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Insights from 100 Academics on  
How to Build Better Connections

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Ivar Vermeulen (Ed.)

CONNECTED

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## CONNECTED WORLD



# Connected World

*Insights from 100 Academics on  
How to Build Better Connections*

Ivar Vermeulen (ed.)



VU University Press

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## Preface

What is the first thing that springs to mind when you think of a connected world? Is it the progress humankind has made over the last century? How digital technologies and improved means of transportation allow us to deeply connect to almost anyone or anything, anywhere on the planet? Or do you instead think about the toll of progress? People attending to screens rather than to each other, congested and polluting roads and airports, and delicate local traditions being steamrolled by global mass culture?

When I would ask my colleagues at Vrije Universiteit Amsterdam, which has Connected World as one of its four profile themes, this question, I would usually get as many answers as there were people in the room. The answers could be culturally or technology centred, grim or hopeful, they could relate to our mental or physical world, or be based on lessons from the past, actions in the present or forecasts for the future. But as diverse as the responses were, they all had something in common: a desire to improve our world. To participate rather than observe. To contribute towards solutions that better mutual relationships, increase collaborative efforts and consolidate common ground.

This desire is what spurred the idea for this book. It is what prompted us to send 100 people from the VU community an e-mail asking them the following question: *What is your idea for a better Connected World? What insights from your field can we use to make our collective future a more social and cohesive one?*

What we received in return were deep insights and wonderful stories, about children, parents, colleagues, the human body, machines, images, tattoos, God, pepper corns, literature, democracy, sports, the law, comics, roads, borders, English accents, and much, much more. Now that these individual stories have been compiled in this book it is evident that they are, in fact, connected. They reflect a scientific community – extending beyond VU walls – that is genuinely concerned with the welfare of people and society, wants to contribute to improvements, and has hopes and ambitions for our connected world.

This book was made possible by the support of many, including the Connected World team (Susan Legêne, Gert-Jan Burgers, Hans Akkermans, Ivano Malavolta, Rita van der Schriek-Hermans and Mojca Lovrencak), Suzy Schagen, and the great people at VU University Press. Above all, I would like to thank the authors for taking time from their busy schedules and lives to contemplate the meaning and importance of our connected world and provide us with their creative, humorous, and hopefully inspiring, insights.

Ivar Vermeulen

Amsterdam, June 2023

## The Power of Poetry

*Diederik Oostdijk<sup>1</sup>*

“Poetry makes nothing happen,” W.H. Auden famously wrote in 1939, as the world was preparing for another world war. It was a strange comment to make by a poet who earned his living writing poetry. Imagine Picasso at the time saying that painting has no effect whatsoever, or Le Corbusier asserting that architecture is good for nothing. Yet Auden presented a view that few people nowadays would disagree with. Poetry does not cure diseases; nor can it prevent wars or other calamities from happening. Like other art forms, it seems to provide something extra in people’s lives, something decorous and beautiful, but it is essentially something inessential to life. Other contemporary poets agreed with Auden. Adrienne Rich, a poet who was deeply influenced by Auden, warned wittily that “poetry is not a healing lotion, an emotional massage, a kind of linguistic aromatherapy”. William Carlos Williams agreed with Auden and Rich that the use and function of poetry is hard to discern when he wrote: “It is difficult to get the news from poems,” but he hastened to say that “men die miserably every day for lack of what is found there”. Williams claims that poetry

<sup>1</sup> Diederik Oostdijk is professor of English literature, and is specialized in 20th-century poetry and the memory of war.

may feel unimportant, and yet that paradoxically our lives depend on it.

As a poetry scholar and a literary historian by training, I have tried to both deny and accept the lack of obvious meaning or purpose of poetry in contemporary society. I have tried to deny it by writing about how poets responded to cataclysmic events in the 20th century and interpreted world events in a uniquely different way. I have accepted it by also writing about different topics, such as history, politics, and other arts forms, and using the poetic only as a lens to gauge at the world. I am not entirely satisfied with either of my approaches, however, and I think my dissatisfaction is connected to my belief that poetry can connect people around the world, and historically, through the ages. And yet people do not seem to be open to this possibility. Despite our connectedness through digital devices and in our globalised world, there is simultaneously a disconnect- edness that plagues the planet.

The first time I became aware of poetry's connecting power was when I read a poem by the American poet Walt Whitman in college. The poem was called 'Crossing Brooklyn Ferry'. It detailed how throngs of people commuted from Manhattan to Brooklyn on a ferry, and how the speaker is just one of those commuters going home after a weary day. As Whitman's lines flowed from one stanza to the next, it gradually dawned on me that Whitman was trying to make a connection with me ages and ages in the future, a reader whom he had never met: "It avails not, time not place – distance avails not, / I am with you, you men and women of a / generation, or ever so many generations hence. / Just as you feel when you look on the river and sky, so I felt." This shock and surprise, of simultaneous sameness and difference,

has stayed with me, and it has influenced all of my teaching and research, but in imperceptible ways. Other poets have reawakened that sensation of connection, for instance Mary Oliver in 'Wild Geese': "Whoever you are, no matter how lonely," she wrote, "the world offers itself to your imagination, / calls to you like the wild geese, harsh and exciting – / over and over announcing your place / in the family of things." Poetry, as Whitman's and Oliver's lines show, has staying power, has connecting power, but perhaps only or mostly on an individual level.

While Auden asserted that poetry made 'nothing happen' in the world, he also suggests that poetry 'survives'. It survives "in the valley of its making where executives / Would never want to tamper, flows on south / From ranches of isolation and the busy griefs." Poetry is "a way of happening, a mouth" he concludes. How can we make sense of that? The way I choose to read it is that while poetry may not publicly affect a great many things, it does endure and can communicate messages across time and space. It can be an antidote to 'isolation' and 'busy griefs', even if it does not have healing power. Perhaps poetry makes nothing happen, but it can influence people personally and privately. And that is actually quite something.

## TikTok Is My Village: Adventures in Digital Parenting

*Giulia Ranzini<sup>1</sup>*

There's a picture on my father-in-law's Facebook profile.

It features my body, covered by a hospital-provided paper gown, my tiny son Luca, naked except for a diaper and a knitted hat, and the smiling face of my partner. It is a snapshot of happiness, of joy, of relief. It depicts the exact moment in which we started existing as a family. It is also a picture taken right before Luca was given a ridiculously small oxygen mask and taken away by a crowd of doctors. Before someone took my hand and said please do not move, we can't stabilise you.

For weeks I could not look at that picture without tears. (We are all fine now.)

I remember sharing that picture with my family, via WhatsApp, because I was too tired to type on my phone, too frazzled to call. And yet.

Days after we were finally home, with barely any energy left, I was surprised at my furious response to the discovery that the very same picture was being liked and commented on ('proud Grandad!') on a social media profile that wasn't mine.

<sup>1</sup> Giulia Ranzini is assistant professor in communication science. She spends a lot of time thinking about how people relate to and through technology.

I shouldn't have been surprised.

I spent the last decade researching digital privacy, with a focus on what people share with their online audience and why, and I have concluded that most information we disclose online is, by default, interpersonal. In fact, the information or visual content on our personal channels is only rarely exclusively about us. Most often, we tag friends (or enemies) in our tweets. Instagram stories feature roommates, pets and family. In the background of TikToks are inhabited homes, or streets filled with strangers. How conscious are these choices? Are we not concerned?

Truth is, not particularly. Because on the one hand, our house could be identified, and who knows who is buying our data – but such risks are vague, if not impossible to estimate. On the other hand, the value of sharing can be extremely concrete. Especially when it comes to our loved ones.

“My baby rolls on one side only, is this normal?”

“Six months old doesn't smile, anyone else?”

That is pretty much how I found myself at 3 am scrolling on Facebook groups for multilingual families, browsing Reddit for sleeping tips, looking for people's opinions, experiences, advice. A couple of generations ago, some aunty living next door would have held all the answers. But today?

There's a Tiktok meme I have seen a lot recently while scrolling the app when trapped under a napping baby. One parent, generally the mother, dances alone as though opening a line of conga. A superscript recites 'let me show you what my village looks like' – where village is the proverbial one it takes to raise a child. Nobody is behind the parent.

There is no line of conga. No village.

Privacy researchers spend a lot of time exploring the dangers of online sharing. It's easy to feel like we always know best, or at least, better than the average user. Do they not care how risky this is, to give all this information away? Especially when it's about another person, let alone a tiny one? In our minds, a responsible user is a purely rational being, capable of estimating whether purchasing that app will be more beneficial than the value of their email address, more useful than their date of birth is worth.

Life is messier, though. People are messier (including some privacy researchers).

I still worry a lot about Luca's image being online before he can consent to it. I am also more acutely aware that beyond benefits and risks are users' needs. Such as the need for connection, closeness, and community. Failing to consider those needs behind (over)sharing leads to an understanding of privacy that is incomplete and separated from reality. But also, we fail to see the value social media has for people, even though yes – it can be addictive, yes – algorithms are scary and yes – maybe we could live without it.

But we don't.

Sometimes I still sneak on my father-in-law's profile on Facebook, and look at our happy picture, browse through the many loving comments of complete strangers. I think less of how furious I felt, and more of the 16 hours of air travel between us. Of the many people who, because of that image, felt a little closer to the three of us, in that hospital room, on that Friday night. And it makes me smile.



# The World Has Broken Down into Parallel Technolinguistic Communities. Can They Be Bridged?

*Nyíri Pál<sup>1</sup>*

Much has been written about how the war in the Ukraine is also a social media war. On that front, despite some missteps by President Zelensky, Ukraine has been widely judged as the winner. This is mainly because of the power of images of mass graves, tortured civilians, and bereaved family members. They allow people to ‘see for themselves’ the atrocities being committed.

But there are countries, or perhaps more precisely technolinguistic or technosocial communities, where Ukraine is not winning. For example, 36% of Hungarians agreed in July 2022 that the Ukraine should surrender to Russia. In China, mainstream media propagate the view that Russia is engaged in a legitimate defensive war. Of course, images of the Russian army’s brutality are not allowed to circulate in China. But even many Chinese outside China, who have free access to them, are not convinced. A friend of mine helped Chinese students who fled the Ukrainian city of Sumy. Their own dormitory had been bombed by Russian artillery, yet they say they believe Russia had been forced to react in this way by NATO pressure. Rather than ‘seeing for themselves’,

<sup>1</sup> Nyíri Pál is professor of global history from an anthropological perspective. He is writing a book, with Yu Haiqing and Fang Kecheng, on the role of WeChat in the lives of Chinese migrants.

these students choose to believe what they see on WeChat, the Chinese ‘super app’ they use to communicate with friends and through which they get most of their news.

It is widely understood by now that what we believed to be the Internet’s global connectivity and social media’s liberating nature has split the world into echo chambers. We are also beginning to understand that, more than this, the world is increasingly splitting into technolinguistic universes, or technosocial communities, that are defined by differing algorithms and affordances. We know a reasonable amount about what happens within the largest of these universes, the Facebook-Twitter one, dominated by Anglophone content and U.S. politics though spreading far beyond. We know much less about what happens in the other ones: the WeChat universe that dominates Sinophone users, the Telegram universe that is central for Russian, Arabic, and Farsi speakers, or the Line universe of Korean speakers.

We also increasingly realise that societies can no longer be studied purely offline, either at the macrolevel of sociology (networks, social movements) or political science (mobilisation, voting behaviour) or the microlevel of anthropology (identity, belonging, aspirations, ideas of the good life). Social fields people live in encompass online components, so studying social media must be mainstreamed into social studies, including the study of migration.

Each technolinguistic community is global, though some are spread wider than others. This means it is not enough to recognise that the Chinese Internet is not the same as the Internet in the rest of the world. What communication researchers have described as the ‘stickiness’ or ‘portability’ of WeChat has a global reach.

To the extent that the dynamics of technosocial communities are understood at all, they are understood within their boundaries. Online worlds are studied in self-contained ways that help understand their internal logics but do not shed light on the ways information, expression, or social action travels across linguistic and technological borders. Yet, as the case of the students from Sumy shows, it is crucial to ask how it does or why doesn't it. Very few scholars are equipped with the methodological, technological and linguistic skills necessary to complement more traditional research methods with online research. A methodological adjustment, and more collaborations, will be necessary in the future if we are to have any hope for research that helps puncture the boundaries of technolinguistic universes.

Some volunteer teams are actively working on bridging them. One example is the Great Translation Movement, run by Chinese volunteers who not only translate English content into Chinese but also vice versa, documenting, for instance, Chinese media support for Russia's war. Evidence to date, however, suggests that just as the Twitter-Facebook universe favours incendiary nativist content over its critics, such content appears to travel easier across the narrow channels of communication across technolinguistic universes. Counteracting this needs more research, but also concerted and coordinated action by regulators, corporate actors, and activists.

## Less Is More

*Linda Douw<sup>1</sup>*

A 39-year-old, previously healthy man presents at the emergency room with a generalised seizure, after he had suddenly lost consciousness and started displaying severe jerking of his limbs during a classical music concert. Unfortunately, doctors see a large brain tumour on the scan of the man's brain. Likely, too much connectivity between brain cells surrounding the tumour and the rest of the brain allows for disturbed activity from damaged cells to spread from the tumour region to the entire brain during the epileptic seizure.

Although this (imaginary but representative) case is sad, it is fascinating that most, but not all people with brain tumours experience such seizures. In other words: some brains easily allow for runaway synchronisation through epileptic seizures, while other people never experience such seizures during the course of their disease. Those who do have seizures hypothetically have too much connectivity and cannot mitigate, isolate and contain local aberrant brain activity around a brain lesion. But what is different in the brains of those people who never have a single seizure?

<sup>1</sup> Linda Douw is an associate professor in multiscale network neuroscience. She is fascinated by human behavior and particularly cognition.

From a brain connectivity perspective, more has traditionally been deemed better: the myth that only 10% of our brain is used comes from the finding that not all possible connections between the billions of brain cells ('neurons') in our skull are actually present. The idea was that if all those connections would be present, we would have limitless intellectual capacities, at least according to some movies. Although such emphasis on more and better is persuasive in our current day society, more can actually be less in our brains, as those people with brain tumours without seizures may be indicative of.

Not only could high connectivity facilitate seizures, it could also render us vulnerable to brain-related conditions. Brain tumours occur more often in parts of the brain that are normally more active and connected, which allows these tumours to feed off (or hijack) the resources that such well-connected brain areas have. Psychiatric conditions, like obsessive-compulsive disorder (OCD), typically involve excess connectivity in certain parts of the brain, thereby allowing for the ruminating and repetitive thoughts and behaviours that people with such conditions experience.

Even more intriguing and contradictory to the notion that more connectivity is always better, are findings from the growing research literature on non-invasive brain stimulation, where researchers and clinicians increase brain activity and connectivity by placing certain apparatus, such as coils emanating electric or magnetic pulses, over the scalp. Through the controlled experiments made possible by these techniques, it is becoming more and more clear that even when trying to increase connectivity of only a specific brain location, the effects of stimulation are widespread, and the resulting hyperconnectivity reaches far beyond the

direct target of the stimulation. In other words: it spreads unintendedly.

Actually, normal brain development is specifically tailored to greatly reduce overall levels of brain connectivity in early childhood. Although the number of neural connections steeply increases after conception, a child's second birthday launches a long phase of 'synaptic pruning', or removal of a large proportion of connections between brain cells. When pruning is suboptimal, cognitive dysfunction may develop: both schizophrenia and autism spectrum disorder are thought to involve pruning issues. When a large number of connections is retained, people do not feel and perform better, they are worse off.

The same counterintuitive focus on achieving more connectivity is present in today's society. Global news is delivered to us 24/7, every piece of information on crises and despair from far away is able to reach us as aggressively as local and national developments. Our social networks facilitate hyperconnectivity between likeminded parts of the network, only pruning less obvious and more diverse connections to outside communities through the filter bubble. Our global infrastructure is so connected and interdependent that a ship blocking a single waterway has unpredictable and long-lasting effects on transportation of food, tech parts and consumer packages.

The thing to learn from the brain, which is arguably the most evolutionarily advanced system around, is that less is usually more. Instead of aiming for more connectivity, more complete social networks and more infrastructure between all parts of the world, we should ask ourselves which connections we would be better off abandoning, which followers and communities we could actually benefit from,

and which seminal infrastructural connections should be prioritised over better coverage overall to maintain the integrity of the system. Let's prune our way to a more adaptive connected world!

## Why Robotics Labs Should Look More Like Theatres

*Kim Baraka<sup>1</sup>*

As robotics researchers, we often pride ourselves that we are shaping, even inventing the future. We fantasise about the idea that automation will move us towards a more creative society where we won't have to deal with menial tasks, and that human-robot collaboration will bring synergy between natural and artificial intelligences to positively impact society, both individually and globally. We talk about a fifth industrial revolution, AI for social good, human-centred robotics and other buzzwords that get us pumped up and give us a strong sense of purpose. We talk about these as if we have it all figured out. As if we hold the key to a grand plan. As if we 'know better' how people would want to see these robots enter our houses, our schools, our workplaces, what kind of data they should be allowed to collect, how they should look, and how they should behave. But the truth is: we have no idea; it's all pretend.

How should we connect with this 'new breed' called robots (to use Kate Darling's words)? How should robots be designed to address real human needs at the core? How

<sup>1</sup> Kim Baraka is an assistant professor in artificial intelligence and a dance artist. In his research focusing on AI for human-robot interaction, he often draws inspiration from the performing arts.



will the presence of robots that can socially interact with us change the way we connect with each other as humans? Answers to these questions are largely unknown. There isn't a clear design philosophy to guide the development of our future 'robot overlords'.

It is a Saturday morning and I manage to sneak our robots (basically plastic-cased, white, humanoid, fancy puppets with motorised joints) out of the backdoor of my department's building, where access is typically restricted to the logistics team. About an hour later, robots are successfully kidnapped to a black-box theatre near Amsterdam Sloterdijk, where about 30 performing artists are waiting to 'jam' with them in an improvisational research session. As a warmup, the movement facilitator asks us to physically connect to bodies in space (humans, robots, and inanimate objects) to summon our creative juices. This physical connection quickly turns into an 'energetic' one, and in no time we experience the magic of a playful hybrid human-robot micro-society, where communication rules and social conventions emerge through exploration, openness, and a blank-slate attitude towards our ways of connecting.

As the theatre stage is meant to mirror, poke, and question our reality, my take is that the performing arts offer a powerful approach for robotics researchers to attempt to answer some of the daunting questions mentioned above. Many of the methods I use in my research – from forms of participatory design (having stakeholders 'act out' their expected role in a interaction), Wizard-of-Oz techniques (puppeteering a robot remotely to emulate its desired behaviour), co-design sessions (often ending up tackling a fancy choreographic problem we call 'interaction design') – end up having more in common with the performing arts than

they initially appear to. We invite animal trainers, dancers, puppeteers, and end users to our labs to act out scripted or unscripted roles, and it is not uncommon to turn our lab space into a dance studio for some of our investigations into the science of non-verbal human-robot interaction. Just as the black-box theatre turns into an experimental lab, our lab turns into a performance space where we can stage almost anything our imagination asks us to. Even long-term studies become durational performances, where researchers play the role of a hypercritical audience. As a performing artist, you are trained to practise life, you indulge in your imaginary, you are playful, safe and vulnerable at the same time. This is in essence the kind of setting we need when advancing the field of robotics, and critically and creatively considering their future role in our society.

Now you may say, isn't this exactly what science fiction has been already doing for decades? Using the imaginary and picturing it so realistically that it makes us stop and ponder? The fact is that people react drastically differently when faced with real, physical robots than when they watch a hypothetical depiction of our future, often strongly detached from the current reality, and on a flat screen. While sci-fi beautifully tickles our philosophical thinking, the kind of knowledge we need in tech research these days must have a direct connection to embodied experience. In other words, we need more experiences with real robots in imagined scenarios. We need powerful ways of imagining futures in an experiential rather than speculative way, and this is where the performing arts can help. As much as artists are resorting to technology to expand their craft, I wish more technologists would resort to artists to expand our imagination, but mostly ground some of our delusions.

The arts give us the ability to step out of reality and re-imagine it freely. Obviously, the performing arts do not hold the key for a lot of technological developments in robotics but, to say the least, in the tech world they are hugely underrated. If we are aiming toward a profoundly and meaningfully connected world, then robots will have to take their acting job seriously.

## Corporeal Connectivities: Imagining Institutions As Social Power Plants

*Daniel Neugebauer<sup>1</sup>*

Universities and museums can be harmful to your body. They tend to assume that guests, students, an audience, staff (both those with an average and superhuman physique) are able to sit in badly airconditioned rooms for hours on end without a break, delay going to the toilet for at least two lectures in a row, and read information texts in academic language printed in 8pt font in poorly lit lecture halls, requiring acrobatic back-bending efforts to get notes written down. If educational institutions do not find ways to better accommodate the needs of their students and employees, this could harm their existence. And this scares me, because public institutions have become the last refuge of democratic exchange. We cannot give up on them.

How can you learn, teach and participate when you are fighting cramps because you ate something in the cafeteria that did not list an allergen on the label? How can you attend a lecture when you have a pram with you, or use a rollator, and no information on accessibility is provided? Why go to a museum or university lecture if they don't have

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toilets that people of any gender identity can use? And how can you focus on scholarly work when being surrounded by impressive statues, symbols or religious and political remnants that celebrate the oppression of your ancestors? What I'm trying to say is that institutions engage in body politics by shaping norms and putting them into practice. What I am convinced they need to do is harness the creative potentials of diverse body semiotics as well as body epistemologies. It is time that universities and museums learn to 'read' – to read bodies and to re-read them, to encourage reading with the body while unlearning the given. This is where art, design and artistic research can help.

