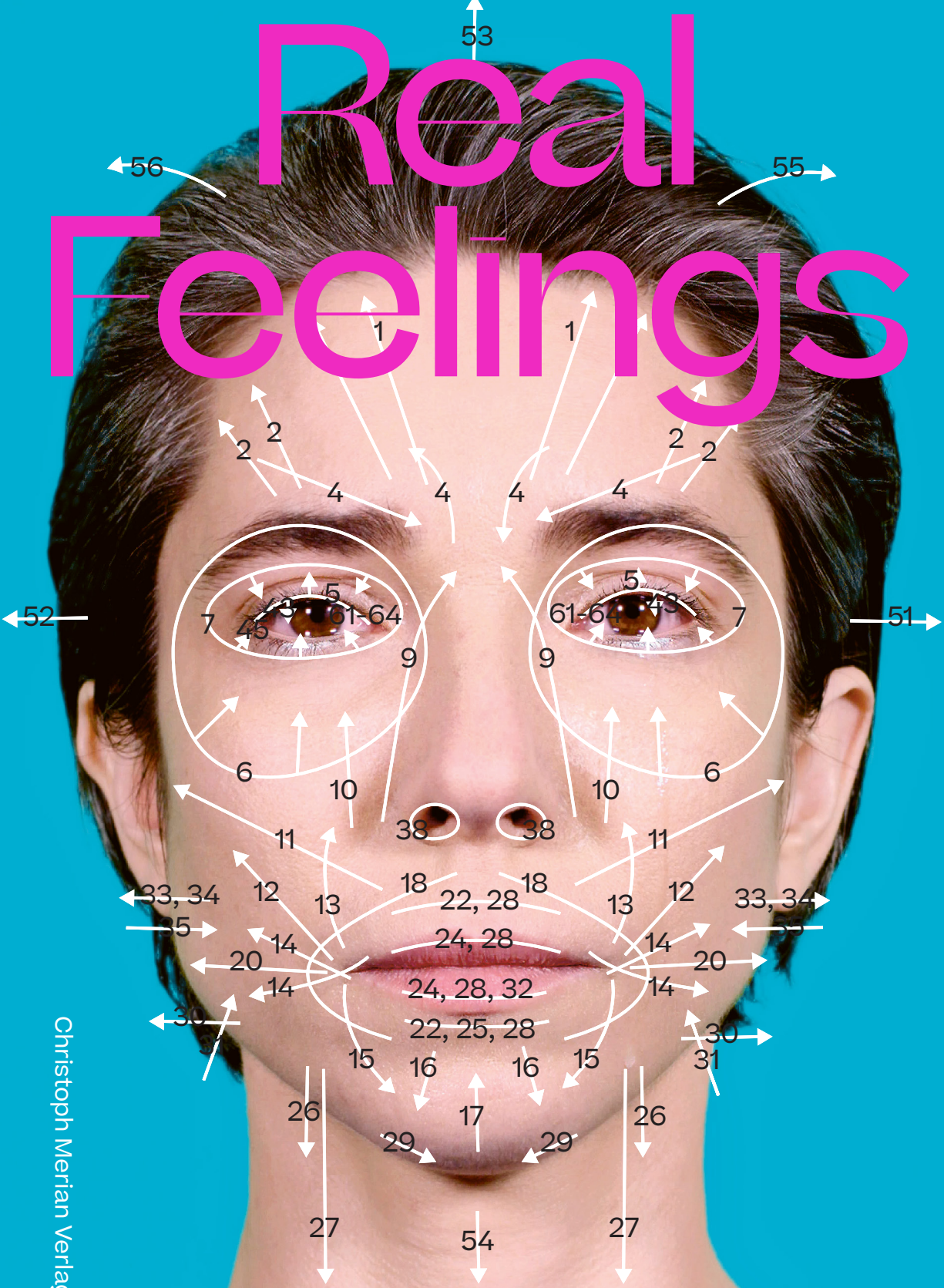


Real Feelings



Christoph Merian Verlag

Emotion and Technology

Sabine Himmelsbach, Ariane Koek, Angelique Spaninks (eds.)



Real Feelings — Emotion and Technology

HeK (House of Electronic Arts Basel) and
MU Hybrid Art House

Christoph Merian Verlag

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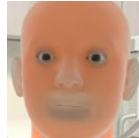
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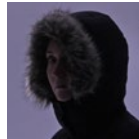
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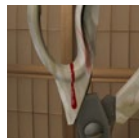
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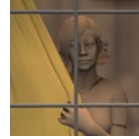
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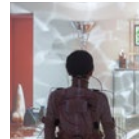
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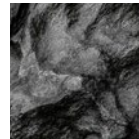
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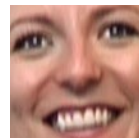
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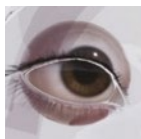
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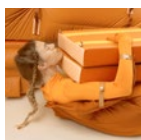
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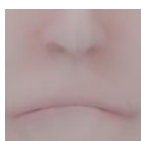
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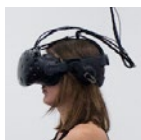
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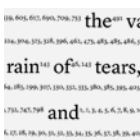
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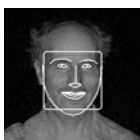
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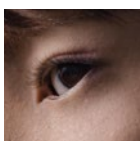
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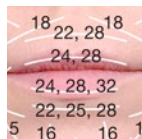
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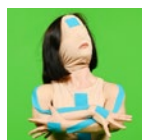
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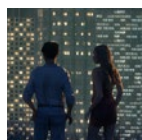
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Preface and thanks

