.
Keywords: technology, software, artificial intelligence, information, ethics.

Koert van Mensvoort
Exploring the Twilight Area Between Person and Product
Anthropomorphobia is the fear of recognising human characteristics in non-human objects. The term is a hybrid of two Greek-derived words: *Anthropomorphic* means 'of human form' and *phobia* means 'fear'. Perfume bottles shaped like beautiful ladies, the Senseo coffeemaker shaped – subtle, but nonetheless – like a serving butler, and, of course, there are the robots, mowing grass, vacuuming living rooms, and even caring for elderly people with dementia. Today more and more products are designed to exhibit anthropomorphic – that is, human – behaviour. At the same time, as a consequence of increasing technological capabilities, people are being increasingly radically cultivated and turned into products. This essay explores the blurring of the boundary between people and products. My ultimate argument will be that we can use our relationship with anthropomorphobia as a guiding principle in our future evolution.
Keywords: anthropomorphism, humanoid robots, human enhancement, emerging technologies, ethics.

Elize de Mul
Living Together With a Green Dot – Being Together Alone in Times of Hyper-connection
Our communication with others nowadays often takes place via the various screens in our lives. Friends are reduced to merely a green dot on a screen, comfortingly telling us they are there, or to two green checkmarks that assure us the message we have sent out to the world has been read by friendly eyes. It is fascinating to state that these new forms of connection are examples of an on-going alienation by means of technologies; of us being alone, even when we are together. Instead, we could look at this 'living together with green dots' as an example of not an on-going alienation, but of a new form of being together typical for this era of 'hyper-connection'.
Keywords: together alone, Turkle, Shaviro, connected, network, individual, modern subject, Descartes, monads, Leibniz, hyper-connection, Facebook, communication, friendship, connectivity.

René Munnik
Technology and the End of History – From Time Capsules to Time Machines
The introduction of writing, especially the alphabet, marked the transition from (oral, mythical) pre-history to history, because it allowed the past to leave its own articulated messages. So, history – consisting of 'historical facts', both 'absent' and 'objectively real' – had a beginning. Contemporary I&C technologies substitute written records for the formal identity of data and algorithms. In doing so, they blur the distinction between absent past facts and their contemporary representations. They allow the on-demand presence of past facts that do not become 'history' anymore. Consequently, these technologies mark the end of history and the transition to a post-historical era.
Keywords: history, ICT, media, representation, writing.

Eric Parren
The Emerging Post-Anthropocene
With the rise of ubiquitous computing and the ever-increasing amount of sensors and processors that are being deployed, we are constructing a planetary scale cybernetic feedback system of computation. As our techniques for creating artificial intelligences become more sophisticated - and their implementations become more widespread in their applications- we are slowly handing over control of this system to a form of machine intelligence that is unbeknownst to us. Soon we might not be living in a world in which direct human activity is the primary impact on the Earth's geology and ecosystems, but instead in a world where the 'intelligences' that run our planetary computation system are the most influential factor.

Keywords: anthropocene, artificial intelligence, machine learning, cybernetic ecology, ubiquitous computing.

Marleen Postma

The Ethics of Lifelogging – 'The Entire History of You'

In this paper, Marleen Postma investigates how the ethical risks of lifelogging, the practice of capturing and storing the totality of one's experiences in a personal, searchable archive, are represented in the Black Mirror episode 'The Entire History of You'. She discovers that the episode, an artistic representation of lifelogging, clearly depicts the risks of pernicious memory and pernicious surveillance. Furthermore, the episode shows us the ways in which lifelogging has the potential to change us and our interpersonal relationships. In doing so, it encourages us to think about the ethical risks of lifelogging and possibly helps us to better understand these risks.

Keywords: lifelogging, pernicious memory, pernicious surveillance, privacy, personal information management system.