Allow me to introduce the concept of corpoliteracy: a term coined by Bonaventure Soh Bejeng Ndikung in 2016 which suggests considering the body as a site for learning and unlearning. Why does this concept excite me? In a nutshell, because it allows me and my specific art world bubble to think through a lot of matters together that are often dealt with individually: antiracist pedagogies, critical race theory, body politics, gender, disability, critical animal studies, and so on. There is a great need for new knowledge in the intertwining fields of identity and community politics. The complexities of living with a body in contemporary society should not be rendered undercomplex.

Back to campus realities. Reading bodies, I argue, can offer a direction to navigate out of the bias, structural violence, and norms such as gendering and misgendering, racialisation, ableism, etc. So the concept of corpoliteracy plays into the pressing matters of diversity development, without dissolving in it. Applied to a context of institutional development, it can help turn universities, museums and libraries into 'social power plants'. What is a social power

plant? I would define the term, which has not been copyrighted (yet!), as an institution that resists an ethos of commercialisation. An institution that feels agency to serve society at large rather than particular interests. To succeed, this institution needs a creative (perhaps a queer) attitude, because (performative) artistic practice holds many connections to body semiotics and epistemologies that allow for empathy and solidarity. Among all the lost cases, the rubbles and remnants of utopias of an unconnected world community, I do think that institutions like museums and universities have a chance and a responsibility to be social power plants, to carry democracy into a new, post-neoliberal phase. Since this already sounds like a leftist cliché, I will go even further and say that I anticipate a phase of democratic joy or communal connections, or something similarly sexy.

Knowledge production in industrial modes, extractivist excellence, alienation through ivory towerism, continued colonial exploitation that excludes an ethical pragmatism... The list of issues to tackle is long. These are not new issues, and they are complex and will take years to address. Therefore, it can help to bring together academia and artistic speculation to work hand in hand. Big words, new concepts that allude to existing problems and slowly sketch forms of utopias can be seen as vessels to move a train of thinking together as one. In short, corpoliteracy shifts the focus to the battlefields of a hyperconnected world. But it also points at the beauty of creative criticisms and radical resistance. In other words: I dare you to put on your flesh-coloured glasses, to read and counter-read, and eventually revision bodies in their surroundings. In this respect, corpoliteracy is a concept connected to the politics of hope.

# Cinema

10 January 2033

Letter to the editor

We use matching apps with facial intelligence with a certain sense of polite selflessness. We make the faces we ought to, and display the Ten Base Faces and Seven Face Operators with particular courtesy and diligence. Because when we fail, it is awfully hard to correct ourselves while frustration is spreading all over our face.

So we respectfully display the necessary facial codes, as if addressing a resentful, unforgiving clerk. After all, misspeaking can be disastrous when seeking a good match with a job or a date. We are carefully trained to wield the Seven Face Operators at an early age, as if our future depends on it. And, in fact, it does. But when it comes to dating, we ought to wonder where such conditioning is leading to.

For example, we all put a classic Base Face No. 1 on our dating profile, striving for a medium-high level of Openness, Conscientiousness, Extraversion, and Agreeableness – but not higher or a Neurotic code may be triggered. We have become experts in this balancing act of the face and mind, of holding this pose so reliably, crisp but not

crisrate. But what do our efforts achieve? We get in the game, so to say. Or we get matched, or not. But what is the prize? Or the price?

We may be matched with equally frustrated conformists, or with controlling ones. How do we know? We still have to get to know the person we are matched with, and there is no guarantee that our personalities are compatible at all. Unless we convince ourselves that the app got it right. More than we can understand. Indeed, we usually convince ourselves that the app knows better. We easily idealise the person we are matched with, since we have put such efforts into building a good dating profile. Or because Base Face No. 1 is designed to instinctively seem comfortable to most humans.

Eventually we are duped by our perceptions, and even worse, we dupe others and ourselves. Love affairs now involve more dupery than they naturally did in the pre-AI era. This is a truly impressive feat of AI!

Despite my grim irony, I would like to bring to your readers' attention a means to break free of such conventional attractiveness. There are faces that dating apps struggle to detect. These faces cannot be matched with any of the predefined personality clusters in dating apps. I have found two of such faces, and I would like to invite my fellow readers to use them as well – should they wish.

The easiest is to make Base Face No. 7 and keep the lip extra tight to increase the level of Conscientiousness. The mouth has to be very, very tight – at the limit of triggering a Neurotic anger code. Once such a pose has been reached, you can then cross our eyes just a little to throw facial intelligence systems. This way, the app does not know what we mean, but we do. We would rather look sil-



ly if it restores our freedom of facial expression, and gives us a chance to really connect as humans, not as mannequins.

The other face is slightly more difficult, but perhaps more fun. From Base Face No. 1, put a hand on one side of your face, as if supporting your head. Then with one finger, pull one of your nostrils outward. The only difficulty is to avoid the many Neurotic codes that may be triggered.

After filling my profile with such poses, I haven't got a single match on dating apps. I am probably outside of the clusters' reach. No one else is located in this odd region of the data space. It is actually liberating to be cast away from the faceless crowd of pending matches. I have discovered a pristine island of facial expression. I hope that this discovery will allow more of your readers to find each other in such corners of the data space. I would be happy to see you there, fellow reader, in-between a twisted No. 1 and a twisted No. 7. Perhaps we can explore more of these uncharted faces together!

Kind regards,  
Emma Beauxis-Aussalet<sup>1</sup>

<sup>1</sup> Emma Beauxis-Aussalet is assistant professor of ethical computing.

## Nothing Human Is Alien to Microbes

*Bas Teusink, Frank Bruggeman and colleagues  
from the Systems Biology Lab<sup>1</sup>*

Microbes are remarkable creatures that can teach us a lot about resilience and social behaviours that emerge from networked systems. Take the *E. coli* bacteria that occupy a gram of human gut: they each contain around 4,000 protein-encoding genes, and thus roughly an equal number of different proteins. The cellular concentration of these proteins can vary enormously, not only between them, but also in time and amongst individual cells of a population. Yet, despite this variability, a population of *E. coli* bacteria manages to make, on average, a perfect copy of itself in less than one hour if supplied with the right nutrients. If that is not impressive by itself, it is able to readjust its protein composition to adapt to new conditions – stress, Christmas diet, antibiotics – and then starts doubling again, albeit at a different average rate. Human cells, by the way, have ‘only’ around 23,000 genes, and when pampered and stimulated

<sup>1</sup> Bas Teusink and Frank Bruggeman are both professor in systems biology. Teusink studies how and why (in the evolutionary sense) cellular phenotypes emerge from the interactions between biomolecules – and other cells. Bruggeman focuses on unraveling basic mechanisms of microbial growth and regulation of metabolism and protein expression, using experimental, computational and theoretical methods.

to grow, take about 24 hours to make that copy. Equally impressive<sup>2</sup>.

How on earth is this possible? What mechanisms have evolved over four billion years of life on earth that result in such an amazing resilience and adaptability in the face of internal and external uncertainty? This is one of the (many) questions in our field: systems biology. We study the design principles of biological networks, i.e., how fit or desired behaviours emerge from the properties of, and interactions between, the components of these networks. We certainly do not understand everything, but a common lesson is that the nature of the interactions (i.e., which components interact with which other components) and whether this interaction is positive or negative, to a large extent determines the essence of the behaviour; the actual strength of the interaction, or the exact implementation of the interaction, often does not matter so much. This in itself leads to robustness, but also to generic principles that can be applied across biological systems – and in fact, are shared with other networked systems, from electrical circuits to ecological systems to society.

We have space for just two examples, and we will start with a remarkable feature: perfect adaptation. In engineering it is known to be achieved by what they call integral feedback control. It is the property that upon a perturbation, some variables will relax back to their original value even if the perturbation persists. To make this more explicit: if you were to start infusing glucose into your blood, glucose will rise initially, but will relax back to baseline through the

<sup>2</sup> Those who want to impress others with such useful biological numbers may want to check out the Bionumbers website <https://bionumbers.hms.harvard.edu>

feedback action of insulin. Work in our lab has shown that if a *E. coli* cell does not divide perfectly, similar feedbacks operate that ensure that the smaller daughter cell catches up by growing slightly faster than the bigger sister. This is how they achieve a constant average growth rate.

With other wiring, positive feedback in this case, variability is embraced and amplified such that it can lead to so-called stochastic switching. In such circuits, two stable states co-exist, and if a threshold value is passed (either by an external factor or by chance through the heterogeneity), cells switch from one state to the other. This intriguing phenomenon is used by cells to make important decisions, or to ensure resilience against catastrophes. An interesting example is related to antibiotics, which in the natural world is a form of chemical warfare to kill competitors. Since the production of antibiotics is costly and its effect concentration dependent, producers often signal to their peers to coordinate an attack (if the signal reaches the threshold) to make sure that a lethal concentration is reached.

There are two counter measures for the targeted microbes. Some microbes have evolved fake signals (fake news!) to lure producers into premature and ineffective strikes. Others use another stochastic switching circuit to create a (small) subpopulation of cells that turn – by chance – into a non-growing, stress- and antibiotic-resistant state. This allows the survival of the species upon a strike. Incidentally, because cells in this small subpopulation will eventually stochastically switch back to a growing state, this is the reason it is important to finish your antibiotic cure even if you feel better again!

Integral feedback leads to perfect adaptation, a powerful form of resilience. Positive feedback can lead to sudden

switches in behaviour. We guess that smartphone and social media are recent societal examples of such rapid changes. Since society is also a complex dynamic system, there must be many more lessons to be learned for society from studying microbes – and surely vice versa.

## Feeling Disconnected? Read a Novel!

*Anita Raghunath<sup>1</sup>*

It is true that there seems to be a current trend in academia, particularly in the humanities, that provokes general soul-searching over how connected and relevant universities are, weighing the value of our work. As we endeavour to add to the knowledge in our particular field of studies, academics are increasingly asked to reflect on the direct connections between what we research and its concrete impact on the world beyond the campus. Anyone who has ever ‘shaken the tin’ for research funding will recognise the challenge of that recurrent question on a grant application form.

The truth is that this connection, this link between our work as teachers and researchers, and what we give to our societies, takes many forms. At its most basic level it might be making an institutional statement in support of a current issue, or simply ‘raising a flag’ to signal our affiliation with groups and causes. However, I believe the real connections that we make, the important ones, the ones that go beyond simple virtue signalling, are more often to be found in the everyday aspects of our work. After all, as academ-

<sup>1</sup> Anita Raghunath (PhD) is a writer, activist and currently lectures at the VU in English literature. Her work is embedded in notions of connection through a cultural lens.

ics, questions about connections are always important. As individuals, it was usually our connection and simple love of our subjects that set us on an academic path in the first place. An infectious fascination for discovery and the desire to share this with others is what connects us to future generations of researchers and is why we put up with some of the more tedious aspects of academic life.

For my subject, English Literature, the very bedrock of its existence is the idea of communicating and expressing thoughts, emotions and experiences. It is predicated on the possibility of connection. Oftentimes writers set down ideas to make sense of their own disconnections with the world they experience – only to find that those fears, hopes and states of mind resonated with others in extraordinary ways. Literature offers the ability to travel in time, not just to understand the past through ancient DNA or a shard of a ‘once handled’ pot, but to have the opportunity to be narrated into another age and consciousness – even into the future. My classes are anchored to ideas of the enduring power of the literary text to forge connections across time, place and identity with all the glittering potential of new interpretations. I might also suggest that if we want to explore anxieties about the way our societies are evolving, and the much-lamented loss of connections in the fabric of our communities, it is in literature and the work of the imagination that many of those fears and solutions are vicariously played out. Perhaps if we had paid more heed to William Blake, we might have been more considerate of our environment. And just think of what we may have done differently had we read our Orwell more carefully?

That said, I do not subscribe to the notion that ‘society is becoming more disconnected’. After all, whose society are

we talking about? Should we not all baulk at the idea of that western universal assumption about social fragmentation? It is true that, to varying degrees, our world and all our societies are certainly changing, but any quick glance at the literary shelves will give examples of 'doomsday' narratives about the end of society that remain simply fiction. There is nothing inevitable about our loss of connections either to our place, planet or each other. Literature from every culture often shows just how connected we are with our shared stories of love and fear. Instead, we need to remind ourselves that it is up to us to determine our 'connections' and, if literature past and present has taught us anything, it is that our stories do not necessarily have to have happy endings but that we do always have the possibility to find a satisfactory denouement.



## From Modern-Day Pinocchios to Social Robots in the Wild

*Elly A. Konijn, Daniel Preciado Vanegas and  
Peggy van Minkelen<sup>1</sup>*

We humans have evolved to rely on social interaction to be more successful at surviving and thriving in an ambiguous, unpredictable world. This strong, natural social drive does not only influence our survival and well-being, but also affects our perceptions and inferences about the world, and how we interact with it. The drive to socially connect is so strong that we see faces in things that only vaguely resemble a face or have ambiguous facial cues (e.g., dots, stripes, stains or blots). Attributing emotional expressions to ambiguous and abstract images also underlies visual artwork. Likewise, humans easily connect to (animated) puppets like Pinocchio, or to media figures that we do not know in real life or who do not even exist (e.g., movie characters, avatars). From an evolutionary perspective, why we socially respond

<sup>1</sup> Elly A. Konijn, full professor in media psychology, Daniel Preciado Vanegas, assistant professor, and Peggy van Minkelen, Ph.D. candidate, all work at the Department of Communication Science, VU Amsterdam in the Media Psychology Program. In their team, they study how human-robot communication can support socio-affective bonding between humans and social robots. They investigate the foundations, benefits and challenges of introducing social robots in a variety of domains, like eldercare, healthcare, and education.

to such images and non-human entities can be understood. However, how and under which circumstances people are inclined to socially connect with non-human entities are intriguing questions for which answers are lacking.

Such questions have become even more relevant now that social robots are being developed to act as social entities in our physical world, to assist various kinds of professions to compensate for shortage of personnel and budget (e.g., healthcare, education). Furthermore, technological developments in robotics and artificial intelligence are further blurring the definition of what constitutes a 'social entity'. Would humans treat such machines as their 'colleagues' or 'social partners'? Can communicating with a social robot feel natural? Can we connect to social robots in similar human-human ways? Multiple science fiction movies and recent television series illustrate our fascination for human-like substitutes, and many robot designers are aiming to develop human-like surrogate robots<sup>2</sup>. However, perhaps we should not strive for human emulation in social robots? Current debates in robot design illustrate the different benefits and limitations of the different perspectives. While realistic human-like robots might be easier to see as a social entity, building robots as a social entity in their own right – that is, something in between a human and a machine – might be more useful, and given the current state of technology, probably more reasonable.

From this point of view, it is highly important to arrive at a thorough understanding of how humans may connect with a robot in a social sense, as a buddy, companion, or

2 For example, Ishiguro's Geminoid <https://robots.ieee.org/robots/geminoidhi/> or Hanson's Sophia <https://www.hansonrobotics.com/sophia/>

friend. In our fieldwork, we observed mentally healthy elderly embracing a robot as their grandchild, making jokes, and wanting to feed it cookies. At schools, children wanted to hug and kiss the robot, asking what the robot would eat to keep it alive, explaining that it would be impolite not to respond to the robot. Still, these were first-encounter responses, which may not last over time. To understand how social connectedness between humans and social robots may arise, we need to understand which mechanisms underlie building a relationship after a first encounter. While many roboteers are looking into the design features, for example, because humanoid robots are intuitively seen as social entities, we believe that the actual magic eventually happens in the mind of the human user – only when the settings of the user’s psychological fibre are appropriately tuned and match with what the robot has to offer, a bond may develop and evolve over time.

Some will stay sceptical about the meaningfulness of a conversation with a ‘pre-programmed puppet’, whereas others may find comfort in a robot that offers a kind word or an encouraging gesture, with which they can share their worries or have a chat when they feel lonely. Even though meaningful communication and social interaction can take place virtually via screens, simply being there in the same physical space by stepping out of the screen greatly enhances communication and interaction. Robots’ physical embodiment has clear advantages over 2D screen-based human-like graphics. Indeed, have you ever seen someone hugging a computer or tablet? Robots’ physical embodiment further increases their social and communication potential, including physical touch and sensory modalities. The subtle and multimodal cues in conversation, contextu-

al understanding, and underlying processes in bonding are so complex that we are just at the start of unravelling how robots and humans may successfully and autonomously interact. In fact, the paradox is not wanting to emulate humans in robots but striving for the human feel in connectedness. To figure out the minimum requirements to develop social functionality in robots that can serve society, the quintessence of human-robot bonding, we must endlessly test robots in the wild.

# Connecting Neuroscience, Education and Society to Tackle the Problem of Performance Pressure

*Nienke van Atteveldt<sup>1</sup>*

My daughter experiences school-related stress on a regularly basis. She often comes home telling me she had to work really hard, with almost no time for fun or games. The many tests and grades make her nervous. Of course, this type of stress is not uncommon and not necessarily a concern. However, my daughter is 10 years old. I find that far too young for the pressure and stress that she experiences at school. Why can't learning be more fun? And why can't schools focus more on children's motivation and well-being, rather than on their grades? To find answers, we need to look beyond one single research discipline.

Many issues related to our children's education are complex and rooted in different intertwined layers. In science, these layers are called levels and we distinguish between, for example, the individual, social and societal levels. Each individual child goes through a unique developmental trajectory during their school period. Their neurobiological developmental processes are strongly shaped by their social environment: interactions with peers, siblings, parents and

<sup>1</sup> Nienke van Atteveldt is a full professor in educational neuroscience. She studies how children become motivated and resilient learners by combining different research methods.

teachers. Influences are also exerted at the macro level by teaching practices (school systems) and the dominant values and goals within a society (the sociopolitical context).

Let's go back to the example of my daughter. I remember her starting primary school as a happy and confident little girl who was eager to learn. Over the years, we have seen her losing motivation for schoolwork and becoming more worried about her performance. And my daughter is not an isolated case, as the Dutch Health Behaviour in School-Aged Children (HBSC) study convincingly demonstrates. HBSC's 2022 report shows a concerning tripling of experienced performance pressure among Dutch youth over the last two decades. This increased pressure is accompanied by mental health problems, especially in girls.

Because of the complex and multi-levelled nature of a child's development during the school period, we need to connect research from different fields and traditions to get to a better understanding of wicked problems such as performance pressure.

### *Connecting neuroscience, education and society: why?*

To understand why many children feel more stressed about their performance than they enjoy learning, we need to understand the interplay between the development of their brains and minds, school practices and societal values.

During the entire school period, important developmental processes occur in a child's brain, shaping their behaviour and learning mechanisms. At the same time, brain development is influenced by the inputs a child receives, often in interaction with others. During this developmental interplay, certain children maintain their intrinsic motivation to learn new things, while others start to focus more on

performing well and comparing themselves to peers. This focus is also shaped by their social context: the norms in their classrooms for example, and the messages they get at home. What do teachers and parents emphasise? In the current western meritocratic societies, the emphasis is often on measurable achievements, or in other words, getting good grades in comparison to others, instead of improving against a child's own benchmark.

The influences at the diverse levels are often studied in isolation, but this inevitably leads to incomplete answers. This is because the interactions between the different levels lead to emergent properties. This means we cannot understand the complete problem by understanding its isolated parts. In other words, only studying brain development will not provide answers, and neither does only studying sociological processes.

The risk of focusing on one level and being blind to other levels can be exemplified again by my daughter. Cases like hers might urge research at the individual level, for example to investigate predictors of stress resilience, and interventions to increase it. But is it really an individual problem? Shouldn't the research be focused on why so many children experience performance pressure, with the aim to intervene at a more societal level? To find the right questions to address, and the right impacts to pursue, we need to integrate research on all the relevant levels, from the start.

*Connecting neuroscience, education and society: how?*

Although the need to combine forces in interdisciplinary research has long been recognised, this is easier said than done. To integrate different disciplines and traditions, scientists first of all need to get out of their comfort zones and

be exposed to different perspectives. But being exposed to different ideas does not automatically lead to synthesis. We need to know what to make of these ideas and how to combine them with our own. For this, we need to ask a lot of questions. Do the same terms have the same meaning in different fields? What assumptions are being made?

An even more essential counterpart of asking questions, is listening. Very inspiring in this context is Stephen Covey's Seven Habits Model, in particular habit 5: 'Seek first to understand, then be understood'. Too often, we are focused on being understood and making ourselves heard. But the order suggested by Covey, to first understand the other, is essential for interdisciplinary work.

In conclusion, only through connecting the individual and context levels of research can we achieve the interdisciplinarity required to reduce performance pressure and improve the well-being of our youth. In the meantime, I will continue to juggle all levels of influence in an effort to prevent a downward spiral, at least for my daughter.



## The Digital Society Is Already Here – Pity It Is ‘Unsustainable’

*Patricia Lago<sup>1</sup>*

Today, digitalisation and society are intertwined to such an extent that they have become wholly inseparable. We are at the point where large parts of society would be unable to function if digital systems were to fail. Think of energy provisioning, traffic control, precision agriculture, or services that citizens experience first-hand like access to healthcare records, banking, retail shopping: all these services are heavily based on digital solutions and would not be available any more without them. The good news, however, is that thanks to digitalisation, such services are accessible more easily and more affordably, hence potentially serving a larger chunk of the global population.

At the same time, digital systems operate globally and involve multiple parties often crossing international borders and conflicting stakes, a fact that makes them extremely challenging to manage. The global trend of adopting extreme automation (via AI, robotics, and self-adaptive technologies) both provides a solution to such challenge (by making digitalisation even more autonomous), and it raises further issues with regard to how uncontrollable digitali-

<sup>1</sup> Patricia Lago is a professor in software engineering. She studies the intersection between software and sustainability.

sation is becoming (raising questions about how digital solutions reflect the ethical values on which societies are based). The fundamental problem we must address is how to ensure both digital sustainability and sustainable digitalisation.