HeK (House of Electronic Arts Basel)

For some time now, I have been intrigued by the idea of creating an exhibition on the subject of emotions and technology. The boundaries seem to blur. What once seemed to be a purely human domain constituting the core of our existence now seems to have come within the realm of possibility for artificial intelligence or robotic systems. It was a lucky coincidence that I found two colleagues, Ariane Koek and Angelique Spaninks, who were equally enthusiastic about the topic. So together we set out to research the theme of emotions and technology from a contemporary artistic perspective. One of our priorities was to give artists the opportunity to create new works specifically for the context of the exhibition. We are very pleased that several commissioned works have been realized.

In the middle of our planning, we were all hit by the global pandemic caused by Covid-19. This added another dimension to the subject. Of course, the pandemic also made new productions more difficult; artists now had to work under much more difficult conditions, with all countries in lockdown mode. For this reason, my sincere and heartfelt thanks go first and foremost to all the artists in the exhibition, for their flexibility and their great commitment. A further thanks goes to all the galleries and lenders. It was a great challenge to organize everything on time, under the aforementioned special situation, when – for example – access to storage rooms is practically impossible.

For such an ambitious project we are also dependent on the support of foundations and sponsors and we would like to express our sincere thanks to all those who have generously supported us: the Claire Sturzenegger-Jeanfavre Foundation, the Stanley Thomas Johnson Foundation, TA SWISS, Rapp AG, Pro Helvetia, the Sulger Foundation, the Mondriaan Foundation and the Walter Senft / Gustav and Annetta Grisard Foundation.

Of course I would also like to thank my two co-curators, Ariane Koek and Angelique Spaniks, and the entire team at MU Hybrid Art House. It was a truly inspiring and enriching collaboration.

I would like to thank Simon Hauser and David Schwarz of Hauser Schwarz for the ambitious graphic design of this publication.

Last but not least a big thank you goes to the wonderful team of the HeK. I would like to thank Boris Magrini in particular, for the great care and dedication with which he took over the coordination, organisation and realisation of the exhibition in all phases. Our commercial manager Jörn Strücker made sure that we were within the financial framework. Michel Winterberg and Tim Marti, with our team of external helpers, were responsible for the elaborate set-up, which this time they had to carry out mostly without the artists, many of whom were unable to travel due to the restrictions imposed during the pandemic. Elena Kuznik was in charge of communication and was supported by Ute Weingarten and her team. Our mediation team, Patricia Huijnen and Shusha Niederberger, once again developed exciting workshops, DIY formats and other activities aimed at a broad audience. Joel Vergeat, who is responsible for the general organisation and management at the HeK, kept everything in view. Thanks also go to all those not mentioned by name who contributed to the success of the project. The realization of such an ambitious project is only possible through an extraordinary joint effort!

Sabine Himmelsbach,
director HeK

Preface and thanks MU Hybrid Art House

MU has always had a special interest in “the in-between”, the grey zone, the liminal. The in-between disciplines, the in-between practices. To us, this is the zone where things happen, where life itches or clashes, where communication in whatever form is mandatory and where new territories or understandings come about. This is where we experience the gliding scales that sometimes get lost in our polarised realities.

In the past couple of years, MU has focussed on digital culture as well as corporeal experience – on biotech as well as sexuality, gender and intimacy. And we especially like to bring these worlds together. In this endeavour we have found an interesting collaborative partner in HeK Basel – with whom we have had the pleasure of exchanging and coproducing several exhibitions since 2014. So when HeK-director Sabine Himmelsbach mentioned she was interested in setting up a big project around emotion and technology with the founder and former head of Arts at CERN, Ariane Koek, I was immediately triggered to join forces. And here we are, almost two years later, feeling really excited about *Real Feelings*.

My excitement also has to do with the fact that this was not an easy process. Not because we as curators or any of the artists we talked to were not committed, but because of unforeseen “external forces”. The coronavirus pandemic that has shaken up the world since the end of 2019 brought many delays and uncertainties and rendered connection to art world events that we loved to team with, like Art Basel, impossible.

Yet we also gained an awareness of the importance and timeliness of the topics touched upon by the 20 artists we bring together in *Real Feelings*. Their resilience and resourcefulness in making it happen despite these difficulties is remarkable and I want to thank them all deeply for staying with us. I also want to thank Cécile B. Evans and Antonio Damasio, who contributed their groundbreaking thoughts and personal feelings to this

catalogue, and graphic designers Simon Hauser and David Schwarz for turning it into a beautiful book. And of course I'd like to show my sincere collegial respect to both Sabine and Ariane for their inspiring and tireless dedication to making our shared ambitious dreams become a reality.