Bart van der Sloot

Privacy as a Tactic of Norm Evasion, or Why the Question as to the Value of Privacy is Fruitless

Privacy aims at avoiding norms, whether they be legal, societal, religious or personal. Privacy should not be regarded as a value in itself, but as a tactic of questioning, limiting and curtailing the absoluteness of values and norms. If this concept of privacy is accepted, it becomes clear why the meaning and value of privacy differs from person to person, culture to culture and epoch to epoch. In truth, it is the norms that vary; the desire for privacy is only as wide or small as the values imposed. It can also help to shed light on on-going privacy discussions. The 'nothing to hide' argument may be taken as an example. If you have nothing to hide, so the argument goes, why be afraid of control and surveillance? The reaction has often been to either argue that everyone has something to hide, or to stress why it is important for people to have privacy. For example, it has been pointed out that people need individual privacy in order to flourish, to develop as an autonomous person or to allow for unfettered experimentation. This; however, is, in general, a rather weak argument. How, for example, has the mass surveillance activities by the NSA undermined the personal autonomy of an ordinary American or European citizen? Moreover, many feel that national security and the protection of life and limbs is simply more important than being able to experiment unfettered in private. The rhetorical question "Who needs privacy when you are dead?" is often asked. This essay will argue that there may be a stronger argument to make when the focus is turned around, namely not by looking at privacy as an independent value, which might outweigh or counter other interests, but as a doctrine which essence it is to limit and curtail the reach and weight of other values.

Keywords: privacy, value, intrinsic, norms, NSA.

Sabine Roeser

How Art Can Contribute to Ethical Reflection on Risky Technologies

Current debates about risky technologies such as robotics and biotechnology are usually quite heated and end up in stalemates, due to the scientific and moral complexities of these risks. In this essay Sabine Roeser examines the role that works of art can play in such debates. Recently, artists have become involved with risky technologies; this is what Roeser calls 'techno-art'. Roeser argues that, by prompting emotions, techno-art helps to make abstract problems concrete, explore new scenarios, challenge the imagination, and broaden narrow personal perspectives. She also discusses the possible challenges for techno-art, such as how to preserve the non-instrumental nature of art while playing a role in public debates, and how to do so in a meaningful way.

Keywords: risk, technology, art, emotion, ethics.

Jelte Timmer

Techno-Animism – When Technology Talks Back

In Spike Jonze's science fiction movie *Her*, the protagonist –Theodore– falls in love with his computer's operating system. It may seem a futuristic idea, but it might be closer than we think. Since the introduction of Siri, Apple's digital assistant, it has become increasingly normal to speak to your phone. This means a fundamental change in how we interact with technology. Machines become active participants in conversations. But while our technologies get to know us better and better, they also become more inscrutable and mystical to the average user. This leads to different relations with digital technologies in which a new kind of technological animism could become an important way for users to explain actions of their technological environments.

Keywords: human-technology interaction, interaction design, voice user interface, smart environment, ambient intelligence.

Maarten Verkerk

Design of Wisdom Coaches for End-Of-Life Discussions – Mixed Reality, Complexity, Morality, and Normativity

This essay discusses the idea of wisdom coaches for end-of-life dialogues. It is shown that end-of-life discussions are dominated by the medical-technological imperative that results in a widespread overtreatment of patients. It is argued that end-of-life dialogues have to revolve around the meaning of dying. The question is: how do we facilitate end-of-life dialogues? The idea of a mixed-reality wisdom coach that uses gaming principles is explored. The complexity of the design is understood and supported by the ontology as developed by Dutch philosopher Herman Dooyeweerd.

Keywords: wisdom coach, end-of-life, mixed reality, spirituality, meaning of dying, Herman Dooyeweerd.