### *Challenges of digital sustainability*

I define digital sustainability as ‘the preservation of the beneficial use of digital solutions, in a context that continuously changes’. In other words, we must ensure that the intended benefits are preserved over time, notwithstanding who uses them or where they are deployed. The notion of digital sustainability points to important social, economic, and environmental concerns that are largely unaddressed, arguably ‘by design’. For instance, to what extent do current digital solutions fulfil the promise of bringing economic freedom and the related stability in developing countries (cf. cryptocurrencies)? Or how do we ensure that laws, regulations, and ethical values like justice and equity are truly followed in decisions that are taken for us by autonomous systems? And who is checking this? And how?

From a software engineering perspective (because this is what I do and what I can talk about), we do have knowledge and know-hows that could be reused to start addressing digital sustainability. Software architecture practices (e.g., architecture design decision-making techniques and quality assessment methods) already address the problem of managing complexity, providing an ‘holistic view’ of ‘what is important to capture’, and reason about, and explain. What we fail to do effectively or too slowly is extending such practices to frame ‘what is important’ for digital solutions that address sustainability concerns. We need new types of

quality concerns (good old ‘quality requirements’ like performance and security) that define equity, affordability, justice; and we need new ways to operationalise them in the way we design, develop, and monitor digital solutions, over time.

### *Challenges of sustainable digitalisation*

Sustainable digitalisation, in turn, adds to the above ‘preservation of the long-term use of digital solutions, and their appropriate evolution’. In other words, we must ensure that digital solutions can adapt to change. While this is an old problem (see the notion of ‘design for change’ and evolutionary computing), I argue that it has not been solved yet, by far. I see two essential problems that are hindering true progress: we miss the representation of ‘time’ in what we consider digital evolution; and we miss the explicit representation of the ‘context’ in the way we design and develop digital solutions.

Again, from a software engineering perspective, when we design complex software-intensive systems, we use techniques to make explicit design concerns (like what functionality we should provide or the level of quality we must support), and design alternatives, and our decisions and the rationale behind them; but we leave implicit the characteristics of the context in which such systems are envisaged to be deployed in or used. If we would link the characteristics of a digital solution with the characteristics of its context, when we change context (e.g., a digital solution is deployed in Africa instead of Switzerland) we could explain how the solution needs to be tuned to fulfil its promised features. The same holds when any type of change occurs, over time: some changes might be foreseen hence potentially ad-

dressed autonomously; some others cannot, in which case being able to trace (cf. detect) the change is the first step towards sustainable digitalisation, over time.

In summary, digital sustainability and sustainable digitalisation together entail ‘the preservation of the long-term and beneficial use of digital solutions, and their appropriate evolution, in a context that continuously changes’. While society is already facing the challenges they present, we are still badly unprepared to solve them. Wake up, folks, an unsustainable digital society is prone to fail. Let’s change our mindset, look beyond local interests, put aside small thinking and think globally, out of the box. We are all in the same digital society.

## Brand Activism: An Invitation

*Peeter Verlegh<sup>1</sup>*

It is becoming more and more common for brands to communicate their views on important political and advocacy issues. Examples include Nike's campaigns against racism and racial inequality, Gillette's 'Be the man you can be' campaign against toxic masculinity, and Patagonia's repeated clashes with the Trump administration over environmental policies. Brands have large communication budgets, know a thing or two about marketing and are often trusted by consumers. They seem well-equipped to make a difference on social issues. But how effective is their activism? And how does it work?

There is not much research on these questions available, but some clues are provided by a recent study examining how TV advertising related to COVID-19 (split into government/public advertising, and commercial brand advertising) influenced social distancing behaviours (measured by GPS localisation data of cell phones). Controlling for the effects of government policies (mask mandates, lockdowns, etc.), analyses showed that COVID-related advertising by

<sup>1</sup> Peeter Verlegh is professor of marketing. He studies consumer responses to branding and marketing communications, as well as the social interactions among consumers (i.e., word of mouth and social media).

brands had a positive influence on social distancing behaviour. In contrast, government advertising had no effects on social distancing, and when it was combined with restrictive policies, it even had a negative effect.

Using their creative talents and their ability to reach a large number of consumers, brands can be very effective at increasing awareness on social issues. Many brands are focused on fulfilling basic and essential needs (and maximising profit), and this has taught them how to reach segments of the public that governments and NGOs struggle to connect with. They can reach those consumers with advertising messages that are crafted not only to raise awareness, but also to influence people's thoughts and feelings about issues.

Brands may also influence opinions by shifting behavioural norms, by normalising or de-normalising certain practices. Fashion or beauty brands, for example, could display a greater diversity of bodies and genders, like HEMA frequently does in their advertising and direct mail. A very Dutch example is Bol.com's effort to de-normalise 'Zwarte Piet' by removing related articles from its platform. By making choices that express their opinions, brands can influence what consumers see and hear on a daily basis, thereby influencing their beliefs about what is (and what is not) accepted in society. Brands can also facilitate behavioural change by providing consumers with accessible alternatives, such as more vegan food options (The Vegetarian Butcher) or climate-friendly variants of household products (Seventh Generation). By adjusting their product ranges, pricing and distribution, brands can nudge consumers toward choices and behaviours that make a difference on the challenges that face our society.

Research in psychology and consumer behaviour has shown that people use brands to establish their identity and express themselves. This creates a personal connection between consumers and brands which becomes stronger when the brand supports an opinion that is important to the consumer. Conversely, they identify less with the brand when they disagree with its stance. This effect is strengthened as a brand becomes more closely associated with the issue. If the association is strong enough, a more social process may come into play, where the brand may become a social signal for a certain (social) identity, that is used by consumers to express their group membership (or desired membership). Take, for instance, Patagonia's close association with nature and environment, which has turned the brand into 'badge' for consumers who want to show and express their pro-environmentalist values.

By taking a stance on a political issue, a brand provides consumers with an opportunity to actively engage with the issue – it enables them to 'do something'. Some research suggests that such empowerment may have both positive and negative consequences: on the one hand, it may trigger a chain of commitment and consistency, as consumers feel the urge to act consistent with the commitment that they express by purchasing the product. On the other hand, consumers may feel that purchasing the activist brand (or perhaps even 'liking' or sharing their social media post) relieves them from their responsibility to engage in further action, a phenomenon known as 'slacktivism'.

My colleagues and I at SBE's Department of Marketing are currently developing and testing several ideas that may further enhance our understanding of brand activism and help brands manage the associated risks and benefits. I

hope that this short piece inspires you to think a bit deeper about this issue, and that it creates a platform for informed discussions about the social interactions between brands and consumers, across academic disciplines and stakeholders in business and society.



## Tattoo Memory

*Norah Karrouche<sup>1</sup>*

One of my earliest memories of Morocco concerns my great-aunt Fatima's house in Ksar el-Kebir, a town located in northwestern Morocco, in between Tangiers and Rabat. I must have been aged four or five, but I can still see her fragile, wrinkly face as she stood in front of my sister and me in the courtyard of her small riad, looking at us inquisitively, and speaking in a language my sister and I failed to understand. She wore a tattoo on her chin, which frightened me. I did not dare to sit on her lap.

My father soothingly explained to me that Aunt Fatima wore that tattoo on her chin because she was a Berber woman and had lived a traditional life as a young girl in the Rif mountains before marrying and moving to Ksar el-Kebir. I never questioned my father's uncomplicated and romanticised take on Berber (or Amazigh) identity in Morocco, until I decided to research it.

When I started exploring a topic for my dissertation on Moroccan migration and diaspora memory, my interlocutors started asking about my roots: was I Arab, or Berber? The answer was short; I was unsure and simply did not

<sup>1</sup> Norah Karrouche is an assistant professor in history. She studies oral history and North African history.

know. To my father, the question was trifling. While growing up, it had never really mattered to my own family. Then why did it now seem of vital importance to so many Moroccans? The issue gripped me.

I sought an answer in oral history and biography, in the dozens of life story interviews with Moroccan Amazigh migrants that I collected, as I increasingly wondered about my own biography. My father, who had grown up speaking Moroccan Arabic and who had emigrated in 1969 from the harbour town of Tangiers, knew little about his family, whose origins lay in the northern Rif mountains, east of Tangiers, where most of the population self-identifies as Amazigh. There was one person I could go to, my father suggested, and that was his aunt, Fatima. But by the time I got to travel to Morocco to start my archival research in 2010 in Rabat, she had passed away.

I eventually learned more about my family's past and the significance of the distinction between Arab and Amazigh ethnicity in the Moroccan diaspora by listening to and connecting with the stories of strangers, my interviewees, than I did from the historical evidence I found in archives. I listened to their stories, which were often traumatic, as they explored the consequences of their community's past oppression as Berbers (or Imazighen) and ensuing migration to western Europe. When they are contested, I learned throughout my first years practising oral history, identities may require a recovery of history. The experience profoundly shaped me as a historian.

Since then, I have continued to study and teach oral history. When students first come across the method, it often feels counterintuitive and unsettling to them. As oral historians, we don't necessarily seek to reconstruct facts

or attain a neutral understanding of history by analysing memories. Rather, we attempt to document and archive the experiences of those voices that have remained unheard, and to gain insight into how these individuals and communities make sense of their past. Acknowledging this kind of subjectivity requires a sense of connectedness. It helps us to untangle a historical experience that may be radically different from our own, and ultimately deepens our understanding of what it means to be human.

When I talk to my students about the reasons why oral history matters, I always refer to the many anonymous Moroccan migrants from the Rif whose oral histories shed light on a history of anticolonial resistance, human rights violations, and a migration history that, until as recent as a decade ago, had remained largely silenced in traditional historiography. But my interviewees, either willingly or unwillingly, also helped me to appreciate part of my own history and identity as a member of the Moroccan diaspora, when my own family members no longer could.

In class I also recount that early childhood memory of Aunt Fatima's house in Ksar el-Kebir. While I have no recollection of her voice, I occasionally wonder what her oral history would have sounded like, and if her story would have been similar to or different from the others. And although I regret not having returned to her sooner to listen to her life story, I like to think now that she connected with me through her tattoo.

# When Values Wither and Humans Lose: How AI Systems Change Our Social Foundations

*Christine Moser<sup>1</sup>*

Within the span of only a few decades, artificial intelligence (AI) systems have slowly but surely entered our lives. By now, virtually every aspect of our lives – work, social interactions, hobbies, food, and even sleep – are monitored, steered, evaluated, or in another way influenced by AI. In the following, I will unpack the scope of this influence, identify which social foundations are influenced, and how, and talk about possible ways forward in a connected world.

## *Scope of influence*

To start with the bad news: the influence of AI systems on our lives cannot be overestimated. This is because AI nowadays is a vital part of so many of the things we do, see, and even taste on a daily basis. Individuals interact with AI systems through smartphones, wearable devices, laptops, and all the apps and software connected to them. Organisations crucially depend on AI: without it, most present-day companies would be out of business. Global supply chains, ERP and CMS systems, video conferencing applications, airlines, university learning management systems, even pri-

<sup>1</sup> Christine Moser is an associate professor of organization theory. She researches the role of AI and technology in social interaction.

mary school teachers: they have all come to rely on AI. And on a societal level, the situation isn't any different: financial institutions, tax authorities, the police, judges, municipalities, and pensions funds (to name but a few examples) find themselves in a position where they are damned if they do, and damned if they don't (work with AI systems). Hence, AI systems are part of, and therefore influence, our lives on every level – individual, organisational, and societal.

### *Changing social foundations*

But AI is actually really good for us, no? Well, the jury is still out. Undeniably, AI has brought about many changes, some of them for the better. But what has also changed is how people interact with each other and with AI – and this wasn't planned for. The very foundations of how societies work and how people interact, including values, morality, emotions, language, norms, and ethics, has changed as a consequence of AI muddling with our day-to-day lives and experiences. For example, instead of using our own eyes, we rather blindly obey our car's navigation system (even if it leads us straight into the water, which is what happened to a motorist in the port of Marseille). Another example is that of friendships: it seems to become ever more important to collect 'likes' and 'hearts' on digital platforms such as Instagram and Facebook, because they act as friendship proxies (the more likes, the more friends), replacing the old-fashioned art of making friends in real life.

### *Ways forward in a connected world*

AI has changed almost every part of our daily lives, and as a consequence, it is changing – and has already changed – our social foundations. So what? What can or should we

do about the situation? As I see it, we have two choices: either we ignore it or work with it. If we choose the latter, this means that we need to wake up and face the music: AI is important and hopelessly intertwined with our lives, but that doesn't mean we cannot deal with it more consciously. This could include:

- Being mindful of when to use AI – or not;
- Understanding the limits of what AI can do, and what not;
- Safeguarding the processes of AI use in organisations and society;
- Being critical about what goes in, and what comes out of, AI systems.

Instead of accepting AI as our dangerous and unpredictable master, we need to face the facts and put this particular genie back in its bottle.

## Hurdles to Clear in Sports Science Support

*Peter J. Beek<sup>1</sup>*

Since time immemorial humans have been mesmerised by athletic feats and have come up with theoretical ideas and technical innovations to enhance sports performances. As a case in point, jumpers in ancient Greece performed the long jump while holding weights in their hands made of stone or lead to improve their performance. Depictions of ancient jumpers on vases and matching excavated weights (so-called ‘halteres’) are silent testimonies of this practice, for which no one less than Aristotle provided a theoretical explanation, albeit a flawed one. Remarkably, scientific studies conducted almost three millennia later have shown that carrying an extra load in the order of 5 kilograms does indeed improve jumping performance, however counterintuitive this may appear from a mechanical point of view.

Nowadays, athletes and their coaches are still trying to improve their performances by whatever (legal and illegal) means possible, and thus also by applying the latest scientific insights and technological inventions. Due to several

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developments, including the ever-increasing prominence of competitive sports in present-day society, the diminishing margins between winning and losing, and the growing emphasis on the societal relevance of scientific research, the gap between science and sports has been narrowed substantially, both in the Netherlands and elsewhere in the world. In fact, it would be accurate to say that sports and science are more intimately connected than ever before. Science has penetrated almost all sports, and many sports organisations have researchers, technicians and/or data analysts among their staff, provided they have the means to do so and believe in the investment. These embedded scientists, as they are called, provide the best possible evidence- and data-based support for the standing (training and competition) practices in elite sports programmes.

So, is everything fine and dandy when it comes to the advance of science in sports? Far from it. There are some major hurdles to clear in optimally implementing science in sports practice and reaching a state of mutual trust and long-term benefits. Many hurdles, small and large, can be mentioned, but a handful stand out. The first hurdle is an obvious one: scientists need time to come to well-founded conclusions, while the decisions that athletes and coaches need to take every day – about training, tapering, sleep, nutrition, and so on – often need to be taken at once. Scientists are reluctant to make definite statements about practical questions that have not yet been (sufficiently) investigated, and some of them refrain from speculating at all about such questions. As a result, an athlete or coach may settle for 55% probability (i.e., slightly higher than tossing a coin), whereas scientists are looking for a probability of 95% or more. The second hurdle is related to this: in elite sports



long-term goals are never more than four years away, i.e., the cycle of the major tournaments, while scientists typically need and take much longer to sort things out (sometimes indefinitely). The third hurdle is that traditionally science strives for generic knowledge that is true for many people or populations, calls for more individual-based approaches notwithstanding. Supporting elite athletes, however, is by definition an individual affair. The aim is to help improve a particular athlete (often with extraordinary characteristics) rather than specific groups or populations. The fourth and fifth hurdle have to do with communication and expectations, respectively. By definition, scientists have received an academic education, whereas athletes and coaches typically have not. Both science and sports are characterised by particular concepts and parlance that may hamper effective communication. Finally, expectations about sports science support and what it may bring for both sports and science are often left implicit, which may lead to disappointment and a gradual loss of trust, if left unspoken.

Clearing these hurdles means creating a culture of sustainable collaboration that is based on mutual trust and respect and integrates practical and academic insights, and in which research endeavours are supported, and if required for their performance, actively facilitated by athletes and coaches. Sports science support should involve athletes and coaches, not just be about or for them. This can be achieved by jointly drafting a research agenda in which the most pressing questions and needs of athletes and coaches for improving their daily activities are leading. But more needs to be done. The research agenda should also include short-term and long-term goals (with short-term goals providing positive reinforcement to all involved) as

well as regular communications in which insights, ideas, aims, implications and expectations are clearly expressed and discussed.

## **From Brain to Brain and Body to Body: Connecting People through the Emerging Field of Interpersonal Neuroscience**

*Sander L. Koole<sup>1</sup>*

For over a century, psychologists have studied how people's thoughts, feelings and behaviour emerge from 'between the ears', that is, in the brain of the individual person. This approach, which has been foundational to modern psychological science, now seems to be too limiting. As it turns out, each human brain is capable of exquisitely connecting with other human brains, giving rise to shared rhythms of neural and physiological activity that put people literally on the same wavelength with each other. The discovery of such brain-to-brain synchrony has led to the emerging field of interpersonal neuroscience. While the field is still in its early stages, research in interpersonal neuroscience has already shown that brain-to-brain synchrony is a robust phenomenon in educational settings, close relationships, psychotherapy, and work teams. In years to come, the findings of interpersonal neuroscience may transform our views of who we are and what we are capable of as human beings. The human capacity to become connected with each other is in effect even before people are born. Indeed, it is well es-

<sup>1</sup> Sander Koole is professor of psychology. His work investigates how people self-regulate their thoughts, feelings, and actions.

tablished that human infants adopt the mother's biological rhythms in utero. After birth, caregivers strategically initiate vocal and tactile stimulation in response to the child's behaviour, which leads to the onset of nonverbal synchrony between child and caregivers. The Israeli researcher Ruth Feldman and associates have shown that synchronous exchanges between caregivers and children in the first year predict how well children can regulate their emotions and behaviour in a follow-up 10 years later. Interpersonal synchrony thus appears to be a vital process in children's development and maturation. Importantly, interpersonal synchrony remains important in adulthood, given that relationship partners display synchronised movements and physiological responses. Physiological synchronisation has even been found among strangers when they were participating in a collective ritual.

A landmark study was conducted by the French neuroscientist Guillaume Dumas and associates in 2010. In this study, Dumas and colleagues adapted standard measures of electrical brain activity which made it possible to study the brain activity of two individuals simultaneously in real time while they engaged in spontaneous imitation of hand movements. The findings were clear: the participants' neural activity became synchronised from one brain to another while they were interacting. These groundbreaking findings led to a flurry of follow-up studies by other teams of neuroscientists which confirmed the basic phenomenon of brain-to-brain synchrony using other tasks and neuro-imaging techniques.

In view of the aforementioned findings, neuroscientists have suggested that humans are equipped with 'herding brains', brains that are uniquely adapted to allow people

to align their behaviour with others. This new way of looking at the human brain has received support from initial research findings. For instance, interpersonal synchrony has been found to emerge more readily in the context of positive relationships, such as teachers and students who trust one another more (rather than less) and couples high (rather than low) in marital satisfaction. Moreover, leading people to move in synchrony – which presumably promotes brain-to-brain synchrony – has been shown to promote cooperation and helping behaviour, liking and compassion, and social sensitivity. Other studies have shown that synchronous laughing has analgesic effects, which means that it reduces the experience of pain. An Israeli study found that such analgesic effects are accompanied by increased brain-to-brain synchrony.

Among the most thought-provoking implications of the emerging field of interpersonal neuroscience is that it could expand psychologists understanding of how the human mind works. Traditionally, psychologists have approached the human mind as if it functions on its own, in isolation of other minds. For instance, a person's cognitive achievements are usually attributed to the achievements of that person's individual mind or brain. This notion, however, is challenged by research in interpersonal neuroscience. For instance, research led by the Dutch researcher Suzanne Dikker has observed that children's classroom achievements were predicted by how well their brains were synchronised with the brains of their teachers. In a similar vein, psychologists have treated mental disorders like depression as if they result from malfunctions in the mind and brain of an individual patient. Again, research in interpersonal neuroscience suggests that this view may have been too restric-

tive, given that nonverbal synchrony between patients and therapists has emerged as a key predictor of the effects of psychotherapy.

The newly emerging field of interpersonal neuroscience thus has an important message for the human race. Even though people's brains are physically separated, they are capable of traversing the distance between them. People can thus overcome their individual limitations by connecting their bodies and brains with others.

# The Promises and Perils of AI for Crowd Management

*Charlotte Gerritsen<sup>1</sup>*

The world population is larger than ever with approximately 8 billion people living on the planet. This means that more people are occupying the same amount of space, leading to more crowded places. The same holds for events: more events are being organised, attracting ever larger crowds. And in places with lots of people, accidents are more likely to happen.

Recently there have been news reports about public events gone terribly wrong. Events aimed at giving visitors a positive experience, but which have led to tragedy instead. The Travis Scott concert at Astroworld in Houston, where 10 people were killed and hundreds injured. A stampede during Halloween festivities in Seoul, causing 146 deaths. These incidents are far from the first crowd disaster. Unfortunately, many more examples exist. Even small incidents, like bar fights, could escalate into a major disaster.

Even though a lot is being done in terms of crowd control to prevent incidents from happening (e.g., placing fences, ensuring there are enough escape routes and exits, routing of traffic to prevent congestion, restricting visitor numbers),

<sup>1</sup> Charlotte Gerritsen is an associate professor in Artificial Intelligence. She studies the potential of AI for crowd management.

the measures taken are not always effective because they cannot be adapted sufficiently to changing crowd dynamics. This raises the question of what more can be done, ideally at runtime, to prevent mass gatherings from turning into disasters? Or at least to make sure they don't get out of hand?

Artificial Intelligence (AI) can play an important role in this respect. Because of rapid developments in processing power, data availability and accuracy of algorithms, intelligent systems can be developed that analyse the dynamics of crowds at runtime to predict when the situation will escalate and suggest appropriate interventions. There are opportunities to exploit AI algorithms that are able to automatically detect people's emotions such as panic or aggression, which can be particularly useful in crowd control situations.