A long-term project like this is unthinkable without the enduring support of MU's funders: the Ministry of Education, Culture and Science of the Netherlands; the city of Eindhoven/Stichting Cultuur; and the Province of Noord-Brabant. MU also wishes to thank the Mondriaan Foundation and Pro Helvetia for generously supporting the exchange between Switzerland and the Netherlands, and the Creative Industries Fund for supporting the new work of Coralie Vogelaar.

It was a genuine pleasure to work again with the superbly professional team at HeK, which connects directly with our strong MU team – and I would especially like to mention Gieske Bienert in that context. She took it upon herself to figure out all logistics, which is not an easy task given the Covid-19 circumstances and the goal to bring the exhibition beyond both HeK and MU.

As we aim to show *Real Feelings* from March-June 2021 at MU, the rest of our team will pick up on the project at the end of this year: René Lavrijsen and Bram Sniijders will cover production in great detail, Nanne op t Ende will take up communication, and our educational team of Harm Hofmans, Juliëtte Verberk and Joni Cousins will surely engage large groups of kids, teens and students to make *Real Feelings* feel real. Kyra Meilink will take care of our back office and Bjorn Telkamp will cover our front desk, all with the goal of letting the audience experience the blurring boundaries between technology and emotion. I very much look forward to all the spirited conversations, emotional debates and lively exchanges of known and unknown feelings that will come out of this, and I hope to see you at HeK and/or MU.

Angelique Spaninks,
director MU



Introduction

Real Feelings. Emotion and Technology

Sabine Himmelsbach
Ariane Koek
Angelique Spaninks

Emotions are core to human experience. Love them or hate them, they influence the directions our individual lives and society take. In the 21st century, technology has begun engaging with emotions as never before. Ranging from artificial intelligence, robotics and biometrics to gaming, virtual reality and social media, technologies are collating, assessing or triggering our emotions in multiple ways and directions. These technologies are even creating new feelings, some of which have eluded all our attempts to describe them.

Real Feelings explores this rapidly changing relationship between technology and emotions through the eyes of 20 international contemporary artists. Their work ranges from interactive installations, VR-experiences and sculptures to artificial intelligence, animations, video installations and photography. Rather than taking a curatorial line with a particular thesis or looking at the phenomenon from a specific moral standpoint, as a group of three curators we decided to create an exhibition that is deliberately an open-ended investigation of the theme. It is driven by our curiosity as to how artists are approaching the increasing interactions between technology and feelings, and by our wish for them to have a designated space in which to challenge, provoke, and explore how technology is representing, influencing and changing our emotions – the highs and the lows, the pleasure and the pain.

However, when we set out to do this exhibition, it was before the global pandemic had begun. Eighteen months ago in our curatorial exchanges we spoke of how the climate crisis was one of the defining global issues in recent years, and how the prospect of mass extinction was creating increasingly collective emotional respons-

es with new, complex feelings of grief and fear. Now with the pandemic as the topmost, immediate new global emergency, having more instantaneous and visible consequences for human life, feelings are becoming even more a mass event, with every spectrum of emotions triggered in the human population worldwide – ranging from fear, anxiety, panic and distress to resignation, anger, relief, and in some cases hope for a better society.

From the beginning of “lock downs”, “shelter in place” or “circuit breaking” (or whatever any country calls it) technology has been and continues for the immediate future to be the glue that is keeping us connected with others as well as ourselves. It is the crucial tool with which we can share, communicate and explore our feelings with others in this new era of “social distancing”, in which we live our lives 1.5 or 2 metres apart for the foreseeable future until a vaccine is found. We depend more than ever on our technical devices to stay in touch and communicate our feelings with our loved ones, our families and friends. Using computers and mobile phone screens, we keep in touch by video conferences and FaceTime chats, which make human contact possible and ensure the sharing of our emotions as a way of remaining connected when physical contact is not possible or even dangerous. Thus the subject of emotion and technology has never before seemed more important or relevant than now. Nor has it been more fraught with new emerging possibilities of a different kind of crisis – that of the potential end of individual freedom. In fact, in this global crisis we are experiencing a new relevance of our emotions that have to do with the radical change in our life situation. Fear and uncertainty determine everyday life, more consciously than before. We openly fear disease and death brought by a new invisible “enemy”, not only personally but collectively as a society, and this fear seems to lead to an urgent need for control and protection.

Countries like China, South Korea and Singapore have managed the first wave of the pandemic in 2019/2020 by using mass surveillance and data collection in order to track and control their populations –

technology already embedded and interwoven into the fabric of their societies. Historian and philosopher Yuval Noah Harari points out that the collecting of biometric data has an inherent danger because in the future more governments may become totalitarian and use biometrics for ends less protective than our collective health: “If corporations and governments start harvesting our biometric data en masse, they can get to know us better than we know ourselves, and they then can not just predict our feelings, but manipulate our feelings and sell us anything they want – be it a product or a politician... Imagine North Korea in 2030 where every citizen has to wear a biometric bracelet 24 hours a day. If you listen to a speech by the Great Leader and the bracelet picks up the tell-tale signs of anger, you are done for.”¹

