HUMAN-TECHNOLOGY RELATIONS

11 – 13 JULY 2018

NWO 4TU. DESIGN LAB UNIVERSITY OF TWENTE.

Human-Technology Relations:
Postphenomenology and Philosophy of Technology

11-13 July 2018

DesignLab
University of Twente, The Netherlands

DEAR PARTICIPANTS,

Welcome to the Philosophy of Human-Technology Relations conference 2018! We are very happy to have such a great group of people presenting papers, showing work in art, design and engineering, and discussing each other's work.

The number of people sending in abstracts and registering to participate is much larger than we had dared to expect, which made it a true pleasure to organize the conference. While focusing on the philosophy of human-technology relations, the conference reaches out to art, design, engineering, and Science and Technology Studies. We have paper presentations, demonstrations, hands-on workshops, book panels, and a book exhibit. Participants come from all over the world, so we hope the conference will bring about many new connections.

Our home base will be the DesignLab of the University of Twente, which brings technology together with the social sciences and humanities, focusing on responsible design. For the conference dinner, on Thursday evening, we will move to the city of Enschede, where we will have dinner in The Museum Factory: and old textile factory (Twente used to be the main Dutch textile industry region) which was turned into a museum after the Enschede Fireworks disaster in 2000, and which currently has an exposition on Frankenstein and Human-Technology Relations.

If there are any questions, please don't hesitate to contact the organization: there will always be people in the PhilosophyLab, students in the organization can be recognized by their t-shirt, and the members of the organizing committee will be around during the entire conference. Drinks and lunch are included in the conference fee.

We hope you will all have a great time, and get as much inspiration as you will give to the others!

Peter-Paul Verbeek,
Conference chair

INDEX

THE ORGANISING COMMITTEE

Prof.dr.ir. Peter-Paul Verbeek (Chair)
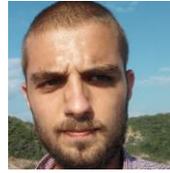
Bas de Boer, MSc

Roos de Jong, MSc (Assistant Chair)

Margoth González Woge, MSc

Jonne Hoek, MA

Nicola Liberati, PhD
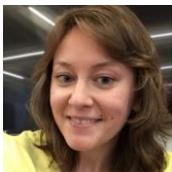
Olya Kudina, MA

Jan Peter Bergen, PhD

We are very grateful to the students from the PSTS master programme:

Selen Eren, Alessio Gerola, Jonathan de Haan, Mees Hellinga, Ammu Joshy, Simon Kroes, Joonas Lindeman, and Samantha Valenzuela Hernández, who will be helping us out by setting up your presentations, answering your questions, et cetera.

PRACTICALITIES

Registration
Wednesday: 8.00 - 11.00 (Lounge)
Wednesday: 11.00 - 17.00 (Exhibit)
If you have any questions or if you want to register on Thursday or Friday, you can visit the information desk at the Philosophy Lab (open from 8.30 - 17.00)

Internet Access
Free internet access is assured on campus, and in all rooms of the DesignLab. Select the WLAN network "Enschede Stad van nu" and open your browser. First you will see a page on which you will be requested to accept the conditions for the use of wireless internet. (Small button at the bottom of the page!)

You can also make use of the eduroam connection using the login codes provided by your home organization.

AV-Equipment
Each session room is equipped with an projector, laptop, and connecting cables. It is recommended that all PowerPoint presentations be run from the same computer to ensure smooth transitions – please arrive early, with your file on a USB-stick. If you would like to show video clips please download and embed them in a slide show, or bring the files on a USB-stick.

BMSlab tracking IP Addresses
The DesignLab is fitted with Wifi-tracking sensors capable of tracking device locations across the building. When in use, the encrypted and anonymized tracking data that is gathered by the sensors is not saved or backed up.

No ongoing research projects are making use of the sensors. As such, they are currently switched off.

Join the discussion!
Twitter: Use the hashtag #phtr2018 when tweeting from the meeting. We will be monitoring the feed and retweeting.

AREA GUIDE
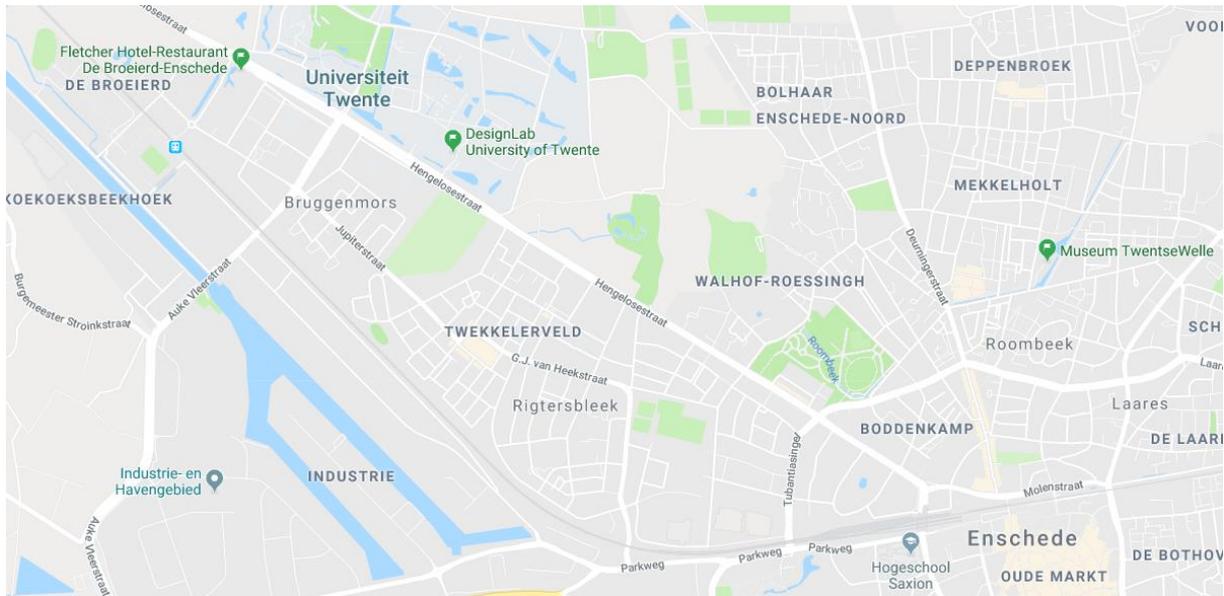
Restaurants located in the city centre
(listed, roughly, from budget to mid-price to up-market)
- Happy Italy (Willem Wilminkplein 31)
- Nyonya Meneer Indonesisch Eethuis (Walstraat 9)
- Big Belly's (Van Lochemstraat 230)
- Eet- en Bierencafé De Beiaard (Oude Markt 24)
- Mazza Libanees Restaurant (Walstraat 1)
- SamSam (Oude Markt 15):
- Novi (Oude Markt 2)
- Fellini (Bolwerkstraat 2)
- ONS eten en drinken (Walstraat 41)
- Los Ponchos (Korte Haaksbergerstraat 2)
- El Gaucho (Zuiderhagen 16)
- Poco Mucho (Korte Haaksbergerstraat 9)
- Restaurant TAO (Deurningerstraat 17)
- Restaurant Verso (Deurningerstraat 11)

Best ice cream: IJssalon Van der Poel (Willem Wilminkplein 21)
Best pub: Het Bolwerk (Stadsgravenstraat 21)

Public transport
From Enschede railway station:
line number 1 in the direction of 'Universiteit Twente'
line number 8 in the direction of Hengelo-Noord
line number 9 in the direction of Hengelo

From Enschede Kennispark railway station:
line number 1 in the direction of 'Universiteit Twente'

From Hengelo railway station:
line number 9 in the direction of Enschede
line number 15 in the direction of 'Universiteit Twente'
line number 16 in the direction of 'Universiteit Twente'

For more information, please visit https: //9292.nl/en

PLENARY KEYNOTE SESSIONS

Wednesday at 9.15

`LECTURE` **Humanizing Machines: AI and the Mediation of Human Self-Cultivation**
Shannon Vallor is the William J. Rewak, S.J. Professor in the Department of Philosophy at Santa Clara University in Silicon Valley, and a member of the executive leadership team of the Foundation for Responsible Robotics. Her research explores the philosophy and ethics of emerging science and technologies.

Wednesday at 16.45

`LECTURE` **Think Tank: The honorable members**
Yvonne Dröge Wendel is a Dutch visual artist and head of the department of Fine Arts at the Gerrit Rietveld Academie. She currently works on a PhD artistic research project at the University of Twente in which she examines the relational and performative abilities of things, a theme that touches on present-day questions about our relationship to the (technological) world around us.
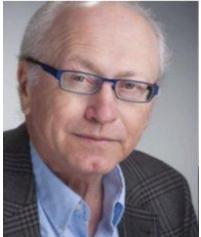
Thursday at 9.15

`LECTURE` **The Intersection of Causality and Meaning**
Andrew Feenberg is Canada Research Chair in Philosophy of Technology in the School of Communication, Simon Fraser University, where he directs the Applied Communication and Technology Lab. His work focuses on Critical theory and philosophy of technology.

Thursday at 16.45

`LECTURE` **The Posthuman and the Critical Posthumanities**
Rosi Braidotti is distinguished university professor and founding director of the Centre for the Humanities at Utrecht University. Her publications are at the intersection of philosophy, social and political theory, cultural politics, gender, feminist theory, and ethnicity studies.

Friday at 9.15

`LECTURE` **Socially Intelligent Robotics for Human-Robot Co-Work**
Vanessa Evers is a full professor of social robotics at the University of Twente. Her research focuses on human interaction with autonomous agents such as robots or machine learning systems and cultural aspects of human computer interaction.

Friday at 16.45

`LECTURE` **and closing session**
Don Ihde is a philosopher of science and technology, and a post-phenomenologist. In 1979 he wrote what is often identified as the first North American work on philosophy of technology, Technics and Praxis. Ihde is Distinguished Professor of Philosophy at the State University of New York at Stony Brook.

PROGRAMME AT A GLANCE

Registration & Coffee
8.00 to 9.00

Opening
9.00 to 9.15

Plenary session: keynote lecture by Shannon Vallor
9.15 to 10.15

Coffee break
10.15 to 10.45

Parallel sessions
10.45 to 12.15

1   Postphenomenology & Ontology [Chair: Jonne Hoek]
        Kirk Besmer; Mariska Bosschaert; Paolo Casani; Hub Zwart
        ROOM: IDEATE

2   **Workshop**: Human-Media Interaction/Intimate Technologies I (organiser**:** Nicola Liberati)
        Galit Wellner, Danielle Roberts, Kristin Neidlinger, Marije Baalman, Sima Ipakchian Askari, Karen Lance, Hermenl Maat
        ROOM: CLASSROOM OF THE FUTURE

3   Healthcare & Intimate Technologies [Chair: Trijsje Franssen]
        Mathilde Lancelot; Lantz Fleming Miller; Marilena Pateraki; Tiia Sudenkaarne & Salla Sariola
        ROOM: INFORM

4   Data [Chair: Bas de Boer]
        Robert Crease; Esther Keymolen; Dario Rodigheiro, & Alberto Romele; Gerwin van Schie
        ROOM: CONNECT

5   Online Mediations [Chair: Anna Melnyk]
        Jesper Aagaard; Tim Brouwer; Xu Jiang
        ROOM: INVITE

6   Technological Systems [Chair: Pieter Lemmens]
        Brandt Dainow; Eric Kerr, & Vivek Kant; Michiel Korthals; Marc Boumeester
        ROOM: ERLENMEYER

Lunch break
12.15 to 13.15

Parallel sessions
13.15 to 14.45

7   Theoretical Contributions to Postphenomenology [Chair: Robert Rosenberger]
        Manjari Chakrabarty; Stanley Kranc; Dmytro Mykhailov; Samuel Douglas Pedziwiatr
        ROOM: IDEATE

8   **Workshop**: Human-Media Interaction/Intimate Technologies II (organiser: Nicola Liberati)
       Edwin Dertien, Jamy Li, Hidekazu Kanemitsu
       ROOM: CLASSROOM OF THE FUTURE

9   Healthcare & The Patient [Chair: Peter-Paul Verbeek]
       Berend Alberts-de Gier; Alexander Castleton; Asle H.Kiran; Tania Moerenhout
       ROOM: INFORM

10   Artificial Intelligence [Chair: Esther Keymolen]
       Balázs Horváth; Amirouche Moktefi & Tarmo Kalvet; Frédéric Gilbert
       ROOM: CONNECT

11   Memory and Remembrance [Chair: Patricia Reyes Benavides]
       Ronald Durán Allimant; Christian Kroos; Stefania Matei; Qingfeng Yang
       ROOM: INVITE

12   Technology & Self [Chair: Kirk Besmer]
       Ciano Aydin; Oshri Bar-Gil; Lars Botin; Alberto Romele
       ROOM: ERLENMEYER

Coffee break
14.45 to 15.00

Parallel sessions
15.00 to 16.30

13   **Book Panel** Andrew Feenberg
       Don Ihde; Peter-Paul Verbeek; Darryl Cressman; Bas de Boer
       ROOM: IDEATE

14   Ecologizing Technology (Panel organisers: Jochem Zwier, Vincent Blok, Pieter Lemmens)
       Jochem Zwier; Vincent Blok; Pieter Lemmens; Helena de Preester; Magdalena Holy-Luczaj
       ROOM: CLASSROOM OF THE FUTURE

15   Technology and Religion [Chair: Ciano Aydin]
       Levi Checketts; Andreas Melson Gregersen; Jonne Hoek
       ROOM: INFORM

16   Disability Studies [Chair: Jan Bergen]
       Evert van Beek; Richard Gibson; Vendela Grundell; Alexandra Kapeller
       ROOM: CONNECT

17   Technology through History [Chair: Stacey Irwin]
       Maurits Ertsen; Natalia Nikiforova; Matthew Wraith
       ROOM: INVITE

18   Lost in Space: An Ethological Approach to the Digital Age (Panel organiser: Nicola Russo)
       Lorenzo De Stefano; Nicola Russo; Luigi Laino; Alessandro De Cesaris
       ROOM: ERLENMEYER

Coffee break
16.30 to 16.45

Plenary session: keynote lecture by Yvonne Dröge Wendel
16.45 to 17.45

Reception
17.45 to 19.15

PROGRAMME AT A GLANCE
THURSDAY, JULY 12

Welcome & Coffee
9.00 to 9.15

Plenary session: keynote lecture by Andrew Feenberg
9.15 to 10.15

Coffee break
10.15 to 10.45

Parallel sessions
10.45 to 12.15

19   Emotional Algorithms (Panel organisers: Nicola Liberati & Galit Wellner)
Stacey O. Irwin; Olya Kudina; Nicola Liberati; Galit Wellner
ROOM: IDEATE

20   Postphenomenology & Interactions [Chair: Yoni van den Eede]
Natalia Juchniewicz; Søren Riis; Hongxiu Yan
ROOM: CLASSROOM OF THE FUTURE

21   Philosophy & Design: Methodological Interactions I [Chair: Jan Bergen]
Jelle van Dijk; Sam Edens; Sabrina Hauser; Lenneke Kuijer
ROOM: INFORM

22   Digital Life I [Chair: Julia Grillmayr]
Yanping Gao; Lev Lafayette; Lavinia Marin; Elizabeth Nelson
ROOM: INVITE

23   **Book Panel** Dominic Smith
Ciano Aydin; Jonne Hoek; Bob Scharff
ROOM: INVITE

24   Anthropocene [Chair: Jochem Zwier]
Alessio Gerola; Aldo de Moor; Korsten & de Jong
ROOM: ERLENMEYER

Lunch break
12.15 to 13.15

Parallel sessions
13.15 to 14.45

25   Posthuman(ism) I [Chair: Nicola Liberati]
Trijsje Franssen; Kojiro Honda; Richard Lewis; Alex Smit
ROOM: IDEATE

26   Postphenomenology & Politics [Chair: Bas de Boer]
Yoni van den Eede; Esther Keymolen; Robert Rosenberger; Bob Scharff
ROOM: CLASSROOM OF THE FUTURE

27   Philosophy & Design: Methodological Interactions II [Chair: Jelle van Dijk]
          Jonne van Belle; Gijs de Boer; Wouter Eggink; Holly Robbins
          ROOM: INFORM

28   Urban Environments [Chair: Michael Nagenborg]
          Robert Alexander Gorny; Sanna Lehtinen; Taylor Stone
          ROOM: CONNECT

29   **Book Panel** Rosi Braidotti [Chair: Jonne Hoek]
          Rosi Braidotti; Stavros Kousoulas; Andrej Radman
          ROOM: INVITE

30   The Critical (un)Making of Smart Cities I
          Frank Kresin; Marc Boumeester; Lucas Evers; Anja Groten; Dani Ploeger; Agnieszka Anna
          Wołodźko
          ROOM: ERLENMEYER

Coffee break
14.45 to 15.00

Parallel sessions
15.00 to 16.30

31   Posthuman(ism) II [Chair: Richard Lewis]
          Jonathan de Haan; Gijs van Maanen; Teresa Swist
          ROOM: IDEATE

32   Technologies & Science [Chair: Jonne Hoek]
          Bas de Boer; Aud Sissel Hoel; Hans Radder; Massimiliano Simons
          ROOM: CLASSROOM OF THE FUTURE

33   Human-Technology Relations & Ethics I [Chair: Jan Bergen]
          Jan Bats; Alexis Elder; Sergio Genovesi; Rayco Herrera
          ROOM: INFORM

34   Human – Machine Interactions: Different Forms of Cognition Between Human Beings and
          Algorithms (Panel organiser: Manja Unger-Büttner)
          Manja Unger-Büttner; Gerd Grübler; Federica Buongiorno
          ROOM: CONNECT

35   **Book Panel** Nolen Gertz
          Rosi Braidotti; Shannon Vallor; Peter-Paul Verbeek
          ROOM: INVITE

36   The Critical (un)Making of Smart Cities II
          Frank Kresin; Marc Boumeester; Lucas Evers; Anja Groten; Dani Ploeger; Agnieszka Anna
          Wołodźko
          ROOM: ERLENMEYER

Coffee break
16.30 to 16.45

Plenary session: keynote lecture by Rosi Braidotti
16.45 to 17.45

Conference Dinner
19.00 to 22.00

PROGRAMME AT A GLANCE
FRIDAY, JULY 13

Welcome & Coffee
9.00 to 9.15

Plenary session: keynote lecture by Vanessa Evers
9.15 -10.15

Coffee break
10.15 to 10.45

Parallel sessions
10.45 to 12.15

37   Politics & Critical Theory [Chair: Nolen Gertz]
       Darryl Cressman; David Schafer; Roos de Jong
       ROOM: IDEATE

38   Bioethics & Technology I (Panel organiser: Olya Kudina)
       Maurizio Balistreri; Olya Kudina; Sarah Weingartz; Saskia K. Nagel
       ROOM: CLASSROOM OF THE FUTURE

39   Robotics [Chair: Nicola Liberati]
       Tamalone van den Eijnden; Jędrzej Maliński; Frank Kresin; Tijs Vandemeulebroucke
       ROOM: INFORM

40   Philosophy of Mind [Chair: Margoth González Woge]
       Richard Heersmink; Finn Olesen; Anco Peeters
       ROOM: CONNECT

41   Human-Technology Relations & Ethics II [Chair: Galit Wellner]
       Bas de Boer; Anna Melnyk; Hanna Wüller & Anne Koppenburger
       ROOM: INVITE

42   Philosophical Anthropology [Chair: Alessio Gerola]
       Agostino Cera; Mitsuhiro Hayashi; Georgios Karakasis; Marcel Müller
       ROOM: ERLENMEYER

Lunch break
12.15 to 13.15

Parallel sessions
13.15 to 14.45

43   Law & Politics [Chair: Roos de Jong]
       Michiel Heldeweg; Ekaterina Mulder; Joel Patomäki; Martijntje Smits
       ROOM: IDEATE

44   Bioethics & Technology II (Panel organiser: Olya Kudina)
       Olya Kudina; Marianne Boenink; Marthe Smedinga; Mayli Mertens; Tania Moerenhout
       ROOM: CLASSROOM OF THE FUTURE

45   **Workshop:** What Internet of Things Do - Implications of a 'Do It Yourself' Programmable World (Organisers: Michael Nagenborg & Margoth González Woge)
Nirvana Meratnia; Dirk Wanders; Michael Nagenborg; Margoth González Woge; Frank Kresin
ROOM: INFORM

46   Mediated Imaginations I (Panel organisers: Bas de Boer, & Sam Edens, & Jonne Hoek)
Bas de Boer; Sam Edens; Jonne Hoek; Inger Louise Berling Hyams; Richard S Lewis
ROOM: CONNECT

47   Art & Aesthetics [Chair: Nicola Liberati]
Rebecca Louise Breuer; Alexandra Karakas; Bart Moens; Shlomo Oz Uziel
ROOM: INVITE

48   Designing Our Selves [Chair: Jan Bergen]
Jan Bergen; James Dyer; Christl de Kloe; Shigeru Wesugi
ROOM: ERLENMEYER

Coffee break
14.45 to 15.00

Parallel sessions
15.00 to 16.30

49   Politics & Philosophy of Technology [Chair: Roos de Jong]
Theo Stone; Hugo Verhelst; Daniela Voß; Ilios Willemars
ROOM: IDEATE

50   **Workshop**: What does Postphenomenology mean for the role of the bioethicist
Annelien Bredenoord; Emy Kool; Karin Jongsma; Mike Lensink
ROOM: CLASSROOM OF THE FUTURE

51   The Internet of Things & Smart Environments (Panel organisers: Margoth González Woge & Michael Nagenborg)
Margoth González Woge; Julia Grillmayr; Louise Horvath; Tanja Traxler
ROOM: INFORM

52   Mediated Imaginations II (Panel organisers: Bas de Boer, & Sam Edens, & Jonne Hoek)
Rebecca Louise Breuer; Stanley Kranc; Katja Kwastek; Gabriel Paiuk
ROOM: CONNECT

53   Digital Life II [Chair: Bas de Boer]
Morten Birk Hansen; Jaanika Puusalu; Peter Rantaša; Michał Wieczorek
ROOM: INVITE

54   Postphenomenological Design Investigations (Panel organisers: Sabrina Hauser & Ron Wakkary)
Holly Robbins; Heather Wiltse; Lianne Toussaint & Pauline van Dongen
ROOM: ERLENMEYER

Coffee break
16.30 to 16.45

Plenary session: keynote lecture by Don Ihde
16.45 to 17.15

Closing session
17.15 -18.00

ABSTRACTS OF PANEL SESSIONS

Panel 1 - Postphenomenology & Ontology
Wednesday, July 11, 10:45-12:15 (Room Ideate)

[Chair: Jonne Hoek]
Participants: Kirk Besmer; Mariska Bosschaert; Paolo Casani; Hub Zwart

Kirk Besmer
Associate Professor, Philosophy, Gonzaga University, USA

Abstract: Does the 'Gestalt' Have a Place in Postphenomenology?
Results of Gestalt Psychologists were crucial to early phenomenologists, like Merleau-Ponty and Gurwitsch, who largely accepted Husserl's notion of intentionality but rejected the transcendental ego and the intuition of essences as Husserl conceived them. Results of the Gestaltists were also precursors to the concept of of 'affordances,' which is central to STS accounts human-technology relations. Give these affinities, one might expect a more explicit treatment of the notion of the gestalt in postphenomenological analyses. Without a doubt, a notion of the gestalt is implicit in many postphenomenological concepts – such as embodied and hermeneutic relations, technological intentionality, multistability, the co-constitution of subject and object in technological mediation, the agency of materiality, among others. Yet a clear notion of the gestalt remains in the background of postphenomenological analyses. In this paper, I will explore the notion of the gestalt in order to bring it to the foreground as a way to extend and amplify postphenomenological analyses. I will conclude with a description of a 'technological gestalt.'

Mariska Thalitha Bosschaert
PhD Candidate, 4TU, NL

Abstract: 'Towards a metaphysics of postphenomenology'
Philosophers of the postphenomenological approach are willing to let technologies challenge their existing perspectives. That is an important position, but also a risky one. Many scientists expect that emerging technologies will profoundly change society later during this century. When this happens, philosophers will need to adapt their theories and concepts, which will take a lot of time. In fact, this will take more time than many successful technologies will need to change society. As a consequence, philosophers will often only join discussions about new technologies when these technologies are already part of people's lives. However, philosophers of the postphenomenological approach do aspire to become serious interlocutors in discussions about new technologies and then they need to be involved at an earlier stage of their developments and implementation. That raises the question of how they can join such discussions at an earlier stage and still be open to let technologies challenge their existing frameworks. In order to achieve this aim, the presuppositions of postphenomenology need to be formulated clearly. For, in that case, if a certain technology is expected to change society profoundly, philosophers can first try to understand how this technology challenges their presuppositions and because of that already have some input for discussions about this technology at an early stage. These presuppositions can be formulated by writing a metaphysics and epistemology of postphenomenology. This paper will further develop the metaphysics of postphenomenology, an endeavour that has already been started by, among others, Don Ihde, Peter-Paul Verbeek and Lenore Langsdorf.

Paolo Casani
PhD Candidate, Centre for Digital Humanities, University College London, UK

Abstract: Untangling the Subjective Experience of Digital Materiality
It has been theorized that cyberspace has 'everted', turned inside out, and colonized the physical space. It follows

that it is now everywhere around us. In parallel there is a growing overlap of the digital with the everyday in the fabric of our experience. The Digital Humanities (DH) as an interdiscipline engages from different angles with technological artefacts primarily to gauge how they impact the practices of the humanities and cultural heritage. But the object of its multifaceted enquiry can also extend to digital technology itself and how it affects us. My research within the DH engages directly with testimonies about digital communication technologies, and extends its reach to look at the expression, that is the personal textual traces that are left on the medium over social media platform. It uncovers how such technologies touch upon the more intimate parts of our nature, the sense of self and expression of identities. Given the persuasiveness and intimacy of digital communication technologies that no longer only mediate but increasingly forge the experience that we have of the world, it is important to analyze and interpret at a conceptual level the relationship that we have with the digital in its materiality. One of the problems that the DH faces is to make sense of a reality that is co-constituted. This paper aims to explore a postphenomenological approach to digital materiality that can be instrumental for the DH to elucidate and untangle the manifestations of the subjective sphere of experience.

Hub Zwart
Full Professor of Philosophy, Faculty of Science, Radboud University Nijmegen

Abstract: Reconciliation or assault on nature: the synthetic cell as a thing which calls for a Thing
Synthetic biology is an emerging (converging) research field guided by a particular vision of nature (a tacit metaphysics even), namely: nature as an immense outdoors laboratory, where myriads of experiments are conducted, and whose technologies can be mimicked and upgraded by humans. Thus, biotechnology becomes biomimicry (rather than Faustian and disruptive), so that nature and technology become reconciled again. On the one hand, this vision inspires efforts to develop more nature-friendly and biocompatible technologies, allowing us to interact with nature in a more sustainable (post-Faustian) manner, even on the molecular level. At the same time, from the point of view of philosophical suspicion, while these sophisticated synbio technologies may perhaps be regarded as more natural, they are also decidedly unnatural, bent on manipulating and optimizing nature more effectively than ever before. How can synthetic biology and biomimicry be perceived as nature-friendly and at the same time as an assault on nature? Building on decades of biomolecular research, synbio's goal of reconciling nature and technology can only be achieve if it is not pursued as a purely technological or biophysical endeavor, but as a metaphysical and societal endeavor as well. These claims will be elucidated with the help of a case studies: the BaSyC project, launched in 2017 and aimed at producing a synthetic cell. The synthetic cell will be presented as a thing which calls for a Thing (Heidegger, Latour), i.e. a podium for engaging deliberation and reflection.

Panel 2 & 8 - **Workshop**: Human-Media Interaction/Intimate Technologies I
Wednesday, July 11, 10:45-12:15 & 13:15 - 14:45 (Room Classroom of the Future)

[Organisers: Nicola Liberati, Birna van Riemsdijk, Gijs Huisman, Merijn Bruijnes, and Dirk Heylen]
Participants: Nicola Liberati; Hidekazu Kanemitsu; Marije Baalman; Sima Ipakchian Askari; Lancel Maat; Kristin Neidlinger; Galit Wellner; Danielle Roberts

Main theme: Intimate technologies
Personal and intimate technologies such as quantified self, mobile location sharing technology, social media, high-tech fashion, telepresence & mediated social touch technology, and virtual and robotic coaches in some sense "come close" to us in our daily lives. These digital technologies have many (potential) benefits, e.g., regarding health, efficiency, safety, and human connection. Yet they raise concerns about how they may affect us as human beings, in particular combined with the power of Artificial Intelligence and Data Science. The intimate nature of these technologies gives rise to new kinds of vulnerabilities and risks, affecting physical, personal and social aspects of our identity. At the same time our openness and willingness to engage with the world is the birthplace of meaningful human experiences of love, belonging, joy, courage, empathy, and creativity.
In this workshop, we bring together researchers and practitioners from a range of areas including philosophy, art, and computer science to discuss and exchange ideas on how to shape intimate technologies that can contribute to human flourishing. Specifically, the workshop will focus on the effects on our vulnerability through the use of digital technologies following three main relations between users and technologies.

Following a phenomenological analysis, we distinguish three ways of being in intimate relations with technologies that will be discussed during the workshop:
- Intimacy with yourself through technology
- Intimacy through technologies
- Intimacy towards technologies

Intro by Nicola Liberati: 10:45-11:00

Part 1 Chair: Birna van Riemsdijk

11:00 - 11:15 Talks: Intimacy with self through technology

Wellner, Roberts, Neidlinger

11:15 - 11:35 Discussion

Part 2 Chair: Gijs Huisman

11:40 - 11:55 Talks: Intimacy through technologies

Baalman, Ipakchian Askari,Lancel/Maat

11:55 - 12:15 Discussion

Part 3 Chair: Merijn Bruijnes

13:15 - 13:30 Intimacy towards technologies

Dertien, Li, Kanemitsu

13:30 - 13:50 Discussion

Part 4 Chair: Nicola Liberati

13:55 - 14:35 Overall Discussion with all Speakers

14:35 - 14:45 Recap

Panel 3 - Healthcare & Intimate Technologies
Wednesday, July 11, 10:45-12:15 (Room Inform)

[Chair: Trijsje Franssen]
Participants: Mathilde Lancelot; Lantz Fleming Miller; Marilena Pateraki; Tiia Sudenkaarne & Salla Sariola

Mathilde Lancelot
PhD candidate, philosophy of medicine, Paris Diderot University

Abstract: "Deep brain stimulation (DBS) for Parkinson's disease: a technological care for human-technology relation"
Deep brain stimulation (DBS) for Parkinson's disease is an invasive neurosurgical treatment procedure, consisting of stimulating a brain area, in order to compensate the effects of dopaminergic loss and improve motor symptoms.

We intend to highlight the issues associated to the human-technology relationship, in the context of DBS treatment. According to us, these issues are embedded in the history of medicine and of medical practices. However, they also have their own specificities. On one side, DBS help patients to cope with their incurable disease.

On the other side, DBS generates an experience of visible and invisible symptoms patients must deal with in their social life. Grounding ourselves on a one year fieldwork focusing on patients' discourses, we argue that DBS care mediate (P.P Verbeek) the disease experience. We will examine this kind of mediation induced by DBS through the notion of "negotiation", revealed by our fieldwork.

Turning to the point of view expressed by medical and healthcare professionals, we will examine another kind of "negotiation" induced by this technological care: Professionals mention the long-term impact of DBS treatment as increasing survival expectancy and creating new forms of pathology and symptoms. Therefore, DBS treatment may create a real conundrum for patients trying to understand and manage their symptoms, and actually be a complex problem for the physicians caring for them.

As a result, a final question may be raised: how to decently accompany ageing population, cared by technological treatment, such as DBS, with better individual and technological supports and adapted structures?

Lantz Fleming Miller
Assistant professor of philosophy at the University of Twente

Abstract: Let's See if Instrumentalism and Mediation Can Be Friends
Philosophers of technology, dating at least to Heidegger, have contended there is a danger in considering technologies as mere tools. The targeted outlook ascribes a purpose to a technology, often one purpose per item, allowing that some items may have been birthed via multiple purposes. Thus, a pencil is considered to write, a car to transport people but also to obsolesce the horse. This outlook is considered neutral, seeming to suggest that technologies exist autonomously, somehow as if somehow, once born via their supposed purpose acting as midwife, is separated from its parent much as humans themselves in this individualistic culture are presumed autonomous. The danger may be as light as resulting in us humans, via this outlook, not coming to understand ourselves; or more drastically, as in Heidegger, by overlooking how technologies so enframe human life, they may thereby ultimately destroy everything worthwhile in being a human. Postphenomonologists also see instrumentalism as missing what is central to humans, and that is that humans and technologies have meaning only via the relations between humans, technologies, and the world. Some machine M out there is merely some lifeless thing until it enters into a relation with a human, and these two relate somehow with the world. Thus, a road bump is simply a rise in the pavement, but it becomes an item that slows traffic as soon as a car comes along and must slow or else destroy the car.

I suggest that this distinction between instrumentalism and mediation is hasty, perhaps misleading, if not unfruitful. I believe that much about any mediation can be better understood if we also take into account the bona fide purpose that helped power the item's creation. A thermonuclear weapon can thus be safely said to have been created to explode and kill humans—although, , like the car, exhibiting at least duo purposes, it is also created to help deter an enemy from doing the same thing. If a stone ax is, prehistorically, created to cut and chop; this fact can only help illuminate the sort of mediation that prehistoric peoples experienced with this technology. My presentation aims, then, to expand on how instrumentalism can be not just a friend of mediation, but perhaps an illuminating and helpful one.

Marilena Pateraki
PhD candidate in the Department of Philosophy and History of Science, University of Athens

Abstract: Experiencing Deep Brain Stimulation in Greece: Cyborg Intentionality and the variety of body-technology relations
On the basis of a qualitative study that led me to observe and interview persons with Parkinson's disease (PD), caregivers, and medical professionals, I have developed an empirical and philosophical investigation of the variation of body-technology relations surrounding the implementation of deep brain stimulation (DBS) in Greece. Postphenomenology, and more specifically, *cyborg intentionality,* as developed by Peter-Paul Verbeek seems to offer an appropriate way to interpret this variation. In Greece, DBS is mostly used as a hopeful relief from PD symptoms. Patients look at it as means to gain back their functionality. But, the intertwinement of DBS and the patient's body into a single being raises issues that reach beyond functionality. Since DBS is a battery-powered device, its operation depends on the lifespan of the battery. In many cases, however, batteries are not replaced properly, due to bureaucratic and financial hurdles in the Greek healthcare system, leaving the device inoperable

inside the body for long periods of time, and creating new experiences for DBS users, which I will explore. In the presentation proposed, I will also go over, examine how DBS's reactivity to electromagnetic fields and the infections caused by the body-technology fusion, create new cyborg relations, unprecedented sensory experiences and vulnerabilities; in effect, new forms of being-in-the-world.

Tiia Sudenkaarne & Salla Sariola
PhD student, Practical Philosophy, University of Turku

Abstract: From Valley of the Dolls to Uncanny Valley? Ethics of Womb-Related Reproductive Technologies and Ectogenesis
In the 21st century, reproduction has become increasingly technologically mediated for those who have the resources to access such services. I interrogate the ethics of womb-related reproductive technologies (WRRTs) and utopias/dystopias of ectogenesis. Both can be critically perceived as aspirations to procreate without the reproductive work formerly essentially performed by the human female and her womb. Surrogacy can be understood as human-mediated reproductive technology. Some countries, however, favor medical interventions such as womb-transplants over surrogacy arrangements. The fascination over extrauterine fetal incubation and ectogenesis stands in stark contrast to surrogates fighting for a right to get paid for their reproductive work.

I discuss WRRTs as gendered reproductive technologies in the context of feminist bioethics and feminist science and technology studies. I will also introduce queer bioethical approaches to them. Bioethics is a field of philosophy combining ethical inquiry with social sciences and bio-sciences. One of its key areas of interest is the entanglement of technologies with human embodiment and bio-endeavor through which I suggest we can also discuss humanity per se. Feminist bioethics has a substantial tradition of interrogating the link between gender, sexuality and technology, its expertise sometimes marginalized by the so-called mainstream philosophy.