In a world where everyone is connected to each other it is possible to monitor crowds using sensors to automatically determine the emotional state of an individual, a group or even a crowd. Different modalities can be used to read people's emotions through text, facial expression and tone of voice. Examples might be messages on social media, or camera footage near concert halls or in malls. The level of emotion extracted from these modalities can be used as input for a simulation model of human behaviour to predict the development of emotion contagion in larger groups, making it possible to detect potential escalation. This would allow us to intervene at the right time and the right location to ensure the situation does not get out of hand. This is exactly what is being studied in my VIDI project 'Integrating sentiment analysis into real time crowd management' at the VU Computer Science department.



The idea to use information that is readily available to increase safety at large events sounds promising. However, the downside is that it comes at the cost of privacy. Do we need to be videotaped while casually strolling the high street? Should our social media feed be available for sentiment analysis? To what extent are we willing to give up our privacy to prevent potential risks?

If we want to deploy AI for crowd management in a responsible manner, it is essential that we think about ways to implement algorithms that protect our privacy. For instance, our project studies mechanisms to detect emotions in crowds without using facial recognition on an individual level.

Summarising, while the use of AI in the field of crowd management has a lot of potential, it is important to realise that there are serious downsides to the use of these techniques as well. However, if privacy-preserving AI solutions can be used and assured, it might not be too bad to be watched over from time to time.

## It's the Media, Stupid!

*Ivar Vermeulen<sup>1</sup>*

After our final school exams in 1989, my friends and I went on a vacation. Not to a Greek island to enjoy euro house and beach life, but instead to the remotest place our Interrail tickets would take us: Alta, Norway – 400 kilometers north of the Arctic Circle. Once there, we sat and watched a bleak sun that never set, clunky fisher boats, and kids on skateboards. Especially the latter caught our attention: skateboarding had been something of a hype in Amsterdam a few years before, but had faded just like neon colors and electric boogie dancing. Yet, here the kids were skateboarding like there was no tomorrow. It must be the remoteness of the place, we thought. It probably takes fads and trends years to travel to places such as Alta, and when they finally arrive, the world is already immersed in other things. These Alta kids, we philosophized, were like tiny humans gazing at distant stars, catching only images of times long gone.

But what we hadn't seen were the satellite dishes on their parents' houses, the fancy decoders in their living rooms, and the long winter days that the Alta kids had spent watch-

<sup>1</sup> Ivar Vermeulen is associate professor of communication science. He studies persuasion, e.g., in the realm of advertising or online misinformation.

ing the latest American TV shows showing avant-garde street culture in New York.

A summer later, skateboarding also re-arrived in Amsterdam.

What makes people practice what they practice, discuss what they discuss, ponder what they ponder? (Look at the title for a clue.)

The media's influence is sometimes exaggerated, but much more often it is grossly underestimated. Policymakers, for example, often believe that citizens discuss complex political issues 'at the coffee machine', or 'on the street'. Well, usually they don't. They get their information from TV shows, news and social media. Media determine their pre-occupations, which in turn shape their attitudes. Of course, people may respond to information in different ways, and attitude formation is a very complex process. But anyone exposed to media is influenced by it just the same.

A presenter of a Dutch radio show once said to me, bluntly, live on air, that commercials do not exert any influence on intelligent people. (I was invited to explain commercials' influence on people.) "And if they do," she proceeded, "then most certainly not on me." Others maybe, but not you? C'mon, that's just silly.<sup>2</sup>

At this point in my rant I sometimes ask prospective students: what do you think will happen over the next decades? Will the influence of media on our preoccupations, social relations, occupation, political participation, on our norms, values – on our lives in general – decrease or increase?

<sup>2</sup> Which is what I should have said at the time. Instead I proceeded, as agreed with the shows' producer, to try using a music score to exert supraliminal influence on the increasingly annoyed presenter. It was not a prime example of successful science communication.

Considering the rising ubiquity of digital technology, the advances in AI, and the exponential growth of computing power; considering our knowledge of human psychology, scalability, and network effects: will the influence of media decrease or increase?

I think we all know the answer.

But what does that answer imply? First, we need smart, tech savvy individuals who understand the effects of new media technologies on people and on society, to help steer technological advancements in the right directions (so tell your smart niece or nephew to sign up for a communication science program!).

Second, we should be very wary when someone – be it a mogul or a government – tries to exert control over media platforms or infrastructure. Almost without exception, basic civil rights are at stake: privacy, freedom of expression, democratic participation (vote with your feet!).

Third, we might start to revalue the old-fashioned media institutions that we thought were going obsolete: newspapers, public broadcasting, the like. In a world of Google, social media, and AI, we sometimes forget that we need dedicated professionals to curate information flows. But we do. Journalists are the doctors of truth, professionally trained to care (support them, get a subscription!).

The skaters in Alta were highly connected individuals in a still sparsely connected world. After watching them for a while, we grabbed our backpacks and commenced our seven-day hike through Finnmark. The emptiness was all-encompassing. In the end, people are not made for such worlds. We need connections, and media are great tools for that. And they will only get better, if we make them.

## Time to Leave Our Comfortable Tech Silos and Linguistic Ivory Towers Behind: Why We Need Brave New Interdisciplinary Thinkers

*Pia Sommerauer<sup>1</sup>*

For someone teaching computer programming, I discovered the computational world surprisingly late. It wasn't until the age of about 23 that I discovered not just my scientific interest in computational models of language, but also an almost childish joy in writing small computer programs. In fact, my teenage passions were deeply analog. I loved language, but only in printed form. A text that left a lasting impression on me was Huxley's *Brave New World*. I remember writing quotes on sticky notes and putting them up in my room. Every morning, I woke up to John's words, 'But I don't want comfort. I want God, I want poetry, I want real danger, I want freedom, I want goodness. I want sin.' And Helmholtz's line, 'Words can be like X-rays if you use them properly – they'll go through anything. You read and you're pierced.' Fast-forward fifteen years and I suddenly find myself teaching students from diverse and not necessarily technical backgrounds to take their first steps in pro-

<sup>1</sup> Pia Sommerauer is an assistant professor in computational linguistics. Her research focuses on how computational models of language deal with meaning. She teaches programming and computational linguistics to interdisciplinary audiences. Before entering the computational world, she studied English literature and linguistics.

gramming and supervise advanced humanities students in using automatic text analysis for the first time. Why do I believe so strongly that this is not just a fun use of my time, but actually deeply necessary?

In 1931, Huxley envisioned a dystopian world with a totalitarian regime that remains unquestioned because people are put on happiness drugs. In an interview from October 2020, Yuval Harari characterized another version of a brave new world governed by and sustained through AI algorithms.<sup>2</sup> Harari argues that the algorithms are excellent at making decisions that will make us happy and keep us satisfied; from what music to listen to and what car to buy to what career to choose. For Harari, a great challenge of our time is a world in which we don't make any decisions anymore. It is certainly true that algorithmic decisions are entering more and more areas of our lives. The algorithms I work with, however, often make decisions that are not just inaccurate, but inaccurate and harmful. Ironically though, decisions made by algorithms are often perceived to be more objective because they are based on numbers rather than fallible human intuitions. What I am worried about is not just a world in which no one makes their own decisions anymore, but a world in which algorithms systematically disadvantage social groups and spread misinformation without being questioned.

Text-to-image generation tools are one of the latest AI trends mesmerizing the internet. You enter a small prompt, such as 'a blue apple floating in mid-air' and the tool (in

2 Wegner, J., & Amend, C. (hosts). What is the meaning of life? Interview with Yuval Harari in the Alles Gesagt podcast. Zeit Online. <https://www.zeit.de/gesellschaft/2020-10/yuval-noah-harari-interviewpodcast-alles-gesagt>

my case DALL-E, a tool created by OpenAI) returns a selection of images showing, well, different interpretations of a blue apple floating in mid-air. The algorithm is seemingly able to combine individual words into more complex ideas and generate corresponding images, even if they show unlikely or even counterfactual scenarios. When prompted with ‘a computational linguist teaching a class’, DALL-E returns four images of white men pointing at a whiteboard. When asked for a famous philosopher with long hair, the tool draws four images of old white men. While it is unlikely that anyone will base important decisions on a drawing tool, DALL-E reflects important tendencies of large-scale language models. Such models underlie many of the technologies we use all the time. If you enter a phrase such as “‘the doctor’ into Google Translate and ask for a translation into a language with obligatory gender marking, the result will follow stereotypic expectations. The same models can underlie automatic resume screening or automatic predictions of court decisions based on legal documents.

What is it that makes language models biased? Our models ‘learn’ to deal with language by ‘reading’ massive amounts of texts. Rather than being fed with explicit rules or lexica, they infer their own representation of language based on vast amounts of textual data. These data consist of texts published on the Internet. If such texts mainly talk about male, ancient European philosophers, this is what the model will learn. Language models are particularly good at picking up correlations but cannot distinguish between causal links (someone committed a crime and is therefore convicted) and mere correlations possibly reflecting racist tendencies (people with black skin color are more often convicted). The largest misunderstanding of all is that de-

cisions made by algorithms are inherently ‘more objective’ than the ones made by humans.

Where do we go from here? It is certainly not my goal to abandon AI altogether (nor is it realistic). Instead, we should strive to educate brave and independent thinkers ready to question algorithmic decisions. We need people who can bridge the gap between technology and the highly complex socio-political contexts in which it is used. It is time for us to leave the comfort of our silos and start wrestling with the complex, messy and biased nature of human-generated language and computer-generated decisions in a social context.



## Deep Random Connections

*Marije Martijn*<sup>1</sup>

In the third century AD, the Greek-Egyptian philosopher Plotinus developed a theory that everything ultimately derives from ‘the One’, and in a sense everything is one. To his students and to many later readers, this made and makes perfect sense. To many others however, including myself at one time, it just doesn’t. Or at the very least, it is not immediately clear how to make sense of it. I think that is a good thing. Here’s why. One of my teachers once said during a class on precisely this philosopher: “Always remember that these authors are trying to make sense of the world they live in.” This stuck with me, because it means that the theory was supposed to be helpful. And that it was to fit the world that, *mutatis mutandis*, I also live in. This realisation was the first step away from just analysing the theory towards really trying to connect with it somehow. (Although this didn’t necessarily mean I was becoming convinced of its truth.)

In searching connections, philosophers, like many scientists, often look and looked for the universal, the necessary – answers that will hold up under all circumstances and are

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valid for all cases. One of the risks this brings is that we end up with generalisations, introducing essentialism (i.e., reducing entities to features that are supposed to be necessary, essential) at the expense of the outlier, the eccentric, the contingent. My field, the study of past philosophy, is no different. As Michael Beaney showed some years ago, major journals in the field published most of their articles on no more than nine philosophers – all male and all from the global north. A possible remedy could be to revise the canon to include underrepresented philosophers that we deem worthy of attention. But in doing that, how do we avoid turning to thinkers that still fit the patterns we are familiar with? For example, Elisabeth of Bohemia, because she corresponded with Descartes, or the Nyaya Sutra because it resembles contemporary analytic philosophy?

These are forms of ‘anchoring innovation’,<sup>1</sup> that is, making new ideas palatable by presenting them in terms of a familiar framework. It is easy and safe to connect with the established, the canonical, the known, the familiar. But there may be much more to be learned and gained from randomly connecting with the remote or the unknown instead, by familiarising ourselves with it. So let us broaden our horizon in a more radical manner, in a time where retiring to a monastic life devoted entirely to reading everything ever published is not an option. I propose that we turn to random history of ideas: in research and teaching, every so often, act like TANGENT, the novel ‘Surprise me’ recommendation algorithm, and select a new source that you would not normally choose and may not know anything about yet.

This may sound like a good, although somewhat easy ideology. So I decided to practise what I preach. My first attempt was an online attempt, with an empty ‘philosophy’, algo-

rithm-free search in a huge database, followed by randomly picking the third item on the fifth page of results. This led me to *The Black Swan. The impact of the improbable* by Nassim Nicholas Taleb. The book is dedicated entirely to outliers, and talks about an anti-library, of unread books, and preparing for the unknown to happen. The similarity between the topic of the book and my reason for finding it was almost suspicious... But in any case, I have now found Taleb, whom I did not know yet, and whose outlook appeals to me. The search established a connection starting from contingency, and it did that, I imagine, because of shared human questions and experiences. (A sharp reader may remark that I do seem to assume that in some sense, all is one.)

I then performed a similar search in a humanities library (random bookcase, second shelf, seventh book from the right). That, in turn, led to stumbling on a book on early Russian philosophy and Trubetskoy's notion of (theological) speculation in colour (*umozrenie v kraskah*), which reminded me of Hildegard's visions. Again, Russia came a little closer.

My attempts reminded me of the exercise we were asked to do at a parent night at my daughter's school: walk around and greet whomever you encounter. Not just in passing, we had to look into each other's eyes long enough to know what colour they were. This changed everything. Rather than some ephemeral contact with a stranger who remained a stranger, knowing the colour of someone's eyes, the act of looking intently straight at those eyes for longer than you would normally do, and recognising ourselves in their gaze, established a connection. And just like that, we have strengthened the texture of our connected world.

# Connecting Women Innovators in West Africa – Social Innovation through Regreening and Building Resilience in Low Resource Environments

*Wendelien Tuijp<sup>1</sup> and Anna Bon<sup>2</sup>*

In this short paper we describe a transdisciplinary action research project in Burkina Faso, carried out by researchers and experts from VU Amsterdam, funded by a grant from NUFFIC's and the Netherlands Ministry of Foreign Affairs' Orange Knowledge Programme.

'A flourishing life on land is the foundation for our life on this planet. We are all part of the planet's ecosystem and we have caused severe damage to it through deforestation, loss of natural habitats and land degradation. Promoting a sustainable use of our ecosystems and preserving biodiversity is not a cause. It is the key to our own survival.'

UN Sustainable Development Goal (SDG) 15

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A flourishing life on land is the foundation for our life on this planet. Reversing man-made deforestation and desertification to sustain all life is one of the global challenges that we currently face, according to the UN's Sustainable Development Goals. In our research we explore this issue together with a group of innovative women and men in rural Burkina Faso.

Burkina Faso is a landlocked country in the Sahel in West Africa, with a population of 22 million people, of whom 80% is dependent on agriculture. The fast-growing population and rapidly changing climate conditions represent serious concerns for food and nutrition security in Burkina Faso. However, due to the country's highly unstable political situation – there were two coups d'état in 2022 – and frequent terrorist attacks, not much can be expected from governmental policy.

Surprisingly, despite multiple challenges, there are initiatives that demonstrate the resilience and the innovativeness of the people in rural Burkina. In the western and northern regions of Burkina Faso, groups of innovative women have organised themselves into cooperatives and taken innovative steps to set up their own business in so-called non-timber forest products (NTFPs): products extracted from forests such as nuts, fruits, grains and honey. There is a growing domestic demand for these products, and the women are trying to make a living by exploiting them.

Non-timber forest products have multiple benefits. By nature, their exploitation raises the economic value of trees and natural forests. This leads to protection and maintenance of forests and natural vegetation and brings immediate advantages to the environment, such as increased biodiversity and soil restoration. From an economic point

of view, it increases the economic activity and resilience of women and rural families. According to various recent studies, NTFPs are high in nutritional value and add to a nutritious diet for children and adults. They also help green the region: the trees will improve life on the land and help restore resilience in the Sahel.

The question is how can we support these women in their entrepreneurial efforts and to become more resilient? To this end, an action-research project was organised by Réseau MARP, a local NGO in Burkina Faso and long-term partner of VU. Together we organised two workshops in February 2022 and May 2022, with 18 women NTFP entrepreneurs from three different rural regions: Zondoma (centre), Passoré (north) and Sangui (west). The aim was to explore and co-design solutions to support their entrepreneurship. Together with the women we analysed the barriers and challenges they face in the day-to-day operation of their businesses. These varied from marketing challenges, such as a lack of proper packaging and trouble finding clients, to storage challenges and policy-related challenges. In mixed teams we co-designed innovative solutions and the women came up with action plans. Local radio journalists were present to help the women design plans for marketing initiatives and radio broadcasts to help increase sales and raise awareness about product benefits.

We used our experienced, open-ended collaborative, adaptive and iterative approach to analyse the context, define the challenges, and elicit the needs and requirements for the context-sensitive design and deployment of socio-technical solutions. The workshop as a collaborative space for brainstorming proved fruitful. At the end of the workshop, the women had set up impressive plans for fur-

ther collaboration. The last workshop was concluded with an exhibition of the NTFPs which the women had brought in and a sales pitch by each of the participants. A small impact analysis by Réseau MARP showed that this small project had the potential to reach 10,000 people through radio campaigns.

The idea behind this research project was to contribute to tackling real-world challenges in a modest way, without using traditional development aid approaches such as ‘knowledge transfer’ or ‘capacity building’, but simply by organising an event, connecting people, and facilitating local innovation and knowledge sharing through collaborative, innovative co-design of socio-technical solutions. The project created a space where women from different areas and cooperatives could exchange ideas and inspire and encourage each other to take their business to the next level. The project has also led to new connections between different cooperatives.

What have we learned from this small research? We have observed the strength and innovative capacity of local innovators – both men and women – through open-ended brainstorm sessions, even in the absence of modern technologies, large funds, microfinancing or governmental support. We have learned from local innovators that it is indeed possible to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and even halt and reverse land degradation and halt biodiversity loss (SDG 15), by helping local innovators scale up existing successes and by improving communication among the local communities.

## Are We Too Connected? Our Ultra-Connectedness Is Definitely Not Green

*Ivano Malavolta<sup>1</sup>*

It's Thursday. It's been a long day at work, time to go home. You drive through heavy traffic, greet your family and have dinner together. You spend the evening relaxing until it's time for bed. How do you usually end your day? Scrolling through your favourite social networks to catch up on the latest news of the day or celebrity gossip, or to see what your friends are up to? Chances are that you (like most of us) spend your last waking minutes staying connected. Sound familiar? Probably, considering each of us spends an average of 2 hours and 27 minutes each day on social networks. Catching up on social networks may seem like an innocuous act and it definitely makes you feel connected. However, this habit has a severe hidden cost – and we are all paying the price. I'm not talking about the obvious, proven and equally problematic potential issues for you as an individual, such as sleep deprivation, higher risk of depression due to peer pressure. Rather, in this piece I present you with the fact that your (our!) innocuous nightly scrolls have a substantial impact on the environment.

Let's do some math together. In 2021, a group of experts

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based in Nantes proved that scrolling the news feed of Instagram for only 10 minutes consumes about 10.5g of CO<sub>2</sub>. Interestingly, the numbers vary considerably per social media platform. For example, scrolling the news feed of TikTok produces about 26.3g of CO<sub>2</sub>, which is roughly the equivalent of 112 Wh. To put this in perspective: imagine you have about 11 LED light bulbs in your house, 112Wh is the equivalent of keeping all lights on for a full hour. And these aren't global numbers, nor are they aggregated over groups of people. They say something about the environmental (and monetary) cost of a single, 10-minute session on TikTok. Now, remember we all spend 2 hours and 27 minutes per day on social networks...?

Now that I have your attention, let's talk about solutions. Coming back to the light bulb metaphor, how can you save on your energy bill? Well, there are two possible lines of action: (1) vendors can produce more efficient light bulbs (i.e., systems can be made more energy efficient), or (2) you can turn off the lights to save energy (i.e., you can become more energy aware).

### *Energy-efficient software systems*

Since I started working in software engineering more than ten years ago, I have seen many technological and research-oriented waves come and go. The study of energy-efficient software systems is the most recent, but probably one of the most important ones, since it directly impacts our environmental footprint, and thus climate change, and thus humanity's survival on this planet.

First of all, where does this energy come from? When talking about social networks like Instagram and TikTok, you can think of them being composed of three main seg-

ments: (1) the smartphone you have in your hand, which consumes energy for

downloading the data shown in the newsfeed, for processing it, and for displaying it, (2) the data centres, which are like industrial warehouses containing thousands of computers, all connected together and storing all the contents of the social network, and (3) a myriad of ‘intermediate routers’ distributed globally, connecting your smartphone and the data centre via multiple steps. Each computer in a data centre and each intermediate router consumes roughly the same amount of energy as a desktop computer running at almost 100% capacity. Plus, they need to be kept cool, and they are usually redundant for mitigating hardware faults.

Hundreds of brilliant researchers are studying how to reduce the environmental footprint of each of the three segments described above, with a special focus on data centres and smartphones. Tech companies like Google and Meta (the parent company of Facebook and Instagram) are looking for solutions to reduce the environmental footprint of their data centres, for example by building data centres in places where they can use renewable energy or by optimising data centre workloads. Researchers are also studying techniques to make data centres more energy efficient, via scalable infrastructure (having as few computers as possible in the data centre), techniques for reducing hop count (the total number of routers, from source to destination, that a piece of data travels through), and the use of more efficient hardware, among other things.

So far so good, as far as data centres are concerned. Despite the fact that data centres are massive structures and there are about 8,000 data centres globally, energy use by data centres pales in comparison with the current number

of smartphone users: 6.92 billion. This is where research on mobile software systems comes into play. Researchers are inventing new techniques for making mobile apps and websites lighter, for example by ‘offloading’ heavy computation to data centres, compressing photos and videos before sending them, and display optimisation (e.g., dark colours have been found to use less energy on devices with AMOLED displays).

### *Energy-aware behaviour*

Quoting Peter DeSantis, General Manager at Amazon AWS: “The greenest energy is the energy you don’t use”. This line of reasoning is one of the core pillars of the concept of ‘digital sufficiency’. In this essay, I want to focus on sufficiency in terms of individual behaviour. In other words, I want you to look at your own personal needs and find ways to consume less energy. To help you on your way, I would like to share some tools of the trade:

Keep in mind the 11 light bulbs metaphor and limit your time on social networks.

Use social networks based on their energy consumption. (Tip: a recent study has shown that YouTube, Twitch and Twitter are the greenest ones.)

Make your voice heard if you notice that a mobile app is draining your battery, for example by leaving a review in the App Store mentioning the problem. (You may have detected a so-called energy-bug!)

If you can access certain content using different devices, choose your device wisely. (A television generally uses more power more than a laptop, which uses more power than a tablet, which in turn uses more power than a smartphone.)