This link between emotion and technology is one the Harvard academic Shoshana Zuboff extends to capitalism and corporations, as she highlights in her highly influential book “The Age of Surveillance Capitalism”, published in 2019 and cited as one of the books of the century. Her thesis is partially discussed in one of our essays in this catalogue, “Out of Our Minds”. Emotions and feelings are now part of what Zuboff sees as a secret commodity market where behavioural data is bought and sold by big technology companies such as Facebook or Google and also smaller ones like Tencent to influence our choices in the marketplace. For example, in 2012 and 2013 Facebook conducted in secret “massive-scale contagion experiments” on 700,000 users to see if they could “affect real-world emotions and behaviour, in ways that bypassed user awareness”, for which they later apologized.²

Zuboff’s thesis coincides with contemporary fears about the increasing role of technology in our human interactions. Cuddle cafes in Japan exist in order to dispense with technology and help people learn to interact physically by cuddling strangers in a shared space. Along with these fears, there is also the increasing reality that we are losing touch with our feelings and becoming less emotionally intelligent because we cannot “read” emotions in others when we are with them physi-

cally, let alone when we see them on a screen. In the USA research shows that children are being taught how to recognise emotions in other people because their ability to do so is failing in the digital age when access to smart phones and tablets begins in babyhood. There is also increasing research into the lack of emotional development and self-regulation in young children, as anxiety and depression associated with screen time become more of a constant in their lives than interpersonal activity and exchanges.³ This has implications in the future as to how technology will alter social behaviour, especially in the way we are intimate or present with one another.

Maybe this is happening partly because we are willing to cede to technology the messiness, complexity and sheer time it takes to understand, let alone manage human emotions. We are outsourcing it, just as we have outsourced memory learning to search engines, whereas we used to learn facts and references by heart and were schooled in doing this. We are following the line of least resistance and, as Sherry Turkle says, technology seduces us by making emotions “easy” when offering relationships without the complexity of being face to face.⁴

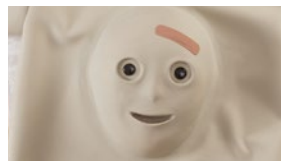
These are just some of the many issues that the accelerating interactions between emotions and technology bring up for us today. What follows is an insight into different lines of enquiry and issues raised by some of the 20 artists in our exhibition, arranged around five different themes – objects, the human, nature/environment, artificial intelligence, and robots/machines.

Objects

With the Internet of Things (IoT), the objects surrounding us have become smart. They store data, know our preferences and take on simple tasks. In 2019 the number of active IoT devices reached 26.66 billion. Every second, 127 new IoT devices are connected to the web. During 2020 experts estimate the installation of 31 billion

IoT devices. By 2021, 35 billion IoT devices will have been installed worldwide.⁵

Part of this increasingly networked world are the “smart assistants” such as Siri, Alexa or Ok Google, who play the desired playlist for us, dim the light or fulfil other wishes. French artist Antoine Catala’s installation *Everything is Okay: Season 2* (2018) alludes to this increasing smartness of our homes. The installation consists of several kinetic objects: There is a plastic bag, a T-shirt and socks, all of which have a smiley kind of face and are breathing, some of them even singing. They all share the title “I am here for you” and there is a wall piece that assures us: “Don’t Worry.” The objects refer to our technological interaction with many smart objects today and at the same time they are a reference to the transformation of language itself through the increased use of emojis.



Antoine Catala → P. 66



Cécile B. Evans → P. 86

The connection between emotion and things is also the subject of *How happy a Thing can be* (2014) by British artist Cécile B. Evans. The video piece concentrates on three humble everyday manufactured personal objects – a screwdriver, comb and a pair of scissors. The things are imbued with a life and physicality of their own thanks to the digital realm in which they appear. The work explores the physical reality of their emotional lives in which they yearn for something more and push themselves to the limits and by inference relates to ourselves too. An implicit message can also be read into the work, that with the rise of IoT, we have become so close to the objects that survey us, and they to us, that the distinctions between us are breaking down. We too have become objects or commodities, which can be bought and sold.

The fascination with inanimate objects continues in the exhibition with the video and sound piece *Streamers* (2018) by Swiss artist Esther Hunziker. She borrows the “feelings” expressed online from the nonstop stream of filmed confessions on global networks and gives

the language new bodies. She calls her hybrid beings “specimens”, so-called scientific paradigms, which she conserves and presents as “foreign” objects, which look like stones or rocks on the screen. The piece also subtly shows that we are all interconnected. Whether stone, human, technology or nature, we are part of the network of life and matter, whether we are feeling/sentient or non-feeling/non-sentient. There is no them and us, human and non-human: there is only we. This is a theory based on the physics of matter



Esther Hunziker → P. 108

that leading feminist theorists Donna Haraway⁶ and Rosi Braidotti⁷ have been advocating as a change of mindset that will create a positive posthuman future in which the Anthropocene and all its devastation is left behind.

Human

Emotions are often described as the essence of human experience and behaviour; they distinguish us from most beings on the planet – except (for example) primates as proven by the pioneering work of Dutch scientist Frans de Waal.⁸ But despite emotions being so important to us, in science they are a hotly contested concept, with no universal consensus as to what emotions are or where they come from.

The question, “What is an emotion?” famously posited in 1884 by the American psychologist William James⁹, is as relevant today as it ever has been with the study of emotions as a scientific field, one that is in perpetual upheaval and without a unified framework for guiding it and accumulating new knowledge.