What moral pros and cons do gendered reproductive technologies entail? How do WRRTs alter the operational logics and metaphysical conditions of gender, sexuality and reproduction?

Panel 4 - Data
Wednesday, July 11, 10:45-12:15 (Room Connect)

[Chair: Bas de Boer]
Participants: Robert Crease; Esther Keymolen; Dario Rodigheiro, & Alberto Romele; Gerwin van Schie

Robert P. Crease
Chair of the Department of Philosophy, Stony Brook University

Abstract: Database Thinking and Deep Description:Designing a Digital Archive for Materials Science Research
Over the past few years, research carried out at large-scale materials science facilities in the United States and elsewhere has undergone a phase transition that affected its character and culture. Research cultures at these facilities now resemble ecosystems, comprised of complex and evolving interactional chains between individuals, institutions, and the overall research environment. A half-century ago, supply chains for such research were straightforward: the Defense Department expressed a demand, funding bodies took notice, scientists got funded. Today, industry takes the initiative (e.g. semiconductors), outsourcing the research to ever-changing and increasingly global networks of suppliers and sub-suppliers. This project is to create a digital archive to map these interactional chains, the main component of which will be a relational database that allows for a wide range of forms of query and analysis.

The problem we address is motivated by the complexity of research in modern materials science facilities. Because understanding and mapping these supply chains is of practical value, some agencies (NSF, European Framework Programmes) create "roadmaps" seeking to identify future needs. Our project is different. While of potential practical use, it is motivated by the attempt to understand the scientific processes themselves; how inquiries into nature unfold in the modern context. It makes more quantitative an analysis of alliances than, say, Latour's actor networks, and (via the performance analogy) broadens the ontology of these alliances,

conceiving the research floor as a "stage" where different kinds of acts unfold shaped by a range of factors not ordinarily part of the perspective of the science policymaker or administrator. This produces a more granular, and more flexibly usable, database. (Think socialexplorer.com meets the Mapping Yiddish Theater project of Columbia University's Digital Bridges Initiative.)

Esther Keymolen
Assistant professor and director of education at eLaw, the Centre for Law and Digital Technologies, Leiden University

Abstract: Mediation tactics: Trust and the Smell of Data
Whoever reads a newspaper (online) or goes on Twitter knows that there are many reasons not to trust our online services and smart devices. They leak information and monitor our every move. Nevertheless, the ample adoption of smart devices and services does not indicate a decline in trust of end-users. The hypothesis of this paper is that: (1) trust is not so much based on weighing evidence but on the perceptions users have of the trustworthiness of their smart devices and services. (2) These perceptions of trust are shaped by the technologies at hand. As networked artefacts often hide some of their crucial functions –and risks- behind the interface, users might base their trust on a rather limited perception.

This paper will focus on the interface of smart devices and services, as it is the place where user and technology come together. One of the goals of this paper is to distinguish the different modes of trust mediation allowed by an artefact and to assess the conceptual and normative implication thereof. Moreover, this paper will explore mediation tactics that may be used to challenge the trust perception of endusers.

This paper will analyse The Smell of Data Project as one example of such a mediation tactic. Rotterdam-based designers have developed a scent dispenser, which can be connected to a smartphone. When a user enters a website or app that leaks personal data, the dispenser will release a puff of "the smell of data" in order to warn the user. By adding smell to the design of the interface, the phenomenological experience of the user will change and influence her trust perception.

Rodigheiro, Dario & Romele, Alberto
Postdoctoral research fellow at EPFL in the Laboratory of Digital Humanities; postdoctoral researcher at the ETHICS Lab of the Lille Catholic University

Abstract: The Hermeneutic Circle of Data Visualization
According to Don Ihde (1990, 80-97), hermeneutic relations are a specific kind of technologically mediated I-world relations in which the technology must be "read" and "interpreted" in order to access the world. More recently, Peter-Paul Verbeek (2010, 145) introduced the notion of composite relations, featuring a double intentionality performed by human and nonhuman actors.

The aim of this presentation is to expand these two concepts by reflecting on data visualization. In particular, we will deal with a specific visualization called Affinity Map, which shows the scholars of EPFL (École Polytechnique Fédérale de Lausanne) arranged according to a metric based on collaborations . Two specificities characterize, for us, such 1 configuration. First, the subjectivization of what hermeneutics have called the "world of the text", because scholars are both readers and contributors. In other terms, hermeneutic relations are here technologically mediated self-relations in a strong sense. Second, the collectivization of the hermeneutic circle in each of its steps: subjects, data, designers, visualization and its actualizations, readers (see image 1). In this respect, the Affinity Map might be seen as a concrete encounter between postphenomenology, whose main focus is on the types of I-technology-world relations, and actor-network theory, which is always-already concerned with collectives.
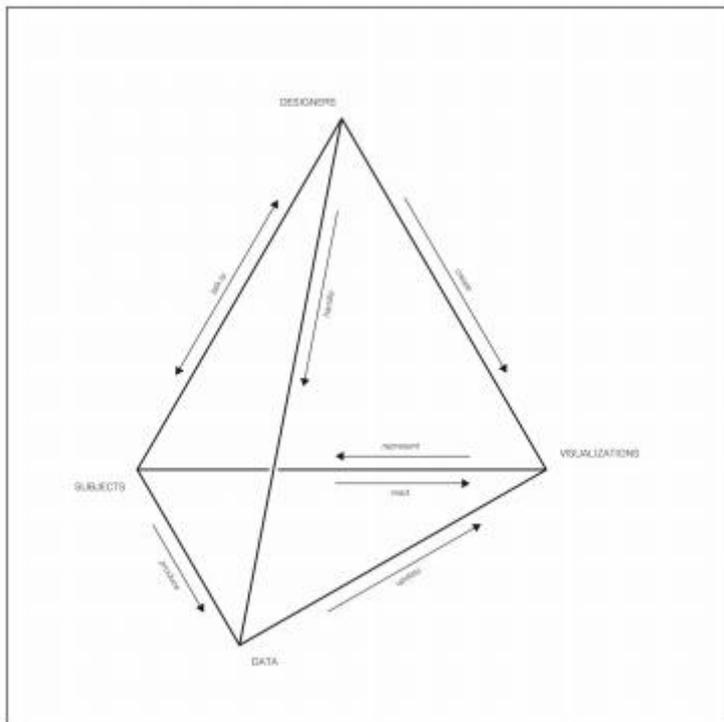
Image 1: The hermeneutic circle (actually a trapezoid) of data visualization.

1 Few images of the data visualization are available at the following address: https://actu.epfl.ch/news/the-world-s-largest-data-visualization/

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- Verbeek, P.-P. 2011. Moralizing Technology. Chicago: The University of Chicago Press.

Gerwin van Schie
PhD Candidate, Gender and Postcolonial studies, Utrecht University.

Abstract:Raciotechnicity: Analyzing Technologies of Race and the Race of Technology in Datafied Systems
In a thought-provoking article, Beth Coleman proposes to think about race as technology; to denature it from its historical roots, in order for race to be "freely engaged as a productive tool" (2009, 178). Race in this sense should be understood as an extension of the body (McLuhan 1994). I will build on this idea by connecting the notion of race to a form of technicity (Bradley and Armand 2006), which I call raciotechnicity. Firstly, with this concept it becomes possible to incorporate race in thinking about technologies of the self (Foucault 1988); in understanding white innocence (Wekker 2016) or black double consciousness (Du Bois 1903) in terms of their relationships with technology. Secondly, extending raciotechnicity to datafied systems will aid in the analysis of racial aspects of technologies. Some systems render particular groups of people visible, such as facial recognition systems that only 'see' white people (Cheney-Lippold 2017) or surveillance systems aimed at non-whites (see Browne 2015). Other technologies render particular groups of people invisible, such as in statistical systems that take a certain group of people as the standard against which all 'others' are measured (Emirbayer and Desmond). Thirdly, I will argue against denaturing race from its historical roots, since genealogies of both race and technology are a necessity in understanding existing datafied "regimes of truth" (Foucault 1980) with regard to race. The concept of raciotechnicity can therefore be a much needed connection between postcolonial studies and philosophy of technology to aid in our understanding of contemporary technologies.

Panel 5 - Online Mediations

[Chair: Anna Melnyk]
Participants: Jesper Aagaard; Tim Brouwer; Xu Jiang

Jesper Aagaard

Assistant professor, Department of Psychology, Aarhus University

Abstract: Smartphones, habits, and immersion

Bayer et al. (2015) argue that everyday use of mobile devices like smartphones is either *habitual* (i.e., automatic, intuitive, and minimally conscious) or *immersive* (i.e., engrossing, deliberate, and highly conscious). In other words, habits and immersion constitute two poles on a spectrum of consciousness (see Fig. 1).
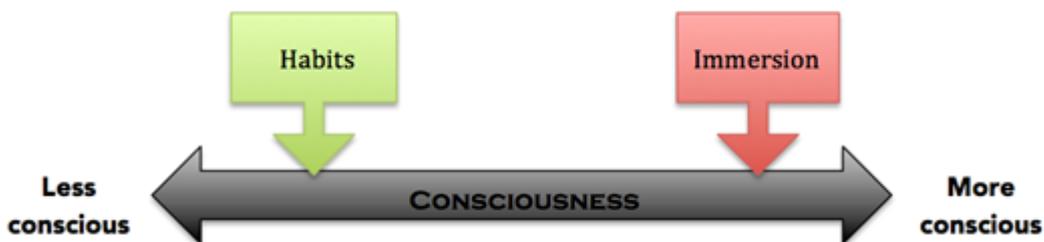
Fig. 1: A spectrum of consciousness

The authors go on to suggest that the apparent opposition between these two strains of media cognition "raises questions concerning how and when they operate" (p. 75). Taking up this challenge, this paper explores the relationship between habits and immersion through a postphenomenology of smartphone use, which ultimately makes two points:

It is first argued that *habits lead to immersion*. While the notion of immersion may aptly describe much smartphone use, absentmindedly grabbing ones phone is often an antecedent of such immersive use. Thus, habits and immersion should not be viewed as separate entities on a spectrum of consciousness, but as distinct stages of the same activity.

It is then argued that *immersion contains habits*. Even when zooming in on the experience of immersion, there is still a lot of habitual activity occurring in the background: When we are immersed in writing a text message, for instance, we skillfully use the smartphone's keyboard and distinguish between significant and insignificant parts of its visual display.

Postphenomenology helps us see that immersion is not necessarily 'deliberate' and the opposite of habitual use is therefore *not* immersive use, but conscious and reflective use. Practical and theoretical implications are discussed.

Literature:
Bayer, J., Cin, S., Campbell, S. & Panek, E. (2015). Consciousness and Self-Regulation in Mobile Communication. *Human Communication Research, vol. 42(1)*, p. 71-97.

Tim Brouwer

Bachelor student, Product Design, University of Applied Sciences Amsterdam.

Abstract: The Materiality of Cryptography

Whether it's electronic money, the tokenization of the economy or identities on the blockchain - digital wealth is gradually becoming a prominent part of our reality. As a result, the importance of cryptographic technologies is increasing. However, do we really understand those technologies? How do cryptographic technologies provide, secure and display wealth? The current, rather technical, depiction of contemporary cryptography obstructs us to

think beyond codes. Therefore, its significance and scope aren't entirely visible and cryptography remains in its crypt. Tim Brouwer believes that cryptography can be reimagined through product design. During his research, he investigated the depiction and application of a manifold of meaningful cryptographic technologies, languages and time-periods. His findings were translated and materialized into critical design concepts, which are depicting future visions and alternative uses of cryptography. During his presentation, he will demonstrate the manner in which cryptographic technologies (from ciphers to cryptocurrency) manifest themselves in our material reality and how its mechanisms constantly rely on physical products and infrastructures. While doing so, he will exemplify that cryptography can function as a security derivative measure for wealth, but also that cryptography (by itself) can be seen as a form of wealth. To summarize, this presentation will gain insights into the materiality of cryptography.

Xu Jiang
Master student, philosophy of science and technology, Renmin University of China.

Abstract: The Internet Platform Politics of the Alt-Right
Alt-Right (Alternative Right) is a newborn political movement originating in America. The goal of the most energetic and significant figures of the movement is to see the establishment of a white ethnostate in the USA. It is a white-nationalist and white-supermacist movement with race as its core concern. From the beginning, Alt-Right's activities are mostly limited to the Internet. The Internet as a platform strongly shapes the characteristics of the Alt-Right. Alt-Right is an Internet Platform Politics. Through an analysis of Alt-Right's traits, which are atomized, amorphous, spontaneous, predominantly online, and mostly anonymous, this paper will identify the essential form of Internet Platform Politics. The Internet provides a space where people with different political views could gather up and participate in unfettered exchanges of opinions. Although the participants of Internet politics are often without an offline organization and work completely independently from each other by receiving supports from rich people, they can still influence mass culture with only hundreds of people. Internet political participation makes it safe to post radical political views, as it is pretty hard to find people's identities with the protection of the Internet. Internet Platform Politics is bound to cause the increasingly diverse political voices and Alt-Right might just be a portent. To deal with this kind of problem, simply controlling the technology, Internet Platform and eliminating their voices by power is not a feasible method. On the other hand, although still faced with difficulty, focusing on the Internet users might be the better way.

Panel 6 - Technological Systems
Wednesday, July 11, 10:45-12:15 (Room Erlenmeyer)

[Chair: Pieter Lemmens]
Participants: Brandt Dainow; Eric Kerr, & Vivek Kant; Michiel Korthals; Marc Boumeester

Brandt Dainow
PhD Candidate, Department of Computer Science, Maynooth University, Ireland.

Abstract: The Integrated Domain – bypassing ontology to understand human-technological phenomena
Studies of human-technology relations have traditionally positioned the human and the technological as opposites, or at least as ontologically distinct. Such a position is problematic when technology is commonly understood as a socio-technological system, and hence fuses the machine and the human in a manner which makes it impossible to understand one without reference to the other. This becomes more difficult once wide-scale technological systems, such as smart cities, come under investigation because the vast variety of human-technology interactions makes traditional ontological hierarchies impossibly complex.

This presentation will offer an alternative approach based on a fusion of Latour's Actor-Network Theory (Latour 2005) with Luhman's theory of societies as autopoietic systems (Luhmann 1995). Actor-Network Theory is more properly understood as a methodology which eschews ontology in favour of a systems approach. Under this view technological societies are treated as systems of nodes, the constitution of which can vary to include individuals or groups, devices or artefacts, or any combination thereof. Luhman's work treats society as bound together with communicative speech acts. The characteristics of these acts can be applied to further refine Latour's

concept of mediators. The fusion of these two approaches produces an understanding of human-technological societies as an "integrated domain" in which distinctions between human and machine are secondary (and sometimes meaningless). Bypassing ontology in this manner permits us to discuss "ontology-spanning" connections, such as the manner in which a corporate culture results in specific elements of a user interface, which in turn, leads to changes in social behaviour.

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Latour, Bruno. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Clarendon Lectures in Management Studies. Oxford ; New York: Oxford University Press.
Luhmann, Niklas. 1995. *Social Systems*. Stanford, Calif: Stanford University Press.

Eric Kerr & Vivek Kant
Research Fellow in the Science, Technology and Society cluster at the Asia Research Institute and teaches at Tembusu College; Assistant Professor (CB), Industrial Design Centre, Indian Institute of Technology (IITB), India

Abstract: Systemic Malfunctions: The Births and Deaths of Malfunctions in Sociotechnical Systems
How malfunction is experienced has remained at the forefront of debate in the philosophy of technology since Heidegger's Being and Time. Recently, malfunction, and failure more broadly, has been explored in terms of its ontology as well as its relation to philosophical, biological, and engineering-based understandings of function. Much of this discussion has moved away from the phenomenologists' encompassing considerations of technology to a focus on technological artifacts. In the meantime, sociotechnical systems—in the sense of transportation networks, electrical grids, power stations, and so on, that are hybrids of people and technologies —have been under-explored. In this paper we suggest that certain issues for the malfunction and failure of sociotechnical systems do not reduce to problems of artifacts.

Historians and sociologists of technology have identified various ways in which individual technological artifacts and user groups are mutually entangled in a series of circumstances to produce large systemic technologies. Studies of large sociotechnical (and technical) systems indicate that multiple viewpoints can converge and that a sense of a system stabilizes over time, albeit one that can be subject to disruption. Individual parts, when considered as separate entities, are considered to malfunction in themselves but not as part of the malfunction of the system. Parts which come to be recognized as parts of the system are considered as a malfunction of the system. In this paper we argue for the need for a comprehension of malfunctions which is tied historically to the formation, stabilization, and definition of the system.

Michiel Korthals
Emeritus Professor Applied Philosophy, Wageningen University and Free University

Abstract: **Failing Technologies. Ethical issues**
Technologies can in my view cover both products and services. They include always a complex whole of normative rules ('soft aspects') about how to handle the technology as well as material elements ('hard aspects'). Many technologies succeed, but many fail, due to internal problems, very negative effects of their use, lack of acceptation, or lack of end users. A very selective list of failed technologies covers the use of lead, applications of radioactivity, the use of DDT, Softenon, Halcion (triazolam), Samsung's' combustible cellphones, Airbnb, Uber-taxi. Even internet and smartphones can be mentioned with their high risks of hacking, fake news, increasing myopie and barriers to concentration. Failings happen on very different levels. The negative effects of their use and their concomitant failing can be traced back either to their hardware or to their software or their interaction with some vulnerable item in their context. What criteria are available to call technologies failing technologies?

In the 21th century we live in a technoworld through and through: technology is everywhere, even normal products are now technologies: they require routines, have effects on other technologies, and influence strongly our behaviour. It is therefore the more necessary to think about the ethical issues that failing technologies confronts us with. The most obvious are that they absorb time and energy and possibly are the cause of material and immaterial damages, conflicts, suffering and unnecessary conflicts.

Marc Boumeester
Director of AKI Academy of Art and Design, ArtEZ University of the Arts.

Abstract: Urban Plasticity and Affective Agency.
Rather than describing 'the human niche' in the world in anthropocentric and deterministic terms such as possibilities, probabilities, densities and extremes, it serves many objectives to question this paradigm and centre *affect* as the beginning for the evaluation of human exceptionalism and its hylemorphic instruments (such as urban architecture for instance). Philosopher Baruch Spinoza considered 'affecting' and 'affected' as being one force: proto-action can be seen as the aptitude to create a capacity for affective interaction, to align an affording constellation that allows for singularity (the threshold experience). This paper will explore how we can renegotiate the human condition in a post-human urban landscape (smart city) that not only exists of physical boundaries and actualized givens, but also includes the predominantly non-actualized 'scapes' like social constructs, media-systems and the arts. In order for something to act, it does not have to signify anything in order to be significant, therefore the extreme is a normative condition that holds only value if regarded as an agency that produces (contingently obligatory) 'differences that make a difference'. For this it is imperative to adopt an intransitive state of the aforementioned paradigm and start describing 'the human niche' in terms of actualities, capacities, tendencies, intensities and singularities.

Panel 7 - Theoretical Contributions to Postphenomenology
Wednesday, July 11, 13:15-14:45 (Room Ideate)

[Chair: Robert Rosenberger]
Participants: Manjari Chakrabarty; Stanley Kranc; Dmytro Mykhailov; Samuel Douglas Pedziwiatr

Manjari Chakrabarty
Associate professor, Department of Philosophy and Religion, Visva Bharati (Central University), India.

Abstract: A post-phenomenological review of prehistoric technology
The domain of lower Palaeolithic stone tool making (and use) has received little scholarly attention in mainstream philosophy of technology. Despite a recent intensification of research into the evolutionary significance of early hominin technical activities such as stone knapping or stone tool making philosophers of technology remain largely oblivious to the seminal role these stone tools played in the emergence of (some initial form of) hominin cognitive behaviour. Cognitive processes are increasingly interpreted as not just brain-bound but embodied, extended and distributed processes. That tools or artefacts are intimately tied to human cognitive processes is fast becoming an alternative within several disciplines (e.g., archaeology, cognitive science, psychology, philosophy of mind). What this implies for philosophy of technology is only beginning to be explored (see e.g., Preston 1998; Ihde 2007). The present paper intends to be a part of that exploration by considering the dynamic, intricate tool-mediated activities of the prehistoric hominins through the lens of Don Ihde's (1979, 1990) post-phenomenological account of human-technology relations. The proposed study unfolds as follows. The first section presents a brief overview of early hominin tool making and tool using activities. The second section considers the prehistoric knapper-stone tool interactions as typical instances of 'embodiment relations'—one of the three main kinds of human-artefact relations discussed by Ihde (1979, 1990)—with special emphasis on the central themes of non-neutrality, quasi-transparency, and technological mediation. The paper concludes by relating Ihde's insights with other contemporary thinkers and suggesting further possibilities of post-phenomenology.

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Stanley C. Kranc
Professor Emeritus, University of South Florida

Abstract: Another Look at the Case of Mr. Truetemp
In his 1990 book, *Theory of Knowledge*, Lehrer presented the case of Mr. Truetemp, who has had (unknown to him) a device—a "tempucomp"—surgically implanted to provide reliable information regarding the temperature, although Truetemp does not know why this happens. This argument against externalist theories of knowledge has received considerable attention. Simply put, Lehrer says Truetemp considered no evidence and therefore had no reasons for knowledge.

What is of interest here concerns the introduction of technology into an otherwise epistemological debate. Natural thermal sensory perception admits little information; thus, humans make and utilize (external) temperature measuring instruments. But how is any knowledge of temperature warranted? In this regard, Lehrer's internalist arguments seem less clear. For instance, does Truetemp's mental state include the concept of macroscopic temperature as an intensive property of matter?

In view of current innovations in human–sensor interface technologies, Truetemp's circumstance seems much closer to actual realization than when first introduced. This paper presents a re-examination of some aspects of Lehrer's example, contrasting his analysis with an understanding of instrumental perception and realism emerging from Ihde's postphenomenological studies within the philosophy of technology. In what way then does Truetemp's mode of artificial perception differ from instrumental perception via the reading of a thermometer; does an observer of the instrumental display know the temperature, or just the gauge indication? Finally, the concept of instrumental authority is explored: the notion that the observer may unconditionally accept the (external) gauge reading as a reliable process producing knowledge.

Mykhailov, Dmytro (Михайлов Дмитро)
Ph.D degree in philosophical anthropology and philosophy of culture, National University of "Kyiv-Mohyla academy"

Abstract: Another dimension of Technological activity (postphenomenological perspective)
In our paper, the main focus will be on the problem of technological activity. In postphenomenological epistemology, this concept was fruitfully deployed in various intellectual perspectives. We'd like to drive in another type of technological activity which we call unification/multiplication.

Herein we'll show, that technological activity is primarily an act by means of which multiplicity appears as an exceptional type of unity. Such uniqueness emerges since technological artifact bounds multiplicity of entities in one special scale through which human can perceive and act.

Undoubtedly each technological object exists in a large arrangement of other objects. Still, how do they connect with each other? We presume, that it happens by means of unification activity. Due to that, each technological artifact appears as a knot which can exist only by means of other objects. Unification activity arises as the process of binding diverse artifacts one with the other.

The more amount of artifacts it connects; the more complex technological object is. Artifacts of high complexity (those which has to connect wider quantity of objects) transform human experience stronger than a simple one.

The more unification activity is; the bigger multiplication performance appears. An object with large intricacy opens wider horizon for a practical activity. Let us compare a screwdriver (an object with low complexity) with a smartphone (high complexity object). Each of them gives a broad variability of acting. Though a smartphone creates a wider horizon due to the stronger unification/multiplication activity. Since it binds a greater amount of entities, the user can get much variable world-experience through it.

Samuel Douglas Pedziwiatr
PhD candidate, Ludwig-Maximilians-University, Germany

Abstract: Wittgenstein and (Post-)Phenomenology
Phenomenology in the tradition of Husserl attempted to clarify relations between humans and the world by studying phenomena—the structures of experiences of the world as it presents itself to a conscious subject. Philosophers

of technology such as Don Ihde and Peter-Paul Verbeek have criticized classical phenomenology for being too subject-centered, and have argued that it overlooks the mediating role that technology plays in human-world interactions. Their post-phenomenological approaches seek to illuminate the relations between humans, technology, and the world in a style that is inspired by phenomenology—and that enriches it with insights from e. g. actor-network theory and post-modern philosophy.

This move beyond classical phenomenology, as I wish to argue in my paper, is not completely without historical precedent: In 1929, Ludwig Wittgenstein had a brief phenomenological phase, which he abandoned in favor of a "grammatical" approach. My paper discusses Wittgenstein's brief phenomenological stint and its relevance for current philosophy of technology. Through an analysis of relevant writings in Wittgenstein's "Nachlass", I reconstruct Wittgenstein's reasons for giving up a phenomenological position, and compare them to justifications for postphenomenological positions in philosophy of technology. Based on research on relevant remarks from e. g. the philosophy of psychology, I argue that Wittgenstein was likely aware of a mediating role of language and artifacts for human-world relations, and that he explicitly accounted for the role of technological artifacts in scientific knowledge production. The importance Wittgenstein attributed to language, grammar, and technique for human-world relations likely contributed to his conclusion in the Remarks on Colors that there "are phenomenological problems but there is no phenomenology"—and this insight in turn promises an alternative starting point to postphenomenological approaches for conceptualizing human-technology-world relations.

Panel 9 - Healthcare & The Patient
Wednesday, July 11, 13:15-14:45 (Room Inform)

[Chair: Peter-Paul Verbeek]
Participants: Berend Alberts-de Gier; Alexander Castleton; Asle H.Kiran; Tania Moerenhout

Berend Alberts-de Gier
PDEng researcher at the University of Twente; professor of philosophy of technology at the Department of Philosophy and codirector of the DesignLab at the University of Twente

Abstract: Appropriation of Technology: a look at the iVitality case study to understand how sustainable human-technology relations are developed
This article analyses the development of human-technology relations in the use case of a mobile healthcare application (mHealth). The iVitality app allows users to measure their own blood pressure in the comfort of their home (as opposed to the hospital). The use of mHealth technology such as iVitality shows that human-technology relations have to be developed over time, and that once developed, the mediating role of these relations sustain beyond actual use of the technology. The purpose of this article is to develop and empirically test the concept of appropriation as an extension to the postphenomenological approach as presented in the work of Verbeek. To appropriate a technology is to develop a sustainable human-technology relation through repeated engagement with the technology. Based on Marxian and Foucauldian interpretation, this article argues that in appropriation, the technology with related skills and techniques, becomes part of the user's Being and as such mediate intentionality in much the same way as actual use of the technology. The use case of iVitality serves as a philosophical anthropological case study that (1) demonstrates the need for, and use of postphenomenology as a theoretical framework, and (2) tests how appropriation of a new technology works in practice.

Alexander Castleton
PhD Candidate (ABD), Department of Sociology and Anthropology, Carleton University,
Fulbright Visiting Scholar and Instructor, Department of Philosophy and Department of Sociology, University of Montana

Abstract: Postphenomenology from the South: The case of Tablet technology in an Uruguayan Geriatric Hospital (Alexander Castleton; Alejandro Cid)
Uruguay has carried out various policies aimed at promoting the digital inclusion of its population, such as "Ibirapitá Plan", which consists of giving tablets (similar to IPads) to retirees with incomes below a certain threshold. Academic research in Uruguay on the social impact of information and communication technologies (ICTs) has

taken the perspective of ICTs for development. These are necessary and are concentrated in general variables such as access, connectivity, or concepts such as 'meaningful use', in line with the notion of human capabilities developed by Amartya Sen and Martha Nussbaum. What is being ignored, however, are other perspectives coming from the social studies of science and technology or philosophy of techology such as postphenomenology, which greatly contribute to the knowledge about the impact of ICTs on human reality. In fact, postphenomenologists such as Rosenberger and Verbeek (2017) have stressed the complementarity between both approaches. Thus, we apply ANT and post-phenomenology for the study of the social impact of Plan Ibirapitá's tablets in a geriatric hospital in Montevideo, Uruguay. The data-gathering techniques applied were qualitative interviews and observation developed by a group of undergraduate student-volunteers from University of Montevideo. In this sense, this paper contributes to the postphenomenological scholarhip by studying of a concrete technology in a particular population at the same time that engages with research strategies such as grounded theory that can contribute to the essentially empirical nature of postphenomenology.

Asle H. Kiran
Researcher in the Department of Philosophy and Religious Studies and the Department of Public Health and Nursing at the Norwegian University of Science and Technology.

Abstract: Patienthood as a collective term: some normative implications of an existential approach to technological mediation in healthcare
Patienthood is lived by an individual, but it is constituted by a collective. This collective consists of the care recipient, other persons and things. The collective enables, constrains, shapes, entices and disrupts the manners in which individuals inhabit particular patienthoods. An individual receiving care or treatment depends on others – family, network and the healthcare system, and on technology – from medicines to measuring and monitoring technologies, and various electronic devices and assistive healthcare technologies. Healthcare technologies may make possible good patienthoods, but often only if one adapts to how these items are to be managed – enabling always comes with a complementary constraining.

In this sense, being a care recipient has some similarities to what Heidegger called Geworfenheit: upon being born, we find ourselves always already existing within a world that is made up of various (social, technical) meaningful structures. In order to exist in the world we cannot but relate to these pre-existing structures; they constitute our potential to become, the possibilities to realise particular selfhoods. For patients, the socio-technical collective disclose in a comparable manner the potentialities for patienthoods.

The existential nature of technological mediation (the collective nature of selfhood combined with the potentiality-disclosing capacity of technologies) has specific normative implications for service and policy innovation in healthcare planning. In this talk, I shall consider these by exploring a) the existential nature of technological mediation; b) the structure of joint/collective action; and c) how this allocates specific moral responsibilities to the constituents of the collective for realising a good patienthood.

Tania Moerenhout
PhD candidate, Department of Family Medicine and Primary Health Care, Department of Philosophy and Moral Sciences, University of Gent, Belgium & General Practitioner

Abstract: The elephant in the room. How a philosophical analysis of the electronic health record can lead to a better understanding of its impact on the clinical encounter.
Use of the electronic health record (EHR) within clinical encounters is increasingly pervasive. This complex tool allows for data storage and -sharing aimed at patient care, billing, research, patient communication and quality of care improvement – all at once. However, it often remains the proverbial elephant in the room. This is why we propose a postphenomenological case study of the EHR. More specifically, we will focus on two core postphenomenological notions: transparency and multistability. Transparency is closely related to an embodiment relation in which the user becomes less aware of the technology: it fades into the background, becoming a means of experience. A second key concept is that of multistability, referring to how a technology can serve multiple purposes or can have different meanings in different contexts. The EHR in this sense is multistable by design. Drawing on the theoretical work of Don Ihde, Robert Rosenberger and Yoni Van den Eede, we will translate these

two concepts to the specific situation of the EHR. We argue that users (and designers) of the EHR should seek and facilitate transparency in the use of the EHR but opacity in the context of the patient-provider relationship: a more explicit awareness of the EHR could be useful in the clinical encounter. Moreover we suggest that future design should focus on creating a different form of multistability, allowing the provider to focus on one function, patient care, when interacting with the EHR and moving other stabilities to the background.

Panel 10 - Artificial Intelligence
Wednesday, July 11, 13:15-14:45 (Room Connect)

[Chair: Esther Keymolen]
Participants: Balázs Horváth; Amirouche Moktefi & Tarmo Kalvet; Frédéric Gilbert

Balázs Horváth
PhD candidate, Philosophy and History of Science PhD program at the Budapest University of Technology and Economics

Abstract: "Designing Artificial Intelligence: Proposing a New Configuration for Human-Technology-World Relations"
The paper aims to augment technological mediation theory by considering the design processes for general artificial intelligence. To do so, the study presents a thought experiment about AI design which expands the theoretical framework of mediation theory proposed by Peter-Paul Verbeek. Based on the work of Don Ihde, Verbeek lays out several configurations for how technology mediates human actions: the relations are categorised into embodiment relations, hermeneutic relations, alterity relations, background relations, cyborg relations, immersion relations and augmentation relations. However, hypothetical technological artifacts with human cognitive abilities - i.e. general artificial intelligence - propose a challenge in this current framework of technological mediation. Based on the assumption that a general artificial intelligence should be considered both a non-human entity with agency in the world and a technological artifact at the same time, the thesis of the paper is that in the case of artificial intelligence design, it is primarily the human agent who mediates the actions of a technological artifact and its perception of the world. The thesis is argued for in the thought experiment which lays out a possible scenario for the development of the first general artificial intelligence. This will also show that technological mediation theory lacks an important configuration for human-technology-world relations which is introduced and examined in the analysis of the thought experiment. The study calls this category paternal relations - a type of interactions which take into account self-conscious technological artifacts that require human guidance in their development.

Amirouche Moktefi and Tarmo Kalvet
Lecturer in Philosophy at Tallinn University of Technology, Estonia; senior researcher in the field of technology governance at Ragnar Nurkse Department of Innovation and Governance.

Abstract: Algorithms as socio-technical objects: A post-phenomenological investigation
Algorithms play a central role in modern societies where services are growingly digitized. Given the variety of forms in which humans relate to new information technology, we expect a phenomenological investigation of Human-algorithms relations to offer insights on public's understanding, perception and attitude toward algorithms. Although they can be understood as formal objects (sequences of instructions) or physical objects (space in machine memory), algorithms are taken here as socio-technical objects that fulfil specific functions, in accordance to a design and for the benefit of a user. It looks at first paradoxical that transparency of algorithms demands their blackboxness so that users pay attention to outputs alone. The programmer's aim would be to offer a background-relation experience to the user. Algorithms, then, stand similarly to electricity in their relation to humans. However, debates on abuses of blackboxness led to demand for openness. Users would then access or even co-produce algorithms to ensure their appropriate functioning. Two practical cases will be presented depending on human's familiarity with algorithms (as suggested by the concept of 'sedimentation'). First, it will be claimed that mathematicians' attitudes towards computer-assisted proofs depends on their disposition to embody algorithms (in a manner similar to paper tools) within an extended cognition. Then, it will be argued that public's perception of algorithms often is founded

on earlier and regular acknowledgement of the efficiency of information technologies rather than on proper understanding. Both cases ultimately indicate how habit through regular exposition to algorithms opens the way towards their "backgroundisation" and trivialization.

Frédéric Gilbert
Research fellow affiliated with the Ethics, Policy & Public Engagement program of the ARC Centre of Excellence for Electromaterials Science, in Australia & University of British Columbia, Vancouver

Abstract: Brain Implants and Artificial Intelligence: Implanting Unprecedented Vulnerabilities?
Technologies shape relations between human being and the world. As novel intimate technologies are been developed and tested, new relations emerge, potentially carrying a load of ethical concerns. For instance, many experimental trials are currently testing in human novel medical brain implants operated by Artificial Intelligence (AI). While these new generations of implantable AI-controlled brain devices moves rapidly ahead, ethical concerns about their potential effects on patients' sense of self, autonomy and identity is growing. AI-operated implants offer great control at the level of neural circuits, but the extent to which this grasp on neuronal function affects the patient's sense of control at the psychological level is still uncharted territory. A pressing ethical concern to explore is how artificially intelligent brain implants may produce new relations between human and the world; especially do they introduce unprecedented vulnerabilities to implanted individuals? Our presentation shows that, on the one hand, artificially intelligent brain implants can positively increase a sense of the self and control. On the other hand, they can introduce unprecedented vulnerabilities by deteriorating relations between oneself and the environment, for example, by inducing radical distress, feelings of loss of control, and a rupture of patient identity. We examine these phenomena and discuss their ethical implications by using some data we obtained from a first-in-human clinical trial involving AI-brain implants.

Panel 11 - Memory and Remembrance
Wednesday, July 11, 13:15-14:45 (Room Invite)

[Chair: Patricia Reyes Benavides]
Participants: Ronald Durán Allimant; Christian Kroos; Stefania Matei; Qingfeng Yang

Ronald Durán Allimant
Professor in the Philosophy Department of Universidad de Playa Ancha (Valparaíso, Chile).