I hope these tips help you to be more aware of the environmental impact of our ultra-connectedness and the environmental consequences that our use of social media contributes to. We, as researchers, are working hard to make data centres, smartphones, and other smart devices more energy efficient. But we cannot do this alone, we need your help. So use your devices smartly and sufficiently. The world will thank you for it!

## Reaching Out to Planet Alzheimer

*Sietske Sikkes<sup>1</sup>*

As a dementia researcher, I am constantly reminded of the impact that Alzheimer's disease has on individuals, their loved ones and society. Alzheimer's disease is a progressive brain disorder that affects memory, thinking and behaviour, and it is the most common cause of dementia among older adults. By studying the impact of the disease on everyday cognitive functioning, I am at the heart of the battle against the disease that robs us of what matters most: our memories.

When my mother-in-law started worrying about memory loss and dementia, I was quick to answer with epidemiological facts: the most common risk factor is age, one in three females gets diagnosed with dementia, and the number of people with dementia is growing quickly to over half a million in 2040 in the Netherlands. I forgot to ask why she was worried, and not surprisingly, she was neither interested in nor comforted by these facts.

When she was diagnosed with Alzheimer's disease after a memory clinic visit, I reflected on it. How could I, as a dementia researcher, have missed this? I studied the disease as a planet far away and forgot to look at my own surround-

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ings. I started asking questions, and it turned out that the evidence for Alzheimer's disease gradual decline was there all along. I simply forgot to listen and to connect.

Many technological advances in diagnosing the underlying biology of Alzheimer's disease have been made: the ability to image Alzheimer's disease pathology in-vivo using PET scans, to measure this in cerebrospinal fluid, or most recently even in blood. By the time the symptoms become apparent, significant brain damage has already occurred, making it difficult to target therapies to the early stages of the disease, when they are hypothesized to be most effective. Even though part of my research focuses on the biggest challenges in identifying these early warning signs, I had now personally experienced exactly how difficult these are to recognise.

So how can we connect to what is happening in brains with Alzheimer's disease? How can we translate the underlying biology to what matters most – what people experience in their everyday lives? Here, technology might be able to assist. Using new technologies, we are able to provide fine-grained measurements of cognition in everyday life. For example, using digital cognitive assessments related to everyday life, such as speech assessments, or passive monitoring in computer or mobile phone usage that reflects a decline in complex cognitive functions. Machine learning techniques can subsequently help us to identify relevant patterns of decline. These exciting new ventures show how technology can keep us connected to people worried about Alzheimer's disease.

I admire my parents-in-law for communicating about the disease openly, fighting stigma and finding the much-needed resources and support. We cannot fight Alzheimer's dis-

ease alone, as researchers or family members. As a society, we must invest in research, increase awareness and education, reduce stigma and provide those affected with support. Together, we can make a difference in reaching out to planet Alzheimer by learning and listening from patients and their family members.

## Imperial Past, Human Family and the World of Nations

*Susan Legêne<sup>1</sup>*

Like a phoenix, the world rises from its ashes. It was this analogy with the legendary bird that the Norwegian artist Per Lasson Krohg chose for his work that has adorned the east wall of the meeting room of the United Nation Security Council (UNSC) since 1952. Maybe it has on occasion served as a conversation piece during breaks for representatives of the five permanent and fifteen rotating member states. Or maybe it just hung there, like wallpaper. Over the past decades, whenever I follow the news coverage of a debate in the Security Council, like with the recent debates on the war in Ukraine, I always try to catch a glimpse of the mural. Sometimes I see a fragment. Of course, the painting is more than just wallpaper.

As the picture shows, the UNSC's mural expresses progress, solidarity and hope for us humans (liberation from chains, protection from misery and war, equality and justice in the distribution of basic needs, room for the arts and sciences). A phoenix and a family, a man, woman and children, are depicted at the heart of the mural. 'The family is

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the phoenix through which society is regenerated and the keystone of a peaceful world order,' a UN-related website explains. And indeed, Article 16:3 of the Universal Declaration of Human Right (1948) reads: 'The family is the natural and fundamental group unit of society and is entitled to protection by society and the State.' Family life is invoked in other articles of the human rights declaration as well, including in Articles 12, 23 and 25. Moreover, the very first consideration in the Preamble of the Universal Declaration of Human Rights refers to the broader concept of 'human family' in its consideration that 'the inherent dignity and (...) the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world'.

The theme of 'human family' is also at the heart of the legendary photographic exhibition *The Family of Man* (1955), which has been included in the international UNESCO programme 'Memory of the World.' But this post-1945 world was, and still is, quite a violent theatre of state formation. Former empires have become spheres of influence and at

the supranational level of the UN, these form a multipolar world with a constant powerplay between shifting poles. So, is the family really the building block of our ideologically divided world? Indeed, the UN unites 'nations': local communities, ethnicities, cultural groups, and language communities. And the UN protects families through, for instance, conventions such as the Convention on the Rights of the Child (1989), the Indigenous and Tribal Peoples Convention (1989), and the Convention on the Rights of Persons with Disabilities (2007), to name just three. Discussions about family life also cause huge controversies, for instance, with respect to family law, family planning and family reunion. But most importantly, within the context of the UN, these 'families' are almost by definition represented by states. Despite the nationalism that was a major force in establishing our world of nations after 1945, states are not nations. The very notion of nation-states relies on imagined communities that share relationships to a past that changes in meaning over time, leading to processes of both inclusion and exclusion.

The UN was founded on the Declaration of United Nations of 1942, referring to the 1941 Atlantic Charter. It was signed by 26 countries. Today, the UN has 193 Member States. Would representatives from Asia, the Caribbean or Africa, who were fighting for independence, have identified with the mural's visual language and see themselves represented in the painting when it was inaugurated in 1952? And would representatives of the 26 signatory countries of 1942 have looked at the world of nations in such an inclusive way? I doubt it. For instance, one of these signatories was the Netherlands, at the time occupied by Nazi Germany, and some months later, in March 1942, defeated by Japan

in Indonesia. After the Japanese capitulation, Indonesia unilaterally declared independence from the Dutch empire on 17 August 1945. The Preamble to their 1945 Constitution clearly referenced the Atlantic Charter with its promise of independence. But this did not stop the Netherlands from going to war, after which the UNSC intervened with various resolutions (Resolution 32, adopted on 26 August 1947; followed by Resolutions 36, 55, 63, 64, 65, 67). Until today, the world continues to live through war as the violent mechanism to settle disputes with respect to state formation.

In the painting, the sun is shining, the windows are open, and people are rejoicing. However, may its focus on family as 'the keystone of a peaceful world order' be interpreted more powerfully as a constant reminder of the structural inequalities rooted in the world of empires that preceded this world of nations ruled by states.

# Linguistic (Un)boxing: Understanding Social Categorisation, Diversity and Inclusion by Focusing on Language Use

*Camiel Beukeboom<sup>1</sup>*

Every now and then I close my eyes and do this little thought experiment. I ask myself what society would be like if we re-categorise people based on completely arbitrary criteria. Let's say, people wearing coloured socks vs. people wearing grey or black socks. People living around the 23<sup>1</sup>/<sub>2</sub>° north latitude and those around the 10° south latitude. People who prefer sugar in their coffee vs. those who don't. Or blue-eyed people vs. green-eyed or brown-eyed people (Jane Elliott's experiment comes to mind). Would it be possible to shuffle things around and change the conventional social category classifications? If we were, say, to group animals by colour instead of species, this would put ants, gorillas and whales in the same category, and also canaries and goldfish.

It is a strong human tendency to classify things and people by placing them in categories based on common properties they share. We categorise people by age, ethnic origin, religious belief, sexual orientation or profession. We learn which categories we are expected to use when we grow up and begin to learn language: these are toys, these are

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fruits, this is a mother, this is a doctor, this is a boy and that is a girl. This has consequences, because once a social category is formed in our mind, and particularly when we have a linguistic label to refer to it, we start perceiving the category as an entity. We perceive the category members as more alike and tend to exaggerate the differences between people belonging to different categories. Moreover, we will form a generalised, stereotypic impression of the category as a whole, consisting of a set of associated beliefs and expectancies about behaviours, features and traits. These social categories and their associated stereotypes help us to quickly and efficiently make sense of our complex social world. By activating them when we meet new people we (expect to) gain some predictability. It brings us relevant knowledge about what we can expect from these people and how we should behave towards them.

Still, innumerable categorisations are possible, so how do we determine which categories to use? Basically, this is collectively negotiated through language use when we talk about people. Language use reflects which groups are singled out and is the main carrier of stereotypic information we come to associate with these groups. Through communication (within (sub)cultures) we form chronically accessible categories like gender and age groups. The use of gender categories, for instance, is hard-wired into our thinking and language. As early as in kindergarten we play 'boys against girls', groups of people are referred to as 'ladies and gentlemen', and we are addressed with gender binary pronouns. Other categories like professions, sexual orientations, or political groups, become salient in a situation or when we communicate about them. Sexual orientation, for instance, may be relevant when you are looking for a partner. We al-

so regularly create new categories, when new classifications appear relevant; think for instance of yellow vests or anti-vaxxers.

It is important to understand these dynamics because the categories and stereotypes we form and use to judge people relate to many societal problems. It is well known that reliance on social-category stereotypes may promote prejudice, discrimination, and intergroup conflict. Stereotyping occurs when people think (or communicate) in generic category terms and pre-judge categorised individuals based on generalised stereotypical beliefs, which in turn may induce discriminatory behaviours. Moreover, once formed, we also identify with these categories. Belonging (or not belonging) to social groups becomes important for self-enhancement and uncertainty reduction, and power differences and rivalry can emerge between them.

In my research, I aim to gain a better understanding of how and when categorisation and stereotypes are expressed, and thereby shared and maintained, in everyday language use.

Categorisation is mainly reflected in the use of linguistic references to category members and social categories as a whole (e.g., linguistic labels, pronouns). Such expressions show how people are grouped, whether inclusion or exclusion occurs, and whether communication occurs at a generic category level or focuses on individuals. Particularly generic references (e.g., Jews are...) have been shown to induce (and reflect) perceptions of category entitativity and associations of the category with essential stereotypic characteristics. The stereotypes that people hold about these categories are expressed in linguistic content (e.g., associated behaviours and traits), linguistic valence, and biased

expressions that have been shown to reflect whether such associated behaviours are expected or unexpected (e.g., levels of generalisation, negations, linguistic agency).

By developing automated language processing tools that can automatically detect levels of stereotyping of specified target categories in a text or collection of texts, we can study and monitor how stereotypes are implicitly, or blatantly, reflected in expressions in everyday natural language texts. Focusing on language use allows us to become more aware of the categories and stereotypes we rely on. We can study how stereotypes become shared knowledge in cultures and subcultures and reveal diversity and inclusion processes in a context. This understanding, in turn, can be used to create language policies that help prevent or correct language use when it has adverse consequences. Does this offer opportunities to completely reshuffle the category classification or use entirely new labels? Maybe not, but thinking about the possibility at least will make us more aware and stretch the boundaries of the comfortable categories we have become accustomed to.

## Law Is a Human Enterprise

*Tina van der Linden<sup>1</sup>*

We, humans, are social creatures. In order to survive, we need each other. We need to cooperate. And however smart we may think ourselves to be, we have only limited rationality. We find it extremely hard to sacrifice our own short-term interests for a long-term greater good, even in cases where it is clearly the rational thing to do.

All humans are born with a sense of good and evil. We intuitively know what is right and what is wrong. And we can explain and substantiate our moral claims. However, so far, we have not been able to formulate a consistent theory to represent our intuitions.

We have law to organise our cooperation in society, to be sure that we can rely upon each other and achieve a fair distribution of benefits and burdens. Law not only has substantive rules about what can, should, may, and may not be done, but it also has procedural rules on its application and enforcement, how it evolves, and may be changed. Law is not a consistent set of rules that automatically apply to provide a solution to every possible situation. It cannot be.

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Law is a human construct designed to govern the messy and unpredictable reality of human life. It has to balance dynamically between conflicting interests and values, such as equality and justice in individual cases, efficiency and fairness, private and community interests, and many more.

Law is typically formulated in natural language, sometimes intentionally vague to allow for a balancing of interests, and inherently open-textured. The standard of ‘a good housefather’ is an example of a vague term, a ‘weapon’ of an open-textured term. Law applies to human actions, real world cases requiring interpretation to fit the legal categories. Undisputable facts often do not exist, facts do not label themselves, and categories are not 100% watertight. Think of age, or sex. The possibility of unforeseen circumstances can, by definition, never be ruled out. Unimaginable things like a pandemic and a war actually do happen. There is not necessarily an objectively provable correct answer to a legal question, so there needs to be room for disagreement, dialogue, and appeal. Procedural justice ideally requires that everybody is given the opportunity to present their case, to be heard, and to be taken seriously.

Technology can be of great help in law. In providing information. In streamlining procedures and making them more efficient. By implementing substantive rules into architecture unlawful behaviour is simply made impossible. Take, for instance, the gates for access to public transport. By objectively observing and registering what happens, as cameras do. By automatically labelling situations and attaching normative consequences to them, such as automatically sending out fines for speeding. By recognising patterns from the past and extrapolating them into predictions about the future – as happens in risk scoring.

Technology can be very bad for people when used in law. Existing discriminatory patterns can easily be transformed into self-fulfilling prophecies, allowing no escape. For instance, when recidivism risk scores are used for parole decisions. Unforeseen circumstances requiring an exception to a rule cannot be recognised as such. Acts of God are an example. Humans are reduced to and mistaken for the data that is assumed to represent them, making them vulnerable to exploitation and manipulation and turning them into objects. Example: use of dark patterns.

We know that technology is neither good nor bad, nor is it neutral. It depends on how it is used. If it is used in a normative context, i.e., to govern, evaluate, or direct human behaviour, it is crucial to be aware of, and leave room for the above-mentioned messy and unpredictable reality of human life. Not everything that is made possible by technology is, therefore, good, or something we would want. We need to use technology to enable and support possibly incompatible ideals like prosperity, autonomy, and virtue. Technology challenges us to rethink the way we see ourselves and how we want to organise the way we live together. We need to acknowledge who we are as humans: irrational, self-centred, vulnerable, and mortal. We need to assume that we have free will and that we are responsible for our choices and actions. Within the limitations of the condition humaine, we want the freedom to live the best life possible. This is exactly what law, with the help of technology, should enable. Law should protect us from harmful (use of) technology. That is why the law is, and needs to be, a human enterprise.

## **Anonymity and Incivility on Social Media: Don't Throw the Baby Out with the Bathwater**

*Peter Kerkhof*<sup>f</sup>

Although most online platforms have policies that protect people from hateful speech, it's depressingly easy to find vicious rhetoric on social media. For example, when the Dutch @minpres account tweeted about meeting with President Biden at the White House, our Prime Minister was called 'flapdrol' and 'droplul', derogatory words used to describe a person without character. 'Senile idiot' and 'pedo Joe' were some of the insults hurled at President Biden. This kind of language is by no means limited to politics and political figures but can be found on any online forum where people comment on sensitive issues. During the COVID-19 pandemic, many prominent virologists were targeted in ways that make 'flapdrol' sound like a compliment. Some of them received death threats, and there has been an actual murder attempt on the life of Belgian virologist (and VU honorary doctor) Marc van Ranst.

Public debate on modern social media is a far cry from the place we once, naively, imagined it to be: a platform for public deliberation and sharing knowledge, where we could learn to appreciate our differences. Nowadays, a glance

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at Twitter will let you know instantly that this perfectly socially connected world does not exist. Despite the wonders of social media, our world is full of 'disconnects' – between groups of people, between scientific insights and the pseudofacts spread by some groups, and between elites and people who feel unrepresented.

No wonder that many are trying to look for ways to improve communication on social media. Target number one of such attempts appears to be the possibility to be anonymous on social media. Indeed, more often than not, disrespectful or offensive comments come from anonymous social media accounts. This is not to say that cyberspace anonymity encourages antisocial behaviour per se. As most research shows, group norms are one of the defining characteristics of whether uncivil behaviour will occur. Online forums where incivility is the norm encourage uncivil behaviour. On the bright side, when politeness and helpfulness are the dominant norm, behaviours that adhere to these norms become more common.

There are numerous examples of online places where incivility has not ruined the fun and usefulness of social media. For example, health forums on Reddit, one of the largest online forums worldwide, are known as places where people typically help each other out in a friendly way. This is probably true for many other places where less contested issues are being discussed. Interestingly, on Reddit, much more so than on Twitter, users are anonymous. Apparently, respectful anonymous online communication is possible.

Forcing users to disclose their identities will ruin places like the Reddit health forums. After all, who would want to ask questions about a possible sexually transmitted disease on a public forum under one's own name? Given the

numerous data breaches, and the unreliability of social media companies in dealing with data in a responsible way, handing out your identity behind the screens may also not be that appealing to many users. This is even more the case in countries where social networks are scrutinised by oppressive regimes.

If anonymity is not the main cause of incivility, why are there so many calls to disable anonymous posting? My hypothesis is that disabling anonymity is a deceptively simple answer to a very complex problem: wiping out all the bad guys with a single shot. This may indeed help in some online places where incivility is the norm. But it comes at a great cost for all those places where anonymity helps people connect and share ideas and experiences – and entertaining content like videos of cats chasing their tails.

# Knowledge Graphs As Universal Knowledge Sharing Technology: Four Challenges to Connect the Unconnected

*Victor de Boer<sup>1</sup>*

The Web, in its 34th year, is widely recognised as a technology that is hugely successful in connecting people across the globe. Web technologies are employed to publish and read others' thoughts on a variety of topics, to connect in social networks, read and edit collective encyclopedias, and to share knowledge, data and information. The Web is of course not a static object, and engineers and Web scientists investigate how it can be improved and extended to allow us to connect even more data, information and knowledge. One such technology is the Knowledge Graph: a data structure to represent any type of information as simple statements (triples) that can be connected into networks (graphs). Businesses, institutions and governments can use Knowledge Graphs to publish and share their information on the Web, making it more interoperable and accessible for processing by algorithms, for example for machine learning.

However, not all are easily joining in this connected world of knowledge. As with all technologies, there is a danger that, despite noble intentions, the 'digital divide' between

<sup>1</sup> Victor de Boer is an associate professor in user-centric data science. He studies semantic web technologies in various contexts.

those that have access to the information and those that don't, is increased rather than reduced. Various ICT for Development (ICT4D) initiatives aim to provide access to digital technologies for those that previously were not able to use them effectively. For Knowledge Graphs, we are thinking about how to shape its development as an inclusive technology, rather than one that widens the digital divide.

Take, for instance, a farmer in rural Mali or teacher in a Malaysian village school. How can Knowledge Graphs be made to mean something for these users, considering the constraining conditions they live in? This is of course not just a technical challenge, but a socio-technical one that requires an interdisciplinary approach from various perspectives. We identify four challenges and point to ways of addressing them.

For the first challenge, we consider the physical context: applying Web technologies typically requires access to network infrastructure, computing and cloud services. Deploying advanced Web technologies in low-resource, low-connectivity environments calls for innovations at these fundamental levels. For example, we have been experimenting with solutions that implement Knowledge Graph functionalities on top of simple mobile phone networks, as often such networks are available even when fixed networks or power networks are not. While specifically designed for the ICT4D context, this research provides insights into the universality of the underlying technologies and its assumptions.

The second challenge requires us to look closer at the users: Knowledge Graph-powered end-user applications will determine the success of the underlying technology. This requires investigation into whether the technologies

allow users with various backgrounds and levels of literacy to share knowledge. Here, our working hypothesis is that Knowledge Graphs, as a flexible data model, allow us to represent any type of knowledge in a language-, modality- or application-neutral manner and that we can then build appropriate tools and interfaces, depending on end-user needs. In rural Mali and Ghana, we have been working on voice interfaces, accessible by mobile phones, to give people access to information on, for example, market prices or animal health. Again, the ICT4D context allows us to consider the universality of the underlying technology.

What cases and examples we select is the topic of the third challenge. If we claim that Knowledge Graphs are a universal technology, we need to investigate to what extent they can be used to address real-world challenges for users in rural areas in the world. Knowledge Graphs have proved successful for biomedical professionals and for product developers or digital humanities researchers, but what use cases exist for, say, farmers or schoolteachers in rural areas? This requires new ways of iterative requirements analysis to develop specific knowledge-sharing solutions for such users in the field. Methods include extensive interviews, group meetings, prototype development and co-creation sessions.

For the fourth challenge we come back to our end users and consider their diversity. With large datasets and AI coming more and more in the public eye in an increasingly globalised and connected world, we believe it is not sufficient to represent only one view of the world. A universal knowledge representation technology will have to support polyvocality: it will have to be able to store and make accessible multiple views on the world that might coincide



with various voices. In current research, we are investigating a) to what extent we can identify or acquire information from different voices, through natural language processing, crowdsourcing or other methods, b) how we can represent these multiple views of the world in Knowledge Graphs, and c) how we can make polyvocal information accessible to various end users. In that way, this technology can be made to mean something for people with various backgrounds, maintaining context and perspectives and reducing the harmful effects of single-view (biased?) data.

As Web scientists, we are in the lucky position that we get to investigate how universal our technologies are. This involves not only considering doing experiments at scale, with experimental setups that are available to and useful for a small part of humanity, but also considering cases, conditions and users in rural parts of the world. When barriers are identified, we need to consider adapting the technologies to make sure that they are truly universal and can lead to a more connected world.