The disagreements partly centre on identifying distinctive emotions and ones that are not distinctive, as well as on the role of the body in triggering and/or receiving emotions and how that interconnection works. The American psychologist Paul Ekman thought there were only six basic emotions: happy, surprised, afraid, disgusted, angry, and sad. He later added contempt as a seventh basic emotion shown in the face.¹⁰ Another American psychologist, Robert Plutchik, thought

there were eight basic emotions, which he grouped into four pairs of polar opposites (joy–sadness, anger–fear, trust–distrust, surprise–anticipation), going as far to say that both animals and humans experience the same basic emotions in similar ways.¹¹ In 2017 there was a study claiming as many as 27 different categories of emotions that are not mutually exclusive and co-exist on a gradient, thus they cannot be sharply distinguished from each other. These emotions include horror, empathetic pain, adoration and envy. Whatever the definitions, feelings are centre stage in our lives.

Vibe Check (2020) by American artists Lauren Lee McCarthy & Kyle McDonald makes visitors to *Real Feelings* immediately aware of this fact as they enter and leave the exhibition. It consists of a series of screens on which you see people portrayed in the exhibition to whom certain emotions are attributed. While walking into the exhibit visitors encounter cameras that film them as well as people around them. These cameras analyse the emotional responses of the bystanders and attribute these to the visitor in question, thus underlining how our emotional states are influenced by many aspects. At the end of the exhibition the visitors end up at the same screens they saw in the beginning, but now they experience their own image with the emotions they triggered in others while walking around the exhibition. In this way *Vibe Check* raises awareness of our emotional influence on the people surrounding us, pointing out how emotions are always part of our context, interactions with others and movement through time and space.



Lauren Lee McCarthy & Kyle McDonald → P. 126

The fact that emotions are essential to human experience and in the 21st century are deeply implicated even in our experience of biotechnology and the relations it fosters is important in American artist Heather Dewey-Hagborg's video *T3511* (2019). A bio-hacker becomes obsessed with finding the donor of the saliva she purchased online. Her attempt to track them down becomes like a (stalking) love story, and the piece – whilst

based on science fact – is a design fiction in which the artist calls into question the rise of technologies that now commodify and sell human fluids, DNA, and other biological information. By focussing on this subject in



Heather Dewey-Hagborg
→ P. 76

the context of the growth of direct-to-consumer genetic testing services, Hagborg's piece raises questions about how relationships, family, and day-to-day life are likely to change in an imminent future dominated by technology and post-genetic privacy.

The destabilising effects of technology on human emotions are also explored in British artist Ed Fornieles' video piece *Test Studies* (2017). The work has two split screens.



Ed Fornieles → P. 93

One shows a player, invited by Fornieles to participate in a role-play game simulating extreme scenarios, talking about these virtual experiences and the feelings they evoked, which to the players often felt more genuine than emotions they experienced in the real.

The other screen shows Sims acting out the different traumas each actor describes. The piece poses the question as to which of these scenarios the viewer identifies with most on an emotional level, and why. Both are re-enactments, but one is physical and transmitted digitally, while the other is purely digital in terms of production and transmission.

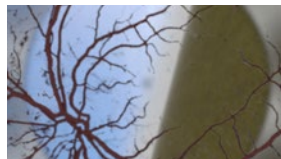
Romanian artist Maria Guta's video *Commercial Break* (2019) invites us to explore the happiness of changing personas. Her fictional work is set in a future where we can change identities the way we pick destinations for quick weekend holidays in times where traveling is cheap. With all possibilities at our fingertips, will this make us happier? The title refers to the idea that humans are becoming more and more a commodity.



Maria Guta → P. 98

Dutch artist Dani Ploeger's installation *The Grass Smells So Sweet* (2018) concentrates on the relationship of the body to emotions. The work begins with a computer

screen that shows extracts gathered from the web of people describing near death experiences. The artist says that by putting these powerful feelings into words he is showing how technology has always been part of our emotions. Writing after all is a technology. The second part of the installation is a VR experience. Without giving it away, the piece demonstrates in the simplest way how the human body feels an emotion, and how different it is to experience emotion through physical sensation from merely observing or reading a text. The body is the final repository of emotion¹², even if it may not be the trigger.



Dani Ploeger → P. 144

Nature/Environment

The environment is one of the places where the devastation of humankind's impact on the planet is most directly felt. Three artists in the show focus on nature and the urban environment. The Korean duo Shinseungback Kimyonghun are fascinated by nature, technology and humanity, and their career is dedicated to exploring the interconnection between them. Their installation *Mind* (2019) is comprised of drums filled with tiny metal balls, which change and create ocean sounds based on the appearance of the audience. A camera in the centre of the room is tracking the faces of visitors and facial recognition software is interpreting the emotions, which are then translated as movements of the metal balls and the sounds they create. The mind is as shifting as the sea – which is the inspiration for the piece and is a link that it evokes as the feelings ebb and flow like the tide.