Abstract; Rethinking the Notion of Technology in Intangible Cultural Heritage Concept: Technology, Forms of Life, and Material Memory
For several years, various authors have emphasized the active role technology plays in our living, and in the construction of our culture and society. Notwithstanding it seems these ideas have not been taking into account when thinking the so-called "Intangible Cultural Heritage", being the use of the word "intangible" a clear expression of this. Our thesis is that in the notion of Intangible Cultural Heritage persists an instrumental and neutral view of technology, in which technologies are only a medium or a support for culture preserve itself (culture conceived as something purely spiritual or human). This conception implies a material-mental dualism. Post-phenomenology and mediation theory have tried to surpass this dualist view of technology, considering human-technology relationships in its complexity and mutual correspondence or constitution. In addition to these theories, we'll use Langdon Winner's notion of "technologies as form of life" to emphasized the active role technology plays in the construction of our culture, our ways of living, and in the material memory of a society. Taking examples from Chilean Intangible Cultural Heritage, we'll analyze how technology could be incorporated in thinking a heritage's view surpassing the dualist and instrumentalist stance still persisting today.

Christian Kroos & Tijs Duel & David Frohlich
PhD Candidate, Centre for Vision, Speech and Signal Processing,University of Surrey; Department of Music and Media, University of Surrey; Department of Music and Media, University of Surrey

Abstract: **Sonic mnemonic**
Sound is dynamic by its physical nature. It consists of oscillating changes of pressure differences that propagate as waves through a suitable medium such as air. Its ephemerality shapes the way it is processed in the perceptual systems of humans and other animals, forcing their perception to align in time with the evolving sound event. The constant relative processing incompleteness induces unexpected empirical phenomena, e.g., the psychoacoustic effect that a current sound might be obscured by a future sound (backward masking, e.g., Zwicker & Fastl, 1972) or the psycholinguistic effect that watching a speaker's face can change the auditory perception of a spoken syllable in the case of auditory-visual incongruence (McGurk & MacDonald, 1976).
The transient character also impacts human retrospection. An auditory memory carries time itself within it and requires temporal expansion in the recollection. Or does it? How does a recalled sound enfold over time in the 'mental ear' if such a faculty indeed exists? The interdisciplinary project 'Making Sense of Sounds' at the University of Surrey includes the development of a device facilitating acquisition and recall of sonic memories. Here sound will be used as a cue, but unlike in the visual domain, the fundamentals informing the design are unclear: How do we remember sounds? How could we search for sounds? How will the mnemonic technology mediate the recollection experience? These questions will be discussed in the light of the incremental design process of the device and linked to the broader topic of remembering sounds.

Ștefania Matei
Research fellow at the Research Institute of the University of Bucharest and Associate Lecturer at the Department of Sociology, University of Bucharest, Romania

Abstract: The culture heroes of the digital age. Transforming posthumous condition through participatory and collaborative commemoration
The paper analyses the remaking of culture heroes through digital media of commemoration. In general, culture heroes are legendary characters who possess various forms of posthumous authority, power and agency. Culture heroes are collectively acknowledged as worthy of remembrance in a dynamic process that recreates the past as a constitutive reality in the present. Our understanding of heroism is technologically mediated: the new media of commemoration change the presence of memorable persons in the world and transform our experience of mortality. Therefore, digital commemorative practices redefine our relationship with predecessors and draw fluid boundaries between the living and the dead.
Post-mortem condition is reconfigured in the interaction between the commemorators and the commemorative environment. Digital collaborative practices of commemoration recreate a space of symbolic immortality in which the virtuality of the commemorative medium co-exist with the intangibility of the myth. The digital media of commemoration transform not only how people practice commemoration but also whom they commemorate. In this context, the paper documents the emergence of a new type of culture hero as a product of coordinated actions performed in participatory and distributed systems. The culture heroes of the digital worlds are deindividualized avatars whose agency is extended through technical affordances. They participate in the immediate world and establish a commitment with the world in networks of interactions that dissolve the human and non-human division. The new culture heroes that emerge by means of digital commemorative media are epitomes of a changing world in which the technology merges with the human being before death, as well as in the posthumous realm.

Qingfeng Yang & Hongxiu Yan
Professor of philosophy of technology at Shanghai University (China), member of 4S/EASST and the secretary-general of Shanghai Nature of Dialectics Association in China; Associate Professor of Philosophy, School of History and Philosophy of Science, Shanghai Jiao Tong University, China

Abstract: Mnemotechnologies and its Ethical Consequence
In the history of science, there are several methods to study the brain. They are (1) imaging technology such as fMRI and PET; (2) Brain surgery with some disease such as epilepsy; (3)

Optogenetics. We can call them mnemotechnologies if these are used to study memory. In my paper, I will discuss about optogenetics. Optogenetics is a cutting-edge technology to control the brain with light in the neuroscience. Produce by Karl Deisseroth on 2005, It had short 12 years history but has been used in many fields. Memory is important field. Neuroscientists have applied this technology into memory research and made obvious performance. Prof. Susumu Tonegawa used it to implant, delete and change memory of trans-genetic rats. He touched several basic questions on memory, explained where social memory and episodic memory is and studied question how to retrieve it and to activate it.

Although this technology has gained a lot achievement, it also caused some ethical questions. We can divide these ethical questions into two types. The first is from technology itself. It is a kind of invasive technology. Optical fibre is implanted into the brain and will result some injury to animal's brain or human's brain. The second is from objects which are changed. The aim of this technology is to tag neuro and to control the behavior through activating or inhibiting the activity of certain memory cell. If memory is deleted, implanted and forged. How does subject identify itself or decide its behavior in the future?

Therefore, it's necessary to discuss the ethical consequence of optogenetics. The ethical consequence are related to (1)Safety. How to make safe because of its invasive nature; (2)Self-identification. How to recognize itself because memory may be forged; (3)Possibility of mediation. Is it possible to compensate,replace and augment human memory?

Panel 12 - Technology & Self
Wednesday, July 11, 13:15-14:45 (Room Erlenmeyer)

[Chair: Kirk Besmer]
Participants: Ciano Aydin; Oshri Bar-Gil; Lars Botin; Alberto Romele

Ciano Aydin
Head of Department of Philosophy and Vice-dean of Faculty of BMS, University of Twente; Thomas More Professor of Philosophy, Delft University of Technology

Abstract: The technological uncanny
In a 1970 article entitled "The uncanny valley," the Japanese roboticist Mashihiro Mori suggested that as a robot or other human duplicate becomes more human-like there is an increase in its acceptability but as it approaches a nearly human state responses quickly turn to strong revulsion. In the previous years different hypotheses have been proposed to explain the uncanny valley: The Pathogen Avoidance hypothesis, The Mortality Salience hypothesis, The Evolutionary Aesthetics hypothesis, The Violation of Expectation hypothesis, The Categorical Uncertainty hypothesis, The Mind Perception hypothesis, the Threat to Distinctiveness hypothesis, and so on and so forth. Wang, Lilienfeld, & Rochat (2015) have in their thorough paper argued that most explanations have neglected to account for an underlying assumption: the assumption that observers would spontaneously perceive a human replica that closely resembles humans as a person, which they claim is a plausible assumption. Recognizing this anthropomorphism process they propose their own so-called Dehumanization Hypothesis: the uncanny feeling must be understood as a response to a lack of humanness.

In this paper I will take up this Dehumanization Hypothesis but, returning to Ernst Jentsch and Sigmund Freud's seminal essays on the uncanny (1906; 1919), offer an alternative explanation: I will explain the uncanny feeling not as a response to a lack of humanness but rather as a response to the inability to fathom and appropriate "humanness." Partly inspired by Heidegger's notion of Angst, I will argue that the uncanny mood is disclosive and allows us to see something that may have otherwise remained hidden. In short: the uncanny feeling is not or not only a response to the humanlike android or its lackings but it is a response to the inability to get hold of our own ground. Put yet differently: the uncanny does not only say something about the android but it also says something about our own identity and existence: it is because a human-like robot resembles me without being completely identical ('minor differences') that I am confronted with my own unfoundedness, which is constitutively strange to me.

Employing Lacan's notion of extimacy and Nancy's idea of the intruder, I will try to illustrate that this

uncanny cannot be thought independently of the technological structures that we are immersed in. What elicits the uncanny feeling is not only the human or lack of humanness in the android but also the android in the human. We discover that we, in the words of Nancy, have always been open and exposed and now technology is excessively confiscating us (Nancy 2008, 170). The challenge might be how to uphold or develop a kind of singularity in the light of our intrinsic technological condition. My answer: sublimation.

Oshri Bar-Gil
Phd candidate at the psychoanalysis, culture and hermeneutics post-graduate program at Bar-ilan university, Israel

Abstract: Defining our Google self
The technological phenomenon that brings billions of people into one network fundamentally changes a large part of our human experiences. Each of us also uses dozens to hundreds of different interfaces with the network in which he shares information, and performs various activities. Especially through its major information corporations (Google, Facebook), we experience a significant change in our life patterns. These changes lead us to a deeper change, a change in our self-perception.

My Phd dissertation deals with the question how the information revolution, and the way we manage the interfaces of our lives through the Internet, affects our self-perception. In my dissertation I approach this questions by performing a qualitative netnography that is carefully analyzed by CAQDAS and is interpreted by post-phenomenological theories. Especially analyzing the human-technology-world interactions using Ihde's (2009) framework with the expansions proposed by Verbeek (2005, 2008, 2015) and complemented by the relation analysis offered by Latour (1994, 1996, 2005).

The paper will present the primary findings of the research. The Google Self, emergent self-perception, which is shaped by the changing augmented relationship of the "dividual", the split of the self that is simultaneously present in the real world and in the virtual world with his environment.

In addition, I will present implications for the postphenomenological theory and the research methods it uses, with an emphasis on research methods that are linked to data derived from users such as netnography.

Lars Botin
Associate Professor, Aalborg University, Denmark

Abstract: Scaffolding the Self On-Life
Martin Heidegger (1951) and Gaston Bachelard (1958), phenomenological philosophers of dwelling and the notion of self, claimed that essentially, we have to dwell in order to be able to think. Building the dwelling is in Heidegger's perspective synonymous of being, which means that constructing a shelter for our vulnerable bodies is a prerogative for fulfilling our potentials as humans. These constructs are physical materializations of our experiences and knowledge of how it is to be a body and closely connected to the way we are in the world. It is being-in-the-world. These are constructions, frameworks, or scaffolds (Gestell) that uphold and withhold, on an existential level, identity and selfhood. Without these scaffolds we are left to the dangers and atrocities of life. The general opinion of Heidegger, is that modernity has systematically been constructing cages, caves and boxes that alienate and distance man from his true being. Technology has separated man from himself and made the opposite of true scaffolding, and hence supporting man in his life. This chapter discusses the notions of scaffolding and enframing in relation to construction of identity and selfhood in virtual reality. As well as reflect on the possibilities of meaningful and responsible Onlife existence. Scaffolding is, as every scaffold-builder would know, an impossible individual enterprise. Actually, scaffolding has been seen as the ultimate metaphor, for the collective and social endeavor, where the construction of the medieval cathedral has become iconic. Scaffolding in the Onlife reality, or making 'digital assemblages', should be seen as actions of self-determination together with others, which means that the possible outcomes of scaffolds are both results of what the scaffold withholds, and the processes of co-construction, co-creation, co-shaping and co-constitution with others in the scaffolding. The scaffold mediates this dynamic and fluctuating reality in between selves, others and technologies.

Alberto Romele & David Doat & Alain Loute
Post-doctoral researcher at the ETHICS Lab of the Lille Catholic University; associate professor at the ETHICS Lab of the Lille Catholic University; associate professor at the ETHICS Lab of the Lille Catholic University

Abstract: Cyborg Relations. Between Technologies and Imaginaries
Peter-Paul Verbeek (2011, 144) introduced "cyborg relations" as a radical variant of embodied relations in which "technologies actually *merge* with the human body […]". The goal of this presentation is twofold. From a theoretical point of view, it aims at problematizing some exaggerations of the empirical turn that dominated philosophy of technology for the last two decades. While philosophy of technology has often confined itself to describe (and rejoicing at) our technical extensions and hybridizations, we will insist on the difficulties, fears, hopes and beliefs that always-already mediate this technological mediation. In other terms, our purpose is to highlight the way technologies and our adaptations to them are always-already encapsulated in a linguistic, symbolic and ultimately imaginary universe (Jasanoff and Kim 2015). From an empirical (but also epistemological and methodological) perspective, we will account for a research we are currently conducting within our research unit (ETHICS – EA7446) at the Lille Catholic University in collaboration with the Centre l'Espoir, a prosthetic center specialized on lower extremity. The research aims at investigating the technological imaginaries of several people involved into the activities of the center, from the directors to the patients. More specifically, we are 1) analyzing (through "technological scenarizations" – for this methodology, see Grandjean and Lobet-Maris 2012) the conflicts and variations between three imaginaries and models: miserabilist (the patient is seen/considers herself as an handicapped), social (the handicap is seen as the result of social constructions), and utopic (the patient is seen/considers herself as an enhanced individual); 2) considering the empowering and disempowering effects of these imaginaries on the cyborg relations, i.e. the relations patients entertain, through the prosthesis, with their worlds and with themselves.

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Panel 13 - **Book Panel** Andrew Feenberg - Technosystem: The Social Life of Reason
Wednesday, July 11, 15:00 - 16:30 (Room Ideate)

Presenter: Andrew Feenberg

Reviewers: Don Ihde; Peter-Paul Verbeek; Darryl Cressman; Bas de Boer

Panel 14 - Ecologizing Technology

Wednesday, July 11, 15:00 - 16:30 (Room Classroom of the Future)

Organisers:
Jochem Zwier
post-doctoral researcher at the Institute for Science in Society (ISiS), Radboud University Nijmegen

Vincent Blok
Associate professor in Philosophy and Ethics of Business, Technology & Innovation at the Management Studies Group and the Philosophy Group, Wageningen University (The Netherlands).

Pieter Lemmens
Teaches philosophy and ethics at the Radboud University in Nijmegen, the Netherlands

Other participants:
Helena de Preester
Professor at the Faculty of Fine Arts, University College Ghent and visiting research professor at the department of Philosophy and Moral Science, Ghent University.

Magdalena Holy-Luczaj
Earned her Ph.D. at Jagiellonian University in Cracow in 2016; University of Information Technology and Management, Rseszow, Poland

General Description:
This panel aims to interlace the now widely acknowledged interweaving of humans and technologies with issues pertaining to our earthly ecology. In navigating between philosophy of technology and environmental philosophy, the panel departs from the premonition that our current ecological situation occasions a rethinking of the triad: nature – technology - humanity. On the one hand, these three terms become virtually indistinguishable and increasingly *symmetric*, given how technological humanity not only radically uproots the natural world on a global scale, but is concomitantly called upon to safeguard its natural, earthly habitat via technological interventions (Lemmens, Blok, & Zwier 2017). On the other hand, the above mentioned triad involves a considerable *asymmetry*, given how the natural world of the Earth at large presently appears to withdraw the resourceful support that humanity's technological modus vivendi takes for granted (Zwier & Blok 2017). Global warming, rising sea-levels, ecological migration etc. offer the harrowing suggestion that the Earth is on the verge of committing humanity's technological endeavour to what D.T. Ansted called its "great stone book" (1863), as one of the many fossilized remains that make up its pages.

In light of this, the four papers that make up our panel aim to address the question how philosophy of technology can come to terms with the (a)symmetric character of the inescapable interweaving of humanity, technology, and ecology.

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Zwier, J. & Blok, V. (2017). Saving Earth – Encountering Heidegger's Philosophy of Technology in the Anthropocene. *Techné: Research in Philosophy of Technology.* DOI: 10.5840/techne201772167.

Abstracts:

Magdalena Holy-Luczaj & Vincent Blok

Abstract: Classifications of hybrids for sustainable development. What philosophy of technology and environmental philosophy can learn from each other in the age of the anthropocene

The condition of the Anthropocene compels us to rethink the shape of the balance within the triad *nature – technology – humanity* as well as the frontiers of each domain. In this epoch it is harder and harder to find purely natural or purely technological objects due to human interference in nature through technology. How should we classify for example genetically modified food and creations of synthetic biology or, on the other hand, devices belonging to the internet of things used in livestock farming? The only correct answer seems to be the claim that they are *hybrids*, i.e., objects in which these two realms are heavily blended. This challenges the boundaries of environmental philosophy and philosophy of technology, which traditionally focus on either 'nature' or 'artefacts' while such strict dichotomies are no longer possible. On the other hand, both disciplines can significantly contribute to our understanding of hybrids. Thus, we intend to reconsider the strong divide between natural and technological beings in order to bring them into the scope of interest of both environmental philosophy and philosophy of technology. The baseline of our paper is then the question how the ontological status of various hybrids can be understood in the Anthropocene and its reconfiguration of the relations of symmetry between human beings, technology, and nature.

First, we explore the tendency of the philosophy of technology and environmental philosophy to be one-sided in their focus on either technology or nature, which is no longer appropriate regarding hybrids. Then, we critically compare the picture of artifacts in both disciplines. Next, we lay out the possible classification of hybrids, by making (re-)use of insights from both environmental philosophy and philosophy of technology regarding their perception of artifacts and natural beings. We reexamine the following ontological characteristics: unnaturalness, functionality (intentionality), and metaphysical equality.

Helena de Preester

Abstract: Subjectivity in the anthropocene

This paper focuses on one member in particular of the triad nature – technology – humanity, namely on the current kind of human subjectivity that characterizes the Anthropocene. We consider antrophocenic subjectivity as a mediating factor between human behaviour and humankind's almost compulsive destruction of the planet. We resist the often, and often intuitively, stated argument that humankind goes on destructing the planet because we are not able to correctly assess the consequences of our current lifestyle or unwilling to change or lifestyle (a model in which well-intended behaviour is modified by factors such as laziness, lack of knowledge, seduction by convenience, etc., resulting into destruction). Since knowledge is always embedded in a particular kind of subjectivity, it makes more sense to look at the subjective embeddedness of the knowledge that we cannot go on like we do.

Central to this paper is the idea that the kind of subjectivity proper to the Anthropocene is characterized by the unwillingness to become a subject. With the help of Robert Pfaller's idea of illusions without owners, we try to make sense of so much unwillingness in the face of the destruction of the planet. We make this picture of subjectivity more concrete by focusing on the many factors that hinder subjectification (and accelerate the destruction of the planet) in the Anthropocene. The aim is to explain how these factors are welcomed, because they enable individuals to avoid the pressure to become a subject.

Pieter Lemmens

Abstract: Rethinking enframing as planetary techno-noosphere. Human, technological and earthly agency in the anthropocene

In current debates about the Anthropocene one can most generally distinguish two different discourses that perceive it in a seemingly contradictory way. One the one hand there are thinkers that tend to emphasize the increasing power of humans to affect the Earth, on the other there is a group that emphasizes the growing instability and thus uncontrollability of the Earth System and recognize its increasingly apparent agency, thereby pointing towards the need for humanity to reckon with the planet and invent a more caring and responsive modus vivendi. This debate calls for a fundamental reconsideration of human agency vis-à-vis the agencies of the Earth System. It is clear though that human agency cannot be thought independently of the technical systems through which

humans interact with 'nature' and each other, in particular in the age of pervasive artificial intelligence, digital automation, the internet of things and big data.

In this talk I will explore the implications for philosophy of technology of this emerging anthropocenic horizon, in which the domains of geological, anthropic and technological agency are becoming increasingly entangled and co-dependent, thereby focusing in particular on the relation between the noetic and the energetic dimensions (in the broadest sense of these terms), in dialogue principally with Peter Haff's recent theorizations of the planetary technosphere but also by recourse to various theories of the noosphere. After showing that existing views on what I will call the techno-noosphere are all unsatisfying or at least in need of substantial revision (since they are either too naturalistic, idealistic or do neglect crucial aspects), I will develop a more profound understanding of the emerging techno-noosphere by addressing it from an adapted Heideggerian (onto-techno-historical) and Stieglerian (organo-pharmacological) perspective.

Jochem Zwier & Vincent Blok
Abstract: Earthlings at the limit of hybridisation

This paper offers an interpretation of the Anthropocene from the perspective of Gilbert Simondon. In the first part, we articulate the Anthropocene as a Simondonian "techno-geographic milieu" that now reaches a planetary dimension. We show how the Anthropocene thereby involves hybridisation, meaning that human existence and other earthly processes can no longer be disjointed: technological humanity no longer merely exists *on* Earth, but exists *as* an Earthly force that significantly perturbs the dynamics of the Earth-system. We maintain that this gives rise to the question whether we can and must consider a *limit* to such hybridisation.

In the second part of the paper, we explore two ways in which Simondon's philosophy of technology allows for a consideration of such a limit. On the one hand, we will focus on how Simondon understands the technical object as a hybrid that simultaneously conditions itself and the milieu in which it is embedded: a Guimbal turbine renders itself possible by authorizing its energetic cooling by way of its insertion in water. In light of the ecological threat of the Anthropocene, however, we will show that Simondon's self-conditioning of techno-geographical milieus is itself conditioned by an earthly ecology that now distinctly appears to run up against a limit.

On the other hand, we will focus on how Simondon's work involves an ambiguity with respect to the relation between technology and nature. While he views technological development as tending towards concretisation, i.e. towards a perfected hybridisation of technological humanity with the natural world, he concurrently positions human existence beyond the limit of techno-natural hybrids. Human existence then appears as the organising 'middle term' between the natural and technical world. By fleshing out this ambiguity, we develop the claim that Simondon's work provides a way to articulate a limit to the hybridisation of humanity, technology, and ecology that characterizes our current, Anthropocenic age.

Panel 15 - Technology and Religion
Wednesday, July 11, 15:00 - 16:30 (Room Inform)

[Chair: Ciano Aydin]
Participants: Levi Checketts (skype); Andreas Melson Gregersen; Jonne Hoek

Levi Checketts

Recent PhD in Christian ethics from the Graduate Theological Union in Berkeley, California, USA, and teaches at Holy Names University in Oakland, California, and the Jesuit School of Theology at Santa Clara University

Abstract: The Technology Called Religion

The postphenomenological model of human-technology relations articulates our mediation of reality as I-technology-world. This paper argues that religion, therefore, is likely a technology, as religion mediates the world qua divine. Thus, the formula for religion as technology is believer-religion-"The Divine," where "The Divine" *is* for all intents the world, and where it may be the Trinity, Yahweh, Brahman or Nothing. This does not mean that atheist's beliefs are wrong, or that somehow he or she has confused God with something else; rather, it recognizes that religion itself *is not* God, but is a means by which the believer *encounters* God. From this perspective, things like theology, ecclesiology, ethics, liturgies, revelation and the sacraments are all elements within a broader

technological system, all of which function, when operating in optimal conditions, to mediate the experience of the Divine to the adherent. The experience of mystics, therefore, is the exception which proves the rule; those who experience the Divine in a physical or corporeal manner without mediation are exceptions to the typical necessity for worship services, spiritual practices, catechesis and rites. At least two objections remain: first, that religion *qua* technology means religion is artificial and bears no marks of the Divine; second, that religion becomes arbitrary— a mere social construct. The first problem is solved by recognizing that technologies themselves can be sacred. The second problem requires us to reframe "social construct" to mean historically contextual.

Andreas Melson Gregersen
PhD candidate, Department of Religious Studies, Norwegian School of Theology in Oslo.

Abstract: Technological enactments of god(s)
This paper examines the working relationship between priests, technologies and god(s) as it unfolds in new protestant practices in Denmark. In recent years a host of alternative sermons have been presented in the Evangelical Lutheran Church of Denmark (Folkekirken). Common for the alternative sermons are a tendency to introduce and experiment with different technologies – and 'things' more broadly – in an effort to present god(s) in new ways. The experimental urge allows for a conceptualization of the alternative sermons as taking place in a 'liturgical laboratory'. Drawing primarily on Latour, Heidegger, and elements of new materialisms and object-oriented ontology, this paper enters the liturgical laboratory and discusses how the relationship between priests, technologies and god(s) may be interpreted.

Jonne Hoek
PhD candidate, philosophy department at the University of Twente

Abstract: Technocyphers of Transcendence
What is specific about the kind of symbols that characterizes our technologically advancing culture? Or asked differently: what kind of symbolism does our current culture of technological mediation require?
        In this paper, I explore this question through the notion of the cypher (*Chiffre*) such as Karl Jaspers introduces it in order to carry the existentialist thought of Søren Kierkegaard and Friedrich Nietzsche into the 20th century. Cyphers, so Jaspers argues, are a language of the symbolic resisting any final objectification, explication in rigid categories, or authoritative dogmatisms. Given that theories of technological mediation are principally critical of lingering metaphysical dualisms and essentialisms, its employ of symbols will likely reflect these characteristics. That is: like Jaspers' cyphers, the symbols technological mediation will likely resist being captured in fixed form – defy all reduction to either side of dichotomies such as 'matter or mind', the 'human or non-human', the 'natural or artificial'.
        However, Jaspers' notion of the cypher must also be updated in order to describe the current imaginary of our technological mediations with. I will therefore criticize Jaspers' grasp of the technological and argue for a posthuman type of symbol that Jaspers could not yet conceive: technocyphers.

Panel 16 - Disability Studies
Wednesday, July 11, 15:00 - 16:30 (Room Connect)

[Chair: Jan Bergen]
Participants: Evert van Beek; Richard Gibson; Vendela Grundell; Alexandra Kapeller

Evert van Beek
Researcher in Human-Computer Interaction - Meaningful Interactions Lab (mintlab) - KU Leuven

Abstract: Bagsight: A study in perception through objects with intention
Maurice Merleau-Ponty originally subjected the relationship between the blind man and his cane to phenomenological inquiry. Environmental perception in circumstances of visual impairment is a recurring theme in accounts on human technology relations and cyborg intentionality (Ihde, Verbeek). On the other hand, less attention

has been given to perception through agentive collaboration. Using the analogy of a guide dog we developed a backpack with a rudimentary form of agency to explore the role of object intention in the perception of the environment. The principles originally outlined by Valentino Braitenberg were applied in designing the behavior of a stimulus. This resulted in an electronically activated backpack dubbed 'Bagsight' that is 'scared of obstacles and attracted towards light'. Sixteen blindfolded participants employed the artefact in navigating through an environment. Their experiences expressed in statements and interviews were subjected to phenomenological analysis. Of particular interest was the understanding of the behavior of the backpack in relation with the wearers' perception of the physical environment. Recurring themes were the communication between the backpack and wearer, extending the self, and building confidence in perception. The presented research contributes to the articulation of a framework for the design of intentful products. In the context of human-technology relationships this research provides a design case and new insights on emerging relationships between humans and agentive objects.

Richard Gibson
PhD Candidate, Centre for Social Ethics and Policy, University of Manchester

Abstract: Can I Amputate My Own Leg? – The Ethics of Body Integrity Identity Disorder & Neuroprosthesis.
Sufferers of Bodily Integrity Identity Disorder (BIID) have been known to experience so much distress as a result of their condition that they attempt to amputate their own limbs. Their condition is one in which there is a severe non-delusional perceived mismatch between the individual's physical body and their internalised bodily image. For some, amputation is the only identifiable alleviation for their suffering. Those who have achieved a successful amputation often describe relief as a result of the procedure, and a considerable amount will use prosthesis afterwards.

This paper will explore how developments in neuroprosthetic technologies have affected the ethical debate surrounding the amputation of healthy limbs as a treatment option in BIID cases. This paper will engage with the argument that to carry out such amputations breaches the principle of *non-maleficence* as not only would a surgeon be removing a healthy limb, but they would also be imposing a lifetime of disability on an able-bodied person. By employing the Social Model of Disability, this paper will contend that not only does this position employ an overly simplistic understanding of the experience of disability; it also disregards the considerable role current prosthetic technologies play in enhancing the lives of individuals with impairments, and the potential afforded by developments in areas such as sensory feedback prosthesis.

This paper concludes that as the functional levels of prosthetics reach (and eventually exceed) that of their biological counterparts, the non-maleficence argument against elective amputations in cases of BIID loses most of its persuasive power.

Vendela Grundell
Postdoctoral researcher with a PhD in Art History at the Department of Culture and Aesthetics at Stockholm University.

Abstract: Seeing by Taking Pictures Without Seeing: Assistive Technologies in Photography by the Visually Impaired
This paper raises a pragmatic yet existential issue: how to take pictures when you cannot see. Photographic apparatuses are conceptualized as diverse but follow a standard of normality, governed by protocols that neutralize – normalize – any glitches before anybody notices (Ellcessor, Ellis & Goggin, Galloway). Before a particular body notices: the user manual prescribes a bodily investment that pertains to all but disables some. Calling attention to this reciprocal techno-human positioning, the paper pinpoints emancipatory and able-bodied aspects of assistive technologies – and the visually impaired photographer as a subversive user:

Who needs assisting with what, how and why: to implement protocols or embrace otherness?

With a unique perspective combining art history and disability media studies, this paper presents new research about a selection of visually impaired photographers. For example, Kurt Weston responded to his HIV/AIDS-related blindness by creating self-portraits using magnification glasses, a handheld telescope and a scanner. Weston's intimate aesthetic interaction with these devices repositions a body always interwoven with technologized

normativity, thereby questioning a digitally defined visuality that makes everybody's seeing – every body – impaired.

Assistive technologies counter certain vulnerabilities in order to imagine and mediate others. Visually impaired photographers point out the vulnerability of user agencies shared within a technologized life-world (Lagerkvist) – revealing both technologies and users as inherently broken (Sundén, Grundell). A tactical potential emerges, facilitating individual interventions into a pervasive socio-cultural system (de Certeau), as the viewer – the precariously sighted "us" – is invited to rethink everyday existence. As Weston puts it: "all of us are the other".

Alexandra Kapeller
Recently graduated cum laude from the master programme 'Philosophy of Science, Technology and Society' at the University of Twente.

Abstract: 'How enabling technologies mediate disability: analysis and consequences
In mediation theory, technologies are not understood as neutral tools, but as value-laden mediators of human-world relations (Verbeek, 2005). This role becomes especially significant when more technologies than usual are necessary for participating in society, as in case of disabled people. Technologies designed to alleviate the impact of a disability are called 'enabling technologies', which often have a profound impact on their users' lives. Depending on how these technologies enable disabled people, they can be organized into four categories: therapeutic, compensatory, assistive, and universal (Hansson, 2007).

With a postphenomenological analysis, it can be shown how these different categories mediate distinct views on disability. Being based on two different models of disability (Anderberg, 2005), these views become questionable considering insights from disability studies: Disability is increasingly understood as a social or cultural construct instead of a medical problem. In contrast, many enabling technologies are designed with a clear (medical) problem in mind which then is resolved with a 'technological fix'. Although developed with the intention to help disabled people, these technologies can reinforce contested models of disability and can support the stigmatization and discrimination against disabled people.

The detailed analysis of different categories of enabling technologies demonstrates that all categories, except universal technologies, evoke important moral problems. Finally, the application of the capability approach offers starting points on how designers can avoid the negative implications of enabling technologies.

Anderberg, P. (2005). Making Both Ends Meet. *Disability Studies Quarterly*, *25*(3). https://doi.org/10.18061/dsq.v25i3.585
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Verbeek, P.-P. (2005). *What things do: Philosophical reflections on technology, agency, and design*. University Park, Pa.: Pennsylvania State University Press.

Panel 17 - Technology through History
Wednesday, July 11, 15:00 - 16:30 (Room Invite)

[Chair: Stacey Irwin]
Participants: Maurits Ertsen; Natalia Nikiforova; Matthew Wraith

Maurits W. Ertsen
Associate professor within the Water Resources Management group of Delft University of Technology, the Netherlands.

Abstract: Emerging power in ancient Mesopotamia or: how we learned to refuse abstract power and love technology
Power is not a force out there that manifests itself somehow. Those able to control others do so by realizing their ability to control, not through some external force. Power relations are co-shaped by technologies and artefacts – including canals, roads, and gold – as these materialize conflict and consensus. As such, societal structures would

exist, but cannot be the explanatory forces they often are made into, as they need to be re-enacted continuously.

Discussing ancient Mesopotamia allows developing this argument further. Mesopotamia's early anthropogenic irrigated landscapes seem to have emerged from short-term activities, but long term effects were massive. Elites managed to emerge, resulting in the city states we are familiar with. Ancient Mesopotamia would have 'collapsed' because of salinization due to over-irrigation. However, as did the emergence of Mesopotamian society, its 'downfall' – and changing power relations – would have unfolded over centuries too.

Studying the meaning of matter in Mesopotamia's power structures allows understanding how negotiations between humans and non-humans co-shaped ancient practices. Furthermore, we can discuss how current scholars chose to study (ancient) practice, including how they conceptualize the material. Current reconstructions should offer the same 'possibility of holding society together as a durable whole' (Latour 1991, 103) as the constructions did for the ancient Mesopotamians themselves.

Latour, B. 1991. Technology is Society Made Durable, in A Sociology of Monsters Essays on Power, Technology and Domination, edited by J. Law, 103-132

Natalia Nikiforova

Postdoctoral Researcher of the Poletayev Institute for Theoretical and Historical Studies in the Humanities, National Research University Higher School of Economics, Moscow, Russia

Abstract: Soviet Minecraft: avant-garde children's books, toys and board games in 1920s-1930s as tools to create "New Soviet Person"

Post-revolutionary culture experimented with abstract art. Suprematist ambitions of creating novel visual grammar of pure colors and simple geometric forms, and constructivist intentions to transform art into engineering through exposing structure and texture of objects, were embraced by the children's goods industry of 1920-s-1930s. Not only the subjects and heroes changed to highlight new socialist values, but the very design and visual features were transformed to convey novel attitude towards culture, labor, technology and nature. New books and toys composed of red, white and black rectangular shapes and lines taught implicitly that the world is not monolithic, but can be created and modified by humans. An exciting invention were "DIY books", that could be transformed into figures, buildings, power plants and factories with cardboard and simple instruments, taught technical creativity with insufficient resources and prepared future citizens to be builders of the new country.

The paper analyzes avant-garde children's products as "engaging artifacts" and active mediators of new ethos. Through new visual and organoleptic interaction with things children acquired new perspective, and turned from consumers and owners of things into their creators and maintainers.

The title suggests metaphoric comparison with Minecraft videogame whose minimalist 8-bit aesthetics emphasizes the presence of often invisible software and digital technology as mediators of experience. In a similar vein Soviet avant-garde products rejected decoration and figurative techniques to teach manipulability of the world.

Matthew Wraith

Senior Liaison Tutor in Critical and Historical Studies for Design at the Royal College of Art, and lectures on Politics and Science Fiction at Imperial College London.

Abstract: Élan Locomotif – techno-animism in twentieth century culture, philosophy and design

'Élan locomotif' is a phrase used by the British biologist and popular science writer Julian Huxley to mock the vitalistic philosophy that was becoming popular in intellectual and artistic circles in his day. It made no more sense, he said, to ascribe, life and motion to the workings of an 'élan vital', as had the philosopher Henri Bergson, than it did to ascribe the motion of a steam engine to an 'élan locomotif'.

Despite the mocking intent, the phrase perfectly captures a way of thinking about machines that was becoming increasingly prevalent in the imaginings of many writers and artists. Mechanical engine power was seen not as the opposite of living, human vitality, but as the apex and highest manifestation of the life force.

Techno-animism, the treatment of machines as if they possessed human will and agency, has been a technique adopted by imaginative writers since the beginnings of the machine age, culminating perhaps in the modernist avant-garde. It is also a habit of mind that many, perhaps most users find themselves instinctively adopting in their routine encounters with technology. Machines elicit rage, pity, affection etc.

Even at our most sober and considered, the faith that we put in technology to redeem us from our social and political contradictions, suggests something like a cultish devotion: 'animism' in the fullest sense of the word.

This can easily be dismissed as superstition, born of innate but irrational cognitive biases. And of course it is just that. Yet this intuitive way of interacting with machines is something that technologists and designers forever seek to provide for and accommodate. Perhaps treating machines as if they had human agency is less something we must leave behind and more something we must work to achieve.