## In Search of a Home: Migration Crises and the Lessons Learned

*Mirjam van Veen<sup>1</sup>*

The question of social relevance always makes historians a little nervous. After all, we rarely help solve a concrete social problem. The gap between past and present is too big for tackling contemporary social challenges with the past in hand. My own research on migration history is a striking example. Migration was something different in the sixteenth century than it is today. National states with their well-defined borders and their own language and culture did not yet exist, so the transition from the eastern Netherlands to the German Rhine region was fluid. Whether my heroines Elisabeth, Anna, Johanna, Adriana and Anthonina saw themselves as migrants is therefore questionable. These sisters migrated from Breda to the German Rhineland after the iconoclasm and on the eve of Alva's arrival. The Van den Corput family, to which they belonged, sympathised with the Reformed and except for a few, the family therefore left Breda. The family members ended up in different places in the German Empire and by means of an extensive correspondence the women tried to stay in touch with their relatives and maintain the mutual bond. This

<sup>1</sup> Mirjam van Veen is a full professor at the Vrije Universiteit. She coordinated a NWO research project on religious migration.

correspondence has been partially preserved and offers a unique insight into how the women made themselves a new home.

In historiography, the flight of thousands of Protestants has often been described as a tragedy. Historians have seen the decision to leave home and hearth as the ultimate proof of religious commitment, and in strong terms they have described the suffering of these exiles. These exiles would have mirrored the Old Testament exile stories and would have wanted nothing more than to return home as soon as possible. Those who read this family correspondence, however, get a different picture. While the sisters were 'hard-core' Protestants (that part of the picture is true in this case), there is little evidence of excessive suffering or identification with Old Testament exile stories.

The Van den Corput family managed to secure their family possessions before their flight, so the family was by no means destitute. When the Van den Corputs packed their bags, a large group of Reformed people left with them. Neither in Duisburg nor in Lemgo, where part of the family later settled, were the Van den Corputs lonely and deserted. The presence of this network helped the sisters feel 'at home'. For the sisters it seems to have been important to run the household as they were used to. Anna therefore sought a maid from Brabant as 'the maids from here don't know how we do laundry'. Anthonina's description of life in Lemgo at times resemble a Lonely Planet travel guide. Meat and poultry were available, and the bread was of excellent quality. Anthonina was also very appreciative of the women around her: they were well dressed, friendly and beautiful. Thus, the sisters seem to have been satisfied with life in the German Empire. Johanna van den Corput suspected that

those who had not left Breda would regret it. A friend who stayed behind wrote to Anna envying the sisters who had fled: 'It is no pleasure to live here (in Breda). Wherever one looks, it is misery everywhere.'

But what probably helped the women feel most at home was their faith. According to ancient Christian theology, humans were not at home anywhere and believers came home to the heavenly homeland only after death. The sisters had completely internalised this tradition and saw their stay in foreign lands as part of the lifelong pilgrimage that believers simply made. Nothing special, in other words. Moreover, misfortune and suffering were not something to complain about. God tried believers, sometimes through illness, sometimes through persecution, sometimes through natural disasters... Believers had to bear this suffering patiently and use it to improve their lives. The historian tries to make sense of this strange way of life, patiently asking how people managed to use faith to bear suffering and even see it as something positive. He or she tries to understand how people from times long gone managed to feel at home somewhere. This does not help formulate concrete policy recommendations to solve contemporary migration crises; it is a patient exercise in listening and in putting yourself in the shoes of others. And that ability to listen and empathise may also be a nice thing to have in contemporary debate.

## Sustaining Our Connections by Limiting Infectious Disease

*Joshua Tybur<sup>1</sup>*

Compared with almost every other species on the planet, today's humans live intensely social lives. This type of sociability goes back millions of years, even before our ancestors were recognizable as *Homo Sapiens*. Regardless of changes in demographics, social media technologies, and political polarization, we will always strive for social connections and group living, and we will inevitably find ways to accommodate those desires. However, social connections leave us especially vulnerable to a hazard that has the potential to limit our ability to connect: that posed by infectious disease.

All humans spend much of their time in close physical proximity to others. We share contact with objects that others have touched. And we enjoy direct physical contact with others. Each of these acts provides an opportunity for infectious microbes to travel from one person to another, either via microscopic respiratory droplets that float in the air or via surfaces that act like bridges between bodies. We need not look far into the past to recognize the impact that these microbes can have. In 2020, the SARS-CoV-2 virus caused our lives to shift toward some dystopian arrangement in

<sup>1</sup> Joshua Tybur is professor of psychology and infectious disease. He studies how human emotions (e.g., disgust) and norms function to reduce infectious-disease threats.

which most social contact was achieved by speaking at images of friends, family and colleagues represented on illuminated black mirrors. Terms such as ‘lockdown’, ‘social distancing’ and ‘flatten the curve’ were added to our lexicon, each describing some serious curtailment against our abilities to connect in person.

In early 2023, those terms have been put aside by the billions of people who have happily returned to their pre-pandemic social lives. Predictably, the ‘background noise’ of infection that we lived with before the pandemic has returned. Those conditions include seasonal influenza killing thousands upon thousands of individuals, pushing hospitals to the breaking point, and costing the EU billions of euros in medical costs and lost productivity. These costs are not borne only by the state or by the most vulnerable in our society. Based on estimates of the number and duration of respiratory infections that people contract per year, we spend over three years of our lives suffering from body aches, fevers, congestion, and illness-induced headaches. Put simply: even outside of the acute phase of a pandemic, pathogens impose a high cost on our lives, social and otherwise. How can we mitigate their effects?

Vaccines are surely an invaluable part of our toolkit. But they are not a panacea. Developing, manufacturing, and administering vaccines against all of the hundreds of viruses circulating in our society is financially prohibitive. And, although vaccines are miracles of modern medicine, many view them as unimportant or even harmful. Given these barriers, we should also look to shoring up the aspects of our sociality that make us most vulnerable to pathogens. How can we do so?

Lockdown conditions during the COVID-19 pandemic

taught us that we can practically snuff out respiratory infections with sufficient behavioral change. We will fortunately not return to these conditions absent an equally threatening pandemic in the future. But some of the anti-pathogen pandemic norms could be retained with limited impact on our social lives. I'll mention two here. First, we could cast aside greetings involving handshakes and kisses on the cheek in favor of the fist or elbow bumps encouraged during the pandemic – or, better yet, the bows commonly used in East Asian countries. Doing so prevents many of those microbes from getting on our hands and hitching a ride to the vulnerable portals on our face: the eyes, the nose and the mouth. Second, we could change normative behavior while ill. The aches and lethargy we feel while infected provide good (though imperfect) information regarding our likelihood of spreading disease to others. Those same symptoms partially function to motivate us to rest and conserve energy. Yet social factors often encourage us to ignore these symptoms and go to school, to work, or to that birthday party your friend has been planning for months. Changing perceptions of those who power through illness from 'especially dedicated' to 'especially reckless' would go a long way toward limiting pathogen transmission.

To be sure, these types of norms are not easily changed. And they require some structural changes, including the buy-in from employers and teachers needed to tolerate sickness absences. But any short-term costs might pay dividends in the long term. Infectious disease will be with us forever, just as our predilection for social connectedness. But the volume of infections we have tolerated is not destiny. We can live happier and healthier lives by modestly changing the ways that we connect.

## A Connected World of Academics in the Fediverse

*René Bekkers<sup>1</sup>*

If your vision of an ideal connected world is an online platform for free exchange of knowledge and reasoned debate, untainted by prejudice and hate, you will be fascinated by the demise of Twitter since 27 October 2022. On that day, the then richest man of the world, Elon Musk, took over the company for \$44 billion. In the following weeks, he fired half the workforce, caused hundreds more to leave the company, and failed to make the company profitable. The promise to open source publish the company's algorithms was not delivered.

For scientists, Twitter used to be a great place to learn and collaborate. It was indeed a platform that facilitated free exchange of knowledge and debate. I learned most of what I know about behavioural and molecular genetics, Genome Wide Association Studies, the reproducibility crisis, and meta science through Twitter. I found interesting scholars who made their own and others' work accessible in crisp summaries of 140 characters. I learned about new research presented at conferences I couldn't attend through live tweets by scientists. I formed consortia with like-mind-

<sup>1</sup> Rene Bekkers is professor of philanthropy at the department of sociology.



ed researchers in dozens of countries around the world. I would not have been able to work with them otherwise.

At the same time, Twitter was also an open sewer of hate speech and a channel of misinformation that contributed to the premature death of millions of people who were misled about COVID-19. By muting words and blocking accounts I was able to keep the worst filth out of my timeline. Occasionally, conspiracy intuitionists commented on things I said about philanthropists on television, but I managed to escape vile attacks and threats from anonymous accounts. After the Musk takeover, reinstated hate speech accounts, troll farms and foreign operatives increased their activities.

Millions of users – including myself – left the Blue Bird site for the federated servers of Mastodon. The current count is nine million. By the time you read this, the number of active users of the platform will have grown further. Like Twitter, Mastodon is a microblogging service, with some very similar functionality. A message on Mastodon is called a ‘toot’, and you can identify its topic with a #tag. At the same time, the affordances and features of the two platforms are different in many ways. Mastodon is free from commercial interests. It has no owners, no advertisements, and no for-profit business model. Instances are installed and maintained by users, and paid for by donations and sponsorships. It is like a group of islands, each with a set of rules for its inhabitants. The community governs itself. The islands are mildly undemocratic – they are run by volunteer moderators who can enforce community standards, such as bans on posting political and commercial content, and provide content warnings and textual descriptions of images.

Picking up a flock of new followers fast is rather difficult

on Mastodon as only a relatively small number of Twitter refugees have migrated to Mastodon. Although Mastodon has gained popularity after the Musk takeover and has currently reached nine million users, this is only a fraction compared with the 400 million active users that Twitter had in its heyday. On Mastodon, users have to invest in conversations to build connections. As a result, ties between users are stronger and the community is more closely knit. User-built tools allow Twitter refugees to find old connections who have migrated to different islands. It is difficult to predict how the site will change as Twitter's collapse unfolds. Currently, Mastodon is less susceptible to hypes. Toots are less likely to 'go viral' than tweets; users – not algorithms – determine who gets to see what. Because of these features, it is unlikely that Mastodon will replace Twitter anytime soon. Since its inception, Mastodon founder Eugen Rochko has rejected multiple investment offers from Silicon Valley firms. They probably don't make much sense anyway since the site has no control over its users that it can easily monetise.

At the same time, Mastodon is more aligned with the structure and spirit of academic communities: collective, self-organised initiatives, facilitating knowledge exchange and debate, untainted by commercial interests. Meanwhile, the Universities of the Netherlands have launched their own platform for students and staff. Through its move from Twitter to Mastodon, the connected world of academia has become a little less exploitative and more cooperative.

## Learning in Dialogue: What Cultural Heritage Specialists Can Learn from Climate Scientists – and Vice Versa

*Linde Egberts<sup>1</sup>*

Climate change is impacting every inch of our planet, including places that are preserved for their ‘natural’ or ‘cultural’ heritage values. In many cases, heritage experts try to preserve these areas against flooding, fire, salinisation, and other climate change risks. Recently UNESCO announced that a third of all natural heritage sites and one in six cultural heritage sites are currently under threat of climate change. These include glaciers on Mount Kilimanjaro, the Great Barrier Reef as well as the mudflats of the Wadden Sea. Among the cultural heritage sites under threat are, of course, Venice, archaeological sites on the Orkney Islands, and Rapa Nui National Park on Easter Island.

This alarming news is important, but in this essay I want to take a look at the underlying message: climate change is ultimately framed as an external threat to the iconic heritage sites that seemingly should be preserved for eternity. In essence it demonstrates what heritage specialists are trained for: to protect heritage objects against change, in order to preserve it in its current form for future generations.

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Noble and important as this might be, the heritage sector has not developed a very clear idea of what the future will actually look like. Rather, there is an implicit assumption that the future will be a stable continuation of the present – and heritage that is valued today is assumed to be valuable in the future as well.

The problem is that in many ways the future will not be a stable continuation of the past. Climate change will be a major disruptor of people's lives in the near and deeper future. Over the past decade, climate scientists have successfully developed tools to make our knowledge of the future more explicit. They particularly use quantitative observations from past developments to create scenarios for the future. For example, colleagues at Vrije Universiteit use satellite images to observe changes in the occurrence of fire worldwide to predict the effects of changing 'fire regimes' for future populations and ecosystems. As I experienced over the past years, heritage researchers can learn from climate scientists how to approach the future as a set of dynamic processes that can be studied and (at least to some extent) be shaped by making decisions now.

But should heritage research become more of a natural science, modelling potential risks and deterioration? By no means! Heritage researchers have their own valuable skill set. They are able to understand how the past is used in present-day decision-making, applying their knowledge to a wide range of projects, from the transformation of a historic factories into apartment complexes, to dyke reinforcement for climate adaptation. Their research makes clear whose stories and values from the past are preserved and made visible in changing environments. They can play a key role in making sure that the histories of elite groups in

society are critically questioned. And they are able to make room for the heritage values of other groups in society, those who are connected to places through their 'roots', but also through 'routes'.

And that's not all. Heritage and climate relationships are multitude and heritage researchers offer qualitative perspectives on these relationships that complement and sometimes challenge climate scientific approaches. Heritage sites can be seen as markers for climate change. They are often meticulously measured and monitored, making them useful observatories of local climate change. Moreover, many people instantly relate to an image of tourists on Venice's San Marco square, wading through water wearing hastily bought wellies. Iconic heritage images lend themselves well to communicate the urgency of climate action.

In my experience, climate scientists are eager to work with critical heritage researchers and other humanities scholars in interdisciplinary projects. Even though it takes some time to understand each other's perspectives, dialogue can lead to clearer images of the future, anchored in critical assessment of the heritage values that are passed on along with them.

## Survival of the Coolest

*Gusztai Eiben<sup>1</sup>*

The Industrial Evolution is coming. Imagine, a software update for your smartphone. You receive a notification ‘update available’, push a few buttons, and minutes later the software is updated. Routine job, anno 2023.

Now imagine, a hardware update for your smartphone. You receive a notification ‘update available’, go to your Personal Reproducer (a metal box the size of a fridge), place your phone in the recycle slot, and minutes later your Reproducer churns out a new phone. Routine job, anno 2050.

The key here is the Personal Reproducer – formerly known as 3D printer – and the Evolution of Things: the (r)evolutionary technology to develop physical artefacts through reproduction, heredity, and selection. ‘Whaaat?’, you say, ‘reproduction of physical artefacts?’ ‘Yes,’ I say, ‘two vases that have a baby. Or two wristwatches, or two robots.’ Impossible? Nope.

Two things are necessary for the birth of, say, a chick or a kitten. The genetic code (DNA) with the blueprint of that creature and the mechanism that converts the blueprint in-

<sup>1</sup> Gusztai Eiben is a professor of computational intelligence. His research lies in the field of artificial intelligence, artificial life, and evolutionary robotics.

to a '3D print'. This can take place in an egg or a womb. Can it be done with wristwatches and robots as well? Yep.

The code with the blueprint is the easy part. Just think of it, most man-made artefacts come from the drawing board. They have a blueprint – to be used for their production. The new concept is to use it for their reproduction. That is, for making new blueprints through mutating or recombining existing ones. A mutation of your old T-shirt or a crossover between two desk lamps is then done in the blink of an eye.

The birth mechanism is tougher. 'Reproducers' don't exist yet, but 3D printers do. They can still only produce a limited range of objects, but this is changing steadily. Vases, lamps, kitchen appliances, jewellery, clothes... Almost everything in our homes and on our bodies should become printable over time.

And what about selection? You do that yourself. You can like an object – or not. You can give it a good review and many stars – or not. You can disapprove and quickly recycle it – or not.

Imagine, millions of interconnected Reproducers in a worldwide network. Blueprints going from one corner of the world to the other. Millions of wristwatches being mutated, recombined and evaluated. New species emerging through the 'survival of the coolest'. Diversity and personalisation. Fashion and trends driven by people like never before. The Internet of Things meets the Evolution of Things. Let the Industrial Evolution begin!

## Burning Down the House

*André Krouwel<sup>1</sup>*

My generation has lived a life marked by relatively high prosperity, peace and democracy. Yet, this western post-war security structure with NATO at its centre and economic co-ordination through the European Union, the World Bank, the IMF and other international organisations is unlikely to endure. Our children will live in times of increasing political extremism, authoritarianism, violence and economic decline.

Rising political extremism and anti-establishment populist authoritarianism has been linked to a growing gap between economically disadvantaged people who see their social status and upward social mobility decline, and those who benefit from economic globalisation. Massive prosperity shifts deepen dividing line between urban and rural areas, between centre and periphery. However, the geography of wealth inequality is complex.

Like in other advanced capitalist states, a deep divide

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runs across the Netherlands, particularly between the urban Randstad region, specifically the triangle Amsterdam-Gouda-Utrecht, and the rest of the country. Anti-politics sentiment peaks in the south, east and north. My research on voter opinions and sentiments shows that anger is concentrated among older men with a vocational education living in areas with a lower degree of urbanisation. They feel strongly connected to their neighbourhoods or homes, but the world outside that personal space and network is perceived negatively. These sentiments from the base of right-wing populist parties, while a smaller group of discontents also lean towards the radical-left Socialist Party (SP).

Many in this group also embrace far-fetched conspiracy theories, believing that harmful events in society happen because of a secret collusion by powerful groups that aim to harm them. These beliefs can lead to societal and political polarisation, condoning violence, destruction of property and racial or religious prejudice.

My research shows that extremists are more likely to believe in conspiracies and simple solutions to complex problems, experience more socio-economic deprivation and derogate more societal groups and are less tolerant to different opinions than political moderates. Social and economic stress stimulates adopting an extreme ideological outlook. Extreme ideologies are characterised by a relatively simplistic, black-and-white perception of the social world, and because of such mental simplicity extremists are overconfidence in their own judgments.

Anti-politics sentiments are widespread among supporters of populist, disruptor parties, but abstaining non-voters voice similar sentiments and closely resemble angry citizens who believe that the government cannot be relied

upon and is not listening to people like them. They feel the state has been taken over by 'globalists'. Most of these discontent citizens are not lower educated or financially poor, but they still place themselves at the bottom of the social ladder. They feel socially deprived, excluded and economically precarious. They want to be proud of their country, but they are finding it difficult as 'too much has been lost'.

The ills of the housing market cause much of this material insecurity. An enormous increase in housing costs in economically prosperous areas deprived entire generations of economic opportunities. Unaffordable housing deepened the prosperity gap, creating neighbourhoods with political ecosystems where extremist and anti-establishment world-views thrive. Only those with rich parents are able to buy houses and get ahead in the housing market. Economists warn us that this leads to a 'two-class society' of homeowners versus renters in social housing.

This wealth divide also has political consequences. Homeownership versus renting is strongly related to voters' preferences on social spending and political dissatisfaction. Populism is not solely a product of cultural values. Although conservative, authoritarian and nationalist voters are more likely to vote for populists, the material conditions in which voters live shape the context in which their values emerge and gain political meaning.

Research across Europa shows a correlation between patterns in housing prices and support for Brexit and voting for right-wing extremist parties. Long-term differences in local wealth are strongly associated with the 'geography of dissatisfaction'. Citizens who feel relatively deprived and have little chance of reducing their economic vulnerability are strongly attracted to extremist, populist solutions. Contin-

uous polarisation through the housing market, accompanied by sharp social sorting, creates neighbourhoods with political monocultures that will only strengthen anti-establishment tendencies.

An increasing number of people, particularly on the right fringe, find it acceptable to use violence to overturn democratic decisions. They prioritise their own freedoms and political interests, while denying others the same rights and representation. The new political credo is: I am entitled to special treatment and support, the others just need to keep quiet. Freedom to demonstrate and free speech is important to them, but on social media, vile threats to people with different opinions are met with a thumbs up. Many support authoritarian leaders such as Vladimir Putin and Viktor Orbán, who are viewed as 'real leaders'.

These angry citizens demand respect, but have little respect for those that disagree with them. Their opinions weigh as much as those of 'so-called experts'. They feel threatened and are concerned that they are being robbed of their freedoms (which became especially evident during the pandemic). At the same time, however, they have little trouble curtailing the religious freedoms of Muslims or the social rights of transgender people. Threats against politicians and public officials are common. Even first responders, such as paramedics, medical staff, and train and bus drivers, are increasingly subject to random violence. Recently, we have seen Dutch farmers violently and openly expressing their anger in response to democratic decisions taken in the public interest. Research on trust in politics shows that many people feel powerless in our democracy and think they have no influence on government decisions. While these actions may seem random, this widespread

acceptance of the use of violence to further political ends could ultimately endanger the survival of our democracy.

## Opening a Dialogue about Mental Health through Comics and Creative Writing

*Erin La Cour<sup>1</sup>*

Each year the English Literature and Society program at Vrije Universiteit Amsterdam welcomes approximately 50 new Bachelor's students from various linguistic, cultural, and national backgrounds. Most of our students, both Dutch and international alike, are non-native English speakers who arrive already highly skilled in discussing and writing about literature in English. What they often aren't prepared for, however, is the stress that can arise from starting a university program, moving away from friends and family, living in a foreign country, and/or planning for their future. These stressors can lead to feelings of unease and disconnectedness, and, in some cases, to more serious mental health problems. While Vrije Universiteit Amsterdam provides several services to help students with these issues, from courses on study stress and self-confidence to access to student psychological counsellors and referrals to other mental health professionals, I wondered if we could do more within our program to promote a sense of well-being and community among students.

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I began thinking about how my teaching and research focus on comics studies and creative writing could be instrumentalised to open a dialogue in the classroom about mental health issues. Although our program already has several courses that touch upon the topic of mental health through closely reading literary works, we had not yet experimented with practice-based approaches. Following from substantial research conducted into how creative writing and drawing can have a positive influence on self-understanding and well-being, I decided it would be worthwhile to explore how I could implement creative practices in my teaching in an accessible, low-risk manner. Supported by a Comenius Teaching Fellowship grant from the Netherlands Initiative for Education Research and advice from the Ethics Committee of the Faculty of Humanities, I developed a course that helps students explore mental health issues in a creative way through writing short stories and drawing comic strips. An essential component of the course is to ensure that students understand that the exercises are not a form of therapy, but rather aim to create a safe space to discuss with their peers experiences that are often considered taboo, ineffable, or otherwise difficult to communicate. To enable them to freely express themselves without the risk of feeling personally exposed, I also decided that they can use fictitious characters instead of real people in their work, if they prefer.