Shinseungback
Kimyonghun → P. 157

The speculative Australian architect Liam Young is known for his work with technology, urban environment and landscape. In *Renderlands* (2017) he takes us into the world of render farms: companies that produce computer-generated images. Most of these are based in India, and his digital film based on scavenged

3D models used by render farm companies creates an entirely new world as it drifts between real footage captured on location in Bangalore and Los Angeles and the animated, rendered landscapes based on reality. By following one of the workers of the render farm who falls



Liam Young → P. 176

in love with the virtual model that he builds, Young creates a complex web of feelings – ranging from nostalgia and pathos to hope, love and at times despair – due to the almost suffocating nature of the cityscape in which real and unreal are conflated. The

unrequited lover prefers to spend his free time in the perfect virtual world than in the grim reality of his life.

This blending of the real and unreal takes a further twist towards the uncanny with the British based artistic trio Troika’s video piece *Terminal Beach* (2020). An industrial Kuka robot covered in fur chops down the last tree in a desolate landscape with an axe. The fur accentuates its movements and makes the violent action of the robot seem comical and alluring. It is uncanny – in Freud’s analysis of heimlich and unheimlich – a liminal piece that is familiar yet sinister at the same time. This



Troika → P. 167

piece evokes very complex and new emotions that yet are to have definition as the viewer watches the robot’s relentless and repetitive actions, which are leading to the destruction of nature and environment.

The further twist in the tale is that the robot that was animated for this piece was trained to do this by the artists. The robot is merely following orders – given by humans whose actions have contributed to the climate crisis we are now in.

Artificial Intelligence

The history of research into artificial intelligence goes back several decades, to the 1950s. The mid-1980s saw increased research on neural networks and their information processing mechanisms. This “Deep Learning” or “Machine Learning”, which uses neural networks pow-

ered by an innovative new deep learning method known as generative adversarial networks (GANs), has become the dominant form of AI systems in recent years, seemingly in every machine and technical tool.¹³ It's alarming to see what kind of manipulations of reality can be manifested by AI-driven "Deepfakes", a technology that "enables anyone with a computer and an Internet connection to create realistic-looking photos and videos of people saying and doing things that they did not actually say or do".¹⁴ One of the latest developments is affective computing, also known as Artificial Emotional Intelligence or Emotional Intelligence, is about collecting data by scanning our facial expressions, voices or body language to measure and deduce human emotions. The field dates back to at least 1995, when MIT Media Lab professor Rosalind Picard published "Affective Computing".¹⁵

For the past few years, technology companies have fought bitterly for the right to take data maps of our faces, because facial expressions are the most highly predictive of our emotions and therefore indicative of our behaviour, too. There are 44 muscles in the human face, so that understanding what triggers these muscles and how they relate to emotion can give technology companies invaluable access of behavioural data. A number of firms such as Affectiva, Emotient (now part of Apple), and Emotion Research Lab are active in this field – turning our emotions into big business as their tools aim to manipulate customer behaviour. In China, for example, payment systems using facial recognition are already possible. As early as 2015, Jack Ma, the founder of the Chinese Internet group Alibaba, presented a beta version of the "Smile to Pay" payment system, where transactions are approved through face recognition.

This drive to improve machines' ability to read emotions is one MIT Sloan professor Erik Byrnjolfsson says will lead to humans and technology interacting on a more effective level, whereas at the moment human beings have the upper hand in reading emotions: "We have a

lot of neurons in our brain for social interactions. We're born with some of those skills, and then we learn more. It makes sense to use technology to connect to our social brains, not just our analytical brains. Just like we can understand speech and machines can communicate in speech, we also understand and communicate with humor and other kinds of emotions. And machines that can speak that language – the language of emotions – are going to have better, more effective interactions with us. It's great that we've made some progress; it's just something that wasn't an option 20 or 30 years ago, and now it's on the table.”¹⁶



Coralie Vogelaar → P. 170

In the exhibition several works are addressing the rise of emotion recognition software. In her work *Facial Action Coding System* (2018), featured on the cover of this catalogue, the Dutch artist Coralie Vogelaar is showing the Action Units¹⁷, the

temporal segments into which our facial expressions are divided by emotion recognition software to deducting them into certain percentages of six basic emotions: happy, sad, angry, surprised, scared and disgusted. The print shows the face of an actress who trained her 44 facial muscles to display a diversity of emotions.

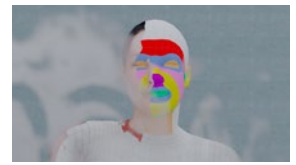
In her newest piece, *Infinite Posture Dataset* (2020), Vogelaar focuses on the detection and interpretation of emotionally loaded body language. For this she has a dancer move on a life-size screen that is endlessly rocking back and forth – like the gadget that cheats the step counter on your smartphone. The dancer's movements are sometimes almost robotic, then again totally free style, and show complex and conflicting emotions. Then they are taken apart and reconstructed to be read by the machine. Our primordial brain is quite capable of “reading” this body language, but what does an AI make of all this embodied knowledge?



Coralie Vogelaar → P. 173

Artificial Emotional Intelligence is also increasingly used for hiring new workers. A new commission by the

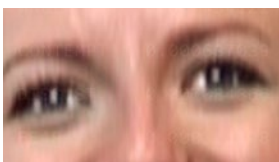
Swiss artist Simone C. Niquille, *Elephant Juice* (2020), explores how artificial emotional intelligence is used for hiring. Set in a bathroom, the work follows a character preparing for an upcoming automated job interview.