Panel 18 - Lost in Space: An Ethological Approach to the Digital Age
Wednesday, July 11, 15:00 - 16:30 (Room Erlenmeyer)

Organiser:
Nicola Russo
Professor of Theoretical Philosophy, Università degli Studi di Napoli Federico II

Other participants:
Lorenzo De Stefano
Ph.D. in Philosophical Sciences and collaborate with Theoretical Philosophy chair at the Università degli Studi di Napoli "Federico II".;

Luigi Laino
Ph.D. in Philosophical Sciences (2013, Università degli studi di Napoli Federico II).

Alessandro De Cesaris
Researcher at the University of Naples "Federico II"

Description:
It is hard to question that the so-called "digital turn" produced a great number of symbolic, spiritual, ethical and aesthetical transformations. Nevertheless, along with these changes there is a deeper, more basic mutation in the way the human being *as an animal* lives on Earth. Considering the profound interconnection between symbolic and natural dimensions, the way digital devices affect our life and our constitution can be analysed from an anthropological and even strictly *ethological* perspective.

The aim of this panel is to show how the introduction of digital technologies in our society has affected the relationship between man and space. The contribution will not focus on the so-called "social space" or on the way spatiality is understood in the cultural, scientific and artistic dimension, but rather on how the primary functions of man as an animal – metabolism, movement, habitation – are shaped by the new technological configuration of our society. Therefore, the papers will deal with four main topics: the question concerning the relationship between man and environment; the consequences of digital navigation systems for man's orientation and symbolic reading of space; the problem of erect posture and of locomotion in the age of social networks; the question concerning the spatial nature of cyberspace from the anthropological standpoint.

Abstracts:
Lorenzo De Stefano
The Domestication of Space. Habitation in the Digital Era.
Von Uexküll research has shown that every living being has a specific environment, a specific space and time perception, set on his own perceptive structure. Man, as opposed to other animals, has no specific habitat, but a specific perception of space: he "is devoid of world" (Heidegger 1983), forced to "domesticate the being" (Sloterdjik 2001) through technology and language. Technology rises from this hiatus between men and the world, as Gehlen *Entlastung* theory (Gehlen 1940) claims. Man forges a second artificial nature in his own image which is physical, social, political and informational, so we cannot think man separated from technology. Space and habitation are always both biologically and technologically mediated; as Idhe (2010) stated, technology is a driving force in human evolution, at the point that nowadays it has become the only historical instance (Anders 1980).

The proposal, on the basis of this hybrid phenomenological and anthropological perspective, enquires the domestication of space in the digital turn era in which the ICT have a predominant role in shaping human experience. The new forms of hyper-connectivity and the hyper-reality generated by the network are a non-reversible technological stage of human evolution which affects our perceptions of space, our inhabiting the world

and the structure of the *Ereignis* (concern) itself: we are nowadays citizens of two spaces, the biosphere and the infosphere (Floridi 2014).

The speech will be divided into three parts: an introduction on the man-space nexus; the familiarization of experience (Anders 1954) introduced by the ICT; a discussion about ethical implications of the digital turn.

Abstract Bibliography

Anders G., *Die Antiquiertheit des Menschen: Über die Zerstörung des Lebens im Zeitalter der dritten industriellen Revolution*, Beck Verlag, München, 1956.

Id., *Die Antiquiertheit des Menschen. Band II: Über die Zerstörung des Lebens im Zeitalter der dritten industriellen Revolution,* Beck, München, 1980.

Floridi L., *The Fourth Revolution: How the Infosphere is Reshaping Human Reality*, Oxford: Oxford University Press, 2014.

Gehlen A., *Der Mensch, seine Natur und seine Stellung in der Welt*. Junker und Dünnhaupt, Berlin, 1940.

Heidegger M., *Die Grundbegriffe der Metaphysik. Welt – Endlichkeit – Einsamkeit*, hrsg. von W.-F. von Herrmann, Klosterman, Frankfurt am Main, 1983.

Idhe D., *Heidegger's Technologies Postphenomenological Perspectives,* Fordham University Press, New York, 2010.

Sloterdik P., *Nicht gerettet. Versuche über Heidegger,* Suhrkamp, Frankfurt am Main, 2001.

Nicola Russo
Orientation and Disorientation in the Age of Digital Navigation Systems

A great deal of neurological studies about the empirical proofs of the impact of digital navigation devices on brain activity have appeared in recent years. Quantitative analyses operated through neuroimaging and electrophysiological methods (fMRI) show the pivotal role of hippocampus and of the pre-frontal cortex in the mnemonic, decisional and planning processes, as well as on the projective imagination of the future. All these processes are involved in the orientation practices (Javadi 2017), which are strongly inhibited when the normal exploration and familiarisation strategies of the brain are replaced with digital devices: the atrophy of hippocampus and the reduction of its mass of grey matter is quantitatively detectable. Some hypotheses about the higher chances of developing Alzheimer's have also been made (Konishi and Bohbot 2013).

It would be interesting, but much more complex, to evaluate the role of frontal areas in the symbolic production of landmarks and of "cognitive maps". In fact, the two main ways man locates and orients himself – the "spatial navigation" and the "stimulus and response" system – in a resilient regime trigger a positive reinforcement feedback, but are now inhibited and disarticulated when the spatial navigation disappears. When the active shaping of an "open space" stops, the automatic navigation and orientation behaviours stop in familiar spaces as well. The stimulus-response scheme keeps working, but in a different, stereotyped and somehow instinctual way, not anymore in relation to physical coordinates as in the animal orientation (magnetism, day/night alternation and so on), but rather only with immediate dependence on digital inputs (non-specific and non-environmental inputs). The aim of my paper is to argue that the loss of the symbolic character of landmarks, connected with the complete virtualisation of space, determines a sort of decisional deficiency and of disorientation.

Abstract Bibliography

Javadi A.-H. *et al*., "Hippocampal and prefrontal processing of network topology to simulate the future", in *Nature Communications 8***, 14652 doi: 10.1038/ncomms14652 (2017).

Konishi K. and Bohbot V.D., "Spatial navigational strategies correlate with gray matter in the hippocampus of healthy older adults tested in a virtual maze", in *Frontiers in Aging Neuroscience,* 5, 1, doi: 10.3389/fnagi.2013.00001 (2013).

Luigi Laino
Feet, Space and ICT: Human Race toward Anodontism and its Cities.

The proposal arises from a provocative Leroi-Gourhan's dystopia. In his pivotal book, *Gesture and Speech*, he redefined the meaning of technology as a biological characteristic of mankind, deriving from the anatomical structure of the human body. This has led him to claim that humanization began with feet, rather than with brain.

Given the centrality of locomotion, one should ask whether the progressive lack of the need for physical motility does not discard the usual representation of man and its space. What could happen to mankind, if the progressive liberations enabled by ICT brought to men solely endowed with giant brains and what might remain of their forelimbs? Leroi-Gourhan figures out an anodontic human race living in a prone position, which uniquely pushes buttons. This could be the case of a social media addicted mankind, reposting and liking contents on Facebook, without need for moving. The prevalence of a sheer sedentarization means to destroy the balance between itinerant and radial space, but modifies at the same time the concept of radial space, insofar as it does not encompass the cardinal points anymore. This entails countering the concentric integration between natural and humanized space, since virtual space is the opposite of putting chaos in order (Floridi 2014) and discourages the faith in an optimistic architectonic adaptation. The proposal finally aims to present an urbanization model which does not integrate anymore nature into human space, but rather artificial space in humanized space (virtual design).

Reference list of the abstract:
Floridi, L. (2014), *The Fourth Revolution. How the Infosphere is Reshaping Human Reality*, Oxford University Press, Oxford.
Leroi-Gourhan, A. (1993), *Gesture and Speech* [1964-1965], *I: Technics and Language; II: Memory and Rhythms*, tr. by A. Bostock Berger. Cambrigde (USA) & London: MIT Press.

Alessandro De Cesaris
What's so Spatial about Cyberspace? Digital Life and the End of Geography.
Our understanding of new digital technologies rests upon a large number of spatial metaphors. Among those, the most famous is certainly the idea of the World Wide Web as a *cyberspace*. Nevertheless, it is striking that William Gibson, who created the word and used it in his masterpiece *Neuromancer*, describes it as «a consensual hallucination», as «a graphic representation of a *nonspace*» (Gibson 1984). While Gibson expressly used the term as a fancy but meaningless metaphor, academic debate absorbed it without emphasizing this complex and somehow paradoxical relation between cyberspace and space.

The aim of this paper is to argue against a spatial understanding of digital life. What we do online is only possible thanks to a double elimination, almost a double sublation (*Aufhebung*) of space. On one side, in order to be online we have to suppress our perception of the surroundings, of the physical space where we find ourselves. On the other side, the World Wide Web is only made possible by an implosion of those features that are usually linked to physical space: distance, direction and dimension (Han 2017).

Against the attempts to defend spatial metaphors (for instance Cohen 2007), it is necessary to show that cyberspace can still be understood as spatial in a topological, but not in an ethological and anthropological sense. Even though there are attempts to develop a "geography of cyberspace" (Castells 2003), the Internet is not only the end of the so-called cartographic reason (Farinelli 2009), but also the end of geography as the foundation of human life.

Abstract Bibliography
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Cohen J.E., "Cyberspace as/and space", in *Georgetown Law Faculty Publications and Other Works*, 2007, pp. 210-256.
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Gibson W., *Neuromancer*, Ace Publishing, New York 1984.
Han B.C., *In the swarm*. Digital prospects, MIT Press, Boston 2017.

Panel 19 - Emotional Algorithms
Thursday, July 12, 10:45-12:15 (Room Ideate)

[Organisers: Nicola Liberati; Galit Wellner]

Speakers:
Galit Wellner
Senior lecturer at the NB School of Design Haifa, Israel; adjunct professor at Tel Aviv University.

Nicola Liberati
Postdoctoral researcher at the Department of Philosophy of the University of Twente

Stacey O. Irwin
Professor of Media and Communication at Millersville University of Pennsylvania, USA

Olya Kudina
PhD candidate in Philosophy of Technology in the University of Twente, the Netherlands.

Description
Smart algorithms accompany us wherever we go, whether visibly as in navigation apps, or invisibly in smart city's traffic control systems. By dealing with very complex situations, these algorithms are frequently considered smarter than humans. But some algorithms are designed not to be smarter on the intellectual level but rather to operate on emotional level. They are designed to be affective.
In the proposed panel we will analyze the effects of emotional algorithms through the lenses of postphenomenology and other theories. Galit Wellner will provide an overview on empathic algorithms and the background for their rise. Nicola Liberati will go into algorithms that detect emotions. Stacey O. Irwin will analyze speech patterns through emotional algorithms. And Olya Kudina will discuss digital assistants like Alexa and will examine their morality.

Abstracts:
Galit Wellner
Empathic Algorithms
In the last few decades happiness has become a lighthouse for decision makers and an everyday goal for many people. While happiness is a complex notion, most scholars would agree that empathy is a key condition for happiness (e.g. (Deci & Ryan, 2000)). In parallel, machine learning has developed in directions that were considered purely human –natural language processing, decisions on loans and risk assessment, or improvising jazz, to name a few. A third and inter-related trend is the rise of social robotics that promotes close interactions between humans and machines while rejecting the hierarchical presuppositions of Assimov's Laws of Robotics. Robots are not necessarily mute servants performing physical actions; they can serve as companions through mental interaction with their users. The film "Her" presented a glimpse into such possible reality where a lonely person falls in love with an "operating system" (which we now would term as an app). The ability of the technology to express empathy is a basic ingredient in this emerging field. These technologies are designed to "produce" happiness through technological empathy. In 1995 Rosalind Picard published her breakthrough book *Affective Computing* in which she suggested how an algorithm can express empathy and the tension between inner feelings and their external manifestations. In this paper I will examine the applicability of Picard's guidelines for social robotics and chatbots through the postphenomenological scheme of I-technology-world.

Nicola Liberati
Empathically shaping ourselves
We are living in a world which is becoming more digitally embedded day by day on many different levels. One of the last introduction is the design of algorithms which are able to detect and read our emotions and to shape the user interaction with the technology or with the environment accordingly. For example, the system can modify the lights of a room according to the mood of the person, or it can display what a person feels to everybody around.

This new way of reading the user's feelings can be used to shape and accompany the emotions of the user directly. Therefore, it is pretty clear, the design of these technologies has direct effects on us on the way we live and on how we live with our emotions.

However, this direct effect is evident, but there are many others which run deep in our constitution even if they are not so visible. Thanks to phenomenology and postphenomenology, it will be possible to show how our emotions are technologically embedded, and we will show how the introduction of a technology which is able to read peoples' emotions shapes what we mean with emotions and how we think of what are those feelings for us.

Stacey O. Irwin
Affective Algorithms: Vocal Emotion in Digital Form

In the early days of artificial intelligence study, researchers and engineers worked to replicate behaviors and aesthetics that translated the look and feel and voice of humans. One current area of analysis focuses on detecting emotion through digitally collected vocal communications. Translating complex aural voice markers is a difficult task. The design of speech and voice patterns, combined with different resonances and languages and cultural experiences, creates many possible emotion markers. Extracting meaningful patterns from collected data is difficult when speech itself can be a form of communication with many quality aspects. In addition, atmospheric background noise can often inhibit the clarity of recorded communication messages, which partially conceal emotional elements. Research does not focus on the voiced message itself, but identifying the emotion with which the message was communicated. This is a nuanced analysis. The aim of the research is to create an accurate algorithm to identify emotion. Many industries, from emergency care to customer service to social robotics are seeking affordable and accurate ways to recognize, interpret, and process emotional identification through algorithms, for commercial and altruistic aims. In this paper I share a case study that illustrate postphenomenological variations and trajectories for collecting emotional algorithms based on vocal sounds. Don Ihde's work (1986, 1993, 2006, 2009) figures prominently in the analysis.

Olya Kudina
Alexa, define "empathy": Postphenomenological analysis of the morality of digital voice assistants

This paper will analyze the normative dimension of the digital assistants from the angle of postphenomenology, whereby technology plays a mediating role in the human-world relations (Rosenberger and Verbeek, 2015). Digital assistants, such as Amazon Echo's Alexa or Google's Home, increasingly form an integral part of everyday life for many people. Powered by Artificial Intelligence and based on voice interaction, digital assistants promise constant accompaniment by answering any questions we might have, managing our digital content and queries, and even the physical space of our homes. However, their introduction sparked some controversy, ranging from privacy issues to the questions of losing human control and autonomy. Personification of digital assistants—addressing them with voice and by name—invites the transposition of human-human communication patterns while interacting with them. However, a direct interaction with digital assistants to understand the world and decide how to act in it inevitably mediates the way we perceive ourselves and people around, and form consequent expectations. The paper focuses on the normative dimension of such a human-technology co-shaping relation, investigating how it enables re-interpretation of the existing and emergence of new norms and moral intuitions.

Thursday, July 12, 10:45-12:15 (Room Classroom of the Future)

[Chair: Yoni van den Eede]
Participants: Natalia Juchniewicz; Søren Riis; Hongxiu Yan

Natalia Juchniewicz

Assistant Professor, Institute of Philosophy, University of Warsaw; Head of Communication Philosophy Lab, Institute of Philosophy, University of Warsaw

Abstract: „Frame" in the human-technology studies: from social interactionism to theory of mediation
The aim of my speech is the critical analysis of the concept of a frame which is significant for human-technology studies, but still, its meaning is not very clear. The concept assumes that there is a material context of human action which expresses values or norms (Blumer 1971). However, the frame means something different in the concrete application in various theories of human-technology relations.

In social interactionism, framing means that human action has surroundings (Goffman 1971; 1974) which is equipped with artifacts „ready to hand" (Heidegger 1962). However in this theory more important are the meanings delegated to the artifacts than artifacts per se.

In the STS tradition, there is introduced technological frame as common values imparted to the artifacts and technologies through social negotiations (Bijker 2001). In this analysis, the frame is partially constructed by people who decide about values and norms attributed to different technologies (Winner 1986). According to this theory, the frame is the effect of negotiations and it is not clear who really decides about values (Klein, Kleinman 2002).

Mediation theory emphasizes the active role of artifacts as the ground of values. Artifacts in this theory are not only the background but the real source of the human ability to understand the world through material hermeneutics (Ihde 2009; Verbeek 2011). Nevertheless, it means that artifacts need to be interpreted and understood, which is the process of framing again.

Søren Riis

Associate Professor, Roskilde University, Denmark

Abstract: Revolutions in the Wake of the Internet of Things: The Good, the Better and the Ugly
There are many visions for the future development of an Internet of Things (IoT). This presentation will focus on some of the foundational concerns of such a network and unfold three of its possible consequences. The underlying thesis is that IoT is based on the conceptional framework of cybernetics and may be performed in a good, a better and an extremely dangerous manner.

The presentation draws on postphenomenology, Andrew Pickering's research on cybernetics, Heidegger's thinking concerning modern technology and some of the many recent reports addressing IoT and its implementation in the context of so-called smart-cities and smart houses.

Hongxiu Yan[1] & Qingfeng Yang[2]

[1] Associate Professor of Philosophy, School of History and Philosophy of Science, Shanghai Jiao Tong University, China
[2] Professor of philosophy of technology at Shanghai University (China), member of 4S/EASST and the secretary-general of Shanghai Nature of Dialectics Association in China.

Abstract: The Solution of Ihde's Enigma In View of Data Mining
There is an enigma in the Ihde's theory of the human- technology and world relations, which emerges between the transparency and the opacity. The enigma appears within the embodiment and hermeneutic relations ,but it disappears within the alterity and background relations. Meanwhile, the data mining technology deals with the transparency and the opacity which exists between the data and the world, and mediates the relations between human, technology and the world. As for the analysis of the mediation of data mining, it includes two aspects, one

is based on the history of data mining, that is , the mediation which exists among the data mining technology, such as , the mediation between the privacy-preserving technology and data mining technology; the other is the mediation which is caused by the technology .Thus, the new technology may respond to the engima's absence in the relations of alterity and background, and open a new way to the development of phenomenology. Focusing on data mining within the frame of Ihde's fourfold relations ,this paper will explore the mediations between the data mining ,human and the world, analyze the mediating which privacy-preserving technology mediates the data, human and the world, launch the new elaboration on Ihde's engima and fourfold relations, and provide a solution of it. The solution lies in the way how we understand the role the privacy-preserving technology. If we consider the privacy-preserving technology as the engima, the engima will reappear and will not disappear in the Ihde's alterity and background relations.

Panel 21 - Philosophy & Design: Methodological Interactions I
Thursday, July 12, 10:45-12:15 (Room Inform)

[Chair: Jan Bergen]
Participants: Jelle van Dijk; Sam Edens; Sabrina Hauser; Lenneke Kuijer

Jelle van Dijk
Assistant Professor in the Human Centred Design group at the University of Twente.

Abstract: Building theory through building things
As tradition has it, theory is postulated by theorists, tested by scientists and applied in practice. Applying theory is far from straightforward, involving refinement and further tweaking of concepts in order to 'get the theory to actually work'. Even in this so-called 'applied research', however, the relation between theory and practice remains a one way street: from theory to practice. I investigate the reverse: using design practice as a method to develop (fundamental) theory. Reflecting on a design process, its outcome and the way prototypes are appropriated in human practices provides an 'embodied' method to get a grip on a phenomenon of interest, without breaking away from real-world complexities. To investigate theory through design, instead of merely applying theory to design, is a research project that still needs to mature. It is debated what counts as a valid method and moreover many design-researchers claim that design-based insights cannot transcend the applied context from which they emerged. I explore the extent to which embodied sense-making as grounded in design action can in fact transcend this context and contribute to fundamental theoretical and philosophical debate. The claim is that a generative form of philosophy with your hands is possible and provides means of inquiry complementary to traditional philosophical inquiry and empirical experimentation.

Sam Edens
Senior lecturer and coordinator of the specialization Interaction Engineering at the University of Applied Sciences.

Abstract: What Interactive Things Do: Rethinking Verbeek's Material Aesthetics in the Context of Interaction Design
Almost two decades ago, Peter-Paul Verbeek's book What Things Do (2005, originally published in 2000), outlined a postphenomenological philosophy of technological mediation and drew attention to the mediating role of technological artifacts in our daily life. The book's final chapter proposed a practical application of Verbeek's philosophy in the context of industrial design by introducing 'material aesthetics': a design approach or conceptual framework that draws attention to the mediating qualities of designed objects and the manners in which designed objects shape human-world relations by their materiality.

Although material aesthetics is framed within (industrial) design theory, it seems to be applicable to interaction design as well. Not only have interactive technologies become ubiquitous in contemporary society, but also has research interest within third wave human- computer interaction (HCI) increasingly focused upon human-technology relations; the role (interactive) technologies play in our daily life; and how we relate to these technologies through their materiality (Dunne 2000; Fällman 2003, 2011; Wiberg 2018). These interests display parallels with material aesthetics, therein making it interesting to expand the applicability of material aesthetics from industrial

design towards interaction design. However, the current manner in which Verbeek embeds the mediating role of material artifacts in design theory problematizes the reproducibility of the concept in another (theoretical) context, as the mediating qualities of an object are seen as 'a byproduct of its [the object] functionality' (2005, p.208, emphasis in original) in a rather rigid separation between function and sign. In this paper, I rethink the conceptual leaps made by Verbeek to embed material aesthetics in design theory. By critically assessing the terminology used by Verbeek against the context of interactive artifacts, I develop an alternative framing of material aesthetics in interaction design theory in order to address what interactive things do in our lives and the manners in which their materiality shapes human-world relations.

Sabrina Hauser

PhD Candidate/Research Assistant, School of Interactive Arts & Technology, Simon Fraser University (Canada), and Instructor in Interaction Design, Emily Carr University of Art and Design (Canada).

Abstract: Doing Postphenomenology through Things: Interdisciplinary Overlap Between Design Research and Philosophy of Technology
Within the field of Human-Computer Interaction (HCI) a growing number of design researchers conduct empirical studies of designed research products—newly crafted computational artefacts as research inquiries [11]. Specifically, in this type of design research practice, the lived-with experiences with research products are studied often through domestic participant deployments. In these cases, researchers directly inquire into the role the technological artefacts play and into the relations that come about between participants (humans) and those technologies in the environments (world) they are deployed in.
This kind of design research work can clearly be seen as related to postphenomenological concerns and inquiries and can be conceptualized as a way of doing postphenomenology [5]. In my talk, I trace postphenomenological commitments across a range of research product inquiries conducted by different researchers and research studios. Specifically, I give insight into the research products along the commitments: 1) empirical work in the inquiry, 2) structures of human-technology-world relations, and 3) the ways in which technologies mediate.
I conclude with a discussion on how both design researchers and postphenomenologists can benefit from this conceptualization of generative design research as an experimental way of doing postphenomenology. On the one hand, philosophical concepts and framings can be better leveraged in design research within the methodological path of moving beyond use or human-centeredness, in order to form a deeper and more dimensional understanding of our "interactions" with technology. On the other hand, research products offer a novel way for postphenomenologists to engage with human-technology relations through generative means.

Additional Information about artefacts discussed
The research products I describe in my talk will consist of a selection of the following: table-non-table [6,11,14–16], tilting bowl [18], Morse things [17], Indoor Weather Stations [4], Photobox [9–11], Green dress [7,8], Obscura 1C Digital Camera [12,13], and Data Catcher [1–3]. The projects are crafted and studied by different researchers and different research studios including three by the Everyday Design Studio, where I am a doctoral student and research assistant.
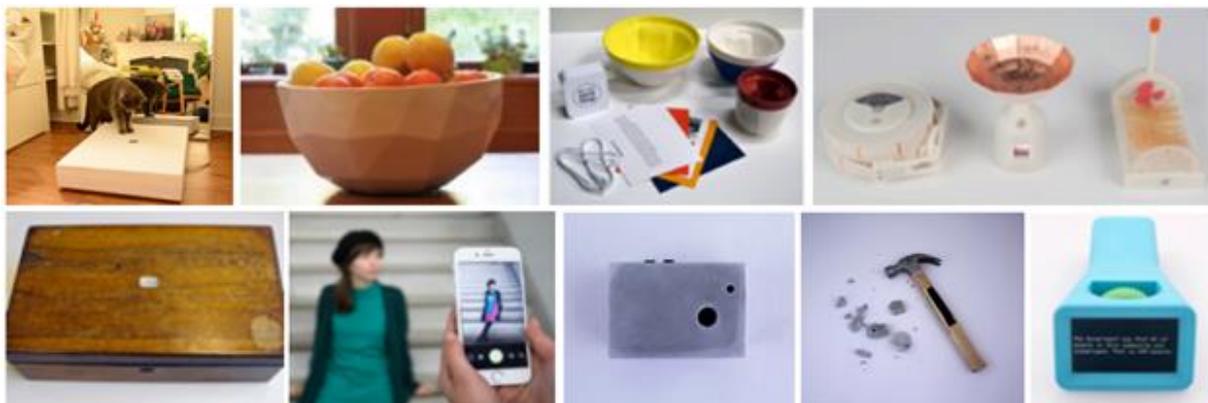
Figure 1. Selected Research Product Inquiries. Top (left to right)**: T1.** Table-non-table; **T2.** Tilting bowl; **T3.** Morse Things; **T4.** Indoor Weather Stations. **Bottom: B1.** Photobox **B2.** Green Dress **B3&4.** Obscura 1C Camera; **B5.** Data Catcher.

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Bowl. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '18). In Press.

Lenneke Kuijer
Future Everyday group, Department of Industrial Design, Eindhoven University of Technology

Abstract: Automated artefacts as co-performers of social practices: washing machines, laundering and design
This paper is based on a book chapter accepted for an edited collection on Social Practices & Dynamic Non-humans edited by Cecily Maller and Yolande Strengers.
The paper explores, as a thought experiment, the implications of considering automated artefacts as co-performers of practices alongside people. It uses the washing machine as a widely studied, prolific example of automation in everyday life. The paper begins by arguing that with some stretching, it is possible to consider artefacts as co-performers of practices within existing theoretic frameworks of contemporary practice theories. It then illustrates how the concept of co-performance offers a new perspective on the role of automation – including the role of technology designers – in how practices of laundering are configured and have changed over time. The paper closes by stipulating some avenues for further research to develop the concept of co-performance and its application in practices of technology analysis and design.

Panel 22 - Digital Life I
Thursday, July 12, 10:45-12:15 (Room Connect)

[Chair: Julia Grillmayer]
Participants: Yanping Gao; Lev Lafayette; Lavinia Marin; Elizabeth Nelson

Yanping Gao
Master student, Theory of Literature and Art, East China Normal University, Shanghai, China

Abstract; The Escape from Technical Intimacy: An Analysis of the Function of WeChat "Moments"
At present, the social software WeChat users have reached 1 billion which becomes the most popular communication tools in China, and the age of WeChat's users not only includes preschool children, but also the elderly. This paper focuses on one of functions of WeChat- "moments"(circle of friends) and examines the intimate experience that WeChat "moments" brings to the users. On the one hand, through the "moments" of WeChat, users can easily share their life moments, experiences, views with people in the Wechat, finally the relationship between people has been consolidated and strengthened as never before. On the other hand, WeChat social platform is closed and have seldom information sharing with other Internet channels, obviously the information is not enough to circulate. Some users are forced to join or abandon the use of WeChat and become onlookers in the circulation of information. They hold the platform accounts but do not participate in the interaction of "moments" to complete the observation and have access to information. In fact, this action resists the social software's ambition to enhance the intimacy between the users and network, which reveals the technical difficulties in intervening interpersonal relationships: as the users experience and utilize technology to provide convenience, they are constantly alert to the technology. Interestingly, WeChat also introduces many auxiliary functions which deepen people's suspicion of social networking in virtual network platform.

Lev Lafayette[1] & Daniel Tosello[2]
[1] Senior HPC and Training Officer, Department of Infrastructure, University of Melbourne;
[2] HPC Support Engineer, Department of Infrastructure, University of Melbourne

Abstract: Transparency and Immersion in User Experiences for High Performance Computing
The development of the graphic user-interface is widely considered a major phenomenological contribution to the Human-Computer Interaction (HCI) by providing an intuitive framework for data storage and processing, encapsulated in the term "user friendly". Whilst for a very large number of everyday computational tasks this Windows-Icons-Mouse-Pointer (WIMP) interface has been highly successful, the field of high performance

computing (HPC) continues to use the command line interface.

The reasons for this illustrate an epistemological divide in the type of computation problems with an ontological foundation. In high performance computing, a deeper level of understanding of the complex processes is unavoidably requisite, where simplified and automated ignorance is inadequate for performance benefits that such architectures provide.

Further, high performance computing is increasingly important in research as datasets for processing are growing faster than improvements in hardware or efficiency in software, and as a result, there is a correlation between research output with access and training to HPC systems.

Despite the necessity of command-line knowledge for HPC systems that does not mean that more transparent and immersive user experiences are not possible in this environment as continuing improvements to the shell environment illustrate and notably by free software and peer adoption. Shell environments such as fish (Friendly Interactive SHell) provide syntax highlighting, autosuggestions, and tab completions, with reduced configuration, all with the user experience in mind. Finally further developments are illustrated for shell environments that have a stronger correlation to human languages with multilingual libraries.

Lavinia Marin
Doctoral researcher in the philosophy of higher education and educational theory at the university of KU Leuven, Belgium

Abstract: A (digital) picture to hold us captive? On the visual presentation of misinformation in online environments
This paper is an investigation into the visual condition of our digital existence, particularly into how misinformation is shaped through the use of images. In online environments, we are constantly surrounded by images to such an extent that we do not even notice their presence anymore. We have the impression we can 'filter out' images from the actual content of the news, but this impression is part of the way in which digital images function inconspicuously to structure desire. Starting from Vilém Flusser's distinction between conceptual consciousness and imagination, it will be argued that digital images function by the supressing of conceptual consciousness, and by stimulating imagination, thus eliminating the critical impulse to evaluate information. This paper will argue that digital images function by mimicking a structure of desire, thus not as passive carriers of information, nor as representations of the world, but through a performative function. Digital images show their viewers how to live and try to impose tacit standards of what counts as truth or not, thus playing a fundamental role in the dissemination of misinformation online. Making the distinction between genuine information and misinformation is not merely an epistemic task, requiring only reasoning skills, but also an issue of developing new practices of care of the self with digital media, practices which we still need to develop.

Elizabeth C. Nelson[1] & Elizabeth C. Nelson, Miriam Vollenbroek-Hutten, Tibert Verhagen, Matthijs L. Noordzij
[1] PhD candidate, Biosensors & and Signals, Department of Biomedical Engineering, University of Twente.

Abstract: Embodiment of Wearable Technology: A Qualitative Longitudinal Study
Past research has shown that individuals can embody limb prostheses, accepting a prosthetic device as part of their body (i.e.: embodied prosthesis). In the present study, we explore whether wearable technology can be accepted as part of the body and mind as a cognitive prosthesis (i.e.: informing the individual about their behavior or biological performance). We adapt the limb prosthesis work of Murray (2004), conducting semi-structured interviews over a span of several months to assess whether individuals embody wearable technology similarly to prosthetic devices. Twelve individuals wore fitness trackers for nine months, during which time interviews were conducted in three phases: at the beginning, middle, and end of the study. Overall the individuals experienced technology embodiment similarly to limb embodiment in terms of: adjustment, wearability, awareness, and body extension. Interestingly, many individuals questioned the validity of their beliefs when feedback from the device contradicted their perceptions (i.e.: believing they slept well but the device reporting otherwise). Self-discrepancy theory was used in this study to help explain the internal conflict between the technical representation of self and the individual's belief. We describe this state as embodied selfdiscrepancy.

Panel 23 - **Book Panel** Dominic Smith - Exceptional Technologies: A Continental Philosophy of Technology

Thursday, July 12, 10:45-12:15 (Room Invite)

Presenter: Dominic Smith

Reviewers: Ciano Aydin; Jonne Hoek; Bob Scharff

About the author:
Dominic Smith is lecturer in Philosophy at the University of Dundee, Scotland. His research interests lie in phenomenology and contemporary European philosophy (Husserl, Heidegger, Wittgenstein, Deleuze), philosophy of art and literature, and philosophy of technology. He has published in each of these areas, in journals including Angelaki, Deleuze Studies, Philosophy and Technology and Techné. In July 2018, his first monograph on philosophy of technology will be published by Bloomsbury: Exceptional Technologies: A Continental Philosophy of Technology (https://www.bloomsbury.com/uk/exceptional-
technologies-9781350015623/)

www.dundee.ac.uk/philosophy/staff/dominicsmith/

Abstract: Spirit and Letter: Engaging Walter Benjamin's Philosophy of Material Culture
In 1932, Walter Benjamin opened a radio address to German children with the claim 'today we know what technology is'. His title: 'The Railway Disaster at the Firth of Tay'.

This paper focuses on 'Railway Disaster's' transcript to draw out an approach to teaching philosophy from Benjamin's work: through marginal instances of material culture, Benjamin sought democratic focal points for philosophical understanding.

Part one contextualises 'Railway Disaster' in terms of the argument of a book I will publish this year: *Exceptional Technologies.* Today, 'Railway Disaster's' opening claim requires modification: what is pervasive across diverse contemporary cultures is a *pretence* to knowledge about technology masking how specialised and complex interactions with technologies have become. For this reason, however, Benjamin's approach in 'Railway Disaster' has become more important: his focus is a failed and ghostly bridge; instead of confirming pretensions concerning 'what technology is', it deflates them in strange ways, in favour of shared philosophical understanding.

Part two describes how Benjamin's address has inspired a 'Localising Philosophy' project I am developing in Dundee, the Firth of Tay's main city. This involves an educational pack for local schools, public engagement work, and a short film. This paper's aim is to share and test details of this project, as a way into thinking about how a focus on material culture and 'exceptional technologies' might have wider relevance for teaching philosophy today.

Description of the book:
This book forwards a concept of 'exceptional technologies' for work in philosophy of technology and related fields. By 'exceptional technologies', I mean artefacts and practices that appear as marginal or paradoxical according to a received sense of what constitutes a 'technology' in a given context, but that can act as important focal points for drawing out and challenging conditions implicated in the received sense. Examples of such exceptional technologies include ostensibly trivial, merely imagined, failed and impossible technologies, and the range of conditions they draw out can, for instance, be political, aesthetic, economic, logical, epistemological and ontological. To develop this concept, the book forwards a renewed approach to the theme of the transcendental, as evident in the continental philosophical tradition since Kant. Against a tendency to reify the transcendental into an otherworldly realm, I argue for a minimal but dynamic sense, involving an approach to argument or method that is focused on conditions. The book works through the implications of this for the situation of philosophy of technology today, through a series of critical contrasts with positions to have emerged since an 'empirical turn' in this field in the late 1990s. Case studies of exceptional technologies are offered throughout: from a blank sheet of paper, to the internet, to case studies of a merely imagined technology (Vannevar Bush's 'memex'), a failed technological practice (Francis Galton's 'composite photography'), a technology with a self-consciously impossible aim (Arthur Ganson's 'Machine with Concrete') and a new take on Foucault's famous reading of the 'Panopticon'.

Panel 24 - Anthropocene

Thursday, July 12, 10:45-12:15 (Room Erlenmeyer)

[Chair: Jochem Zwier]
Participants: Alessio Gerola; Aldo de Moor; Korsten & De Jong

Alessio Gerola

Master student, Philosophy of Science, Technology and Society, University of Twente

Abstract: The normativity of the technosphere: An examination of the technosphere through the concept of waste

Contemporary technology is spreading human influence all over the planet. This fact is pushing the investigation of technology to focus on its planetary dimensions (Lemmens, Blok, and Zwier 2017). The concept of technosphere proposed by geologist Peter Haff could offer a helpful analytical tool for a terrestrially-inclined philosophy of technology, stressing the autonomous dynamics through which technology co-opts human beings. Its potential and limits, however, remain open for debate. The aim of my thesis is to investigate the concept of technosphere through a critical examination of how it frames waste.