Since most of our students have not participated in creative writing classes or art programs before, I started the course by asking the students to explore, through in-progress experimentation, how being a 'novice' can help stimulate new ideas and inspire creativity. For many students, being challenged to experiment in new modes of expression

brought about feelings of insecurity, a lack of motivation, or worries about not being 'good enough'. Those observations allowed me to initiate a discussion about experiencing stress in new situations and how, when we are given permission to 'fail,' we can open a space to explore the presumed binaries of success and failure, ambition and perfectionism, and work and play. Being allowed to 'productively fail' alongside their 'failing' peers helped break the ice.

In the first part of the course, we conducted creative writing workshops, in which the students read and critiqued each other's work. I was happy to see them use constructive criticism to encourage and support each other with helpful suggestions on ways to improve character and plot development, descriptors, and pacing. By the time we got to the comic strip workshops, where we displayed their drawings on the walls of the classroom in a makeshift gallery, the students had become comfortable enough with each other to laugh at 'bad' drawings, applaud when someone revealed their artistic prowess, and be supportive of each other's successes and 'failures'. At the end of the course, the students had learned, through fostering their creativity, that they not only had stories to tell, but that creativity is a process of trial and error for everyone, even for the acclaimed writers and comics artists whose work we study in our program. This helped them to develop their own voice, gave them a new perspective on literary studies, and a creative outlet for their own feelings and those of others around them: resources that are instrumental to community building, well-being and success, both now and in their futures.

## Milieudefensie vs Shell: Legitimate Correction of Regulatory Failure or Judicial Overreach?

*Lodewijk Smeehuijzen<sup>1</sup>*

In proceedings brought by the Dutch NGO Milieudefensie, the District Court of The Hague in 2022 ordered Shell to reduce CO<sub>2</sub> emissions associated with its business activities by 45% in 2030 compared to 2019. That is quite something – for a fossil fuel company. The case is now pending in appeal. It is deemed to be one of the most important legal cases of this decennium. What to think?

A prima vista, it would seem plausible to engage the law in our fight against climate change. Climate change is caused by human behaviour and causes damage. Compensation and possibly prevention of damage caused by human behaviour is what law is all about. Typically, however, in these types of procedures, only individual citizens are involved. The impact of a court's judgment then hardly extends beyond the direct interest of the parties. It is different with the climate problem; Milieudefensie's claim involves the interests of all Dutch citizens.

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This is a problem. Generally speaking, judges are in no position to weigh general interests. General interests are in the realm of the legislator; a basic notion of the *trias politica*. We might otherwise end up in a state where not the people, but the judge has the power: a ‘dicastrocacy’. But the prerogative of the legislator is not without limits. It may happen that he manifestly falls short in the exercise of his protective task. We call this regulatory failure. The judge will then have to step in and act as a ‘substitute regulator’. Regulatory failure could be argued concerning climate change. There is the Climate Act of 2019. This act stipulates: ‘irreversibly and step-by-step reduction of greenhouse gas emissions in the Netherlands to a level that is 95% lower in 2050 than in 1990’. Yet every year the reports from the Netherlands Environmental Assessment Agency tell us we are not achieving those goals.

On closer inspection, regulatory failure in the field of climate change should not surprise us. Humans are not psychologically equipped to respond adequately to such a slow disaster. Nobel prize winner Daniel Khanemann: ‘The bottom line [...] is that I’m extremely sceptical that we can cope with climate change. To mobilize people, this has to become an emotional issue. It has to have immediacy and salience. A distant, abstract and disputed threat just doesn’t have the necessary characteristics for seriously mobilizing public opinion.’

A second but no less fundamental cause of regulation falling short is that the people who will be hit hardest by climate change do not yet exist today. What we, as a society, do in the coming decades will have a profound impact on the well-being of generations to come. The *Trias Politica* stipulates that all stakeholders must be able to participate

in a democratic process. The electorate should therefore include future generations. That is not the case now. Insufficient manifestation of their interests will materialise.

So, should judges step in to remedy regulatory failure? We may expect them to be less susceptible to psychological impediments to respond rationally. And they may be able to consider the interests of future generations in their decision making. Yet the answer is not that obvious. Why? Because the premise of judges remedying regulatory failure is that they can actually fix the problem. And that will not happen with climate change.

Take the case of Shell. Energy economists have shown quite convincingly that Shell's reduction-obligation in fact does not cut back CO<sub>2</sub> emissions. Oil is extracted on the basis of licenses sold by countries through auctions. If Shell does not buy the license, one of the 10 to 15 other bidders will. No matter what action the Dutch court takes it will always be a drop in a bucket, without any measurable impact on global CO<sub>2</sub> emissions. The Shell ruling is symbolic. Only supra-national regulation will help.

This leads us to the question of what a future inhabitant of the Netherlands would want us to do? Perhaps to take real action by focusing on the adaptability of the Netherlands through smart water management and building higher dykes. The Netherlands is number one on the global list of countries threatened by sea level rise: 47% of the population is at risk of being under water by 2100. Vietnam is second with 26% and Thailand third with 12%. Looking back from 2070, the self-image of the Netherlands in 2023 as a privileged country, marked by decades of prosperity, appears to be more positive than justified. Physical protection of the country must be given absolute priority, including

maintaining prosperity and a healthy business climate for multinational companies. Or perhaps not? Adaptation and mitigation are not mutually exclusive. The energy transition will be a powerful economic driver. Rich countries should take the lead, not in the least by setting the right, morally just norms – if need be, by judges. It is beyond doubt that our great-grandchildren would want us to crack down on the fossil fuel industry as hard as we can and engage with all we have, including a stretch of the judiciary's power.

This is the debate in a nutshell. How will it end? My prediction would be that the judgment will not survive appeal. But as it goes with lawyers, they are never certain; virtually no law professor predicted *Milieudefensie* to win in first instance.

## What Should English Sound Like?

*Amrita Das and Laura Rupp<sup>1</sup>*

In today's globalised world, English is the language of communication. This implies that you must be able to understand and be understood by other non-native speakers. What does this mean for diversity? According to the Massive and Open Online Course (MOOC) 'English Pronunciation in a Global World', diversity in spoken English should be appreciated. There is no one correct way of speaking English. The focus should be on intelligibility and mutual understanding – not on loss of identity as a result of standardisation. However, the fact remains that people who speak English with an accent or make pronunciation 'errors' are ridiculed, belittled, and denied opportunities. Somehow, they become less than the rest of us!

When Laura Rupp conceived and created the MOOC, she wanted to extend beyond the walls of her university the research and tools she had developed for English pronunciation skills. She was keen to make English pronunciation and language education accessible to everyone, irrespective of financial means, geographical status, caste, creed, colour, or any other factors that divide humanity. She en-

<sup>1</sup> Laura Rupp is an associate professor in linguistics and director of the Global English Center. Amrita Das is a diversity facilitator. Their MOOC is called: English Pronunciation in a Global World.

visioned an inclusive space that the course could become, connecting a community of language learners. She was also very keenly aware of how language discrimination unfairly excludes and erases people.

Joining her on this journey was Amrita Das, who had been implementing the Mixed Classroom in Practice Educational Model at VU and other Dutch educational institutions. The model is an educational approach that builds upon differences to enrich the learning experience for all educational stakeholders. For Amrita, the MOOC was what the landscape of education here desperately lacked: a bridge, to join people through language learning, and specifically for those who did not enjoy first-world privileges (“it is not just your ability to speak in English, it is how you speak it that determines the doors that open”). The post-colonial and transnational legacy of English was of deep interest to her.

Today, the MOOC has enabled 110,205 learners from 191 countries to form a thriving educational online community, serving users even through difficult times such as the recent COVID-19 pandemic. The course focusses on mutual understanding, appreciating diversities in the manner in which English is spoken. Course participants learn from one another as they discover the nuances of the English language and the many differences in pronunciation. Conversely, we learn from MOOC participants, whose input enable us to improve the content of the course in a way we hope is a true form of community engagement. We also use their pronunciation data to conduct academic research into specific aspects of English pronunciation.

Together, Laura, Amrita, and a team of talented assistants and researchers, facilitate the MOOC. Since its inception, the course has led to the establishment of the Centre for Global

English at Vrije Universiteit Amsterdam, which carries out research projects and supports community endeavours and innovations in language learning and development. Grants from VUvereniging and Clue+ have enabled tremendous opportunities. Partnerships with Jawaharlal Nehru University (India) and Concordia University (Canada) have ensured international outreach and collaborations, including with Sakhi, a Mumbai-based NGO that works to educate girls in the slums of Mumbai and surrounding rural areas.

The Centre for Global English provides advice and studies, defines and tackles some of the most pressing linguistic and societal issues related to the world-wide use of English, such as misunderstandings arising from the different varieties of English, leading to personal conflict, professional loss and socio-political tension, accent discrimination, and exclusion through lack of access to English education. By making the MOOC freely available, the centre contributes to quality education and the reduction of inequality, the United Nation's Sustainable Development Goals 4 and 10.

The mission of the Centre for Global English is to enhance understanding of our own English accent and the accents of other English speakers, ensure the different varieties of the English language are better managed, facilitate communication in English, prevent language-based misunderstandings from occurring, improve appreciation for dialects in written English, combat accent-based discrimination, and help learners discover how quality education liberates and connects.

The next time someone speaks English differently than we do, or hesitantly, they should feel proud of the richness of their experiences and culture, rather than be made to feel inferior.

# Connecting the Unconnected: Decolonising ICTs for the Developing World

*Francis Saa-Dittoh<sup>1</sup>*

I had a conversation with my wife recently on the differences between computer science and other sciences, especially with regards to the Internet. We talked about how the open nature of ICT technologies has influenced the rapid advancements of the field, thereby facilitating so many other advancements.

The vision of Sir Tim Berners-Lee was a free, open technology that connects the entire world, facilitates access to information and enables rapid communication, and this vision was realised for quite some time until it (inevitably?) started a sharp decline summed up in one newly coined word: BigTech.

Big Tech, also known as the Tech Giants, refers to the most dominant companies in the information technology industry, most notably the five largest American tech companies: Alphabet, Amazon, Apple, Meta, and Microsoft.

The word 'colonise' is one that many of us would rather not have to deal with and had hoped was a thing of the past, but we can easily see the very concepts of colonisation

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showing up in our digital space of today; having a hierarchical power structure, insisting on other cultures adapting to one, relying mainly on one format/language of communication, cultural and traditional opinions of one part of the world being presented as facts, and the under-representation of people and knowledge from some parts of the world.

The advent of BigTech, and other, mostly American-based IT companies has resulted in these monopolistic practices seriously hindering the growth of the Internet and ICTs in general. They have basically killed innovation and disruption by pumping money into their platforms, buying up or stalling competition and centralising the Internet in terms of data and also physically. Platforms owned by these companies dominate every Internet-enabled device, forcing developers to spend most of their earnings on subscriptions (e.g., Google Play, Apple Store and the In-App purchase policies for both which forces startups to pay almost 30% of their earnings to BigTech), and by way of their services, enforcing their national policies on countries that have no international political power (Apple insisted on the use of a non-standardised power connector until recently, thanks to the EU).

Unfortunately for the Global South (a term referring mostly to the developing world), our entry into the ICT scene (advent of IT firms, advent of ICT for Development as a development tool and also in academia, beginning to produce highly skilled programmers and computer scientists, interest in advanced technologies like IoTs, AI, Robotics in context of our own local situations, etc.) coincided with the ‘takeover’ of BigTech in the international scene.

This coincidence has resulted in a slow-down of connecting the unconnected at a vital time when we need to



connect people who will be moved out of poverty through these technologies: climate information for local farmers to increase yield and nutrition quality of food, pricing information to facilitate sales as a source for calculating fair prices for local farmers, and emergency information on natural disasters and diseases to save the lives on people in resource-constrained communities.

These and more, and especially new innovations by researchers and developers in the Global South are being hampered by the colonisation of the Internet, which necessitates relying on BigTech for equipment and services and having to continuously pay these already rich companies for subscription services in order to enable a child in a rural area gain access to basic information.

In addition to having to bear these costs, the various GDPs of developing countries in conjunction with their minimum wage means the costs of these services are even more expensive, when calculated in context, for individuals and companies that build digital systems in the Global South.

Colonisation ended with a change in thinking of both the colonisers and the colonised, and the decolonisation of the Internet must also begin with a change in thinking with the users of the Internet from both the Global North and South. The Global South has a big task to make itself heard online, teach its youth to innovate and build systems in its own context; the generalisation of digital systems development has hampered adoption in the Global South because the differences in context are not explored by developers. On the other hand, we need assistance from the many like-minded people in the Global North, to be open to the ways of thinking and cultures of the Global South in the

international space, to actively attempt to hear our voices and include our opinions in the digital space. Even though we might not be as advanced yet, we will get there!

## Pop the Age Bubble!

*Laura Schaap<sup>1</sup>*

The Netherlands is one of the most rapidly ageing countries in western Europe. The proportion of the population aged 65 or over is currently 20% and is expected to reach 33% by 2050. While it is widely recognised that this demographic shift brings numerous challenges, such as pressure on healthcare and social security systems and economic challenges due to a declining labour force, the benefits of an ageing society are less well known. One such benefit is the opportunity for increased intergenerational connections, which strengthen social bonds and a sense of community.

Intergenerational connections refer to relationships and interactions between individuals of different generations. However, many people live in an ‘age bubble’ and primarily interact with people who are of a similar age. This can lead to misunderstandings, loneliness and a lack of trust between age groups. The social isolation measures that were implemented during the COVID-19 pandemic have further exacerbated this disconnection.

Intergenerational connections can be beneficial for everyone by providing opportunities for mutual learning

<sup>1</sup> Laura Schaap is an associate professor health sciences and coordinates the course geriatrics and aging in the bachelor health sciences.

and support, helping to challenge stereotypes and biases, promoting social inclusion and improving mental health and well-being for individuals of all ages. I personally experienced the benefits of intergenerational connections several years ago when my oldest child went to a kindergarten located in a nursing home. On a regular basis, older residents visited the kindergarten and participated in activities such as reading books, crafting and singing together. There is a body of scientific evidence that shows clear benefits for those who participate in such intergenerational activities. For older adults these include increased social interaction and engagement, improved sense of purpose, better cognitive functioning and an overall increased well-being. For children, benefits include enjoyment, increased confidence and the development of friendships.

I also consider intergenerational connections in my role as the coordinator and teacher of the course Geriatrics and Ageing, a second-year course within the Bachelor's programme Health Sciences at VU. When I first coordinated this course, I realised that many of my students were living in an 'age bubble' and had difficulty relating to the topic of ageing and finding it relevant. Negative stereotypes about ageing, such as the belief that older adults are incompetent, dependent on others, and a burden to society, also prevented some students from finding the topic interesting. To increase students' motivation, we have incorporated opportunities for intergenerational connections into the course through collaborations with organisations such as Stichting Present, which aims to improve the lives of (older) people in need, and the VoorUit project, which promotes social cohesion, for example through intergenerational housing arrangements. These collaborations enable us to organise a

variety of projects in Amsterdam for students to participate in. For example, our students assist nursing home staff with tasks such as taking older adults for a walk outside, but also conduct research on the well-being of older adults living at home and develop solutions for age-related problems, such as a buddy system to combat loneliness. These projects help students increase their understanding of ageing and see the relevance and practical application of what they learn. For the older adults these projects offer a valuable opportunity to interact with our students, to feel appreciated, to learn and to gain new insights into their own well-being.

Lastly, I want to mention Stichting Senior&student, an organisation that matches students with older adults based on shared interests, which allows for further intergenerational connections. I am pleased to say that several of our students at VU participate in this programme and have built lasting relationships with their match.

I have shared just a few examples of intergenerational connections, there are of course plenty more, but I hope that these will help highlight the many benefits of such connections. I believe it is important to recognise the value of intergenerational connections, especially as the population in the Netherlands continues to age and opportunities for these connections increase. There are many actions that we can take as individuals and as a society to create more intergenerational connections. Some ideas include volunteering at a local nursing home or assisted living facility, participating in intergenerational programmes or events that are offered through schools and community centres, or simply reaching out to your older neighbour for a conversation. Even small actions can help to pop our 'age bubbles' and contribute to a more inclusive and connected community.

# Artificial Intelligence in Healthcare

*Mark Hoogendoorn<sup>1</sup>*

Healthcare is facing massive challenges for the future: an ageing population, increasing costs, and staff shortages, just to name a few. Maintaining, or perhaps even improving, the current standards of care in the coming decades and beyond without radical innovation seems impossible. Artificial intelligence (AI) is frequently listed as a healthcare innovator with high potential. Unfortunately, this potential has not yet materialised. Up to 2020, only a meagre 29 AI-based medical systems were filed with the US-based Food and Drug Administration (FDA). If there is so much potential, why isn't it finding its way into practice faster? How can we stimulate developments while saving some resources to spend on implementing these systems?

To understand the problem and work towards a solution, let's start with the basics. AI techniques essentially try to capture a form of intelligence in computer systems. Impressive applications of AI are seen in many domains, ranging from image recognition to playing the game of GO and defeating the world champion Lee Sedol. For the

<sup>1</sup> Mark Hoogendoorn is a full professor in artificial intelligence. He does research in the area of machine learning and its application in the domain of health and wellbeing.

health domain specifically, a huge increase in scientific publications is seen. Dimension.ai listed over 4,000 publications in 2022 alone, and the number is increasing fast. The AI techniques are developed for a variety of purposes such as preventative care, early detection, diagnosis, and identification of the best treatment for a specific patient. The contributions reported in these publications bring valuable insights into the medical domain that indubitably have improved care one way or the other. However, given the limited number of systems in use in care practice building systems that harvest the obtained knowledge and support medical professionals has proven difficult. In my opinion, five main causes can be identified for the lack of translation of scientific AI and health knowledge into practical AI systems.

First of all, AI methods thrive when lots of data is available. Luckily, ample data is available in the health domain. An estimated 2000+ exabytes of data is available according to a recent Stanford report – more than 400 times the amount of storage needed to record all words ever spoken or written by all humans that have ever lived on earth. Gaining access to this data is however challenging due to its sensitive nature, and data is typically stored per institute so even getting a complete picture of one patient is nearly impossible.

Another cause is the quality of the data. While a vast amount of data is present, data is not always stored in a way that can easily be processed by the AI algorithms. A lot of information is for instance stored in free text notes. Although techniques to extract the most relevant content from text are continuously improving, in the medical domain a lot of abbreviations are used and background knowledge is need-

ed to interpret texts properly, making it challenging to take all available content into account.

A third cause is the lack of rigorous evaluation of approaches. While a lot of approaches are put forward on how to use AI for the improvement of healthcare, evaluation is often done on retrospective (i.e., already collected) data. Actual evaluation of the benefits of using AI systems in practice to support care are seldomly seen. This makes the introduction of such systems on a large scale difficult at this stage.

The fourth aspect involves implementing AI systems in healthcare organisations. AI-driven tools need to undergo extensive quality checks to obtain the proper paperwork to be used in practice. On top, rolling out the systems in medical practice is far from trivial.

Finally, although AI techniques are becoming more sophisticated and effective, healthcare falls outside the niche where the current generation of AI techniques perform well. This is because the health domain has its own unique set of challenges.

For the health domain to benefit from AI techniques, these challenges must be overcome as quickly as possible. I believe this can be done by:

- Making data sharing more secure and private across as many institutes as possible by using a common standard.
- Investing in data quality while facilitating the entry of such data (and reducing the workload for medical professionals).
- Paying more attention to evaluating the value of AI solutions in real-life care settings.
- Expediting the process of turning AI solutions into actual, reliable products by streamlining approval pro-



cesses without compromising their rigour.

- Innovating AI methods to make them better suited for the health domain.

Fortunately, progress is being made on all these fronts, but we are certainly not there yet. We need to focus on these solutions now while we still have some resources to spare in the health domain.

# The Pepper Corns in Ramesses II's Nose: What Archaeology Tells Us about the Deep Past of the Connected World

*Jan Paul Crielaard<sup>1</sup>*

Our modern, connected world is experienced in starkly contrasting ways. Some regard it as a new and vibrant era, others feel increasingly estranged, yearning for a time when the world seemed small and simple. Well, I have news for you: the world has always been connected, at least for 5,000 years but probably even longer. And if you feel excited about today's connected world – good for you. The connected world we live in may be a lot of things: vibrant, interesting, challenging. But new it is not.

Archaeologists and historians are finding ever more evidence that our connected world goes a long way back. Despite relatively simple technology and limited information flow, people in the past were moving, connecting and mingling. It is now estimated that the first homo sapiens migrating from Africa reached the Australian continent in just about 5,000 years. This may sound slow. However, considering the entire journey was undertaken on foot (apart from using rafts for the last leap) while foraging and explor-

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ing new environments along the way, this was ‘the express train’ to Australia, as some scholars call it.

New research techniques provide all kinds of unexpected windows into the deep past of our connected world. A telling example comes from the mummy of Ramesses II (1279-1213 BC), more specifically his nasal cavity. This appeared to contain a number of black pepper corns. The ancient Egyptians did not maintain direct contacts with India, but we know that they sent royal missions to the Land of Punt. Thanks to the recent analysis of strontium elements found in the bones of mummified, sacred baboons, Punt can now be located with certainty in the Horn of Africa. This is where Egyptian sailors must have encountered traders from India who used their knowledge of the monsoon winds to cross the Indian ocean to trade pepper and other spices. In this sense Ramesses’ nose is no less than a microcosmos, evidencing how different parts of the world had become intertwined, together spanning a large part of the globe.