Simone C. Niquille → P. 138

This new form of recruitment may promise much – companies like HireVue claim their software can analyse video interviews to figure out a candidate’s “employability score” and whether the interviewee is tenacious, or good at working on a team. In the US and South Korea, where AI-assisted hiring has grown increasingly popular, career consultants now even train new graduates and job seekers on how to succeed in an interview with an algorithm.

Niquille’s work reflects on these developments, but makes us aware of the limits of objectivity of these automated systems and their categorisation of deeply personal and delicate matters of emotions. The title of the commission points out that all is not quite as it seems. *Elephant Juice* is the response from Siri when the words “I love you” are spoken to it. Many of the promises of AI as a suitable hiring system are unsupported by strong, peer-reviewed studies proving that analysing body posture or facial expressions can help pick the best workers – because companies are secretive about their methods. It also is a potential ethical minefield, given the fear that the technology could raise questions about discrimination. In December 2019, the AI Now research institute called for a ban on emotion recognition technologies “in important decisions that impact people’s lives”.¹⁸ It’s one of the first calls to ban a technology that has received less regulatory attention than other forms of artificial intelligence, even though its use in job screening and classrooms could have positive effects.



Clément Lambelet → P. 115

The limits of AI and emotional recognition software to recognise emotions are again indicated by Swiss artist Clément Lambelet’s photo series *Happiness is the only true emotion* (2019). Currently the

emotion with the highest accuracy rate at being recognised using AI is happiness. AI may be heralded as magical and potentially able to solve the world's problems, but as these artists show it is still rudimentary; much depends on how it is programmed and what information is given to it.



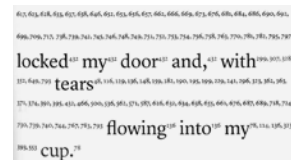
Lozem → P. 121

But AI's learning abilities are put to use in Italian artist Lozem's *Adversarial Feelings* (2019), in which he utilises the deep learning method known as generative adversarial networks (GANs) to generate faces

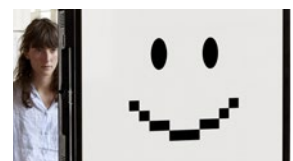
filled with emotions that defy definition, emotions that are adversarial to our own because they may be difficult to recognise. We have all been trained at an early age to recognise how someone feels by their facial expressions. But what if we can't recognise the emotion and it is uncategorisable? How does that make us feel? And who is in control of whom?

Two pieces by the Korean born Seokyoung Kim called *Encyclopedia of Emotion* (2018) and *The Trace of Sorrow* (2018) tackle the question of AI and emotion from a different perspective. The artist contends that an algorithmic system is only as emotional as we make it out to be. AI-driven output may seem autonomous, but we shape the responses. Seokyoung Kim trained an AI to write a book of poetry by enabling it to process 800 works of romantic literature – from Tolstoy and Brontë to Kafka and Joyce. The result is the book, “The Trace of Sorrow”, composed by an algorithm that recognises and organizes emotional words that it was programmed to find into meaningful and poetic patterns and sentences.

In the interactive installation *Encyclopedia of Emotion* Kim invites the audience to write emotional texts. These texts are then used by a computer to “speak” with humans, by creating it's own “poetry” out of these texts. The results are sometimes absurd but always grammatically



Seokyoung Kim → P. 152



Seokyoung Kim → P. 148

correct and filled with feeling. Together these two parts form a lively reflection and future archive of the collaboration between man and machine.

Robots/Machines

A whole section within the exhibition is dedicated to our progressive interactions with humanoids and other robots, which will play an increasing role in everyday life. They are entering our homes as smart assistants, are used in schools and hospitals. We see them in more empathic roles, for example when humanoid robots like Pepper are used to keep elderly people company or when the robot seal Paro, which reacts to strokes with movements and sounds, is used in nursing homes. In societies with an aging population these robots are becoming a mainstream phenomenon. Many studies have proven that emotional attachments to robots are quickly formed. Driven by AI some of them can even analyse our mood and emotions and react accordingly, although this “empathy” is purely based on pattern recognition. Of course these developments raise a lot of ethical questions.¹⁹ What would robots feel? Would they feel the same way we do? The neuroscientist Antonio Damasio expands on this in his essay in this catalogue, pointing out that in order for a robot to feel empathy, it must have a recognition of its own temporality and vulnerability to being switched off. Nevertheless we don’t know what robots would feel if they could.

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Justine Emard → P. 83

French artist Justine Emard’s video installation *Co(AI)xistence* (2017) addresses questions of co-existence and co-habitation of humans and machines. In her poetic work, the robot Alter, developed by the Ishiguro Lab in Japan, reacts to the movements and verbal contact of a dancer. There is no common language yet, only tiny points of tactile encounters and forms of contact. Through touch and encounter they appear to create an emotional bond.