The technosphere represents a way of thinking the planetary dimension of technology through the lens of Earth system science. It is composed by the worldwide networks of large-scale technologies that allow mass extraction of energy from the environment and enable rapid global transportation and communication. As a metabolic system, the technosphere tries to ensure the functionality of its parts, including human ones, by providing a suitable environment for their existence. However this condition is threatened by the accumulation of unrecycled waste. Consequently, this work will problematize how waste is framed from the perspective of the technosphere, by relying on the philosophical literature on waste and discard studies, post-colonial and posthuman studies. The lingering anthropocentrism present in the technosphere's framework will thus be revealed and critiqued. In this way I hope to refine our understanding of a concept that is likely to attract more interest in the current debate on the anthropocene, and the planetary dimension of human-technology relations.

Referenced papers:

Lemmens, Pieter, Vincent Blok, and Jochem Zwier. 2017. "Toward a Terrestrial Turn in Philosophy of Technology." Techné: Research in Philosophy and Technology 21 (2–3): 114–26. https://doi.org/10.5840/techne2017212/363.

Aldo de Moor

Owner of the CommunitySense research consultancy company

Abstract: Scaling up for societal impact: weaving community network maps

Community networks are complex socio-technical ecosystems, in which communities develop a shared identity around common interests, while being embedded in rich networks of relationships and interactions. Participatory community network mapping is a communal sensemaking activity that drives community network development. We define it as the participatory process of capturing, visualizing, and analyzing community network relationships and interactions and applying the resulting insights for community sensemaking, building, and evaluation purposes. However, there is a wide gap between mapping individual communities and making sense and building capacity at the societal level. Can participatory community network mapping be scaled to contribute to building inter-communal network capacity? Are there ways to aggregate community maps and make sense of them in terms of higher-order societal goals such as the Sustainable Development Goals or the global climate change agreement objectives? What mapping collaboration patterns and processes can we distinguish to help this smart scaling of individual community maps around larger societal themes? We present a tentative conceptual model to inform this scaling up of community network mapping. We illustrate the ideas by examples from several mapping cases from practice in the domains of social innovation and agricultural extension.

Korsten & De Jong

Artistic Research duo. They are both independent artists, researchers and employed as lecturers in the art and theory department of ArtEZ, University of the Arts and they participate in the Professorship 'Theory in Arts'.

Abstract: Text[ure]
I can't even eat any more without confusing myself with the very substance of the food.
— Mehdi Belhaj Kacem, 1993

What if we consider ourselves as one of Vilém Flusser's black boxes, and that meaning enters us on one side and exits out the other, while the operation itself - happening inside the 'black box' - remains obfuscated?[1] According to Guattari this would necessarily, lead us to re-examine the relation between the individual and subjectivity.[2] Heidegger has already argued that an "attitude" is a relation to objects in which the conduct [Verhalten] is absorbed.[3] Via Spengler Heidegger goes on to state that "which disturbs us is the same as that which is disturbed."[4] In his famous example of the Matterhorn, Ruskin explains the *wall-veil* as a relation between massing and texture through interdependence. Forces operate from the inside out (constitution); and from the outside in (erosion); to press the wall veil out of the mountain so to say. The mountain's texture (the wall-veil) is "not merely draped but also encrusted, covered with its own material, in a self-draping, a self-adornment."[5] In their Paper Performance 'Text[ure]' Korsten & De Jong will built a wall-veil out of a subject-object-complex with recorded, transcripted, manipulated and performed dialogues in which their positions shift continuously.

[1] Vilém Flusser, *Een Filosofie van de Fotografie* (Utrecht: Uitgeverij IJzer, 2007): 16.
[2] Felix Guattari, 'The Three Ecologies,' *New Formations* (8) (Summer 1989): 131.
[3] Martin Heidegger, 'The Phenomenology of Religious Life,' (IN: Indiana University Press, 2004): 32,33.
[4] Ibid., 33.
[5] Lars Spuybroek, *The Sympathy of Things; Ruskin and the Ecology of Design* (Rotterdam: V2_Publishing, 2011): 80.

Panel 25 - Posthuman(ism) I
Thursday, July 12, 13:15-14:45 (Room Ideate)

[Chair: Nicola Liberati]
Participants: Trijsje Franssen; Kojiro Honda; Richard Lewis; Alex Smit

Trijsje Franssen
Assistant Professor in Philosophy at the Vrije Universiteit Amsterdam

Paper Abstract: Human Enhancement, Narratives and a First-person Cyborg Experience
This presentation addresses the role of narratives in the current debate on 'human enhancement' – on 'improving' the healthy human being by means of technology. Those discussing enhancement often refer to well-known narratives and particularly science fiction in their arguments – from Plato's *Politeia* to Huxley's *Brave New World*. Opponent of enhancement Leon Kass, for instance, is repelled by "the *Frankensteinian* hubris to create life and increasingly control its destiny".

Usually such a reference is considered to be a mere illustration, but I aim to show that it is much more. First, I argue that a closer look at the debaters' references to such narratives can reveal some of their most fundamental ontological and moral ideas. Second, narratives can play an important role in the debate as such, that is, in finding answers to the questions concerning enhancement. This view is based on a theoretical analogy between a narrative and a scientific experiment. The premise is that the former can have the function of the latter. Narratives provide one with tools to explore current scientific trends as well as possible developments in future technology – conditions that cannot yet be studied scientifically. Finally, my aim is not just to explain this idea, but also to try and contribute to such experimentation. This is why in this presentation I will tell you the story of what I call my own cyborg experience. A truly happened tale involving deep brain electrodes and brain surgery, that may make the ways in which the boundary between human and machine is blurring much more concrete.

Kojiro Honda
Associate Professor, Medical Ethics, Kanazawa Medical University

Abstract: Potential of Body-conservatism

Rapid progress of technologies ---such as Gene-technology, Nanotechnology, and Robotic-technology, seems to transform our own human body. These technologies would enhance human body so completely that we can't predict how deeply they would change our quality of life, our life span, or our competence.

In such a situation, some supporters of transhumanism think that we should respect each other our own right of "Morphological Freedom" that is a right to upgrade or not to do our bodies. In this paper the author tries to rebut the argument making use of Merleau-Ponty's somatic theory. In his theory our body is a platform to share our world and establish our inter-subjectivity. We have homogeneous bodies and that is an essential way for us to share the world. If we transform our body individually, then we may step off the platform one by one.

Transhumanists will say that because we don't have the standard baseline about our body, so we can change our body freely using hi-technology. But we should pay attention to our "umwelt (surroundings)" that could be also transformative by doing human enhancement. If we change our natural body, then we may lose "imitative community" where we share our world and language, or we learn and communicate each other availing of our competence of bodily imitation. The author will be against transhumanism by reason of the above and call this stance "Body-conservatism.

Richard Lewis

PhD candidate in Interdisciplinary Studies: Philosophy & Communication
Studies, Vrije Universiteit Brussel

Abstract: Beyond Technology as Artifact: Making the Case for Technological Sense as a (Post)Human Trait

While philosophers of technology, especially within postphenomenology, have helped reduce the dualistic separation between the human subject and technological artifact (through the concepts of mediation and co-constitution), there still remains a reasonably clear feeling of separation between technological artifact and subject, especially on the ontic level as we daily interact with new and changing technologies (Van Den Eede). Technology often is reduced to its artifacts (or, in the Heideggerian sense, becomes an essentialized sweeping influence over society). However, where does the ability of humans to create and perceive technologies fit in? Making a turn away from Husserl's 'things themselves,' I look back across the partially bridged gap to the human subject in order to understand how technologies are created and perceived (while remaining situated within postphenomenology and critical posthumanism). I theorize that humans have a *technological sense*, which is creative and typically focused on solving a problem through the creation or use of a technological artifact. Without a technological sense, there would be no technological artifacts. The concept of a technological sense (similar in a way to our sense of time) affords a new way of approaching human perception, allowing us to reflexively place it into a broader perspectival landscape, helping us to focus on what is enabled and constrained through its use individually, culturally, and across time.

Alex Smit

Master student New Media & Digital Culture at the University of Utrecht; intern at the Utrecht Data School and Datafied Society Research Hub

Abstract: Reconceptualising Happiness with The Geluksmeter: how algorithms shape norms and values relating to happiness

Pervasive and disseminate algorithms increasingly reconceptualise and reshape power dynamics (Uricchio 2016), and in this case the human understanding of the concept of happiness (in Dutch: geluk). The Dutch Ministry of Internal Affairs introduced the Geluksmeter in 2016, in order to visualize statistical data from the CBS (Demographics from Statistics Bureau), related to the happiness and well-being of Dutch citizens. The Geluksmeter is an interactive interface which calculates a personalized score of happiness, based on certain variables. The focus of this research is set on how the Geluksmeter reconceptualises the notion of happiness, by quantifying and calculating a personalized happiness score, and depict what its mantra of objectivity beholds (Gillespie 2014). The Geluksmeter is analyzed within a framework of Critical Data Studies (see Iliadis and Russo 2016). The methodology consists of an experimental mixed-method approach, combining a discursive interface analysis (see Light et al. 2016) with an auto-ethnographic approach (see Seaver 2017), in order to analyze the interface and the underlying

algorithm, in combination with the data visualizations and official documentation related to the Geluksmeter. Four various personas are constructed to enact the interface and calculate a personalized happiness score, in order to scrutinize the calculation and visualization of these personalized scores. Potential results could entail how the ideological norms concerning happiness are reshaped due to the Geluksmeter. This study attempts to add to the ongoing Critical Data Studies debate which argues that a critical inquiry of algorithms, through the lens of the humanities is needed, by depicting how profound norms and values are reconceptualised by algorithmic processes (Kitchin and Lauriault 2014).

Panel 26 - Postphenomenology & Politics
Thursday, July 12, 13:15-14:45 (Room Classroom of the Future)

[Chair: Bas de Boer]
Participants: Yoni van den Eede; Esther Keymolen; Robert Rosenberger; Bob Scharff

Yoni Van Den Eede

Postdoctoral Fellow of the Research Foundation - Flanders (FWO), Centre for Ethics and Humanism (EtHu), Free University of Brussels (VUB)

Abstract: Postphenomenology and Purpose: Investigating the Pragmatism of Human-Technology Relations
In the wake of discussions on the empirical turn in philosophy of technology, the status of pragmatism in postphenomenology (and/or mediation theory) is emerging as something of a question. Against any notion of transcendentalism, postphenomenology posits a (neo)pragmatist nonfoundationalism and antiessentialism. It is concerned first and foremost with praxical knowledge and active engagement with and through technologies. That is also probably why the field is generally friendly to design, engineering and other domains of application. Especially in Verbeek's work, this becomes particularly tangible, when he contrasts mediation theory to critical theory, arguing that critical theorists only "talk"; they don't "do." While the latter reproach postphenomenology / mediation theory for its lack of politics, Verbeek actually poses that "real" politics cannot be "done" by critical theorists—indeed exactly because of their "not doing." But this brings up two issues. First, to which extent are the two main dictionary definitions of pragmatism mixed up here, and how should we map the tension between the two—that is, 1) the philosophical movement, and 2) 'a practical, matter-of-fact way of approaching or assessing situations or of solving problems' (thefreedictionary.com)? Does a pragmatist attitude (in the philosophical-theoretical sense) automatically lead to a pragmatist, or pragmatic, (literal) way-of-doing? And, second, if we choose to "do," what should we want to accomplish? Which goals should we aim at? Because if practical engagement becomes a "disciplinary ideal" of sorts, while the goals stay undiscussed, to which extent will the field then be steered by unspoken (yes, political) assumptions? And finally, when we find the goals and make them explicit, will we be able to legitimize them on the basis of and in terms of the field itself? In this contribution, I want to broach these issues by developing the systems-oriented notion of purpose in the context of postphenomenology.

Esther Keymolen

Assistant professor and director of education at eLaw, the Centre for Law and Digital Technologies at Leiden University

Abstract: Exploring and Expanding the Postphenomenological Approach.
Recently, postphenomenology has received criticism on its approach. Its focus on the situated first-person experience allegedly makes it blind to constellations of power and politics (Feenberg 2015), the ontological (Zwier et al. 2016), and the experience of the world as a whole (Michelfelder 2015). Postphenomenology might also be ill-suited to explore networked artefacts, as crucial aspects of these artefacts are hidden behind the interface, steering the experience of users beyond their awareness (Keymolen 2016).

This paper will argue that postphenomenology should address this critique not by leaving behind its empirically informed, phenomenological starting point, but by expanding it. Building on Ihde's notions of multistability and the intertwinement of the micro and micro perception, this paper contributes to the

postphenomenological toolbox by developing (the first contours of) an interview and text analysis approach acknowledging the "multiple 'voices' of things" (Ihde 2003).

The aim of this approach is to compare and contrast the experience of a 'user' of a specific artefact to the mediated experience of other actors engaging with that same artefact. A Facebook app will mediate the world in a different way for a user, a developer, a regulator, or the CEO of Facebook. Looking for overlapping and differing moments of both friction (e.g. the experience of a sudden shift from ready-to-hand to present-at-hand, glitches in the technology, moments of wonder) and togetherness (e.g. the experience of stability, control, emotional attachment), it becomes possible to complement the first-person perspective with an impression of the transcendental and political workings of artefacts (also see Winner 1980).

Robert Rosenberger
Associate professor of philosophy in the School of Public Policy at the Georgia Institute of Technology.

Abstract: On the "Logics" of Hostile Design: An Enumeration of the Forms of Discrimination Built Into Public Space
A conversation is emerging over the notion of "hostile architecture," the claim that objects in public spaces are built with an eye toward discouraging certain behaviors, and often toward discouraging the presence of particular groups. For example, think of ledges set with spikes to discourage sitting, or fire hydrants locked down to prevent unauthorized access. Several attempts have been made to categorize these phenomena, with perhaps the most influential being Steven Flusty's polemical work, *Building Paranoia*, which establishes "flavors" of hostile design such as "crusty," "slippery," and "stealth" (1994). In my own work, I have attempted to develop a postphenomenological account and critique of hostile design, offering a conception of such public-space devices as multistable mediating technologies that have been redesigned to close off particular stabilities, pulling in related ideas from social and critical theory (Rosenberger, 2014; 2017a; 2017b). Inspired by Flusty, I expand this postphenomenology account here to develop an original inventory of the various "logics" by which these designs operate, and thus help to zero in further on the nature of the "hostility" that can be ascribed to technology.

Flusty, S. (1994). *Building Paranoia: The Proliferation of Interdictory Space and the Erosion of Social Justice.* West Hollywood: Los Angeles Forum for Architecture and Urban Design, Forum Publication No. 11.

Rosenberger, R. 2014. "Multistability and the Agency of Mundane Artifacts: From Speed Bumps to Subway Benches." *Human Studies*. 37: 369-392.

Rosenberger, R. 2017a. *Callous Objects: Designs Against the Homeless*. Minneapolis: University of Minnesota Press.

Rosenberger, R. 2017b. "On the Hermeneutics of Everyday Things: Or, The Philosophy of Fire Hydrants." *AI & Society*. 32: 233-241.

Robert C. Scharff
Emeritus Professor in the Department of Philosophy, University of New Hampshire

Abstract: Husserl's neglect of telescopes, postphenomenologically understood
Heidegger would undoubtedly have approved of Ihde's argument in *Husserl's Missing Technologies* that Husserl's neglect of Galileo's telescope shows him to be forgetful of the lifeworld and leads him to produce an unphenomenological portrait of Galileo as both disembodied and ahistorical. Heidegger would have emphasized three aspects of Husserl's neglect. First, thinking about the lifeworld requires something very different than just a theorist's methodologically cautious acknowledgment that, Yes, the lifeworld is always there and we should start with it. Second, it is important to see that Husserl's picture of Galileo lacks *both* an embodied *and* a historical dimension, because different things are obscured in each case. Third, to keep the lifeworld in mind phenomenologically means to actually *become* phenomenological, that is, to abandon the position of a consciousness intending objects, and instead to embed one's own thinking in the lived-through process of existence

and speak *from* this situation about its disclosed phenomena. In other words, doing phenomenology phenomenologically is not an easy thing, but it is everything. Or so I imagine the young Heidegger saying to Ihde (as he more or less actually did to Husserl, though not specifically regarding telescopes)....

Yet if we take Husserl at his word, namely, that the fundamental aim of phenomenology is to establish a rigorous science and thus defend rational ideal of the Western tradition, we can well imagine him being unimpressed by all three of Heidegger's arguments. First, he would undoubtedly argue that the implicit denigration of "theory" in Heidegger and Ihde's own approach to the lifeworld origins of phenomenological thinking seems to attribute to genuine phenomenologists like him an excessively narrow and naturalistic conception of rationality. Second, empirical turns and historical contextualizations actually contaminate rather than enrich phenomenological analysis. Hence third, becoming phenomenological means precisely not staying "mired in historico-critical activity." Husserl might well conclude, then, that he has not left out anything *essential*, and Heidegger and Ihde have added much that is in fact extraneous. Like Heidegger and Ihde, I think Husserl is wrong on all three counts. Unlike Ihde, I think a move toward Dewey's pragmatic naturalism will make things worse, not better.

Panel 27 - Philosophy & Design: Methodological Interactions II
Thursday, July 12, 13:15-14:45 (Room Inform)

[Chair: Jelle van Dijk]
Participants: Jonne van Belle; Gijs de Boer; Wouter Eggink; Holly Robbins

Jonne van Belle[1] & Steven Dorrestijn[2] & Wouter Eggink[3]
[1] Master student Industrial Design Engineering at the University of Twente.
[2] Philosopher of technology and senior lecturer/researcher in ethics and technology at Saxion University of Applied Sciences, the Netherlands
[3] Design professional and assistant professor at the University of Twente

Abstract: Design for People & Society: Turning the Product Impact Tool into a Design Tool
Designers have a key role in the creation of the products and technologies that shape people and society. Awareness of the societal effect of their designs is, therefore, an important quality. The Product Impact Tool (PIT) is a tool that originated in philosophy of technology and elaborates how technologies can have a social impact. The tool has the potential to be of use to designers to design more socially acceptable products, but does not yet fit into the process of design. In this paper the PIT is further developed into a tool for designers. The question answered is how designers can make better use of the PIT to create designs for people and society. Through a literature study, interviews and ideation phase, the Product Impact Tool For Designers (PITFD) was developed. The PITFD was then tested with both professional- and student designers and improved further. It contains four booklets and a worksheet to be used in a brainstorm session and is developed to be more practical in use for designers, to leave room for creativity and to be flexible in different kinds of design processes. Using the Product Impact Tool For Designers, designers can create products that better fit the user and have a more acceptable impact on society

Gijs de Boer
Master student, philosophy of science, technology and society, University of Twente; Master in conceptual design, Design Academy Eindhoven

Abstract: Design for mediation fluency: An approach to help users deal with the influence of things
Design to influence user behaviour faces the risk of reducing user freedom. Some design approaches thus aim for soft influence, which the user can choose to resist. Yet this strategy can be counterproductive, by effectively hiding the influence of a thing, which undermines any user effort to go against it.

This paper aims at an alternative approach, building on postphenomenology. Philosophers Verbeek and Dorrestijn argue that a user is free not when she is uninfluenced, but influenced in the way she wants. For this, a user requires a certain awareness of how things mediate her life: a mediation fluency. Some thinkers propose to educate users about mediation through the public sphere, but can design itself not help users deal with its influence?

Design theory and cases reveal the potential of design for mediation fluency. Mediation fluency is affected by how something is designed; the mediating effects of strong and explicit influences are easier to learn than those of soft and hidden influences. However, things that influence users to the point of coercion defeat the aim for user freedom, since the user has no room to change how she is influenced. Case studies from design research provide insights on how to balance the aim for mediation fluency with the aims for appropriation and usability. This balancing, in turn, helps to redefine the role of the designer.

Wouter Eggink[1] & Steven Dorrestijn[2]
[1] Design professional and assistant professor at the University of Twente
[2] Philosopher of technology and senior lecturer/researcher in ethics and technology at Saxion University of Applied Sciences, the Netherlands

Abstract: Philosophy of Human Technology Relations in Design: The Practical Turn.
Philosophy of Technology has produced a substantive amount of theories and reflections about the impacts of technology and innovations on our daily lives and social behaviours. Combining this conceptual toolkit with design, with its capability of actually changing things, promises a powerful approach to developing critical future-making practices. This implies that philosophy of technology moves beyond thinking and discussing concepts and starts to engage more closely with practical probing. In philosophy of technology there has been an empirical turn, towards the study of concrete technologies in society. Our proposal is to further develop this, with a change from 'study and description' to 'interventions by design', into the actual redesign of technologies and correlated ways of doing. Therefore, in analogy with the empirical turn before, we present this collaboration with design as the 'Practical Turn in Philosophy of Technology'. In this paper we explore this in a design case study of the digital camera. From a mediation theory analysis and product impact analysis of the evolution of camera technology, it showed that the attention of the photographer shifted from the subject of the photo to the preview of the picture at the camera itself. The project then showed that the former ways of doing, and the values which appeared to be affected, could still be saved or retrieved by a thoughtful redesign. This then, is a case for the feasibility of the idea of "alternative technology" which philosophy could never make so tangible without the practical turn of collaboration with design.

Holly Robbins
PhD Candidate, Industrial Design, Delft University of Technology, The Netherlands.

Abstract: Using Design to Explore How to Unmask Black Boxes
With a post-phenomenological approach, we can point to the ways and patterns in which technologies may mediate our relations with the world. We can identify patterns in these mediating dynamics, make critiques, and discuss their implications. In this paper, I will address work from the philosophy of technology that considers the question of how the design of technological "black boxes" mediate and frame our relations with our social and ecological context (Borgmann 1984; Borgmann 1999; Fallman 2009; Verbeek 2002). In particular, how black boxes are characterized by design techniques to minimize our engagement with them, and to obscure the role that they play in shaping our reality. This can become especially nefarious with data-intensive and networked technologies. In this paper I build upon these critiques from philosophy of technology by exploring them through and with design. Critiques from this body of philosophy were translated into units of design and delivered to designers as a design brief. Through working on these briefs to create novel design artifacts, it became apparent that specific framings of interactions with and materialities of technological black boxes in a design process give rise to some of these problematic critiques. Further, through this design research process, we find alternative modes in which design can support the way we engage with and understand these black boxes in order to promote their ability to connect us with their social and ecological context.

Panel 28 - Urban Environments

Thursday, July 12, 13:15-14:45 (Room Connect)

[Chair: Michael Nagenborg]
Robert Alexander Gorny; Sanna Lehtinen; Taylor Stone

Robert Alexander Gorny

Architectural designer, guest teacher and PhD candidate at the Chair of Methods and Analysis, Faculty of Architecture and the Built Environment, TU Delft.

Abstract: On Architecture's Technicity as a Boundary-Drawing Practice

As strange as it may sound, as a discipline uniquely engaged in the purposeful rearrangement of material environments, architecture is astoundingly ignorant to its own transitive capacity on a basic level. Up to now there is not even a rough outline of an ethology of architecture, if by this we mean a general understanding of what it is that architecture actually does.

The paper approaches this ethological view by critically extending Foucault's heterotopological and Sloterdijk's spherological conception of cellular architectures through new- materialist approaches that understand socio-environmental phenomena as intensive formations of a material milieu (Braidotti, and Barad). The key to this new-materialist paradigm is arguably its attention to material-discursive practices in which objects do not pre-exist as such, but their boundaries are constantly (re)drawn by interactions. To arrive at this relational view of boundary-drawing practices the paper centrally critiques object-centered approaches to cellular formations. Simondon cautioned us to make topological schemata (i.e. part-to-part relations and not mereological part-to-whole relations) the basis for understanding ontogenesis through the primordial production of mediating levels of relative interiority and exteriority, and not through an atomist view on already produced cells and their architectonic structure.

Calling for a radically more productive understanding of the built environment, the paper concludes with some theoretical reconsideration, highlighting architecture's technicity as a specific filter of relations, and the way it works as a machine determining what is related to what (Bryant). (235)

Sanna Lehtinen

Postdoctoral Researcher, Aesthetics at the Faculty of Arts / Helsinki Institute of Sustainability Science HELSUS, University of Helsinki

Abstract: Everyday Aesthetics and Engagement with Technology (paper)

Technology shapes human knowledge of the world in the sense that our everyday experience is already necessarily interwoven with and by it. This paper sheds light to how relatively new fields of Environmental and Everyday Aesthetics, both in their traditional philosophical and more applied sense, could help in understanding human-technology relations from this experiential perspective. Human-technology relations as a topic has not been studied yet extensively within these fields but the focus on engagement and the experience of the familiar, for example, offer a solid starting point for understanding the use, experience and role of everyday technologies. Any attempt at developing a thorough aesthetics of technology would thus benefit from studying the sensory engagement with technology that is grounded in everyday repetition and habits. In addition, it is proposed here, that new technologies affect the sensory basis of our experience by building and embedding new experiential layers that affect and "make" our current lifeworld as it is. These interlaced experiential layers emphasize also that most technologies are, in fact, based on older technologies and this creates also occasional discrepancies and experiential inconsistencies within the sphere of the everyday. Change as such is surprisingly difficult to grasp, but the quality and nature of change is a key factor in understanding how everyday technologies are experienced and how they function as constituents of the everyday life as we know it.

Taylor Stone

PhD Candidate in Ethics of Technology at TU Delft and the 4TU.Centre for Ethics and Technology.

Abstract: Re-envisioning the nocturnal sublime: On the ethics and aesthetics of nighttime lighting

Grounded in the practical problem of light pollution, this paper analyzes the formative and enduring impact of

artificial lighting technologies on perceptions and evaluations of differing nightscapes. For this, insights are drawn from both philosophy of technology and environmental philosophy to explore the experiences and judgements of urban versus natural nights. It is argued that contrasting notions of the sublime shape our experiences – and resultant moral and aesthetic responses – to differing nightscapes. In cities, the *technological sublime* is manifested through artificial illumination, whereas in wild or rural areas dark skies embody the *astronomical sublime*. It is further argued that these competing experiences reinforce a geographical dualism between cities (as sites of illumination, and light pollution) and wilderness (where dark skies are desired and increasingly protected). This dualism creates conceptual and practical barriers to addressing light pollution, especially in urban centres, and further reinforces a dichotomy of central concern to environmental ethics. To challenge this spatial differentiation, recent work in environmental aesthetics, as well as urban-focused environmental ethics, is utilized to propose a re-envisioned (and morally engaged) urban nocturnal sublime. First steps are taken in articulating the aspirations and constraints of this re-imagined urban nocturnal experience, specifically what this means for the design of nighttime lighting. In doing so, this paper explores human-*environment*-technology relations at the scale of urban infrastructure, as well as the profound moralizing effects of lighting technologies.

Panel 29 - **Book Panel:** Rosi Braidotti - Posthuman Glossary
Thursday, July 12, 13:15-14:45 (Room Invite)

[Chair: Jonne Hoek]
Participants: Stavros Kousoulas; Andrej Radman; Rosi Braidotti

Stavros Kousoulas
TU Delft

Abstract: Membranic Disjunction: Beyond Digital Parts and Analog Wholes
The one becoming two. According to Deleuze and Guattari, this is the oldest and weariest mode of thought. Digitality, the analytical breaking of the world in chunks, is what Laruelle has aptly named as the oldest prejudice. It is a prejudice precisely because it demands a choice, a decision between separate elements which are forever split, albeit never being actually split. One needs to proceed with caution: digitality is never ontological, digitality is epistemology at its best –and most mundane. If one wishes to move beyond the very distinction itself, then one needs to be prepared: both analog synthesis and digital analysis are unappealing. Either in bringing the units together or further splitting them apart, both involve, in the first place, the portioning of the world in pieces. What could be an alternative? I will claim that Simondon can potentially offer a way out.

Moving beyond the digital needs something radically outside modality. While, the recognition of an event's effects might be digital (in the sense of a sensible transformation) the eventuating powers that trigger the encounter and are triggered from it, are neither digital nor analog: they are intensive, a different realm all together. The intensive threshold through which sense is produced and propagated, is no other than the membrane. What is crucial in understanding the membrane, is that it has no specific beginning nor end. In other words, the membrane surpasses the binaries of any digital distinction, since it is not on the boundary or on the limit, but the limit itself. Simondon makes clear that when he speaks of the membrane, he does not do so in spatial terms. He defines it as a regime of energy transfer between individuals, their milieus and territories; not a membrane that separates an interior from an exterior, but one that in its vibrations regulates the affective encounters between individuals.

Therefore, the membrane is not what sets individuals apart or what brings them together. The membrane is the autonomous individuation of all individuals. If it were not, then its intensive manipulation would be impossible; it would be a mere metaphysical curiosity. On the contrary, as the individuation of all individuals, the membrane in its autonomy establishes the possibility for affective encounters between both physical and technical individuals, between the organic and the inorganic. In other words, the folds of the membrane make technicities possible. In this respect, the membranic selection is not that of exclusion but that of inclusion. Membranic disjunction is the most profound form of inclusive disjunction, a continuous 'and…and…and' that never ceases to transduce and modulate itself and its torsions through the propagation of information that spreads on its infinity: shuddering and shivering from a wind that came from your own blow.

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Andrej Radman

Assistant Professor of Architecture, TU Delft

Abstract: Involution: A Mereotopological Perspective

The paper will argue that it is time for the discipline of architecture to awaken from the slumber of anthropo-centrism and shake off the baggage of nature/nurture dichotomies. It will propose that we drop *anthro*pomorphism for *geo*morphism and reconfigure ethology so as to become a theory of capacity. Rather than localising it in individuals, behaviour is to be treated epigenetically as a function of *con*dividuation by way of traversing phyletic lineages and organismic boundaries. Against a Darwinian nucleocentric view of evolution as a 'struggle for survival', the paper will build on the (still controversial) theories arguing that in most cases an evolutionary novelty arises as a consequence of 'creative' symbiogenesis. The virtually limitless connectivity between heterogeneous beings puts *alliances* before *filiations*, *contingency* before *necessity*, and *contagion* before *heredity*.

The recent interest in the brain is not to be dismissed as neuro-reductionism, but as the locus of the most promising research trajectory that places biology and history - nature and culture - on the same footing. After all, only humans are biologically 'compelled' to modify and redesign their environment in an innovative and historical manner. The (Neo)Lamarckian evolution by other means exposes the vulnerability of exclusively Darwinian explanations. Passive adaptation – evo – is always already complemented by active modulation – evo-devo. While geno-reductionists insist that genes are responsible for our behaviour, it has now become undeniable that the environment itself contributes to the phenotypical expression of genes. The acquired habits may be said to be passed on after all.

The ecological school of perception founded by James Jerome Gibson was ahead of the epigenetic curve by asking not what is inside your head, but what your head is inside of. *Epi*genesis is a theory of development in which forms are influenced and modified by environmental factors. No wonder that it should appeal to architects (as quintessential niche constructionists) who could be said to sculpt brains by way of sculpting neither the genetic, nor the epi-genetic, but the epi-phylo-genetic. The distinction urges us to rethink the long-lasting legacy of

privileging *episteme* over *tekhne*. The 'what' invents the 'who' at the same time that it is invented by it. Strictly speaking, architecture as a *sedimented* epigenetic mnemonic device has a higher order of 'autonomy', which makes it epiphylogenetic. If epigenetics is the concept of non-genetic heritability (such as language acquisition), then epiphylogenetic means that the rhetoric of we-build-cities-and-cities-build-us is to be taken not metaphorically but literally.

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Panels 30 & 36 - The Critical (un)Making of Smart Cities
Thursday, July 12, 13:15-14:45 & 15:00 - 16:30 (Room Erlenmeyer)

By:
Frank Kresin
Managing Director at the DesignLab of the Technical University of Twente

Marc Boumeester
Director of AKI Academy of Art and Design, ArtEZ University of the Arts

Lucas Evers;
Program curator at Waag, Open Well Lab, Make research, Open Design and Art & Science Interactions

Anja Groten
Independent designer and researcher

Dani Ploeger
The Royal Central School of Speech and Drama, University of London

Agnieszka Anna Wołodźko
Lecturer, Leiden University

13:15 - 13:30 introduction by Frank Kresin, Marc Boumeester, Lucas Evers (introducing the Critical Making project)

13:30 - 13:45 artist talk by Dani Ploeger

13:45 - 14:00 artist talk by Anja Groten

14:15 - 15:45 workshop by Dani Ploeger and Anja Groten

15:45 - 16:30 discussion panel

Do Smart Cities need Dumb Citizens? Cities that want to become 'Smart' in general overly use top down models of data services for consumers where, sometimes, in return for free mobile services, behavioural data is generated that fine tunes those services in order to attract and mine more consumers. As such, many Smart Cities are driven by platforms for extractive capitalism, amongst which sharing economies such as AirB&B, Postmates, and Taskrabbit, creating private profits (not for sharing) from public data. It seems thus that the Smart Cities depend on the naivety of its citizens that rather than proactive civic agents, are perceived as and encouraged to be its consumers and servants only.

How can we make Smart Cities more social, critical and creative instead of only economically efficient? We need to create spaces where these questions cannot only be raised but can also actively be exercised and tested. We need aimless experimentation, reflection and debate on who we want to become in the Smart City before the Smart City will decide this for us. If we want to understand what new realities are, and what lies ahead of us, we first have to slow down and allow ourselves to think and experience all the complex and multiple relationalities and ideologies that the Smart City engenders.

In the present panel, we will discuss and experiment with what might be important and what elements have an effect and affect on the human and non-human condition of living in the Smart City.

Panel 31 - Posthuman(ism) II
Thursday, July 12, 15:00 - 16:30 (Room Ideate)

[Chair: Richard Lewis]
Participants: Jonathan de Haan; Gijs van Maanen; Teresa Swist

Jonathan de Haan
Master student, Philosophy of Science, Technology and Society, University of Twente

Abstract: Self tracking, Deleuze and Virtual Quantities
Self tracking is the practice of using technology to record and process data that concerns the quality of one's life. Food, air quality, blood oxygen levels, to name but a few, can all be recorded and then charted and analysed in order to gain knowledge about oneself. This knowledge then can be used to improve physical states and emotional moods. In modern society no one is surprised anymore to be referred to by a number, although many try to resist this. At a university you get a student number, for the government you have a tax number and when you check into the hospital you receive a patient number. This number refers to you as a subject within a system and most will not confuse themselves with these numbers. While 'self tracking' data is generated out of circumstances surrounding one's life, and the numbers are used to express phenomena, the numbers are mere representations that refer to the phenomena that have (or have had) an impact on the subject. This thesis will ask the question: what can be revealed by applying the philosophy of difference of Gilles Deleuze to the emerging practice of self tracking? The aim of the thesis is to research if this Deleuzian perspective is able to shed new light on the supposed boundaries between objective scientific data and subjective experience, and argue that these boundaries are not that self evident to begin with. For on the one side, quantification can be argued to be a highly reductionist approach to self transformation, tied still to the scientific paradigm that puts reason above all else. On the other side though the complexity of algorithms is increasing exponentially and this opens up possibilities for a (re)appropriation of data by the individual, taking it back from large corporations and governments. In this manner, data can be recontextualised and personal values that matter only to the individual doing the data collecting can be allowed to emerge.

Gijs van Maanen
PhD candidate, data ethics, open governance, and democracy, Tilburg University

Abstract: Taking things seriously: the politics of new materialism
At the end *We Have Never Been Modern*, Bruno Latour argues that we should work on the building of a 'parliament of things' wherein next to humans beings, all sorts of different entities are represented. In contrast to Latour who was still able to discuss concepts as 'representation' and 'the parliament', Jane Bennett, Karen Barad and Rosi Braidotti are quite reluctant to use such words and often criticize Latour for his 'modern' vocabulary. Bennett, Barad and Braidotti contribute to a type of philosophy called 'new materialism'. The output of the new materialist literature is characterized by an emphasis on the material character of our existence, and the attempt to dismantle every form of dualism between matter and mind to be found in modernist thinking. In this paper, I explain that opting for radical forms of materialism is not free of difficulties, -what's, for instance, left of the concept of 'power'?- but that it might be more valuable to understand their accounts as 'figures of the thinkable', instead of truth-claims about the functioning of the world. The crux of their arguments is their proposal to see the wold differently. I thus argue that the emphasis on materiality might not be the most important thing occurring in new materialism. Next to a material turn, an 'affective' one is taking place emphasizing the importance of attitudes and dispositions, rather than moral codes. The importance of affects inherent to new materialism is best understood as a form of 'weak ontology' wherein attempts are made of changing perceptual fields and stimulating different ethical stances.