EMBODIED EXPERIENCE

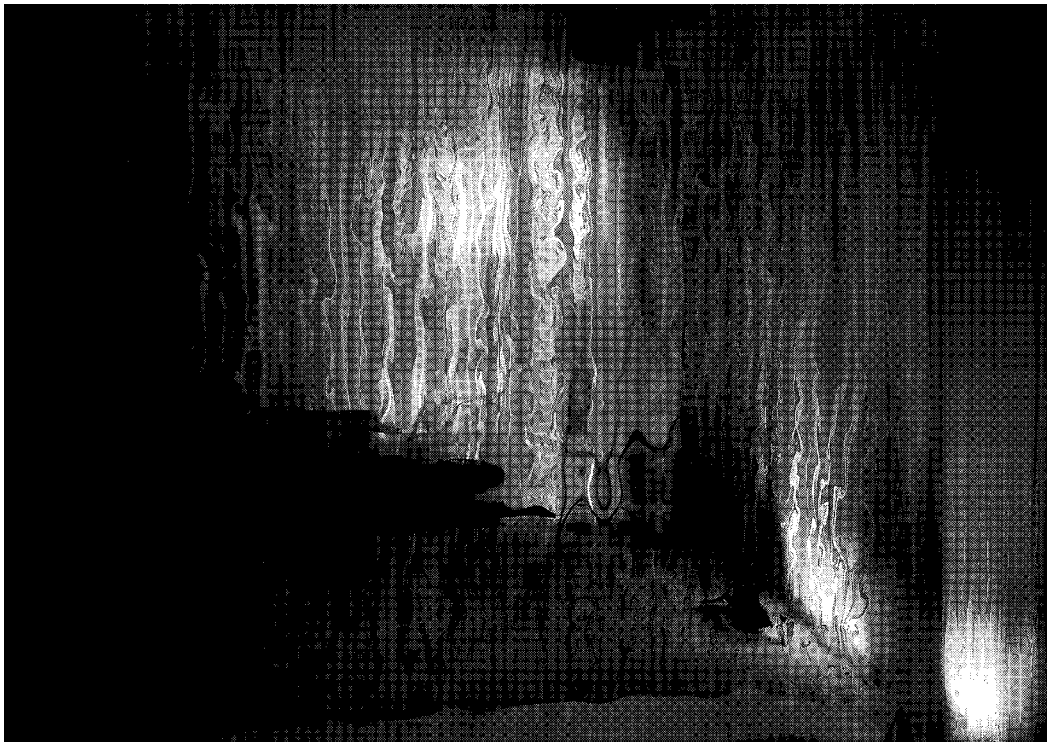
Nicky Assmann

I graduated from the Interfaculty of Royal Conservatory and the Royal Academy of Art in The Hague in 2011 with the title Master of Art Science. Thanks to my Film Science studies at the University of Amsterdam, I have gained a background in film, science, and art. Ever since then I have been working as an artist, and I am part of the 'Macular art collective', which focuses on art, technology, science, and perception.

The immaterial and intangible character of light, colour, and movement form the starting point of my spatial installations, with which I try to heighten the perception. I examine mental and physical perception by using light, mechanics, and abstract geometry to create natural and optical phenomena. My research combines scientific and cinematographic knowledge in experiments with physical processes aimed at sensory experiences. The visual propositions evoked in my installations demand a careful configuration of their constituent parts: space, light, object, materials, kinetic sequence, and viewer experience. Only with the right balance is it possible to achieve an immersive sensory experience. Set against the backdrop of our visual culture, where the perception of reality is increasingly present in the virtual domain, I return to the physical foundations of seeing in which the embodied experience is central, with a sublime and ephemeral character.

Many of my experiments involve the properties, behaviour, and aesthetics of the materials I use, for example, liquid soap, liquid crystals, and metals. This 'phenomenological' approach is expressed using different types of media such as video installations, audio-visual performances,

024 • Solace, 2011.



and kinetic light installations. A central question here is how does the human body, with all its senses, perceive and relate to these organic materials and natural phenomena?

Fluid Solids

When composing with materials and light, I employ physiological phenomena and natural transition processes. This can be seen in light effects (reflection, refraction), it shows how materials change when they are influenced by temperature and moisture (crystallisation) and the oxidation of metals.

Turbulence and iridescence, as seen in oil on water and rainbows, were central to my graduation project, 'Solace', and the following installation 'Solaris'. Both 'Solace' and 'Solaris' explore the mental process and physical activity of seeing, showing the transitions in moving liquid soap film, displaying fascinating abstract images and organic visual patterns. At regular intervals a handcrafted apparatus creates a soap film as a temporary spatial intervention. Precise lighting reveals the inner movement of the soap film and shows a turbulent choreography of iridescent colour and fluid motion. The visitor watches, as gravity teasingly plays with the membrane, until inevitably the fragile film bursts.

Observations of the natural world impact my work and its scale. I look for imagery that recalls the cosmos, e.g. planetary star systems, or the microscopic, like with the video installation 'Liquid Solid' in which we film the freezing process of a soap film.[1] The video shows the colourful soap in the liquid substance slowly sinking down in the film of soap, until a vacuum of a very thin layer of water remains, in which frozen crystals whirl around. Only at a very low temperature an accelerated freezing process occurs, during which ice crystals transform into fractal-like patterns. In contrasting the micro and macro, I see recurring images and patterns, which I use to zoom out and contemplate, and to obtain a sense of reflection and relativity.