Also looking towards the scientific achievements of the Japanese roboticist and engineer Hiroshi Ishiguro is the Finnish artist Maija Tammi with *One of Them Is a Human* (2017). The four photos show humanoid robots developed by Ishiguro, one of them Erica, the Japanese



Maija Tammi → P. 162

android who was declared the most realistic female human robot of 2016. In her work Tammi addresses the eroding boundaries between humans and machines that will force us to reconsider what it is to be human. Although realistic in their physical

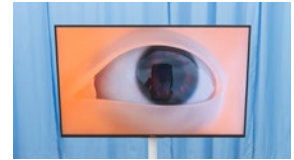
perfection, the faces in the portraits all look lifeless and emotionless, so much so, that it is difficult, if not impossible to detect the human face amongst them – if indeed one of them is a human. It could be a ruse.

In their performance *Cyberia* (2019) by Maria Guta & Adrian Ganea the two Romanian artists are staging a pas de deux of a human dancer and her reflections as a virtual avatar. Together they are progressing through various scenarios and landscapes, ending in a moment of intimate interaction – the desire to meet.



Maria Guta &
Adrian Ganea → P. 103

Danish artists Stine Deja & Marie Munk's installation *Synthetic Seduction* (2018) contains what appears to be a newly born robot in an operating theatre. In the video *Foreigner* by Stine Deja we watch a robot that sings the song "I wanna know what love is" by the rock/pop band Foreigner. The piece reflects on the fact that robots apparently still are not capable of experiencing emotions and feelings and still have a lot to learn about the human condition. The video is shown in conjunction with the sculpture *Skin-to-Skin* by Marie Munk, which reflects our need for touch – a basic need that is challenged to great extent due to Covid-19 measures. An organ-shaped sculpture with a skin-like surface is soft and inviting to sit upon, and it responds in unexpected ways when someone does just that. This piece also suggests that all matter – whether sentient or non-sentient – is linked and responsive at the sub-atomic level.



Stine Deja & Marie Munk
→ P. 73

British born “Sci Fi Artist and Body Architect” Lucy McRae builds machines that gently squeeze the body and hold it tight. With a series of works McRae reflected on the fact that we often spend more time with technology than with other human beings and that the intimate comfort of the future might be hugs and cuddles from a machine. For the exhibition McRae realizes a new commission. In the global pandemic brought about by Covid-19, the touch-deficit of our mediated society has changed into a fear of a future without human touch. *Solitary Survival Raft* (2020) addresses these issues by creating an inflatable, responsive, breathing design/sculpture that invites the viewer to crawl inside for safety and be embraced by its structure. The whole colour scheme of the new work speaks of imminent disaster and the potential for rescue when reality is shipwrecked. What do we feel when we are all alone in a sea of constant flux and what will save us?



Lucy McRae → P. 132

Conclusion

Lucy McRae’s work poses one of the many existential questions the works in our exhibition raise, underlining the fast developments in closing the gap between humanity and technology, between reality as seen through emotion versus through rational data-analysis. At the moment in both AI and robotics, creating the emotion of empathy has been identified as a key to advancing the relationships between humans and robots. But do we as humans really grasp what empathy, one of the most complex emotions we possess, truly is? Do we understand it neurologically, evolutionarily, sensorially, or psychologically? Sherry Turkle dares to ask these questions just as she questions the way we use the word intelligence in relation to machines: “*Intelligence* once meant more than what any artificial intelligence does. It used to include sensibility, sensitivity, awareness, discernment, reason, acumen and wit... *Affective* is another word that once meant a lot more than any machine can deliver.

Yet we have become used to describing machines that portray emotional states or can sense our emotional states as exemplars of ‘affective computing.’”²⁰

As Turkle points out, the meaning of affective has changed: once used as an expression for emotions outside technology, it has become a term that is joined to technology. But affective technology still tends to narrow feelings down to clear, measurable (bio)data and recognisable patterns, whereas to us humans the emotional always is a more messy, bodily and subjective experience, potentially triggering chaos and often more troubling feelings. Emotions make us realize our vulnerabilities, which we control through training and civilization, including technology as a tool.

In the meantime it is also clear that, as robots continue to develop emotional capacities that are framed by their machine bodies, they may also give us insight into what it is to be human and what real feelings are – and aren’t. This insight will include even the new feelings we have yet to name and identify, as the interconnection between human and technology increases and develops with the merger of the digital and biotechnological in our posthuman era.

The aforementioned feminist theorist Rosa Braidotti says that at the core of our current posthuman predicament, in which we are caught between the drive of the Fourth Industrial Revolution and the Sixth Mass Extinction – but not its sole cause – is “the unprecedented degree of technological intervention we have reached, and the intimacy we have developed with technological devices”.²¹

The global pandemic has accelerated society’s own intimacy with technology at an unprecedented rate due to increased usage by individuals and governments. In addition, there is increased development of technology being “taught” skills of intimacy and emotion – how to recognise, interact and even trigger our feelings in a space that is one of the final frontiers between the human and technology. This new techno-intimacy may lead us to become very different beings in the future –

with very different feelings from those we possess now. We are on the cusp of a revolution of our emotions in ways we cannot entirely imagine, let alone comprehend. *Real Feelings: technology and emotion* is an attempt to begin that imagining and comprehension as human and machine extend their growing physical intimacy to the greatest intimacy of them of all – emotional.

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