Teresa Swist
Research Fellow at the Institute for Culture and Society, Western Sydney University

Abstract: Machinic Yearnings and Posthuman Intelligibility: The Role of Ethical Design in Learning Health Ecologies
In this presentation I explore learning health ecologies and the ways in which posthuman intelligibility is enacted with multiple constituents: bodies, nature, media, healthcare services and providers, as well as technology companies. The datafication of health signals toward the vastness of data generation and new hopes invoked for patient care, innovation, and learning. Rapid integration of artificial intelligence is unsettling the health sector, inviting an examination of unfolding forms of governance. Three examples are presented: firstly, the partnership between Google's Deep Mind and the UK's National Health Service; secondly, MIDATA.coop, a not-for-profit, open source data cooperative; and thirdly, Sophia Genetics, a biotech start-up focusing on genomic data analysis. The machinic yearnings which imbue these learning health ecologies (such as user-driven, data-driven, patient-centred, and precision medicine) means that tensions between drivers and desires are always entwined. Applications of machine learning and deep learning not only shape inquiry and invention, they unleash critical and creative possibilities for subjectivities, public health, and post-anthropocentric dwelling. Just as new renderings of intelligibility inform a range of health breakthroughs and advances, they also raise concerns that existing health inequities could be perpetuated. Drawing upon posthumanism and postphenomenology, I propose that a way to resist transhumanist tendencies is to prioritise ethical design. Ethical design is an understanding that caring for human and nonhuman consequences is a matter of both technics and justice: modulating learning health ecologies requires inclusive and intergenerational approaches so as to co-create more hospitable futures.

Panel 32 - Technologies & Science

Thursday, July 12, 15:00 - 16:30 (Room Classroom of the Future)

[Chair: Jonne Hoek]
Participants: Bas de Boer; Aud Sissel Hoel; Hans Radder; Massimiliano Simons

Bas de Boer
PhD candidate, University of Twente

Abstract: Brain Imaging Technologies in Neuropsychiatric Research and the Normative Function of Psychiatric Diagnoses

Brain imaging technologies such as *functional Magnetic Resonance Imaging* (fMRI) and *Electroencephalography* (EEG) play an increasingly important role in research in neuropsychiatric research. This implies that it is thought mental disorders such as *Autism Spectrum Disorder* (ASD) and *Attention Deficit Hyperactivity Disorder* (ADHD) can (at least partly) be explained in terms of their neural substrates. Hence, when ASD or ADHD are explained in terms of their neural substrates, a pathology on the level of the brain seems to be assumed in one way or another. The diagnosis of mental disorders is made on the basis of behaviorally observable symptoms identified as pathological, which are integrated into concepts such as ADHD and ASD. In psychiatry, brain activity is largely absent as a diagnostic criterion, and neuropsychiatric research takes earlier behavior-based psychiatric diagnosis as a starting-point. However, neuropsychiatric research that explicitly tries to understand mental disorders in terms of brain activity is often not in accordance with earlier diagnoses. Based on an ethnomethodological study of a group of neuropsychiatrists, two issues will be discussed in this presentation: (i) how psychiatric diagnoses function as norms in neuropsychiatric research, and (ii) how psychiatric diagnoses are challenged by neuropsychiatric research based on brain imaging technologies.

Aud Sissel Hoel

Professor of media studies and visual culture in the Department of Art and Media Studies at the Norwegian University of Science and Technology

Abstract: "On the Mode of Operation of Imaging Technologies: Understanding MRI with Simondon"

According to Gilbert Simondon, to firmly grasp technical reality in its entanglements with humans and nature, we need to consider technical being in its operative functioning and not as things or artifacts with fixed characteristics. This paper draws on the rich resources of Simondon's thinking in order to throw light on the workings and functions of imaging technologies, exemplified here by magnetic resonance imaging (MRI). What I argue is that ideas developed in Simondon's theory of individuation, and more specifically, in his operational approach to technological mediation, can help us make sense of the modes of operation of MRI beyond the alternatives offered by the representational framework. Conceiving MRI as a "technical individual" in the sense of Simondon, which, when put into operation, institutes an associated "techno-geographical environment" characterized by a regime of "reciprocal causalities," help us articulate the way that the MRI apparatus is at once transformative and revealing of the phenomena it targets. This attempt to develop an operational theory of medical imaging will also make use of other key Simondonian terms such as "metastability," "orders of magnitude" and "information." What I hope to show is that Simondon's operational take on technological mediation, as developed here in the context of medical imaging, has the potential to resolve the dilemma of scientific realism and social constructionism, paving the way for an approach that acknowledges technology's complicity in being.

Hans Radder

Professor Emeritus in Philosophy of Science and Technology at VU University Amsterdam

Abstract: *'Technoscience': A Defence and a Critique*

Many contemporary philosophers of technology endorse the notion of technoscience. A weak interpretation of this notion says that science and technology display, and have always displayed, many kinds of philosophically and socially important similarities, both empirically and conceptually. In particular, a technoscientific approach highlights the importance of materiality for both science and technology. We may acknowledge this fact by metaphorically speaking about science and technology, not as identical, but as two sides of the same coin, as Peter Kroes suggests. Stronger interpretations of the notion of technoscience go beyond this. First, they deny that there are any significant distinctions between science and technology; and second, they draw far-reaching philosophical consequences from this claim. In particular, they argue that the objects studied and the methods used in scientific and technological practices are basically the same. Consequently, science and technology can and should be philosophically interpreted in the same way.

In this paper, I will first argue for the weak interpretation of the notion of technoscience on the basis of the similarities between scientific experimentation and technological production. Such a defence of 'technoscience' is

needed in view of the theory-dominated approaches that can still be frequently found in mainstream philosophy of science. Second, however, I will criticize strong interpretations of the notion of technoscience, in particular the accounts of Bruno Latour and Alfred Nordmann. My critique will be based on the dissimilarities between scientific experimentation and technological production, which derive from the notions of experimental replicability and theoretical abstraction. An important motivation for not identifying science with technology is that basic science, which is suffering strong pressures under the current science-policy regimes, deserves a strong support.

Massimiliano Simons
PhD Candidate, Centre for Metaphysics, Philosophy of Religion and Philosophy of Culture
Institute of Philosophy, KULeuven

Abstract: Two models of scientific instruments: articulation and purification
From the 1970s on a whole range of movements have shown how scientific instruments play important and productive roles in the exploration of new scientific phenomena. These can range from the postphenomenology of Don Ihde, the hermeneutics of science of Patrick Heelan to philosophers of experiment such as Robert Ackermann.
         In this presentation I want to conceptualize wherein their novelty lies. My claim is that they reconceptualize the constructivist view of science. Rather than stressing how certain theories are being constructed, these authors focus on how new phenomena are being constructed. Thus, science is not only a constructive endeavor in its solutions, but also in its problems. I will call this second group technologies of articulation, while the first technologies of purification. According to this view scientific instruments thus allow the scientific subject to be altered, extended, and be affected in new ways by the world.
However, my claim is that one should not understand this two mutually exclusive models of science. Technologies of articulation do not exclude technologies of purification. I would argue that one should rather see them as complementary: scientific practices both aim at articulating new phenomena and subsequently in purifying them into stable facts. Such a dual vision of science can in fact be found in a certain rereading of the work of Bruno Latour, a reading which at the same time can often even be used to criticize Latour's own work.

Panel 33 - Human-Technology Relations & Ethics I
Thursday, July 12, 15:00 - 16:30 (Room Inform)

[Chair: Jan Bergen]
Participants: Jan Bats; Alexis Elder; Sergio Genovesi; Rayco Herrera

Jan Bats
PhD candidate, University of Twente; teaches Ethics & Information Technology and Research Methodology at The Hague University of Applied Sciences

Abstract: Emphasizing human-technology interaction within human-technology relations
In general, post-phenomenological analyses reveal how a specific technology mediates our moral actions and perceptions of the world. Post-phenomenology analyses what conditions make things appear as such when human–world becomes human–technology–world. As relevant as this may be, the focus on the mediated relation between human and world may cause that in most post-phenomenological analyses, the mediation of the more fundamental interaction between human and technology is often under-emphasized. This suggests a subtle phenomenological refocus from asking *how does a specific technology mediate our moral actions and perceptions? to how does the experience of interacting with a specific technology mediate our moral actions and perceptions?* A field where this more fundamental approach may be relevant is the analysis of information technology. The active engagement towards the technological interface is a significant part of its experience. In this study, the role of human-computer interaction in the moral mediation of the online is investigated. Firstly, a postphenomenological analysis of the ontology of human-computer interaction is provided to define online actions. It is suggested that the online interactive properties allow for an embodied relation with the virtual interface. Subsequently, after conducting diary research, two focus groups and three controlled experiments it is concluded that the experience of online

interactivity can mediate online moral actions and perceptions. The experience of online interactivity increases self-beneficial actions and the perception of the essence of individuality. Lastly, the importance of these findings for both our understanding of the online, as for postphenomenology is discussed.

Alexis Elder
Assistant professor (tenure-track), Philosophy, College of Liberal Arts, University of Minnesota Duluth

Abstract: Ethics of disconnection
Social networking technologies connect us. But they also offer an increasing number of ways to disconnect. Between unfriending, unfollowing, and blocking people, we enjoy an ever-expanding range of options for avoiding contact. And social network platforms are expanding processes for reporting and removing content, banning users, and allowing contacts to "take a break" from each other. Technological disconnection can create silos and echo chambers, as well as enable individual behaviors like "ghosting" that can be cowardly or cruel. But they also help people enforce social boundaries. We need an ethics of disconnection. One approach would be to think relationships and connections are valuable, and that technological affordances of disconnection are to that degree ethically problematic. Another would be to think disconnection, especially in our hyper-connected world, is valuable, because it leaves room to cultivate ourselves. Yet another would be to go laissez-faire, and say that the value of autonomy, enabled by the range of choice available through social networks, is what makes both connection and disconnection valuable. My approach starts with an analysis of what makes relationships good or bad, one that prioritizes the value of difference, and builds from there to an ethics of where disconnection is appropriate and healthy, and where it is cowardly, cruel, or otherwise vicious. Working in the Aristotelian tradition and motivated by the thoughts that quality relationships require good character, and that good character enables good relationships, I develop guidelines for appropriate disconnection that support good character and good relationships.

Sergio Genovesi
Ph.D. Candidate, University of Bonn

Abstract: Human Biases and Behaviours in the Social Network Era
New communication means and social networks are reshaping the way we perceive the world and interact with other people, and they seem to have introduced brand new human behaviours. However, upon closer inspection, these attitudes can actually be seen as a different expression of human biases that have existed since the beginning of society. In his book Mobilitazione Totale, the Italian philosopher Maurizio Ferraris elaborates on this thesis and argues that devices such as computers, tablets and smartphones do not actually modify our attitudes, but might instead reveal true human nature. Nevertheless, he acknowledges that these technologies are also causing negative consequences on their users since they can lead to stress and addiction.

After presenting some concrete examples, the talk will explore the ethical implications of this theory. Since the biases underlying our manifest behaviours remain unchanged, I will analyse the extent to which technologies are affecting our expression of these biases. My thesis is that nonvirtuous and harmful behaviours are caused by the huge amount of information delivered to us, which we are not able to process because of the fluidity of social networks and the immediacy of communication. Moving from Shannon Vallor's reading of several Aristotelian ideas, such as his account of virtue and friendship, I argue that the quality of user experience can be improved and the negative effects contained by raising awareness on the actual nature of virtual contacts and of the contents that users are exposed to.

Rayco Herrera
Doctoral candidate at the University of La Laguna (Spain)

Abstract: Günther Anders and the broken relationship Emotion-Technology
According to Anders we are becoming 'emotional illiterates' due to the limitless development of extremely powerful forces, e.g. technologies such as nuclear weapons. At the present time, the threat of an atomic warfare is taken by the media and the common opinion as a joke. The truth is that the consequences of an apocalyptic menace fall beyond any measure. We are not able to represent the atrocities that would come with it. Therefore, our faculties

of empathy, imagination and representation become severely damaged. What is the role of technology on an emotional level? Although Anders was at first very skeptical to images on media in general, later on he acknowledged that images of the Vietnam War delivered to the American fellows through television would help them become more conscious about that subject. These days harsh reality strike us also on the internet but it seems to have the only effect of making us feel terror and not a real conscious engagement. With all these social technologies we could come closer but we are becoming more isolated instead. On the global capitalistic market of the same the otherness is being banned (Byung-Chul Han) and he 'technological somnambulism' (Langdon Winner) is making us morally sleepy. Now that we are surrounded more than ever before by technological gadgets, that we are connected to the world and people around us by the agency of smartphones, virtual reality glasses and social networks, how is this modelling our morality?

Panel 34 - Human-Machine Interactions: Different Forms of Cognition Between Human Beings and Algorithms
Thursday, July 12, 15:00 - 16:30 (Room Connect)

Panel organiser:
Manja Unger-Büttner (Prof. Dr. Dr. Bernhard Irrgang)

Participants: Manja Unger-Büttner; Gerd Grüble; Federica Buongiorno

Description:
The human brain can be regarded as the product of evolution, i.e. it results from a long-time adaptation to environmental conditions, which at first did not include digital media. Nevertheless, these latter deeply characterize nowadays human cognition processes: millions of people are working with computers, because they allow faster performances and better results by lightening our cognitive processes. However, a certain role played by our brain and, more generally, by our body as well as by our constituted subjectivity is still involved, first of all (and at least) in learning how to use the machine. In this panel, we wish to explore critically the functioning of this interaction between human beings and machines (i.e., computers and algorithms) by taking into account four different paradigms, which represent the core of four researches in the same field of philosophy of technology that are being developed at the Technical University Dresden under the supervision of Prof. Dr. Dr. Bernhard Irrgang.

In his introductory talk, Prof. Irrgang will explore the topic of superintelligence and the new conception of human-machine interaction within the construction of actant-networks, with particular regard to the bodily dimension of this interaction and its intertwine with the design strategies.

Manja Unger-Büttner will focus on the same problem of design and moral relations from an aesthetical perspective, while Gerd Grübler will analyze the case of Brain&Computer& Interfaces (BCI) that use electromagnetic potentials to control target devices. Federica Buongiorno will analyze phenomenologically the paradigm of the "extended mind" in the context of the active externalist theories.

Abstracts:
Gerd Grübler (PD Dr. phil. habil., Dr. rer. medic., M.A., B.Sc., TU Dresden)
Human-Machine Interaction in Brain-Computer Interfaces
Brain-Computer-Interfaces (BCI) use the brain's electromagnetic potentials to control target devices. The unique human-machine interaction in BCIs not only raises several interesting conceptual questions. In addition, the technology points to future scenarios discussed by transhumanist authors insofar as these scenarios usually imply the overcoming of the human biological body and BCIs promise to enable human practice by passing most parts of the human body. Therefore, BCIs are excellent models in philosophical anthropology and help to tentatively examine some of the transhumanist plans. For example, can human beings really have a full and authentic sense of agency in their lives without bodily activities?

When trying to find answers, the concept of 'transparency' arising from phenomenological analyses of human practice can be helpful. Transparency, in this context, means that in every-day life people usually focus on the work or effect they try to realize rather than on the tools or devices they apply. Therefore, testing whether a sort of technology enables this quality standard of human practice might be a good strategy in

assessing the potential success of that technology in general as well as the strength of the conjoined transhumanist ideas. According to empirical insights, BCIs seem to have the potential to become transparent in use. This gives an astonishing insight into the plasticity not only of the brain but also of the possible shapes of human practice in general. Obviously, plans of thoroughgoing re-shaping of the human being could be more realistic than one would have believed before.

Federica Buongiorno (Dr. phil., Senior Researcher, TU Dresden)
The Extended Mind as a Case of Human-Machine Interaction: A Phenomenological Critique
"Where does the mind stop and the rest of the world begin?" – this was the question posed at the beginning of the very well-known 1998 article *The,Extended,Mind* by Andy Clark and David J. Chalmers, which introduced the theory of "active externalism" in contrast to the classic, passive externalism theorized by Burge and Putnam, stating that external features play a crucial role in explaining cognition processes. The authors focused in particular on beliefs and found out that they can be constituted partly by features of the environment: when those features play the right sort of role in driving cognitive processes, the mind extends into the world.

In this paper, I will critically consider Clark and Chalmers' hypothesis of the extended mind by following three steps:
1) I will consider Clark and Chalmers' hypothesis within the broader context of the so-called "physical symbol system hypothesis" theorized by Herbert A. Simon.
2) Both theories seem to be lacking a fundamental explanatory dimension (as admitted by Clark and Chalmers themselves): indeed, the hypothesis of the extended mind is essentially linked to the mediation played by some kind of external apparatus, which implies the agency performed by an "extended self" as the actor of symbolic, extended processes of cognition. 3) I wish to provide a phenomenological understanding of the self and bodily dimension implied in extended mind (and self) operations, by referring to Husserl's notion of intentionality in relation to kinesthetic processes as well as to Merleau-Ponty's concept of *flesh*.

Manja Unger-Büttner (Dipl.-Des. (FH), Mag. Phil., PhD Student, TU Dresden)
The Art of Making Differences – Design and (Moral) Relations
What can aesthetics do for philosophical theories about relations of humans, technology and the world? What does a relational view on technology do to the human perspective on aesthetics? And what does this all have to do with discussions about moral status ascription and ethics?
Maybe the french designer Philippe Starck already in 1995 in the German *form* design journal No. 151 152 has been speaking about something similar to this relational connection when he accented, that people wanted "*warmth,–,but,not,radiators,,cold,,but,no,fridge.*" But, finally, there will be some kind of physical end for problems like this. There are manifestations of technical solutions even of digitization, too – robots are one of the most prominent examples.

As an industrial designer and philosopher of technology, I am working about linkages between aesthetics and ethics and the relevance of the explorative in design and ethics. Now, from that relational perspective, I can ask: what role does external appearance, does motion, what role do aesthetics (for example of robots) in this net of (moral) relations play? By doing this, I don't want to create a new sort of distance to material reality, as, f.e., Coeckelbergh already has mentioned (The Tragedy of the Master, 2015) or a new kind of subject-object-dichotomy. Based on hermeneutic-phenomenological reflections I want to use mediation and relation theories for questioning *how* things are designed and working in these relations and not only *what* they do.

Panel 35 - **Book Panel:** Nolen Gertz - Nihilism and Technology
Thursday, July 12, 15:00 - 16:30 (Room Invite)

Reviewers: Rosi Braidotti; Shannon Vallor; Peter-Paul Verbeek

Panel 37 - Politics & Critical Theory
Friday, July 13, 10:45 - 12:15 (Room Ideate)

[Chair: Nolen Gertz]
Participants: Darryl Cressman; David Schafer; Roos de Jong

Darryl Cressman
Assistant professor in the Philosophy department at Maastricht University

Abstract: Critical Theory & the Materialities of Nineteenth-Century Musical Culture
The challenge of a post-empirical philosophy of technology is theorizing engagements between humans and technical artifacts without drawing a neat distinction between the two. In this presentation I address this challenge through the case of Amsterdam's Concertgebouw, a concert hall that was opened in 1888. I argue that this building was developed as a response to what was considered a second-rate musical culture. What is interesting about this history is that the cultural reformers who promoted the Concertgebouw did so by drawing on a distinctly sociotechnical history to develop a perspective towards their city's musical culture that allowed for a critique that pointed towards a material solution to what were formerly considered aesthetic problems.

This type of engagement between humans and artifacts is, I argue, dialectical in nature. Critics, music lovers, and citizens engaged with the sociotechnical world as it was in order to develop concrete potentials of what it could be. Responding to the claim that the dialectical, or critical tradition in the philosophy of technology is not properly sociotechnical because it is fixated on moments of resistance and liberation that artificially separate the social from the technical, I use the case of the Concertgebouw to suggest that instead of providing a philosophical framework that draws out the consequences and affordances of living with technology, critical theory addresses the question of *why* we have the technical artifacts and sociotechnical relations that we do, pointing to moments of potentiality that would otherwise be overlooked.

David Schafer
Lecturer in Philosophy at Western Connecticut State University.

Abstract: Refashioning Critical Theory of Technology, with Axel Honneth
Critical Theory is in sore need of a workable account of technology. It had one in the writings of Herbert Marcuse, or so it seemed, until Jürgen Habermas mounted a critique in "Technology and Science as 'Ideology'" (Habermas, 1970) that decisively put it away. Ever since, Marcuse's work has been regarded outdated – a 'philosophy of consciousness' no longer seriously tenable. But with Marcuse's view has gone the important insight that technology is no norm-free system (as Habermas portrays it) but can be laden with social bias. Andrew Feenberg is among a few serious scholars who has perceived this problem in post-Habermasian critical theory, and has sought to revive a basically Marcusean account of technology. On his view, while so-called 'technical elements' that physically make up technologies are neutral with regard to social interests, there is a sense in which we may speak of a normative grammar or 'technical code' built-in to technology that can be socially biased in favor of certain groups over others (Feenberg, 2002). According to Feenberg, those perspectives on technology are reified which consider technology only by their technical elements to the neglect of their technical codes.

Nevertheless, Feenberg's account fails to explain what is normatively problematic with such reified views of technology. His plausible claim that they represent false perspectives on technology by itself does not explain how such views may be oppressive, even though Feenberg surely wants to be doing that stronger level of normative theorizing. Perceiving this deficit in his own account of reification, he tries to adopt Habermas's version of systems-theory to ground his own critical theory of technology (Feenberg, 1999). But this is a curious move in light of Feenberg's own legitimate critiques of Habermas's portrayals of technology as reified or 'norm-free.' This paper argues that a better foundation may be found in Axel Honneth's recent text, Freedom's Right (Honneth, 2014). Though Honneth there says little explicitly about technology, he offers an implicit account of reification formulated in opposition to Habermas's systems-theoretic approach. On this 'normative functionalist' account of reification, social spheres are reified when participants prioritize individualist ideals of freedom (moral and legal freedom) to the neglect of an intersubjective form of freedom-through-recognition that Honneth calls 'social freedom.' Such misprioritization is ultimately problematic because it is unsustainable: individual freedom is

philosophically and institutionally dependent upon social freedom.

The main difficulty in adopting Honneth's social theory for the purposes of a theory of technology, however, is that the notion of social freedom is predicable only of social institutions, whereas it appears difficult to conceive of technology as an institution. Nevertheless, in light of Feenberg's work, the idea that technology includes within itself a normative grammar (technical code) takes on much plausibility. To the extent that this normative grammar may be understood by the category of social freedom, Honneth's dialectical account of the relationship between individual and social forms of freedom provides a more solid basis from which to ground the normative claims of Feenberg's sociological account of technology than Habermas's systems theory.

Roos de Jong
Recently graduated cum laude from the master programme 'Philosophy of Science, Technology and Society' at the University of Twente.

Abstract: "The role of technologies in the Dutch transition towards a participation society: Exploring the tension between delegating responsibility and inducing active solidarity"

In 2013 the King of the Netherlands announced that it was time to evolve from a classic welfare state into a "participation society". The participation society can be interpreted as an alternative to both the neoliberal model of "help yourself" and the social welfare model of "the state takes care of you". Even though there are *economic* motives at play, the *moral* arguments for stimulating people to take responsibility for themselves are brought to the fore in the political debate. Whilst still ensuring that no one falls below a certain threshold, the aim is to induce an "active" type of solidarity.

This paper shows that if we want to bring about societal change, the role of technologies must not be ignored. It is examined in what way technologies may help avoid a responsibility overload and contribute to realising the ideal of "active solidarity". An analysis of the Dutch case through a selection of eldercare technologies, and an evaluation of the meaning of solidarity through a liberalistic and a care-ethics framework, reveals that there might be a conflict between using technology to provide care and asking people to care. Approaches in philosophy of technology, however, help to see how technologies – both the ones that *push* human beings to participate as well as technologies that *takeover* parts of the care-process – may still bring about care-relations that can be considered a form of "active solidarity."

Friday, July 13, 10:45 - 12:15 & 13:15 - 14:45 (Room Classroom of the Future)

Convener: Olya Kudina

Presenters: Maurizio Balistreri; Ties van der Werff; Sarah Weingartz; Saskia Nagel; Marianne Boenink; Marthe Smedinga; Mayli Mertens; Tania Moerenhout

<u>Session 1</u>

Maurizio Balistreri

Assistant Professor, Department of Philosophy and Sciences of Education, University of Turin (Italy)

Abstract: The future of human reproduction: between ethics and responsibility
In the coming decades, scientific and technological development could radically change the future of reproduction. Future generations may have children by cloning, with artificial gametes and through the gestation of an artificial womb. Furthermore, the genetic code of the unborn child could be genetically modified to prevent the outset of major diseases or improve their abilities. If the separation of reproduction from sexuality could develop with the development of genome editing techniques, with the development of the artificial uterus one could see the separation of the birth from the body, because, with extracorporeal gestation, the embryo would no longer be developed. inside but outside the human body. My intervention intends to examine and discuss the main moral issues that may emerge in the future with the separation of reproduction from sexuality: in particular the question of the fear that new reproductive technologies can be used for morally unacceptable purposes (bringing into the world dead people, creating individuals with genetically programmed capacities, etc.) and the concern that more and more controlled reproduction by science and technology will necessarily endanger the survival of the human species.

Ties van de Werff

Postdoctoral researcher at Maastricht University and a researcher at research centre for Arts, Autonomy, and the Public Sphere at the Faculty of the Arts in Maastricht (Zuyd University of Applied Sciences)   .

Abstract: Cultivating a Plastic Brain: mindfulness at the workplace
In the past decade, one peculiar antidote to the problem of stress has become increasingly popular at the workplace: mindfulness. The enthusiastic embrace of an age-old Buddhist practice by employees and managers alike is partly made possible due to the 'hard' knowledge of the neurosciences. Mindfulness programs invite participants to take control of and change their brain functioning, promising new ways to prevent stress and achieve happiness and well-being a the workplace. Key to these training programs is the ambiguous concept of brain plasticity: the idea that our brains are amenable to change.

In my talk, I show how knowledge of the plastic brain is made valuable in mindfulness programs to address different concerns, action programs and ideals that characterize contemporary (Western, affluent) office life. I argue that this neuroscientization of mindfulness is not a straightforward or self-evident process: it requires the deliberate articulation and engagement with values – efforts I dub value work. Through different strategies of value work, neuroscientists, mindfulness coaches and management consultants are able to redistribute agency and determinism over the individual employee, his brain, and the contemporary work environment in different ways – whichever is needed to cater to established ideals of working well. The popularity of the mindful brain at the workplace therefore lies not solely in its scientific credibility and authority, but rather in its promise to fulfil the conflicting demands of our highly technologized knowledge economy, both for employees and managers.

Sarah Weingartz

PhD candidate and docent at Maastricht University in the Philosophy Department and completed the National Graduate Research School Science, Technology and Modern Culture.

Abstract: Present gifts of future promises: How emerging technologies reveal what we cherish today
In light of medical technological promises the current care situation looks improvable primarily in technological ways. This strengthens the instrumentalist view on the one hand, and on the other it invites to look rather at the pitfalls in present practices than at the complexity, interrelationships between things and people and what already goes well. The risk of focusing on the improvable 'problem zones' of the present (which a promise invites to recognize) may be on the cost of some practices that we value without realizing – and as such raises normative questions relating to bioethics. This can happen subtly, because 'well-done practices' are so self-evident that they stay unnoticed until they are substituted or challenged. By means of my case study on a surgical tool called 'iknife', I suggest exploring the role of emerging medical technologies in care practices not in an instrumentalist grammar but with an understanding of mutual shaping that allows to explore the various value trade-offs that an emerging technology can bring about.

My proposition is to further substantiate our understanding about the normative effects – soft impacts - of technologies and explore value trade-offs beforehand, in the emerging phase and put them as topic for discussion. In this way options for trade-offs can be explored and weighed against each other – and rather than simply assuming that a new technology will just add to practices, the idea is to understand what this addition may entail for the different actors and practices. In times of responsible innovation, this approach to emerging technologies seems favorable to otherwise often instrumentalist discussions.

Saskia Nagel
Professor for Applied Ethics at the RWTH Aachen University (Germany) and Associate Professor at the University of Twente (Netherlands).

Abstract: What's at stake with 3D medical bioprinting?
3D medical bioprinting opens a fascinating field for research and applications, already discussed as "game-changer". At the same time, there are numerous, hardly-addressed ethical promises and challenges. In this presentation, I will explore some key normative issues: What does it mean to be able to produce personalized organs on demand? Which problems can be solved, which expectations can rise, e.g. regarding social justice? Which risks are perceived? How to address concerns about 3D-printing as human enhancement? How to understand the responsibilities for the applications? I will discuss how emerging 3D bioprinting technologies can not only radically transform the use of medical devices and products, but also how novel human-technology relations challenge our understanding of what is "natural", "human", and what is ultimately desirable in health care. The presentation will end with suggesting ways towards responsible research practices and open questions to explore.

Session 2

Marianne Boenink
Associate professor in philosophy and ethics of biomedical technology at the Department of Philosophy, University of Twente; Programme director of the MSc Philosophy of Science, Technology & Society (PSTS).

Abstract: Beyond 'absence of disease'? How technology shifts our understanding of health
Notwithstanding its name, 'health care' as we know it has been centered around disease and how to cure it, rather than around fostering health. The rise of preventative medicine from the end of the 19th century has not substantially changed this; a large part of the technologies and interventions developed in this field still focus on early detection and subsequent treatment of disease. Health, as mediated by biomedical technologies, has been largely equated with 'absence of disease', even though the meaning of 'disease' shifted with technological developments. This seems in line, moreover, with Canguilhem's observation that illness is epistemologically prior: we know health only via the experience of its absence.

Nonetheless, recent developments in biomedical technology may bring health into focus as something more than the absence of disease. An increasing number of technologies is developed for monitoring purposes. The implied focus on time in the way these technologies mediate bodily experiences stresses their dynamic, complex and contingent character, as well as the fuzzy boundary between health and disease. Moreover, it invites

fundamental questions about whose norms should be determining what health is.

In this contribution, I will explore whether and how monitoring technologies shift and reposition our understanding of health by comparing the way health is enacted in mammographic breast cancer screening, compared to more recently developed biomarker-based testing for Alzheimer's disease.

Marthe Smedinga

PhD candidate at the neurology department of the Radboud University Medical Center and at the department of Medical ethics and philosophy of medicine at the Erasmus University Medical Center.

Abstract: Parallel understandings of Alzheimer's disease in research, primary care and the lay audience: A comparative framing analysis

The hope for prevention and the technical possibility to measure Alzheimer risk markers in the brain has led to a new understanding of Alzheimer's disease (AD). Instead of a clinical diagnosis characterized by symptoms of dementia, current research criteria define AD as a biological process that may or may not lead to these symptoms. Even though this reconceptualization of AD has raised fundamental questions on the difference between 'normal ageing' and disease, it is gradually being introduced into clinical practice. Whether such a biological definition of AD is still compatible with a physician's or laymen's understanding of the disease is still unknown.

We aim to fill this knowledge gap by means of a comparative framing analysis on AD research criteria and articles aimed at physicians or the lay audience. Hereby, we adopt the social-constructivist view that the way in which AD is framed provides insight into the auteur's understanding of the disease and the kind of understanding that is constructed in the reader.

Preliminary results show that the research criteria frame AD as a biological process in the brain and a diagnosis as a necessary step into early medical intervention. In physicians' and lay articles, however, AD is equated to dementia and a need of social and practical support.

Our results 1) show that the research definition of AD is not compatible with a physician's or laymen's understanding of the disease and 2) provide input for the development of communication strategies to avoid misconceptions around a diagnosis of AD.

Mayli Mertens

PhD candidate in Dr. Marianne Boenink's research project entitled "Prognosticating of patients in coma: towards a responsible practice" at the University of Twente.

Abstract: Values in post-anoxic care

The innovative use of continuous EEG-monitoring (cEEG) in care for patients in post-anoxic coma promises to improve prognostic practice, but may also entail significant effects on current care, in particular when translated into a quantitative index. Our multidisciplinary team is researching the clinical, technological, social and ethical implications of and preconditions for this innovation. To contribute to responsible innovation we ask which values are at stake in current practices of care after cardiac arrest; what impact the use of cEEG may have on these values, whether cEEG is then desirable, and if so, in which way it should be implemented.

Tania Moerenhout

PhD candidate, Department of Family Medicine and Primary Health Care, Department of Philosophy and Moral Sciences, University of Gent, Belgium; General Practitioner

Abstract: "Good patients manage their health": a critical conceptual analysis of the patient as health manager (autors: Tania Moerenhout, Ignaas Devisch, Katleen Gabriels)

This conceptual study builds further upon an interview study with general practitioners and cardiologists (N = 12) on their experience with and views on (digital) self-tracking in the clinical practice (Gabriels & Moerenhout, 2018). One of the key themes arising in our body of data is the concept of the patient as health manager. Both in medical literature and on a broader societal level, the patient as manager of his or her health and – if applicable – chronic illness is perceived to be a desirable and even necessary evolution to increase efficiency and to reduce costs

(Topol, 2015 and De Block, 2016). The current surge in self-tracking technology is a strong facilitator of this type of patient empowerment through self-care.

Drawing upon our previous empirical work, we present a critical conceptual analysis of the patient-manager. First, we explore the concepts behind this notion. In so doing, we focus on the specific interpretation of autonomy leading to an isolated and detached patient position and on the outcome of an increased patient responsibility. Second, we look at the role of self-tracking technology: data collection is no longer confined to the medical environment, but conducted in the private sphere of the patient. Digital self-tracking often lacks contextual awareness, preferably operating in a one-size-fits-all model. Overall, this analysis leads to the identification of several problems and pitfalls in the patient-manager. Alternatively, we suggest a different approach stemming from care ethics and relational autonomy (specifically focusing on Mol, 2008) that could lead to a better integration of self-tracking in the patient-doctor relationship and in a broader medical context.

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Panel 39 - Robotics
Friday, July 13, 10:45 - 12:15 (Room Inform)

[Chair: Nicola Liberati]
Participants: Tamalone van den Eijnden; Jędrzej Maliński; Frank Kresin; Tijs Vandemeulebroucke

Tamalone van den Eijnden
RMA Media Art and Performance Studies, Utrecht University

Abstract: Playing Pygmalion: An Analysis of the Affordances of Sex Robots
After a sex robot was touched so violently at a sex fair that it needed reparation and Abyss Creations created for the first time a sex doll with artificial intelligence, the topic of sex robots has received renewed attention. In this paper, I want to analyze the affordances of sex robots as described by users and producers. To contextualize their creation within Western cultural history, I will refer back to the Greek mythology of Pygmalion as imagined by Ovid in Metamorphosis. My cultural analysis unfolds by method of a critical discourse analysis and a theoretical-conceptual framework from game and performance studies. This paper aims at showing different ways of interacting with and understanding the multiple affordances of sex robots, which may contradict each other's logic and nonetheless occur simultaneously.

The first section 'Pygmalion the Potent Creator' will explore the asymmetrical relationship between creator and created, underlying sexist assumptions of what the perfect woman/robot should be like, and questions of ownership. In the second section 'Pygmalion the Playing Boy' I will draw on early ideas of game studies (as expressed e.g. by Huizinga) to analyze the ludic vocabulary of producers and users and their ideas of playing with robots as an alternative better reality. Finally, in the section 'Pygmalion the Loving Performer,' I will investigate through the lens of performance studies how, by means of enacting affection, users conceive of the relationships with their artificial companions as 'real,' blurring the human-robot distinction in favor of mutual constitution.