Method and Objective

For every new work that I want to create I start by examining an elementary natural phenomenon, such as iridescence, and experimenting with associated materials, such as soap film. In my studio I experiment with liquids, materials, mechanical prototypes, and light set-ups. In recent years, I have focused on interdisciplinary installations incorporating light, mechanics, electronics, and software. Technology has enabled me to create energetic interplays of light and material, and I am also inspired by the long history of kinetic art dating from the 1920s by artists such as László Moholy-Nagy, Alexander Calder, Nicolas Schöffer, and Otto Piene.

The technology that I use is a means to an end, like a paintbrush to a painter. It has a supportive role and should not become the main focus of the work. The same goes for the natural phenomena or scientific research; these are merely sources of inspiration and they are not the objective. Since, I believe that, when a work of art aims to present (new) technology or simply visualises a phenomenon its timeless quality is reduced. I try to transcend both the phenomenon and the technology by creating a composition of multiple elements. Creating a composition of visuals and light, or composing visual music, is the main objective of the work.

When working on a composition, I allow myself to be guided by the material: light effects (such as reflection and light refraction), the way the materials change under the influence of temperature and moisture such as crystallisation, and the oxidation of metals. The material and the influencing factors are engaged in a multi-facetted dialogue, including movement, form, and the arrangement of space. I wish to create new imagery and unexpected moments by interrupting the natural dialogue of all these elements through various means of intervention.

My work refers to cinematography, and more specifically the concept of expanded cinema, which means to experiment with different elements of the cinematic apparatus: image, sound, space, and the embodied experience. My preference to visualise a natural phenomenon by using 'solid' materials is closely linked to my wish to incorporate the physical element and the presence of the physical body and its senses. Although the visual prevails, all senses are required to experience the work in its entirety: the embodied experience.

1 In collaboration with artist Joris Strijbos and filmed in the arctic region of Finland.

In ‘Solace’ I try to stimulate as many senses as possible: the subtle sound of bursting soap film, the scent of soap, and the skin’s tactility, they play important roles in how the work is perceived.

The skin, whether visible or not, is a frequently recurring metaphor in my work, and this concept is extended into the space; coloured shadow play and reflections projected in the space shroud the visitor in multiple moving colours. The use of the fragile surfaces and thin membranes with mirroring qualities echo a distorted reality, as with the soap membrane of ‘Solace’, the transparent plates in the kinetic light installation ‘Radiant’, and the copper sheets in ‘Aurora’.

026 • Aurora, 2015. 072

Patterns and Materiality

The analogue images I create often have a digital reference, such as with ‘Solace’, in which the monumental transparent screen is raised as an interruption of the space. It creates a temporary layer that can be seen as a visualised metaphorical reflection on augmented reality.

In recent work[2] I made use of rasterised lines in combination with moving light, this combination creates a moiré effect, which is strongly reminiscent of digitally created effects in computer graphics. In the kinetic light installation ‘Radiant’ undulating lines and dynamic coloured transparent acrylic plates generate the moiré patterns.

Materials and phenomena that also have qualities that refer to digital visual culture, such as digitally created effects in computer graphics, fascinate me. However, I have a need for a physical manifestation, for a certain ‘materiality’. To me, materiality means the properties of materials, such as texture and tactility, which appeal to multiple senses and convey sensory messages. It creates, for me, a form of synaesthesia; the visitor can see what the material feels like. The material’s texture emerges from the image without needing to touch it; it is merely a small tactile reference.

By letting go of the immaterial, or by re-materialising a digital image, I try to create a physical experience by building a bridge between digital imagery and a tactile interface. This provides an interesting combination and contrast of materiality and immateriality, and analogue and digital media.

2 The kinetic light machines ‘Moiré Studies’, in collaboration with artist Joris Strijbos.

027 • Moiré Studies, 2013-2016, The moiré effect, which is strongly reminiscent of digitally created effects in computer graphics.

027

027 • Liquid Solid, 2015, Nicky Assman and Joris Strijbos, macro-level crystals.