Jędrzej Maliński[1] & Paweł Ciniewski[2]
[1] PhD candidate in Adam Mickiewicz University in Poznań.
[2] PhD candidate in Adam Mickiewicz University in Poznań

Abstract: Embodiments of Digital Objects

In our paper we aim to present in which way data can be perceived as embodied. To attain this we will merge two perspectives. Firstly, we will use postphenomenological ontology of digital objects created by Yuk Hui, inspired by works of Martin Heidegger, Edmund Husserl, Gilbert Simondon and Bernard Stiegler. Its base are "digital objects" (characterized as a fragment of data described by metadata), investigated in phenomenological manner. This investigation results in presentation of phenomenological space and time of digital objects – different than human. Secondly, we will analyze whether in this particular spatiotemporal world one can say that digital objects are embodied. To achieve this we will utilize a concept of embodied cognition used in AI research mainly in context of robotics. Following existing papers concerning definition of embodiment in this discipline, we will analyze whether Hui's digital objects and their milieux can fulfill the conditions set by preexisting definitions of embodiment. As a result, the concept of embodied digital objects may be a starting point for the expansion of our understanding of human-technology relationship, because (1) it can characterize interactions between user and digital objects in a radically new way and (2) because recent progression in information technology causes emergence of real-time representation (not necessarily accurate) of many (social, cultural, economical; sometimes physical – e.g. Internet of Things) phenomena in terms of data. Hence, the description of digital objects could be, in some part, also a way to describe our world.

Frank Kresin[1] & Alexandre Pólvora[2] & Susana Nascimento[3]

[1] Managing Director at the DesignLab of the Technical University of Twente.
[2] Policy Analyst and Researcher at the EU Policy Lab of the Joint Research Centre, European Commission
[3] Researcher / Policy Analyst at the European Commission, Joint Research Centre, EU Policy Lab / Foresight, Behavioural Insights and Design for Policy Lab Unit.

Abstract: Urban Citizen Sensing and the Sociotechnical Challenges of Open and Low-Cost DIY/DIT Tools

Citizens and their communities are increasingly playing lead roles in creating, designing, building and implementing bottom-up technical and social innovation in their own houses, streets, neighbourhoods, or even whole cities. Making Sense was an European project supported by the H2020 'Collective Awareness Platforms for Sustainability and Social Innovation' aimed at tackling this challenge by proposing a sociotechnical transdisciplinary framework for urban citizen sensing through open and low-cost DIY/DIT tools. Our main goal was not merely to monitor environmental pollution in urban settings, but do it from the start with the affected citizens and communities, going phenomenologically from sensing to awareness, and finally to action. Getting to a problem diagnosis (the "what" or "why") should always be done by those who are directly concerned by its effects independently of the levels of expertise. But here we must be aware that a set of other questions arise on who truly are these citizens and communities (the "who")? And on which challenges emanate from the openness and adaptability of open and low-cost DIY/DIT sensing technologies (the "how")? Or yet, how to position participatory sensing in scientific and technological ecosystems and engage with already established institutional actors (the "with whom")? This presentation will focus on how we collectively addressed these and other questions by establishing an approach based on a highly transdisciplinary and participatory processes. Such process was driven both vertically, by integrating all possible citizens' interests and actions, that is, closely embedding immediate practical issues and needs, and horizontally, by promoting a collaboratively designed and strongly balanced framework which is able to draw from any form of suitable disciplinary or lay knowledge, that is, from social to technical disciplines, from citizen science to vernacular know-how.

Tijs Vandemeulebroucke

PhD Candidate, Centre for Biomedical Ethics and Law, KU Leuven

Abstract: Grandma, is that a nice robot? What the use of Socially Assistive Robots (SARs) in aged care settings can teach us about ethics in care settings

Confronted with an aging population and a decreasing number of caregivers, societies look at technologies to sustain dignity-enhancing care for older adults. One technology gaining increasing attention are Socially Assistive Robots (SARs) that can be characterized as embodied (semi-) autonomous technology with social and (physiological/psychological) assistive capabilities.

Introducing SARs in aged care settings, classical bioethical principles (respect for autonomy, beneficence, non-maleficence, and justice) are brought to their limits as the ethical focus shifts from humans considered as individual agents to humans who are related to a certain technology. This paper will propose the first steps of the development of a new ethical framework to analyse SARs in aged care settings. Taking a phenomenological stance characterized by its focus on lived experiences, relationality, reflexivity, situatedness and a multiplicity of perspectives (Ihde, 2003), a dialogue will be established between the results of two of our own reviews: one of qualitative evidence (Vandemeulebroucke et al. 2018a) regarding older adults' experiences with SARs and one of argument based ethics literature on SAR use (Vandemeulebroucke et al. 2018b).

The dialogue leads to a socio-historical ethics which questions the classical biomedical principles as these cannot give voice to older adults' experiences with SARs. Instead, these experiences let us discover why we think about SAR use in aged care settings and how this idea influences our conception of good and bad care. To end this paper, this socio-historical ethics will be exemplified by use of Mark Coeckelbergh's article Artificial agents, good care, and modernity (2015)

Panel 40 - Philosophy of Mind
Friday, July 13, 10:45 - 12:15 (Room Connect)

[Chair: Margoth González Woge]
Participants: Richard Heersmink; Finn Olesen; Anco Peeters

Richard Heersmink
Lecturer in philosophy at La Trobe University in Melbourne.

Abstract: The narrative self, distributed memory, and evocative objects
In this talk, I outline various ways in which artifacts are interwoven with autobiographical memory systems and conceptualize what this implies for the self. I first sketch the narrative approach to the self, arguing that who we are as persons is essentially our (unfolding) life story, which, in turn, determines our present beliefs and desires, but also directs our future goals and actions. I then argue that our autobiographical memory is partly anchored in our embodied interactions with an ecology of artifacts in our environment. Lifelogs, photos, videos, journals, diaries, souvenirs, jewelry, books, works of art, and many other meaningful objects trigger and sometimes constitute emotionally laden autobiographical memories. Autobiographical memory is thus distributed across embodied agents and various environmental structures. To defend this claim, I draw on and integrate distributed cognition theory and empirical research in human-technology interaction. Based on this, I conclude that the self is neither defined by psychological states realized by the brain nor by biological states realized by the organism, but should be seen as a distributed and relational construct.

Finn Olesen
Associate Professor, Ph.D., at Information Studies, University of Aarhus, Denmark

Abstract: Sociotechnical practice and emotional responses
Technologies can – over time – install or shape emotional responses in human beings through everyday practices. A patient, who learn to understand and deal with her disease by using instruments to measure bodily values, e.g. diabetes, is not just motivated by willpower, but also by the pleasure of good values and the frustration of bad ones. A soldier may feel fearless from wearing a brand new rifle, but he may also experience panic from sensing that his rifle does not function properly in combat. A proficient skier will experience the utter joy of riding down the slopes on skies with freshly sharpened edges, while an adept chef will feel utterly frustrated cutting tomatos with a blunt knife. In all examples the course of action seems to be shaped by the emotional responses by the practitioners. Learning to be a good practitioner does not just involve cognitive and perceptual capacities. It also involves distinct emotional awareness and embodied skills. Hence, emotional responses in sociotechnical practices seems consequential.

Several scholars, including Merleau-Ponty, Damasio and Despret, have shown, through empirical studies, that emotions and embodied feelings, sensori-motor perceptions and skills are all involved in shaping rational thinking and knowledge. The sentient body plays a major role in our thoughts and actions. Furthermore, it is the

socio-culturally embodied person who enables culturally significant meanings to be inscribed on the body, e.g. numeric values or 'efficiency'. And it is that embodied knower who appropriates meanings in ways that place or shape postures, gestures and behavior of the body.

We are thus far from any Cartesian or Kantian separations of mind and body that puts too much responsibility on detached minds and willpower. Emotion, just like cognition and perception, ought to be designated an important role in the theoretical and methodological tool-kit when we attempt to study human-technology relations and sociotechnical practices in lifeworld situations. Based on empirical findings and relevant emotion studies I will outline how types of emotions can be associated with Ihde's postphenomenological typology of technological mediations in order to study emotional responses as a significant dimension of human-technology relations.

Anco Peeters

PhD Candidate in Philosophy of Mind & Cognition, Faculty of Law, Humanities and the Arts, University of Wollongong, Australia

Abstract: Enactivism as a postphenomenological metaphysics
Those advocating an understanding of the mind as extended (Clark & Chalmers 1998; Menary 2010), have recently been the target of postphenomenological critique. Crucially, the main charges include, first, the putative assumption by extended mind theorists of a subject-object dichotomy between agent and world, and, second, the subsequent wrongful instrumental conception of technological artefacts (Vaccari 2016; Aydin 2015; Kiran & Verbeek 2010). Some have attempted to neutralize the critique by meeting the charges head-on (Heersmink 2016). However, I argue that, while those who develop an extended mind approach from within a functionalist framework (e.g., Clark 2010; Wheeler 2017) might be vulnerable to the critique, the extended mind hypothesis itself need not be. Therefore, I propose to rethink the extended mind from an enactivist perspective -- specifically of the radical, extensive kind (Hutto & Myin 2013; Hutto, Kirchhoff & Kirchhoff 2014) -- which understands mind as intrinsically spread out across brain, body, and environment. Enactive approaches to mind have previously been called a natural fit with a postphenomenological approach to human-technology interaction (De Preester 2010). If my argument is sound, then we have a good reason to think that the extended mind hypothesis may provide a fruitful bridge between a postphenomenological conception of technological mediation and an enactive approach to the cognitive sciences of the mind. Such a marriage will open up new and useful ways in the understanding and design of technological artefacts.

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Panel 41 - Human-Technology Relations & Ethics II
Friday, July 13, 10:45 - 12:15 (Room Invite)

[Chair: Galit Wellner]
Participants: Bas de Boer; Anna Melnyk; Hanna Wüller & Anne Koppenburger

Bas de Boer & Jonne Hoek & Olya Kudina
PhD candidate, University of Twente

Abstract: Can the Technological Mediation Approach Improve TA Practice? A Critical View from 'Within'
In this paper, we critically review the ambition of the technological mediation approach to complement Technology Assessment (TA) practices on a normative plane. *Firstly*, we briefly survey the historical development of TA, identifying the 'external yardstick procedure' in TA that the technological mediation approach takes issue with. We highlight several ways in which the mediation approach takes a normative stance by calling attention to values constituted 'within' the human-technology relations. *Secondly*, we then discriminate the normativity 'from within' as consisting of a phenomenological and an existential component. Though different, so we argue, both can hardly be separated. *Thirdly*, we determine whether this normativity from within can function as an addition or valuable alternative to existing TA approaches. We discern between a weak and a strong reading of the technological mediation approach. Only the weak reading, we argue, can augment existing TA practices; the strong reading conflicts with it.

Anna Melnyk
Master student, Philosophy of Science, Technology and Society, University of Twente

Abstract: Mediating technomoral virtues in cyberwarfare
Cyberwarfare implies diverse actors that causing and enduring certain impacts on the political, social and individual level of being. In principle, risks imposed by cyberwarfare penetrate different technological products thus the tremendous amount of information can be manipulated, and systems can be controlled by unknown actors for multiple reasons. Despite the fact that cyberwarfare is still relatively unregulated by the governments, ethical considerations attempt to catch-up with technological development and sufficiently approach social and individual, civil and military level of interaction. To contribute to the current debate around cyberwarfare, I suggest in-depth research of the changes in interpretations and perceptions of morality and hierarchy of the values that affect human decision and actions on a daily basis. Technomoral virtue ethics framework reveal the impacts of cyber attacks on morality, values, and behaviors through everyday human-technology interaction practices. With the support of mediation theory the analysis incorporates two significant aspects: 1) sensitivity to the context of deployment of cyber attacks; 2) reflectivity to the dynamics in human perception, values, and behaviors transfigurations. The central claim is that the integration of mediation theory and technomoral virtue ethics in the context of cyberwarfare enables to track alterations in human's perceptions of moral values by revealing the impacts of cyberwarfare activities on technomoral virtues. By suggesting the combination of mediation theory and technomoral virtue ethics, I underline the relevance of the focus on the impacts and influences on the morality, values, and behaviors of human beings in the context of cyberwarfare.

Hanna Wüller[1] & Anne Koppenburger[2]
[1] Research assistant at Osnabrück University
[2] Research assistant at Osnabrück University

Abstract: Are nursing relations part of an 'open machine'?
In German nursing sciences technology is perceived as a danger. In contrast, European research policy heavily

focuses on developing health and social technologies to solve societal issues like a skill shortage in nursing. Furthermore, empirical data shows an increased use of technology in health care services. In this talk it will be argued that the luddite positions in German nursing science are losing touch with their subject's realities. Consequently, this research might wrongly inform policy making.

For German nursing scientists the distinctive element of nursing – in contrast to medicine – is the communicative relationship between patient and nurse. Nursing scientists still seek to set themselves free from the influence of medicine. Corporal ["Leib"] perception is stressed as well as implicit or tacit knowledge. On closer examination this (neo-) humanistic vindication often sticks to human exceptionalism featuring technology as the uncanny "other". Thereby the 'traditional' gap between these kinds of non-discursive knowledge and discursive knowledge is reinforced at the expense of conceptually integrate digital technology into nursing relations.

Against this background of nursing science's "state of the art thinking about technology", a prototypical Augmented Reality application will be introduced. Along potential ways of existence of this technological artefact the concept of the open machine" of Gilbert Simondon is presented as a guideline to reveal social and technological reconfigurations as interdependent. Therefore, it is argued that only a research perspective that takes technology and its social implications into account might be able to inform emancipatory politics of nursing.

Panel 42 - Philosophical Anthropology
Friday, July 13, 10:45 - 12:15 (Room Erlenmeyer)

[Chair: Alessio Gerola]
Participants: Agostino Cera; Mitsuhiro Hayashi; Georgios Karakasis; Marcel Müller

Agostino Cera
Adjunct Professor of Theoretical Philosophy at the University of Basilicata (Italy).

Abstract: Philosophy of Technology in the Nominative Case
My paper exposes a philosophy of technology in the nominative case, i.e. an approach which recognizes technology as the actual subject of history. Such an approach is grounded on an *anthropological hypothesis* and culminates in the concept of Neoenvironmentality.

The anthropological premise of this approach is the awareness that *the "essence of man" can no longer be predicated.* Definitions such as "human essence" or "human nature" are replaced here by that of anthropic perimeter. The core of the anthropic perimeter consists of man's worldhood, i.e. of the recovery of von Uexküll's *Umweltlehre*: *man has a world, while animal has an environment*. Man is bound by nature to mould his own *oikos*: he is world-forming, a technological being. Animal's *oikos* is environment: a natural mould with which it corresponds completely. Its peculiarity equates to an environmentality.

Man's worldhood and animal's environmentality are derived from a *pathic presupposition*, i.e. the *fundamental moods* that refer them to their respective *findingness*. The original animal *pathos* is captivation*, that upholds its fusion with its *oikos*. Man possesses a fundamental mood which enables him to transcend his within-the-world rootedness. It is *thaumazein*, *theorein* (contemplation).

Given this anthropological premise, technology emerges as *the oikos of contemporary humanity*, i.e. as its *(neo)environment*. In its systemic version (as epochal phenomenon), technology demands a total adaptation from man. In order to achieve this, it inhibits his *thaumazein/theorein* producing an *artificial captivation* that assimilates him to an animal (environmental) condition. Therefore *the main effect of the* technological neoenvironmentality *is the* feralization of man, i.e. its *telos* turns out to be the *redefinition of the anthropic perimeter*.

Mitsuhiro Hayashi
Postdoctoral Researcher of the Clarke Program at Cornell University

Abstract: The Anthropological Assemblage: Techno-Modernity beyond Ontological Confines
In the recent literature associated with actor-network theory in cultural anthropology, speculative realism or object-oriented ontology in philosophy, and media archeology or media ecology in media studies, the concept "technology" has been stripped of human-centered terminology. Several scholars have sought different assemblages of humans

and machines, redefining the relationship between humans and nonhumans, or culture and nature. Yet, unfortunately, most of these debates focus on the Western context. The following question remains to be considered: What does this perspective mean for the relationship between the West and the non-West? When we think about technology in relation to the process of modernization in the non-West, we tend to narrate the development of technology from country to country. However, technology can function beyond geopolitical divisions, even beyond the four ontologies outlined by Philippe Descola (naturalism, analogism, totemism, and animism). Technology was not merely a force to rapidly give the façade of the nature/culture binary opposition of the modernist (naturalist) ontology (in the sense of Bruno Latour) to other types of ontologies, leaving different ontological confines. Also, through this operation of technology, different ontologies were rearranged within a gigantic anthropological assemblage centering on the modernist ontology and absorbing every type of ontology in the globe. In this paper, as an example, we discuss how the animist ontology in Japan, one of the first modernized non-Western countries, was incorporated and rearranged within the anthropological assemblage and suggest a new perspective for analyzing modernization in the non-West and thinking about techno-cultural pluralism.

Georgios Karakasis
Doctor of Philosophy in Philosophy (cum laude), University of Basque Country.

Abstract: Being gathered by technology: Heidegger and the event of enframing
The aim of this paper is to analyse from an ontological point of view the presence of technology in the modern society. Basing our analysis on Martin Heidegger we intent to demonstrate how technology, far from being understood as the mere use of objects and utilities, is to be conceived as the event of the transformation of the human being's Being; a transformation founded on the willing decision of the human being to give a technological meaning to his life through his being gathered in technology via the event of *Enframing*. The *Enframing* encloses the human being in a mechanistic and utility based interpretation of the beings, the latter being conceived as simple tools in the process of achieving the never-ending goal of human being's mastering of the world. A mastering, though, whose core does not lie in a strictly materialistic desire to fill our own material needs but, on the contrary, tries to reach and conquest the roots of our understanding what the being is as being. Thus, human being through the occurrence of *Enframing*, an occurrence caused by the latter's change in the way he perceives beings and nature in general, is facing the danger of becoming a single tool, a resource, in his quest of bending nature to his will. This danger is essentially ontological due to the fact that it sets forth a completely different meaning with regard to what the human being is since the latter is no longer perceived as the master of the *Enframing* that threatens to change his essence and meaning; a change which could eventually displace the human being from the role of the safe guarding gatherer of the beings to a being gathered ready-to-hand tool in the name of a faceless technological progress he no longer dominates.

Marcel Müller
Doctoral Studies, Research Associate at the Research Training Group KRITIS, Technical University Darmstadt

Abstract: In the Middle - The Dialectic Character of Technological Mediation
Technological mediation is a prominent concept in science and technology studies as well as in contemporary philosophy of technology; particularly, in postphenomenology. It describes the relation between human beings and the world as being changed or at least influenced by technologies and technological artifacts. Technologies mediate the world in such a way, that the perception of self, world and technology changes. For instance, those with limited vision relate to the world through their glasses. Simultaneously, human being and technological artifact together form an embodiment relation, a hybrid actor, that becomes increasingly unaware of this very relation through the process of habituation.

The goal of this paper is to provide insight into the deeper mechanisms of technological mediation. It does so by rethinking Jean-Paul Sartre's late philosophy while also taking Christoph Hubig's dialectic philosophy of technology into account. Cornerstone of Sartre's Critique of Dialectical Reason is the concept of praxis. This can be understood as an interaction between different sectors of materiality with the end of satisfying needs. As equal sectors of materiality technological artifacts influence this interaction. By virtue of being designed, they are products of praxis and thus emit counter-praxis themselves. Within the mediated human-world relation, the praxis of human

beings and the counter-praxis of artifacts clash witch each other. For the late Sartre, this clash is related to alienation and the struggle for power. For Hubig, this clash is the way human reason assures itself of its agency by relating subjective and objective ends with each other.

Panel 43 - Law & Politics
Friday, July 13, 13:15 - 14:45 (Room Ideate)

[Chair: Roos de Jong]
Participants: Michiel Heldeweg; Ekaterina Mulder; Joel Patomäki; Martijntje Smits

Michiel A. Heldeweg[1] & Lesley C.P. Broos[2] & Victoria I. Daskalova[3] & Dick W.P. Ruiter[4]
[1] Full professor in the chair of Law, Governance & Technology at the University of Twente, the Netherlands
[2] Assistant professor of High-Tech Business and ICT Law in the chair of Law, Governance & Technology at the University of Twente, the Netherlands
[3] Completed her PhD in Law at the Tilburg Law and Economics Center (2016).
[4] Emeritus professor of Legal Theory in the chair of Law, Governance & Technology at the University of Twente, the Netherlands.

Abstract: Designing-in the law. A critical legal analysis of techno-enforcement and techno-regulation by non-human agents.
As human beings and technology become increasingly more interwoven, the boundaries between them are blurring. This paper discusses how legal channeling of behavior is no longer the exclusive domain of legal acts by human agents, as high-tech objects (e.g. driverless cars) and platforms (e.g. internet search engines and online sharing services) implement and enforce, and also establish legal norms, particularly in the wake of the 'Internet of Things' and Artificial Intelligence (AI).
 Legally valid and binding norms of conduct may be designed into technology. Such designing-in amounts to techno-enforcement, which may either nudge regulatees to comply, or allow regulatees a choice only between compliance and exit. In the latter case, designed-in norms obtain a preventive character by which non-compliant behaviour becomes factually impossible, possibly without a reasonable alternative being available.
        Designing-in may also concern legal empowerment of technology to by itself establish (designed-in) legal norms of conduct. Thus regulatees would be techno-regulated either upon competence criteria preprogrammed into technology (e.g. smart traffic lights), or even by technologically embedded discretionary power, given the possibilities of AI/Machine or algorithm learning (e.g. care-robots).
        This paper maps the different modes of designing-in, reaching across from norm-implementation, behaviour-monitoring and norm-enforcement to norm-setting, and discusses the meta-juridical/legal implications of the new configurations that appear. Given that all of these types could concern both public and private law relations, the paper will also address some key doctrinal aspects (e.g. public interest and competition).

Ekaterina Mulder
PhD candidate at the Welten Institute which is a research center for learning, teaching and technology of the Open University of the Netherlands

Abstract: Informed consent for personal data use
Informed consent for personal data use is a process that involves providing sufficient information and opportunities to ask questions. Different studies show that Internet users tend to ignore information provided in a consent form even when they consider protection of their data very important. Indeed, it is a complex matter: first of all, it must comply with legal requirements; secondly, information can be rather complicated, especially, in case of personal data use; then, a way of how consent is obtained may also influence this process. Aiming to address this problem we conducted a scientific study on legal requirements stated by new Data Protection Regulation (GDPR), applicable from 25th of May 2018, and user expectations extracted from different usability studies, in order to design a template for a user-friendly and user-oriented form. During the workshop we will present results of the study, and participants will have opportunities to share their experiences with informed consent and work on design for a usable consent form.

Learning objectives
There is a need to articulate requirements for a consent form in a way that would help data controllers like technology providers or researchers, to acquire consent that meets legal requirements while ensuring that data subjects understand information provided in a consent form and feel comfortable to ask questions and make an informed decision. Participants of the workshop will learn these requirements, rights and duties of different parties, and will be given opportunities to brainstorm in small groups and work on design for a usable consent form.

Methodology
• Introduction to legal requirements (extracted from new GDPR).
• Introduction to user expectations (extracted from usability studies).
• Presentation and discussion of different consent form examples.
• Splitting in small groups to brainstorm and work on design for a usable consent form.
• Presentation and discussion of results, Q & A.

Joel Patomäki
PhD Candidate, University of Jyväskylä, Finland

Abstract: Risk understanding technologies as biological metaphor
I am interested in risk understanding technologies which do not govern this in advance, but only require passing certain risk tests. Therefore, I will research the idea of Basel´s bank limiting technologies as assemblages that want connections only with other specified assemblages. For example, certain risk levels must be adjusted in order to form a harmonious whole that passes these tests. I will argue that by understanding Basel's bank limiting technologies through the theory of assemblages, it is possible to spell out the notion of biopower in the assemblage that has only pure economic or statistical status.

The biopower means the ability of a certain bank to control its assessments by estimating those same forms in different diagrams. I will work with the condition that there are no rules as to how to control the risks, only of what the abstract risk levels must be. This is based on the standpoint of the assemblage theories idea that certain particles can be removed, because the particles are tied to the whole. The point of this analysis is to show that trust does not lie in mutual understanding, but rather on the abstract risk levels and certain tests that the bank has to go through.

So therefore my aim is to show that using certain vitalistic concepts from human as evolutionary organisms and as rational actor there is stronger connection between humans and technology thereafter.

Martijntje Smits
Philosopher of technology, senior researcher, lecturer, author and public speaker.

Abstract: 'Do Artifacts have Politics' Revisited:
Refilling the apparent ideological emptiness of the technology debate in Dutch politics
New technology time and again changes social roles and social practices, power relations, values and visions on the Good Life. In short: technology shapes new 'forms of life' (Winner 1986). Technology therefore must be considered a first class political force and treated as such – since politics is essentially about the way people want to live together in a just society. My paper starts from the observation that, though this insight is widely adopted in current philosophy of technology, it seems almost utterly lacking in official arenas of actual politics. Apart from a broad consensus about the need to stimulate innovation, political visions on the desired kind of technological culture are ostensibly absent today.

The paper investigates the current state of the technology debate in the Netherlands, which has been described as a sphere of 'ideological emptiness' (Van Est 2012). It wasn't always that bad: at least in the 1980's we've seen some ideological differences between political parties about how technology could promote social values. (Ideology is defined as a view on human nature and the resulting normative vision on social order and political order) I will question this apparent ideological emptiness, by investigating which ideologies might actually be underneath. Secondly, I will critically investigate several contemporary attempts to escape the ideological vacuum and propose an alternative route. This route does not start from the question 'how to steer technology with social values', but begins with needs and questions of social practices. This alternative is inspired by critically

rethinking the five principles mentioned in 'Tools for Conviviality' in which Illich searched for a 'politics of tools' that would limit 'counterproductivity' and 'serve the values of survival, justice and 'self-defined work'.

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Panel 45 & 51 - **Workshop:** What Internet of Things Do - Implications of a 'Do It Yourself' Programmable World and **Paper Presentations** on the Internet of Things and Smart Environments

Friday, July 13, 13:15 - 14:45 & 15:00 -16:30 (Room: Ideate)

Conveners: Margoth González Woge and Michael Nagenborg

In the near future environments are envisioned to be equipped with interconnected sensor networks, artificial intelligence, and big data-enabled automation systems. What is the potential of this new quality of the environment to impact humans? On what scale and within which scope?

The aim of this interdisciplinary session is to get familiar with the implications of DIY Internet of Things through a hands-on workshop, as well as to discuss narrative scenarios, the complex dynamics in scientific research through smart objects, everyday smart things, and conceptual frameworks to understand the technological mediations at stake. Altogether, we will reflect on the state of the art and future scenarios of this technological paradigm.

Workshop: What Internet of Things Do - Implications of a 'Do It Yourself' Programmable World
Nirvana Meratnia, Dirk Wanders, Margoth González Woge, Denisa-Valentina Licu, Michael Nagenborg, and Frank Kresin

During this hands-on workshop we will provide participants with a brief glimpse into IoT-enabled Smart Environments. By focusing on healthcare scenarios, we will explore how IoT technologies pose a myriad of implications as they go mainstream by becoming affordable and easy to use.

Paper Presentations

Julia Grillmayr
Postdoctoral Researcher at the University of Art and Design in Linz, Austria

Abstract: Science Fiction, Fact & Forecast
The research project "Science Fiction, Fact and Forecast" will investigate the manifold relationships between Science Fiction Literature and what has been referred to as "Scenario Thinking". Scenarios are short narratives that are written and discussed in order to think about possible futures (in respect e.g. a certain technological device one is developing). Currently, Scenario Thinking approaches increasingly assume literary shapes and thus sometimes become indistinguishable from Science Fiction stories.

      In my paper I'd like to present the outlines and the central interests of this project that has developed out of a dissertation on the spatial dimensions of "Ambient Intelligence" in close teamwork with Louise Beltzung and Tanja Traxler and under supervision of Peter-Paul Verbeek. In this context, I'd like to stress the particular role of Smart Environment / Internet of Things technologies when it comes to approaching the future through fiction.

      The discourse on AmI has engendered publications of interesting narrative scenarios (positive as well as negative ones; in the framework of technology assessment and development as well as in the framework of literature). The underlying ideas behind Smart Environments technologies are often based on the vision that the interconnectedness of things will be all encompassing. In this sense, these technologies are beforehand included in a bigger narrative, that goes beyond a single application and often presumes this all encompassing Internet of Things. This becomes apparent especially when looking at the "scenarios" written about AmI as will be shown in this paper.

Louise Horvath
PhD Candidate, Technical University of Vienna

Abstract: The teddy bear as control device: reflections on children and Ambient Intelligence
Teddy bears, tooth-brushes, dolls and smart watches — a range of products in the internet of things are particularly designed for children. They serve as control devices for parents but bear also the aim to enrich the games of children. What implications might this development of smart and interconnected things have on their everyday?

In my paper, I reflect upon the findings of a research project I have led on the "Internet of Toys" at the Austrian Institute for Applied Communication in 2017. The project has shown how difficult it proves to evaluate the change of technological developments, which are at their beginnings on the one hand, but bear encompassing visions for the future as well.

These findings are embedded within my dissertation research on the spatial dimensions of Ambient Intelligence. The thesis project was in close teamwork with Julia Grillmayr and Tanja Traxler and under supervision of Peter-Paul Verbeek. I'd like to stress how by a case-study based approach the spatial dimensions of these objects may be inquired – and how by situating this development within its narrative one may inquire into the ethical questions at stake.

Tanja Traxler
PhD Candidate, University of Vienna

Abstract: The Rise of Smart Physics

In the development of experimental sciences, there is a co-evolution between technological progress and advances in research: scientific experimentation has quickly adapted technological innovations and in many cases science has even been the driving force of new technologies. Lately, there have been various approaches to apply so-called smart technologies in scientific experimentation.

This paper presents an analysis of a couple of experiments by the Zeilinger group at the University of Vienna in which an algorithm called Melvin has proposed the design of setups for specific experiments in quantum optics. As a next step, it is projected that the algorithm not only proposes the design of the experiment but that it decides upon the experiment itself.

The rise of `smart physics' through the implementation of self-learning algorithms, Ambient Intelligence-applications and so-called smart, context-aware technologies raise epistemological and ethical questions: In how far does smart physics contribute to the production of knowledge concerning space, time, and spatiotemporal relations of material objects? What are the ethical implications of the automatisation of physics labs?

This paper has resulted from a dissertation project on the spatial dimension of Ambient Intelligence in close cooperation with Julia Grillmayr (University of Vienna) and Louise Horvath (Technical University of Vienna), supervised by Markus Aspelmeyer, Arno Böhler (both University of Vienna), and Peter-Paul Verbeek (Twente University).

Margoth González Woge
PhD Candidate, University of Twente

Abstract: When Postphenomenology meets Situated Cognition: Exploring a Broader Spectrum of Technological Mediations in Smart Environments

Situated approaches to cognition highlight that the specificity of the environment is of great relevance for understanding human agency, suggesting that the plasticity and adaptability of our own species to specific environments should be at centre stage of our agency models.

In an era of wearable computing and ubiquitous information access, the insights of such an approach to agency reveals new considerations worth exploring in combination with a philosophy of technology such as Postphenomenology. Embedded sensors, Artificial Intelligence, and Internet power in everyday environments constitute a radical step within the trajectory of human niche construction or ecosystem engineering. As Smart Environments promise a hyper-personalised, context-aware, and anticipatory kind of environment, they open up a new quality of human-technology interactions that pose several questions regarding the scope and reach of their influence on human behaviour, practical skills, and cognitive abilities.

My paper aims to show that Situated Cognition can better equip Postphenomenology to make sense of a broader spectrum of technological mediations in Smart Environments. Bringing both frameworks together will (i) make the case for the importance of a high-tech environment as an enabler for human agency, (ii) provide a basis for understanding some of the ethical challenges that Smart Environments will increasingly pose, (iii) sketch integral considerations for the design of technologies that aim for smooth assimilation and integration.

Friday, July 13, 13:15 - 14:45 & 15:00-16:30 (Room Connect)

Organisers: Jonne Hoek & Bas de Boer & Sam Edens

Presenters: Stan Kranc, Inger Louise Berling Hyams, Richard S. Lewis, Rebecca Louise Breuer, Katja Kwastek, Gabriel Paiuk

Stan Kranc
Professor Emeritus at the University of South Florida, College of Engineering

Abstract: Picturing the technologized background
Humans live immersed in their technologies, yet only a part of the lifeworld is immediately evident. The remainder forms a contextual background against which everyday activities take place. Automatic machinery, routine events, and various states of affairs relegated to background status, however, are resistant to conscious attention, as immersion ordinarily distorts any observational perspective. What is at issue here is the question: if this technologized background cannot be directly perceived, is it possible that it can be accessed in some other way? Specifically, 'picturing' is the natural human talent for grasping the external world as framed and organized, so that a place to look for traces of this background may be in photographs, as well as realistic paintings and drawings. In this article, the similarities and differences between the background of the technologized real world and that represented in artworks are explored through the works of three artists. This investigation suggests that perspectival relations in artworks situates a beholder to provide a view of the technologized background, by picturing what is not otherwise easily accessible.

Inger Louise Berling Hyams
Phd student at the University of Roskilde, Denmark

Abstract: Thinking through the screen
A postphenomenological investigation into digital drawing in architecture education
Architectural thinking is formed through the act of drawing, and the architectural drawing is not a neutral representation. Critics such as the Finnish architect Juhani Pallasmaa denounce digital drawing for its inherent haptic remoteness and remind us of the importance of embodiment in the creative process of drawing. Yet, architecture students today very commonly draw using digital tools. This article examines digital drawing using a postphenomenological framework. Students' drawing practices are analysed in terms of the various technologically mediated relations as put forward by Don Ihde. Furthermore, I introduce the distinction between 'empirical' and 'ideational' visualisation to discern between imagined and empirically experienced elements of architectural drawing; this opens the possibility to counter critics such as Pallasmaa and bring the creative potential of digital drawing to the fore.

Richard S. Lewis
Interdisciplinary doctorate in Philosophy of Technology and Communications Studies at the Vrije Universiteit Brussel

Abstract: Turning our back on art
A postphenomenological study of museum selfies
While some have viewed selfies as superficial or self-indulgent, museum selfies can be creative and imaginative ways of interacting with museum objects. This may challenge the concept of the more traditional museum experience, but it is supported by current museum research, which posits that the primary reason visitors go to museums is to create their identity. It may seem paradoxical that a person engages with museum objects in a meaningful way by turning their back to them, but that is precisely what happens when they take a museum selfie. Selfies, both as a practice and as objects, can also help reduce what is known as 'the museum effect'. Postphenomenology, a field within the philosophy of technology, can provide several tools to help understand the technological mediating effects that selfies have on how the visitor relates to museum objects. Such effects include

multistability — the notion that selfies do not have a single meaning — and the enabling and constraining effects of any technology. These ideas are exemplified through the author's museum selfies and how the technologies of the museum and smartphone mediated his experience.

Rebecca Louise Breuer
Senior lecturer and associate researcher at the Amsterdam University of Applied Sciences.

Abstract: Inbetween and immediate
Rebecca Louise Breuer This article introduces Gilles Deleuze and Félix Guattari's concepts of smooth and striated space and couples these with the realms of art and technology. In doing so, and by analysing a case study, the dynamic natures and complex mixtures of art and technology are discussed. As a result, a perspective through which art and technology work together to enable new experiences opens up. The case study consists of Anja Hertenberger's work entitled inbetween — an ongoing performance project in which she examines the reactions of people to her wearing an item of clothing which features a miniature camera on the front and a screen at the back. The article concludes by arguing that although Hertenberger's performance concerns mediation, it mainly brings about immediate experiences that can be regarded as 'imaginings' rather than imaginations.

Gabriel Paiuk
Composer and sound artist, faculty staff member at the Institute of Sonology, Royal Conservatory of The Hague, and PhD Candidate at the Leiden University Academy of Creative and Performing Arts.

Abstract: imagination, perceptual engagement, and sound mediation
Thinking technologically-produced sound through simondon's concept of the image
Applying French philosopher Gilbert Simondon's concept of the image to the domain of the sonorous, this article aims to tackle how imagination is constitutional in our grasp of sound, and how it is informed by the protocols and affordances of technological tools of sound reproduction and manipulation. Simondon rejects the notion that imagination is a capacity of subjective consciousness, arguing instead that imagination pertains to the image's processual character: the image is the product of an activity, a node in a circuit of processes of anticipation, reception, recollection, and invention. Conceiving of sound experience as an image also highlights how particular modes of perceptual engagement are fundamental in its coalescence. These modes are entwined with the affordances of technologies of audio manipulation that we use on a daily basis and that structure memory processes. Through artistic practice, technology can

Katja Kwastek
Professor of modern and contemporary art history at the Vrije Universiteit Amsterdam.

Abstract: Unfolding entangled infrastructures
Femke herregraven's *malleable regress*
This article proposes to address 'technology' in terms of its broader infrastructure extending across the full life-cycle from raw material to decay, including acts of conceptualization, research and development, and artistic imaginative intervention. It discusses the installation *Malleable Regress* (2016) of Dutch artist Femke Herregraven, arguing that, while the work does not actually implement a particular technological apparatus or automated process, it inserts itself into a complex system and history of interrelated technological and geopolitical imaginations and developments. Rather than tackling a specific technology, it tackles entangled infrastructures, emphasizing the fact that technology is always embedded and situated, bound not only to hardware but also to resources, environments, and political and social systems.

Panel 47 - Art & Aesthetics

Friday, July 13, 13:15 - 14:45 (Room Invite)

[Chair: Nicola Liberati]
Participants: Rebecca Louise Breuer; Alexandra Karakas; Bart Moens; Shlomo Oz Uziel

Rebecca Louise Breuer
Senior lecturer and associate researcher at the Amsterdam University of Applied Sciences

Abstract: Wearable Tactile Technology and the Felt-Body, a Paradigm Shift
In this article I explore a perspective that the philosophical concepts of German phenomenologist Hermann Schmitz (*1928) may open up for thinking about the growing practice of wearing textile integrated electronics directly on the body. It is my contention that traditional conceptions of wearing (non-technological) clothing on the body fail to capture the changed situation and I hence suggest a paradigm shift is needed to think about the novel scope of affects that can be related to body-technology communication. Schmitz's concepts of the perceptive felt body, corporeal communication and emotions as atmospheres perceived as outside, on or close to the 'material' body will be elaborated upon to investigate how they may enhance existing notions of bodily perception and human-technology relations. The case study used for this philosophical investigation is found in the Tactile Sleeve for Social Touch, a wearable created by Elitac, HvA and UTwente, which allows sensations of stroking, tapping and touching to be communicated from one person to another across a distance.

Alexandra Karakas
Doctoral studies, Budapest University of Technology and Economics

Abstract: Technological Determinism and the Concept of Verisimilitude
In my paper I state that in fine art, improvisation as such has rather tight boundaries, because technological devices have been driving the history of art, and within this artistic decisions as well. Even though in a lot of cases it looks like artists made certain choices purely because of improvisation, in my case study I point out that technology narrowed down the possible choices and lead traditional art history in a certain direction. The paper focuses on one historical example that is the so-called Hockney-Falco thesis, and within this argue that artists were determined by particular technological devices. Hockney and Falco claimed that a lot of artists, even the greatest ones like Caravaggio or Jan van Eyck used concave mirrors and different lenses as early as the beginning of the 15th century to project parts of the images illuminated mainly by sunlight onto a canvas or board. This thesis made previous assumptions about fine art unstable and gave new answers for one of the biggest questions of art history; why painters in the beginning of the Renaissance suddenly made better pictures in terms of vividness and verisimilitude? Previously, historians tend to give romantic answers and argue that contingent factors shaped the way artists thought about the world. In my presentation I introduce briefly the Hockney-Falco thesis, and then present my interpretation of it, thus a technological determinist rereading of it and the concept of verisimilitude.

Bart G. Moens
Preparing a PhD proposal to study the impact of digital applications in the cultural heritage context at crossroads of the philosophy of technology and the philosophy of art.

Abstract: Aesthetic Mediation: Picturing New Ground for Postphenomenological Research
Digital image technologies mediate our experiences and perceptions in various and pervasive ways. Within this digital turn, cultural institutions such as art museums digitize their collections on a large scale, and present digital copies by means of online exhibitions or so-called virtual museums to meet contemporary expectations. Material culture is hence transformed into a digital form and incorporated within a broad digital, and particularly visually oriented culture. Although the visual arts have always been immersed in technology – traditionally this was particularly the case with regard to the creation of art –, with our present-day use of digital image technologies the aesthetic experience significantly mediated too, despite the transparency of these digital images and the seemingly neutral roles of the used technologies. Postphenomenological mediation theory offers an innovating perspective on this understudied issue. Moreover, by expanding the postphenomenological field of inquiry through the study of the

aesthetic dimension – i.e. the technologically mediated aesthetic experience – we challenge the very concept of technological mediation. Considering the emphasis on unicity and originality in the visual arts, it becomes clear that a digital image of a work of art does not only play a mediating role, as a new visual terminus it provokes completely new aesthetic experiences too. By investigating the impact of these digital images of material works of art, we intent to develop the concept of aesthetic mediation within the postphenomenological framework, thereby providing a new perspective on the concept of technological mediation.

Shlomo Oz Uziel
Graduate student and teaching assistant at the MA Program Department of Film and Television Studies, Tel Aviv University, Israel.

Abstract: The Screen I Live In: Touch and the Phenomenological Construct of Communicated Cinema
Tracing pre-cinematic observers and their engagement with viewing machines can indicate a firm connection between early cinema and gaming environment. Based on fairground and exhibition-show knowledge of inter-action, and the expectation for a "close encounter" with the early cinema, led Wanda Strauven to ask a trans-historical question: "Why, in the end, should moving pictures not be touched?" (Strauven 156). If the first observers were educated to watch by touching and manipulating, how can we explain the abstinence of physical touch as a part of the institutionalized cinematic experience? In this regard, and as a part of the phenomenological and archeological project of re-excavating paths to different possibilities of media history and constructs, I would like to address the spectator and the spectator character in the first years of the cinematic medium, and take a closer look at the engagement they performed in the relationship of cinema and viewer.

As I will show, this communication form of desire by mutual exchange in the film experience was engendered when the subject-viewer held (among other bodily actions), his or her visual entertainment. This desire did not vanish or merely evolved into something different, but continued to play a central role in the engagement of viewer and film. Hence, we can point out the shift from the environment of the fairgrounds and exhibit shows to the institutionalized cinema, as a clear move from "Touch to Don't Touch". However, the basic function and desire that lays in the heart of the touch construct, remained the same. This inherent conflict of the desire to touch and the move from its necessities to its impossibleness, seems to accompany the viewers and the medium till present day, as we witness the return to "Touch", from our latest obsession with touch screens.

References
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Sobchack, Vivian. The Address of the Eye: A Phenomenology of Film Experience. Princeton: Princeton University Press, 1991.
Barker, Jennifer M. The Tactile Eye, Touch and the Cinematic Experience. California: University of California Press. 2009.

Panel 48 - Designing Our Selves
Friday, July 13, 13:15 - 14:45 (Room Erlenmeyer)

[Chair: Jan Bergen]
Participants: Jan Bergen; James Dyer; Christl de Kloe; Shigeru Wesugi

Jan Peter Bergen[1] & Jelle van Dijk[2]
[1] Post-doc researcher in the Philosophy group at the University of Twente
[2] Assistant Professor in the Human Centred Design group at the University of Twente

Abstract: Design for Empowerment and the Value of Underdetermination
This paper reflects on Design for Embodied Being-in-the-world (D4EB), a recently developed framework for designing physical/digital hybrid technologies that aims to blend seamlessly into a person's lifeworld, becoming an integrated extension of our own particular ways of being-in-the-world. Current examples of D4EB cover a wide

range of applications, from technologies that help to structure daily planning to technologies to support group discussion and cooperation. However, this wide range of applications indicates the need for further reflection on what binds them together under the D4EB header, and on the phenomenological aspects and different human-technology relations that enable the desired empowerment.

To that end, this paper aims to further flesh out the (post)phenomenological underpinnings of the recently developed D4EB framework, and defend the value of exploration and situational underdetermination for its goal of empowering persons. This paper analyzes these cases through the lenses of postphenomenology and Alfred Schutz' analysis of the experience and mastery of problematic situations.

In doing so, three main insights concerning D4EB (and design for empowerment more generally) come to light. First, the reference to "embodiment" in D4EB does not refer to Idhe's embodiment relation. D4EB evidently allows for different types of relations with the technology in question. However, D4EB calls for bodily engagement with the problematic situation the technology helps to set up. This bodily engagement is supposed to help develop habits, skills, and more specific elements of knowledge (including self-knowledge) through practice. Secondly, the potential for empowerment resulting from this practice is increased by aiming for an exploratory mode of engaging those problematic situations. For one, such exploration invites empowerment in terms of "what works for you". Moreover, by actively and inquisitively engaging the world, one develops as a being-in-the-world. Thirdly, D4EB achieves this exploratory mode of engagement with the world in at least two ways. For one, it creates problematic situations with a distinct socio-spatial character. More importantly, however, it underdetermines the problematic situations to which its technologies give rise. In terms of Schutz' systems of relevance, the situations are at least underdetermined thematically, interpretationally or motivationally. Such underdetermination invites exploration rather than the following of predetermined recipes for action.

James Dyer
PhD candidate in the school of Art, Design, and Architecture at the University of Huddersfield (UK) and a Lecturer leading the "Theory as Practice" programme of a Graphic Design and Animation degree course.

Abstract: Through The Optic of Design: Self-tracking and the Permanence of Change
The quantification of everyday life, also known as self-tracking, is an increasingly popular activity. Forbes' technology enthusiast Ewan Spence claimed that 2014 was "the year of wearable technology". In that year, Google, Android, and Intel, all released new wearable self-tracking devices. These devices count calorie consumption, steps walked, stairs climbed, social activities, and more. Problematically, these emergent wearable self-tracking devices are routinely framed as ways to manage, optimise, and enhance, the self. This is evident in commercial scenarios as well as in academic discourses. Whilst this nascent topic is yet to be explored in critical depth — with the few monographs dedicated to self-tracking operating as introductions to the field — there is already a particular habit of thought being established. Philosophically, this habit is informed by substance-metaphysics; a sense of essentialism, determinism, and solution-led teleology is at the forefront of self-tracking discourses. These discourses focus analytically on the functionalist accuracy of devices, as well as the effects of the collisions between human-and-device. In this way, they are limited to what is possible with self-tracking, and what is potential — such as the creative, speculative, transgressive, anti-traditional, interdisciplinary, etc. — is backgrounded. Philosophically, through the optic of design, self-tracking can be re-articulated as an open creative practice. In doing so, new philosophical potentials, material relations, and political agonisms, are foregrounded and the creative potentials of difference-making gain greater potency. As such, rather than the qualitatively creative being mutually exclusive from the quantitatively analytical, a particular creative zeal is already present in the established practices of a quantified life; design works to pull that into focus.

Christl de Kloe
Bachelor student at, Language and Culture Studies, Utrecht University

Abstract: Explore Your Own Unique Sexuality: a Critical Data Studies Perspective on Quantified Sex
Encouraged by movements such as the Quantified Self, a growing number of people voluntarily quantify aspects of everyday life in order to get a grip on the complexity of life and mostly in order to improve their wellbeing (Lupton 2016). Now, a self-tracking device is available for tracking sexual activity: the smart vibrator *Lioness*. *Lioness* offers

a vibrator equipped with biosensors for measuring pelvic floor movement, motion, and temperature. The data of these sensors is send to and visualized in a linked mobile app. The developers claim that through using the vibrator the user will explore her "own unique sexuality".

By combining an affordance analysis with a critical data studies perspective (see Iliadis and Russo 2016), I will show that the "unique sexuality" can only be explored in the way in which sexuality is defined by the developers. I will show that the Lioness configures a certain type of understanding and experiencing one's body, were the messy and multiple complexities, sensual experiences of sexuality are rendered flat, subjected as they are to the limitations of datafication. Secondly, by recognizing the technology as a sociocultural artefact, the vibrator and the linked app will be analysed as a translation (Latour 1991) of the makers' assumptions, norms, meanings, and values about sexuality. Thirdly, I will argue that quantified sex is an example of moral mediation (Verbeek 2014) since it transforms sex into something not only to be enjoyed, but also into something in which the user can and should be improved.

Shigeru Wesugi
Professor, Facutly of Science and Engineering, Waseda University

Abstract: Design Approaches to Address the Paradox of Extending and Decreasing Human Abilities with Using Tools
Use of tools, generally technologies, can extend human abilities. That, however, also can cause decreasing their abilities as using word processors can lead to be poor at spelling. Shibata (2015) discovered that the Phaedrus (Plato) is one of the first references indicating such paradox of using a new technology. The Phaedrus described that letters will enhance the human ability of holding memories, and meanwhile develop forgetfulness. Moreover, Shibata (2015) explained that this paradox means the extended abilities can be available only while users keep on using the tool. Likewise, once use of the tool is disrupted, the decreased abilities can be apparent. However, the disruption of using the tool and the decreased ability without the tool are paid less attention in daily tool usage. Therefore, the speaker has aimed to increase the potentiality of organizing human and tools to address the paradox, considered the continuity in using tools and the prevention of decreasing abilities due to use of tools, and devised four approaches based on his lab's works.
1.Supposing the situation after disruption of using the tools, and utilizing similar function in different mode
ex. human-powered hybrid electric-power shovel
2. Assuming use of the tools is temporary, and so keeping improved abilities after using tools
ex. training tool for pedaling skills
3. Exposing preliminarily the decreased ability, and sharing the problems
  ex. simulated daily-life experiences of hemiplegia patients
4. Focusing on the boundary of extending and decreasing ability, and designing one step short of not decreasing the ability
  ex. assistance mechanisms for heavy labor

Panel 49 - Politics & Philosophy of Technology
Friday, July 13, 15:00 - 16:30 (Room Ideate)

[Chair: Roos de Jong]
Participants: Theo Stone; Hugo Verhelst; Daniela Voß; Ilios Willemars

Theo Stone
Graduate student in Philosophy at the University of Amsterdam

Abstract: "Fake News, Twitter Bots and Inherent Politics"
In "Do Artefacts have Politics?" Langdon Winner argues that certain technologies used and created by us are "inherently political." The recent developments in our political lives and experiences seem to affirm this statement. Twitter in the US has stirred-up hatred and pro-GOP support by means that were not explicitly human, i.e., through 'Twitter Bots,' played a large role in this. These Bots spread false information; 'fake news,' to countless individuals,

sweeping some into bot-like behaviour, and others into falling for false stories. Twitter became a battleground between reality and fiction. However, what does this have to say about Winner's thesis? Was it Twitter that supplied the politics of this problem through its intrinsic nature, or was it something else? Is Twitter inherently political? I wish to argue that it is not Twitter that carries the inherent political agenda, but thee bots. To do this, I will delve into the nature of the Twitter Bot, noting that they posses a nature that is, in many ways, separate to that of the standard user. For example, whilst most Twitter users possess a form of individual, personal autonomy, the bot is devoid of this. They exist within a collective that exists without it. Their autonomy derives entirely from the politics that they are designed to embody, which in turn may represent a breakdown of the traditional democratic ideal of collective action and Hegelian synthetic dialectics. After all, for the bot there is no dialectic, only thesis and parroting.

Hugo Verhelst & Hugo Reijm & Alexander Stannat
Master students in Applied Mathematics at Delft University of Technology

Abstract: Mass Surveillance for National Security: Unbalancing the Privacy-Security Dichotomy
Espionage and surveillance have been part of governmental practices throughout history; reasons for such practices range from the malignant to the benevolent. However, in the modern age of computers, smart phones and the Internet, surveillance has acquired an upgrade. Now surveillance and espionage are performed by computers instead of individuals, allowing for the monitoring of many individuals at once: mass surveillance. Recently, the Dutch Political System has empowered a new surveillance law; which the people call "Sleepwet" (dragnet law). In this paper, we argue that, despite its tremendous invasion of personal privacy, the transition from espionage to mass surveillance has not brought about any significant increase in security, and has therefore had an overall negative effect on society. Based on four axioms, we reason why a privacy-security dichotomy becomes unbalanced in the sense that the loss of privacy is higher compared to the gains in national security. We will argue about the added value of the data from mass surveillance and about the training of Artificial Intelligence (AI) algorithms and why collection of meta-data is still a threat to the privacy. We conclude that the gains in national security due to mass surveillance are outweighed by the loss of overall privacy.

Daniela Voß
Associate Lecturer in the Department of Philosophy at the University of Hildesheim

Abstract: Simondon: On the Human-Technology Relation
In his book On the Mode of Existence of Technical Objects, Simondon describes the evolution of technical objects not simply as a contingent historical succession of objects but as a process that has a logic of its own: a technical object is 'that of which there is a genesis' (MEOT 26). This genesis, proceeding from the abstract to the concrete, takes place with a certain 'internal necessity' (MEOT 29). However, Simondon does not claim that technical individuation is autonomous, rather what is common to all technical developments is the human being: human beings constitute a system with technical objects. Accordingly, one has to consider 'the entire genesis implicating man and the world, of which the genesis of technicity is perhaps only a small part' (MEOT 167). Therefore, an essential part of his philosophy of technology is a reflection on the intersection of technical individuation with psychic and collective individuation, and how this complex relationship changes over time.

This paper will briefly reconstruct Simondon's analyses of the human-technology relations in the pre-industrial and industrial age and then examine his thoughts about the relations with post-industrial technical objects, i.e. objects that are characterised through an increased autonomy, reticularity and interoperability. The critical question we will have to raise is whether Simondon's relational paradigm of individuation, while largely bracketing the socio- economic conditions, can be sustained as a fruitful approach to think the human-technology relations, particularly in our times of global capitalism.

Ilios Willemars
PhD Candidate, the Universidade Católica Portuguesa

Abstract: Full-body scanners: trans- bodies and the creation of placeholder-images
This paper analyzes the usage of what is known as a 'full-body scanner' at airport security checks in relation to

processes of subjectification and voicelesness. Full-body scanners produce images of the bodies that they are presented with in order to help detect dangerous or otherwise forbidden objects.

Drawing on the works of Judith Butler, Michel Foucault and Jacques Derrida, I argue that the construction of these images works in such a way that the bodies of passengers who try to pass, undergo a different mode of subjection than before. Whereas security procedures used to involve metal detectors, these new machines duplicate bodies into data. Data that is analyzed first and foremost by computer software. This software is imbued with preconceived and discriminatory notions of what a female body looks like in opposition to a male body.

Focussing on the violence that is thereby inflicted on transgender or trans- people, I suggest that it is useful to confront the procedure of scanning a body with the concept of 'placeholder'. I want to call the images that are constructed by these machines 'placeholder-images', by which I mean images that refer to a subject that is otherwise not fully present, rendered less important, made voiceless, or under erasure.

The concept of 'placeholder-image' may help to critically engage questions of technological discrimination and processes of subjection that render some bodies always already voiceless or refuse to pay attention to voices asking for entrance into a symbolical domain that recognizes them as subjects.

Friday, July 13, 15:00 - 16:30 (Room Classroom of the Future)

Conveners:

Annelien Bredenoord

Professor of Ethics of Biomedical Innovation at the University Medical Center (UMC) Utrecht, where she studies how innovations in (bio)medical sciences and new biomedical technology, such as genetics, stem cell research, reproductive technology, Big Data and biobanks, can be translated into patient care and society in an ethically responsible way. She advises on medical and ethical policy in numerous national and international committees, including the Ethics Committee of the International Society for Stem Cell Research, and the National Indication Committee on Pre-implantation of Genetic Diagnostics. She is also a senator in Dutch Parliament.

Karin Jongsma

Assistant professor of Bioethics at the Department of Medical Humanities of the UMC Utrecht and appointed to the Ethics Institute of Goettingen (Germany) as a Post-Doctoral Fellow. She conducts research in Medical Technology, Collective Decision-making and bio-politics and is highly interested in digital health, patient participation, dementia, autism and autonomy.

Emy Kool

PhD candidate in the ethics of biomedical innovation and lecturer in medical ethics at the Department of Medical Humanities of the UMC Utrecht. She conducts research in the field of bioethics, qualitative research, and assisted reproductive technologies and is member of the Medical Ethics Committee, and the Ethics Committee of Reproductive Medicine of the UMC Utrecht. Her current project involves the ethical evaluation of the organisation of Dutch donor oocyte banks for assisted reproductive treatment.

Mike Lensink

PhD candidate in the ethics of biomedical innovation at the Department of Medical Humanities of the UMC Utrecht. He has a background in philosophy and finished a master's degree in Medical Ethics at the VU in Amsterdam, with a special interest in the dynamics between (biomedical) science, politics and society. His current research project is a qualitative study into the ethics and governance of organoid biobanking for precision medicine, and he is also an editor for the quarterly journal 'Podium' published by the Dutch Society for Bioethics (NVBe).

Description

According to post-phenomenological thought, humans and technology are intrinsically interconnected. We shape technology, technology shapes our perceptions and interpretations of reality, which subsequently influence our moral decisions (Verbeek, 2007). As Jasanoff says: 'Our inventions change the world, and the reinvented world changes us' (Jasanoff, 2016). What does this view mean for the position of the bioethicist? If we cannot be an external judge to emerging technology, how are we to normatively assess such technologies?

In this workshop, Annelien Bredenoord will show that post-phenomenological thought all but renders ethics superfluous. Rather than being an external judge of the moral good of a technology as such, bioethicists can engage in ethics parallel research. In ethics parallel research, ethicists identify and evaluate the ethical and societal issues of a novel technological or biomedical intervention 'from the inside'. Thus, they engage not in end-of-pipeline judgments, but in parallel, or even proactive, ethical analysis that takes place as the field develops (Van Delden & Bredenoord, 2015). In this way, science, technology, ethics, society and politics 'coproduce' each other instead of operating in separate, demarcated roles as this is traditionally viewed (Jasanoff, 2006).

To illustrate and discuss this approach we will present three cases currently assessed by our research group: First, Emy Kool will present her PhD research project concerning an empirical ethical evaluation of the responsible organization of oocyte vitrification and banking for assisted reproductive treatment. Second, Karin Jongsma will present an empirical ethical analysis of the use of mobile health applications for disease prevention and self-management. Third, Mike Lensink will present his recently started PhD research project into the ethics and governance of organoid biobanking for precision medicine. These cases facilitate discussion about the role of empirical data in assessing normative questions concerning (biomedical) technology, as well as how to conduct

research in co-production with practice and different stakeholders, and allow us to draw shared lessons for the evaluation of future technological developments.

Program:

15min	**Introduction in Ethics Parallel Research – Annelien Bredenoord**
45min	**How to do empirical bioethics: Case-studies illustrating the practice of Ethics Parallel Research**

- Ethically responsible organization of Dutch oocyte banks for third-party assisted reproduction: an ethical-empirical evaluation – **Emy Kool**
- Ethical analysis of the use of digital health applications for disease prevention and self-management – **Karin Jongsma**
- The ethics and governance of organoid biobanking for precision medicine – **Mike Lensink**

30min	**Discussion**

- From empirics to normativity: What are the challenges/pitfalls?
- Co-production and the (public) participative turn: How do you do this in your respective field?

References:
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Jasanoff S (2006) States of Knowledge: The Co-Production of Science and the Social Order. London: Routledge.
Van Delden JJM and Bredenoord AL (2015) German Solinis (ed), Paris: UNESCO publishing, pp 137-141.
Verbeek, P.P. (2007). The Technological Mediation of Morality - A Post-Phenomenological Approach to Moral Subjectivity and Moral Objectivity. Retrieved via   https://ris.utwente.nl/ws/portalfiles/portal/6161809.

Panel 53 - Digital Life II
Friday, July 13, 15:00 - 16:30 (Room Invite)

[Chair: Bas de Boer]
Participants: Morten Birk Hansen; Jaanika Puusalu; Peter Rantaša; Michał Wieczorek

Morten Birk Hansen
PhD Candidate at The Department of Psychology and Behavioural Sciences at Aarhus University.

Abstract: 'Sexting' as Digitally Mediated Sexuality
The ubiquity of smartphones and webcams has enabled people to exchange sexually charged pictures and videos of themselves and others – a practice known as "sexting". This happens in a variety of contexts, ranging from flirtatious exchanges of "nudes" in dating couples to non-consensual sharing of pictures in online networks involving hundreds of people. Despite the growing body of research on sexting, little attention has been given to the digital technologies that are used for taking and sending these sexually charged pictures. Many of the experiences and behaviors related to sexting, however, are intimately connected to the possibilities that these technologies afford. For instance, users often describe how the mediated "barrier" that is created by being physically distant, but digitally connected, inclines them to be more daring in their exchanges of sexually charged pictures. Furthermore, a multistable app like Snapchat (where received pictures disappear after 8 seconds) is often used for exchanging sexually charged pictures as part of a flirt, but can also be used to save these pictures and use them for radically different purposes, like "shaming" or getting revenge on a person. Hence, the phenomenon of sexting can be understood as a practice in which human sexuality is digitally mediated by technologies. In this paper, I draw on my research project on sexting among young Danish adults to demonstrate how sexual experiences, behaviors and relationships are technologically mediated. I highlight some of the preliminary findings and demonstrate how these findings can be understood in the light of postphenomenological theories.

Jaanika Puusalu
AHRC funded philosophy postgraduate research student in the Department of Sociology, Philosophy and Anthropology in the University of Exeter, UK.

Abstract: Cyber-bullying and Internet mediated communication: challenging the perception of communicative agency.
In this paper, I challenge the idea that online communication is equivalent to communication offline. Internet mediated communication technology has, in the past 10-15 years, become ubiquitous in all fields of life. At the same time, online acts of communication are often treated as having the same significance as offline communicative action with similar content. I look at the phenomenon of cyber-bullying to show some of the problems with this equivalence thinking.

Cyber-bullying is commonly explained as the result of individuals' inability to use online communication technologies in their purpose-built manner, or as the result of the design of the medium itself. Reflecting this, cyber-bullying is treated in UK law in the same manner as harmful communication and bullying in the offline world. If, though, online and offline communication are not equivalent, then the pre-existing legal structures may not be well suited to address cyber-bullying.

Along these lines, I suggest that cyber-bullying is a manifestation of a society wide phenomenon in which people have lost perception of themselves as communicative agents. This phenomenon arises as the norms for ascribing responsibility for communication breakdown online. Thus, agents come to communicate as if they are not responsible for that communication. Inevitably, some of that communication is harmful, even whilst the individuals behind it would not typically act in such ways. Since the norms of responsibility differ, however, it would be a mistake to treat online communication, including cyber-bullying, as equivalent to offline communication with similar content.

Peter Rantaša
Coordinator at the Cognitive Science Research Platform based at the University of Vienna; senior expert and consultant in cultural management, music and creative industries, arts and technology.

Abstract: "Who is speaking? Voice Based Conversational Interfaces and Human-Technology Relationships"
"At the beginning was voice and the voice was speech and speech was language. This is the case with the realm we call human" [1] The appearance and spreading of machines that talk, listen and engage in spoken conversations marks the beginning of the next era in Information Technology. When launched in 2014, Amazon's Alexa needed a body to raise her voice. That was Amazon's Echo, a new product category dubbed smart speaker. Today her artificial persona manifests in any device a maker equips with Alexa Voice Service. Via thouthands of "skills" the agent acts like a ubiquitous robot dissolved in the environment. Thus I describe Alexa as the first mass marketed Social Cyber-Physical System (CPS) that enters the private spheres of reproduction. The human voice in it's complicated relation to language was subject of Don Ihde's first exercise in „doing phenomenology". I use Ihde`s findings in „Listening and voice: phenomenologies of sound" (Ihde, D. ,1976) along with findings from voice studies and speech cognition as a starting point to conceptualize the synthesized voice as an acoustic face that enables the user's experience of an other. I argue that Alexa - a social interface to a complex distributed borderless network of technologies that shape a users lifeworld with a voice - gives rise to a new kind of totalizing alterity relation in which the elements and their relations I → Technology –(–World) are blurred and blended.

[1] Ihde, Don: A Phenomenology of Voice. In: Ihde, Don: Consequences of Phenomenology. Albany 1986

Michał Wieczorek
Master student, philosophy, College of Inter-Faculty Individual Studies in the Humanities at the University of Warsaw

Abstract: Where the worlds meet – interactions between the digital and the analogue
In this paper I will take a look at the places where the analogue and the digital worlds meet. By analyzing various

modern input/output controllers, I will attempt to show the ways in which they allow both worlds to influence each other. Although the analogue's influence over the digital is more commonplace today, I believe that the way in which the digital world changes the analogue is more interesting philosophically. The main goal of this paper is to point out how new technologies (e.g. augmented reality, smart devices, or non-traditional gaming controllers) allow what was previously a part of a separate order of things to spill out into the world of everyday experience. This recontextualizes ordinary objects and forces us to rethink our relationship with them. As a result of this digital influence, these object become lifelike and start to seem independent – there no longer exists a clear distinction between the unfamiliar and seemingly autonomous digital world, and the structured, well-organized world of everyday experience. This spilling out of the digital onto the analogue undermines our sense of authority over our life-world and leaves us in a state where a comfortable object-subject relation with things is no longer sufficient. I will show how the disquieting character of the digitalized life-world erodes our sense of rootedness and forces us to adopt a hermeneutic openness to new understandings of the content of our experience.

Panel 54 - Postphenomenological Design Investigations
Friday, July 13, 15:00 - 16:30 (Room Erlenmeyer)

Organisers:
Sabrina Hauser
PhD Candidate/Research Assistant, School of Interactive Arts & Technology, Simon Fraser University (Canada), and Instructor in Interaction Design, Emily Carr University of Art and Design (Canada).

Ron Wakkary
Professor, School of Interactive Arts & Technology, Simon Fraser University (Canada), and Eindhoven University of Technology (The Netherlands)

Description:
Postphenomenology is concerned with the role technologies or things play in the relations that come about between things and humans and further, how things shape humans and society at large. This inherently is of concern to design researchers who investigate designed things, their making, their use, and the interactions between things and humans.

In this panel, we bring together several design researchers who integrate postphenomenology into their work in different ways. In the first half of the panel, an overview will be given by the organizers followed by each panelist briefly introducing their work. Panelists will detail the ways in which postphenomenology is part of their design research and what derives from that work. The remainder of the panel will be a facilitated interactive discussion among panelists and organizers on themes including: particular opportunities that come from this interdisciplinary work;; challenges or conflicts that arise from traversing the different disciplines;; ways that postphenomenology can contribute to design research and vice versa;; and where opportunities for future work lie. Lastly, the discussion will be opened up to the audience for the remaining time.

This panel will offer insight and contribute to the growing interest of bridging postphenomenology and design within both communities.

Abstracts:
Holly Robbins
PhD Candidate;; Industrial Design, Delft University of Technology (The Netherlands)

Abstract: When "implications for design" become "implications for philosophers"
In this paper, I will address design research that considers the postphenomenological question of how the design of technological "black boxes" mediate and frame our relations with our social and ecological context (Borgmann 1984;; Borgmann 1999;; Fallman 2009;; Verbeek 2002). This question was undertaken by translating the theoretical work from philosophy of technology into units of design in the form of a number of design briefs. These briefs were shared and collaboratively worked on with design students, professional designers, technologists, consumer protection advocates, and companies in order to come up

with novel design artifacts that provoke the boundaries of these post-phenomenological questions. In this paper, I will focus less on the content of the research itself, and more on the processes of "doing design" in the service of postphenomenological research. Drawing on case studies and particular design artifacts, I will address the certain conceptual and methodological cultures, values, tensions, and assumptions between design research and philosophy of technology and the opportunities and challenges that exist in navigating between the two. Often we find that research from various disciplines conclude with their findings being packaged as "implications for design" (Dourish 2006;; Fallman 2011). In this case however, design research builds upon this philosophical research to offer "implications for philosophers."

Heather Wiltse
Assistant Professor, Umeå Institute of Design, Umeå University (Sweden)

Abstract: Conceptualizing digital mediations
Postphenomenology provides a productive framework for thinking through technological mediation. However, understanding digital mediations in particular requires further development and expansion of its conceptual toolkit, even as the orientation in postphenomenology toward 'the ways in which we are present in our world and the world is present to us' (Verbeek 2005) highlights the very real mediations of these not--only--virtual technologies. In order to unpack the ways in which digital technologies can mediate perception and engagement by making activities visible, I have developed a conceptualization of *digital material mediation* involving *substrates* and *traces* (Wiltse 2014) . The ways in which digital technologies now often configure themselves in relation to particular users calls for analytic sensitivity to *multiinstability* (Redström and Wiltse 2015). Building on a conceptualization of digital networked things as *fluid assemblages* (Wiltse, Stolterman and Redström 2015;; Redström and Wiltse 2015), *multiintentionality* (Wiltse 2017) points to the multiple intentional relations involved in these things, including *reverse intentionality* in which use of a thing is a means for other actors to find out more about the one doing the using. This is the model of dataveillance in a contemporary context in which data is the resource fuelling social, economic, and governance processes. An incisive conceptualization of digital mediations is needed to understand and articulate the role they now play in not only experience, but also in distributions of power and agency, visibility and invisibility—and to provide insight on how to design in order to better care for their consequences.

Lianne Toussaint[1] & Pauline van Dongen[2]
[1] Researcher & Lecturer;; Cultural Studies;; Radboud University Nijmegen (The Netherlands)
[2] PhD candidate, Eindhoven University of Technology (The Netherlands) and founder of Studio Pauline van Dongen

Abstract: Running at Light Speed: What Wearable Technology Can Do for Postphenomenology and Vice Versa.
This paper explores how the postphenomenological notions of technological mediation, embodiment relations, and material hermeneutics help to understand the socio--cultural implications of wearable technology, and smart fashion in particular. Using an interactive illuminated running shirt called 'Phototrope' as our case study, we will show how wearable technology reinforces as well as challenges the postphenomenological framework. Analyzing the data of a series of user tests conducted in public space, we focus on the mediating role of wearables in shaping human perception, action and interaction. We unravel the ways in which wearable technology transforms human--technology relations in terms of how wearers give meaning to these new relations in a social and everyday context. The paper argues that the actual *wearing* – rather than just using – of technology requires a radically interdisciplinary research and design approach that complements postphenomenological thinking with insights from fashion theory, cultural studies and design research.

First, our analysis shows that 'Phototrope' provides an embodied experience that transcends mere appearance or functionality, and offers new opportunities for communication and self--expression. Second, we illuminate how this design contributes to both the individual as well as the collective social experience,

and shed light on the tensions between the expectations and needs that originate from the situated perspective of wearers and observers interacting with the design. The contribution concludes with a discussion of how the integration of technology into fashion stimulates more empirical and design--based directions for future research on human--technology relations.
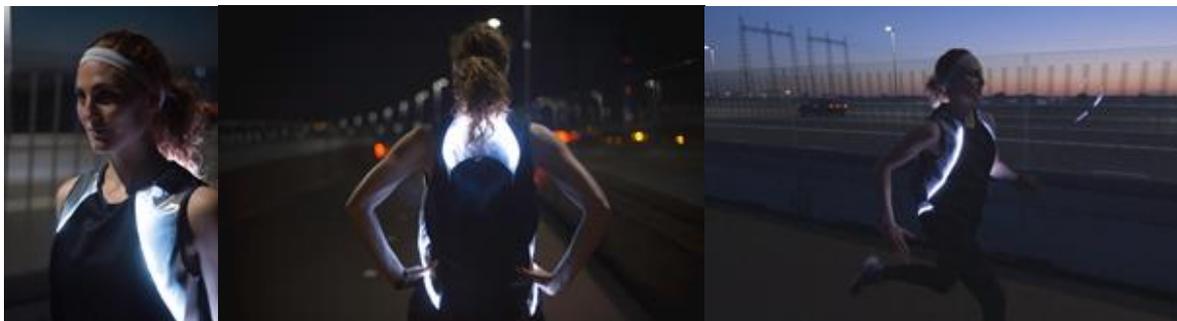

Figure 1. Phototrope

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