Ramesses’ predecessors had already been active networkers, who exchanged gifts, wives and letters with other important rulers in western Asia and Anatolia. In these letters they asked for favours and expensive presents, addressing each other as ‘My Brother’. A ‘bro’ typically started a letter by asking about the other bro’s horses, wives, chariots etc., assuring that his own horses, wives, chariots etc. were fine as well. What is interesting is that the main protagonists in these multiple bromances lived hundreds, sometimes thousands of miles apart, never met in person, and yet acted as if they lived around the corner from each other. This was a global village anno 1350 BCE.

In his book *Bound Together* (2007), Nayan Chanda describes how his Apple iPod is assembled from parts pro-

duced in six different, especially Asian countries, as an illustration of the connectedness of our modern world. Impressive? Not really. In about 1320 BCE, a ship went down not far from Antalya on the southern coast of Turkey. It probably had departed from a Syrian port and was on its way to Greece. It carried a rich cargo of metals and other raw materials as well as artifacts that represent about twenty different regions, ranging from the Baltics in the north, Sudan in the south, Afghanistan in the east and Sicily in the west.

It is true that these Bronze Age exchanges involved especially royals and other wealthy people, with the Mediterranean and Mesopotamia acting as hotspots of ancient connectivity and mobility. However, we have evidence that people in other parts of the world had a slice of the ancient globalisation cake as well. For instance, a local chief in today's Ommerschans in the Dutch province of Overijssel was fortunate enough to lay his hands on a bronze razor manufactured on the island of Sicily. It is extremely unlikely that he ever set foot on this island, but thanks to a system of interlocking, regional networks, he was probably able to connect with places and people far beyond the horizon of Overijssel.

We can easily find more examples of ancient connectivity and mobility, but the above may suffice to put the obsession with our own connected world in its proper perspective. If we can learn from history, one of the lessons may be that what we perceive as a new era of connectedness is just the ebb and flow of connectivity and one particular stage in the dynamics of ever-changing networks. Another insight that a long-term perspective on connectedness and networks offers is the element of political manipulation by means of in-

cluding some and excluding others. As Manuel Castells noted at the beginning of the information age, globalisation creates winners and losers. Undoubtedly, this applies to the past in the same way as to the present. Even fifth-century Athenians, inventors of the first democracy, had not problems isolating or even massacring communities that stood in the way of their ambition to build a maritime network.

But let's end on a positive note. The main difference between the connected worlds of the past and our own world is, of course, that the pace of things was much, much slower. Envoys delivered the equivalents of our telephone calls, text messages and emails on foot or horseback. In addition to this being slow, there were numerous complicating factors. A recurring complaint in royal correspondences from the ancient Near East concerns envoys that were kept waiting for so long that they died before they could deliver their message. So, the next time you are told 'the wait time is currently 30 minutes', think of this as your chance to experience a rare occasion of progress in history.

## **Building a Restorative (VU) University through Dialogue**

*Nieke Elbers<sup>1</sup>*

Interpersonal conflict occurs in every organisation – and universities are no exception. However, academic environments have certain characteristics which can create more opportunities for conflict and disrespect of boundaries. Universities function in a very hierarchical manner, and academics are under great pressure to publish and bring in money. This can create a breeding ground for feelings of social unsafety, as shown by research reports by the National Network of Female Professors, Amnesty, and media reports calling out professors for acting inappropriately. Undesirable behaviour – long tolerated as part of ‘office culture’ – is no longer accepted.

Conflicts concerning interpersonal or sexually transgressive behaviour, which has been the subject of recent discussions at universities, at least when they come to the surface, are typically solved by punishing the transgressor or removing them from the facility where the transgression took place. I argue that punishment, as a sole intervention, is usually not an effective solution since it does not address

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the harm and the needs of the parties involved. Punishment by separation may help make the environment safer for a little while, but it does not create ways for the transgressor to learn new behaviours, nor does it provide answers for or ease the pain of the transgressee. Parties are left feeling unheard, unhealed, ostracised and marginalised.

I propose a better alternative: healing and prevention through restorative justice. Restorative justice is an evidence-based practice and method that originated in criminal law, focusing on creating connections between victims and offenders to repair the harm caused. It involves bringing together the harmed and their harmer, and members of the community. In case of universities, the community would consist of colleagues, fellow students, confidential officers, and counsellors, among others. Restorative dialogue, for example in dialogue circles (gatherings in which participants sit in a circle facing each other), provides opportunities to communicate experiences, to be heard and validated, and address needs and concerns.

The scientific evidence is convincing. People who participate in restorative justice programmes are more likely to feel satisfied compared to those who go through the traditional justice system. The process facilitates healing and can provide a sense of closure for victims. In turn, it offers offenders an opportunity to take responsibility for their actions and make amends, which has been shown to increase victim empathy and reduce the likelihood of reoffending. The process of restorative justice can thus provide a path towards rehabilitation and reintegration into the community.

Vrije Universiteit Amsterdam (VU) has a perfect climate for promoting dialogue amongst staff and students. VU was the first Dutch university to establish a professor of Restor-

ative Justice in 2017 and to offer a Master's programme in restorative justice and conflict resolution. VU is also home to a substantial group of researchers on restorative justice, and our WO&MEN@VU network has started restorative circles on the topic of gender equality and social safety. All these efforts are supported by the VU Chancellor and VU Ombudsman who believe in a restorative approach to resolving conflicts and in the value of teaching constructive conflict resolution. Universities educate the next generation of professionals and responsible citizens, so let's ensure that constructive conflict resolution becomes a skill that is ingrained in our work ethic and value systems.

How can VU further promote a restorative climate and dialogue? We can learn from restorative universities around the globe! Victoria University Wellington (New Zealand) developed a restorative practice that invites students to talk about (sexually) transgressive behaviour and are teaching their method to other universities abroad. The University of San Diego (USA) has implemented the restorative method at different levels, from hiring practices to teaching. Dalhousie University (Canada) implemented the method following a scandal involving a group of dentistry students posting misogynistic and homophobic comments online. Scientific articles about the theory and practices are emerging, allowing others to learn and apply.

Restorative justice is not without limitations. It requires a significant amount of time and resources to facilitate a dialogue and reconciliation process. Not all conflicts are suitable for restorative justice, and some people may not be willing or able to participate. In these cases, it is important that restorative justice facilitators ensure that the safety of the participants is prioritised and that support and resource-



es are provided throughout the process. Also, punishment may still be necessary.

Despite these challenges, restorative justice is a promising, valuable and effective approach of addressing harm that also contributes to the prevention and mitigation of polarisation. Focusing on human connection and dialogue provides a better and more sustainable alternative to the traditional legal approach. Restorative justice has been proven to show successful results in a criminal law context. Slowly (research) initiatives are also being started at the meso level, for example in companies and schools, and at the macro level, for example to mitigate conflicts related to decolonialisation or proactively discuss climate issues. Big changes start small, so let's work on a more compassionate and holistic way of addressing conflicts in our own circle of impact, the VU community. In this way, we are planting the seeds for a more connected society as a whole.

# How a Connected World Can Tackle Climate Change, Biodiversity Loss and Other Sustainability Problems

*Oscar Widerberg<sup>1</sup>*

Every year, I ask students in my environmental policy class whether climate change is a problem of too many or too few connections. The idea comes from Anne-Marie Slaughter's book on 'webcraft' in world politics. Professor Slaughter argues that viewing the world as a game of chess – where pawns move in pre-determined and unchangeable patterns, where cause and effect are immediate and observable – needs rethinking. Instead, she argues, people, countries and organisations are nodes forming networks. Power and weaknesses, problems and opportunities are the result of relationships; between people, between people and nature, and between people and technology. In a networked world, change is unpredictable and emerging, and cause and effect are difficult to discern.

It makes intuitive sense to look at the world as consisting of relationships and connections. Scholars sharing the view of such a relational ontology argue that we are who we are because we are embedded in networks of friends, fam-

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ily and colleagues. Consequently, when someone around us changes, we change too. Such thinking can give agency and hope, a scarce resource for people studying grand challenges such as climate change, biodiversity loss and plastic pollution. Consider vegetarianism. A vanishingly small percentage of the Dutch population (some 2%) call themselves vegans or vegetarians, according to Statistics Netherlands.<sup>2</sup> While their abstinence from steaks, fish fingers and milk is admirable, it is likely to have little impact on global temperatures, nitrogen deposits or habitat destruction. Things are changing, however. In the same survey, 35% of the respondents stated that they had started eating less meat over the past 12 months, and nearly 50% only consume a carnivore diet four days a week. I would dare hypothesise that most of them changed their eating habits because someone in their community impacted them.

Cascading network effects, where change is non-linear instead of incremental, have the potential to create transformative change for a better world. Take Corporate Social Responsibility (CSR) reports for instance, where public companies outline their environmental and social aspirations and actions beyond creating shareholder value. Among the world's largest public companies in the S&P 500, more than 90% have Corporate Social Responsibility reports. That is up from only 20% in 2012. Or consider cities joining voluntary initiatives to reduce their greenhouse gas emissions and adapt to climate change. The Global Covenant of Mayors for Climate and Energy, a global alliance of cities and local governments committed to reducing car-

2 <https://www.cbs.nl/nl-nl/nieuws/2021/23/vlees-geen-dagelijkse-kost-voor-8-op-de-10-nederlanders>

bon emissions through strategic action plans, have doubled their membership to 13,000 cities in just 10 years. Network effects have made sustainability considerations, including carbon emissions, deforestation or air pollution, the new normal for people and organisations in large parts of the world. Of course, cascading network effects sometimes take a bad turn. The COVID-19 pandemic and the Great Recession are cases in points, but also the spread of invasive species. American crawfish, for instance, has invaded Dutch rivers and multiplied to the count of billions in the absence of natural predators. Feasting on native species and destroying existing ecosystems, the crawfish have become a true plague according to scientists. Their numbers have increased so much that it has become nearly impossible to remove them.

So, what do the students answer when asked whether climate change is a problem of too many or too few connections? As true budding scientists, they generally conclude that it depends. On the one hand, people have become overly attached to 'stuff'. Global supply chains and same-day delivery enable and catalyse mass consumption, which is the root cause of most sustainability problems. Relatively cheap flights enable millions of people to fly all over the world, causing emissions from airlines to skyrocket. On the other hand, in many countries on the African subcontinent, less than 50% of the population have access to electricity, let alone clean water, modern healthcare or sanitation. In many western countries, the growing social, cultural and economic divide between urban and rural populations are causing societal tensions. And a better spread of clean technologies could enable some economies to leap frog into more sustainable production patterns.

Sustainability researchers could benefit greatly from focusing more on connections and relationships. Figuring out where the leverage points are in society and the economy (i.e., what nodes need boosting and which ones are causing problems or standing in the way of progress?) is central to tackling climate change, biodiversity loss, plastic pollution, and many other global and contemporary problems.

## Embracing Multilingualism in Children

*Petra Bos<sup>1</sup>*

Most people in the Netherlands speak more than one language. Most of the time we are proud of this achievement: it took quite some time and effort to get there, but we are reaping the benefits of our endeavours in our social and professional lives.

Knowing how much time and energy it takes to become a multilingual person, it is all the more surprising that our primary education system is aimed almost exclusively at turning our children into monolingual individuals. About 28% of all children who enter primary school in the Netherlands come from families with a migrant history, so they are often young bilinguals. Our education system is aimed at improving these pupils' proficiency in Dutch as quickly as possible. Less emphasis, or none at all, is given to improving their potential in their home language. While in fact, allowing these children to embrace the full scope of their identity, of which language is a key feature, could be enormously beneficial to them and insightful to the professionals around them.

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I warmly welcome so-called Language Friendly Schools, an initiative aimed at creating an inclusive and language friendly learning environment for all children. In Language Friendly Schools, children are allowed to say good morning in their own language, birthday songs are learned and sung in the children's home language, and the home language is used to improve their skills in Dutch. There is no ban on speaking different languages in class and children feel accepted and valued for who they are. The linguistic knowledge that they have built up in their home language, is regarded as a source of knowledge, rather than a burden. This approach enhances self-confidence in multilingual children, while at the same time improving in-class participation and their proficiency in Dutch. I sincerely hope that this initiative will snowball across the country and that more schools will embrace multilingualism in the very near future.

Paying more attention to home languages in education may have far more benefits than those mentioned above. It could also help reduce the high numbers of multilingual children currently in special education. At the moment, 60% of all children attending schools for children with special language needs in the Netherlands (called cluster-2 schools) come from families with a migrant background. One would expect this percentage to be around 28, equal to their representation in society. It is very likely that this overrepresentation is caused by misdiagnosis of their language abilities and potential.

Language tests that are used to diagnose language disorders are almost exclusively performed in Dutch. As a result, these tests can easily misidentify children with a language difference (as their home language is not Dutch) as children

with a language disorder. If we were to assess their language proficiency in their home language, a much more reliable picture would emerge. With that kind of information, we would be able to differentiate between children who simply need more time to learn Dutch (and who can continue with regular education) and children with a language disorder (who will benefit from special education).

Over the last two decades, applied linguists have collaborated in research projects to explore the possibilities to assess home language proficiency by diagnosticians who do not speak the home language of the child. Their hard work paid off and has resulted in several easily accessible products for teachers, speech language therapists, clinical linguists and other diagnosticians who want to assess the linguistic potential of a multilingual child. Examples include tests where proficiency in narrativity can be assessed, even with a low proficiency in Dutch, a universal non-word repetition test that has been stripped of all vocabulary bias, and a website with information on 60 languages and child language development in those languages, where diagnosticians can compare features of the home language of a child with features of Dutch in order to estimate what are logical mistakes for a specific child and what are not. Fortunately, many language professionals who work with multilingual children use these newly developed materials, but the more people know about these instruments, the better!

We need to embrace multilingualism in children. Let's embrace these children and celebrate the fact that they speak more than one language. This will benefit their development in so many ways. At the same time, let's also use our embrace to protect and safeguard them from being misdiagnosed and ending up in an educational environment that



does not suit their language skills and potential language development.<sup>2</sup>

<sup>2</sup> For more information: [MeertaligheidenTaalstoornissenVU.weebly.com](http://MeertaligheidenTaalstoornissenVU.weebly.com)

## Democracy Needs Empirical Logic

*Jacob Bouwman<sup>1</sup>*

What do you think logic refers to? Chances are you associate logic with rules of thought and programming languages. Of course, logic is also a branch of philosophy, although this may not be the first thing to spring to mind.

Aristotle charted the logic of reasoning by using the generalised quantifiers ‘some’ and ‘all’. Syllogisms with two premises and a conclusion (Socrates is a man – all men are mortal – hence Socrates is mortal) may still haunt some of us in our dreams. In our textbooks, this syllogism is an example of valid reasoning. In valid reasoning, it cannot be the case that the premises are true and the conclusion is false. The only person known to me who questioned the validity of this line of reasoning is the Dutch writer Harry Mulisch in *The Discovery of Heaven*, but anyone who read the novel knows how this ended. That put to one side, let’s look at the concept more closely.

Perhaps you have thought about the concept of truth more often than the concept of validity. As you know, one of the dangers of making strong truth claims is that it can

1 Jacob Bouwman is a philosopher/logician who intervenes in the public debate on behalf of the Vrije Universiteit Amsterdam and animals for slaughter.

lead to dogmatism. Dogmas may flourish in the Vatican or dictatorships, but most people welcome the possibility to question truths and change their views. What about validity? The validity of reasoning is questioned regularly. There are types of reasoning that we all agree makes an argument invalid. Errors in reasoning that undermine the logic of the argument are called fallacies. A prime example of this is: 'when it rains the street get wet – the street is wet – so it has rained'. Just because things correlate does not necessarily mean one causes the other: there can be numerous reasons for the street to be wet. The fact that a premise is true does not mean you should draw a conclusion. Let's agree that truth claims and validity claims are statements about other statements, and not statements pertaining to another reality. There is no need to descend into Plato's cave.

In the *Critique of Pure Reason* (1781), Immanuel Kant argued that the way the world seems is not an accurate reflection of what it actually is. Our minds create an impression (in Dutch: 'denkraam') of the world based on what we perceive, a concept through which reality is seen and to which a mode of reasoning is connected. For instance, Aristotle viewed the world through the concepts of 'identity' and 'difference'. He defined 'human' as the 'rational animal', meaning that humans have a reasoning competence. This property is what distinguishes them from other species. What is dangerous about this line of thought is that labelling one group as uniquely 'rational' can lead to the denying of this property in others. This has happened throughout history (think of women, people of colour, and animals) and has led to oppression, discrimination and abuse. Darwin replaced Aristotle's concept of 'identity and difference' with one based on 'variation'. Identity-based reasoning, often denot-

ed by a definite article (e.g., 'the' man, 'the' woman) became less important as a result, at least in the sciences.

Another example from intellectual history is 'cause and effect' logical reasoning. David Hume showed us, and Kant, that it cannot only be our experience that establishes this relationship. We understand matters of fact according to causation, or cause and effect, such that our experience of one event leads us to assume an unobserved cause. However, 'causation' is also an impression, which is used far more often than necessary and justifiable. He argued that reasoning based on probability is, as crazy as it may sound, more precise and less likely to be based on blame and punishment.

Inspired by the philosopher Foucault's epistemes, let's refer to the fixed combinations of reasoning and categories as 'logemes'. The episteme is the 'apparatus' that enables us to distinguish truths from falsehoods; a logeme enables us to make judgment of validity and invalidity. Epistemes and logemes are not always equally good or bad. This depends on the situation in which they are used. They are tools that proponents and opponents can use to test their views. To some this may sound like relativism, but I prefer the term 'relatism'. After all, it's always a good idea to assess which tools deliver the best results.

For example, a logeme for identity relations gets stuck in this line of reasoning: 'the temperature is 38 degrees – the temperature rises – therefore 38 degrees rises'.

To avoid drawing the wrong conclusions, it is necessary to distinguish between function values and functions. In science, logemes and epistemes are constantly being refined and updated.

I would like to take this opportunity to argue for the need

to identify logemes that people use to determine validity or resolve differences of opinion. This would allow for the possibility to make suggestions where improvements can be made. And who better to do this than logicians? To improve the quality of social debate, logicians can play a role in evaluating the validity of arguments. Within the context of the Connected World, they could provide constructive criticism, increase our awareness of reasoning and discussion patterns and introduce us to new ones.

In my view, the power of logic can be leveraged to take the social debate to a new level. There are still many untapped opportunities for logicians in this area. Of course, they should continue contributing to programming languages and teaching people to think better. But logic is also about fairness and equitable treatment. If I claim that all swans are black, my opponent has the right to choose a counterexample that tears down my proposition. If I claim that some swans are black I, as a proponent, can choose an example to substantiate my claim.

I am sure you can come up with examples of less innocuous propositions that are weakening our democracy. Let's let logicians explore how these narratives can be challenged and lift the debate to a higher level of moral awareness, so we can 'discover our own piece of heaven'. We don't need Harry Mulisch for that!

## Use but Handle with Care: Gossip as a Means for Connection

*Bianca Beersma<sup>1</sup>*

Gossip is perhaps the oldest mechanism humans can use to build connections with one another. According to psychologist Robert Dunbar, being able to talk about others behind their backs may even be the very reason human language evolved.

By gossiping, one can find out new information about the target person's behaviour and personality without having to observe them directly. Long ago in our ancestral history, when humans started to live together in larger groups, gossip became vital to their survival. This is because in large groups, it is impossible to directly keep track of what every member is doing – or not doing. Under these circumstances, a little gossip goes a long way. It allowed them to know who to rely on when risking their lives chasing a mammoth, and who was more likely to lose their temper or run away.

As such, gossip enables people to assort with individuals they trust or are cooperative, and avoid, or even exclude, those who do not behave according to group norms. And even better, this, in turn, activates a second mechanism:

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all people have an interest in belonging to some group, so therefore they want to avoid becoming the target of negative gossip. This desire to avoid negative gossip motivates group members to adhere to the group's norms, and as such behave as a cooperative, honest and reliable group member, which in turn helps the group to function successfully as a collective.

So far, it is clear why gossip has evolved to become such a frequent activity in groups. It can even be argued that groups cannot function or survive without it. Indeed, even to this day, we frequently engage in gossip, for example at work or in the social groups that we belong to.

However, at the same time, gossip has a bad reputation. We tend to see gossip as rude or toxic. In religious texts, gossip and slander are warned against and condemned. For example, the Bible says, "He who goes about as a slanderer reveals secrets. Therefore do not associate with a gossip." And the Quran compares engaging in negative gossip to eating the flesh of one's dead brother.

Why would a mechanism that is indispensable to the functioning of social groups have acquired such a bad rep? To understand this we have to examine the Machiavellian tendencies of some gossipers. Just as using gossip for the greater good of one's group, it can also be used to enhance one's own standing in the group at the expense of others. By exaggerating positive or negative attributes of gossip targets, or by spreading outright false rumours, one can strengthen the position of allies, destroy the relationships of rivals or even cause them to be excluded from their group.

Although research shows that only a small percentage of gossip is deceitful, it does create a problem for its recipients. They need to weigh every piece of gossip that comes

their way to decide whether or not the information being shared is based on truth, or whether it was motivated by noble motives or malicious ones. This is not an easy task. This may explain why we tend to see gossip as a 'bad thing', and why it seems wise to err on the side of caution and be wary of gossip in general.

To get rid of the negative effects of deceitful gossip, some organisations have tried to banish gossip altogether by implementing rules that forbid employees to engage in gossip. Such measures have been shown to be of no avail. As gossip tends to take place in informal contexts, it is very hard to control and tends to persist despite precautionary measures. And if we bear in mind the functional aspects of gossip for groups, it may even be unwise to try to ban gossip altogether.

Fortunately, there are much more effective ways of dealing with gossip. Research findings show that if the recipients of gossip thoroughly process the information that comes to them rather than respond intuitively in the moment, they will be better able to distinguish between gossip that stems from pro-social, group-serving motives and gossip driven by negative or egotistical motives. In other words, deep thinking helps us to separate good gossip from bad.

Thus, with regards to gossip, there is hope for humanity: we can enjoy the benefits of functional gossip by not believing all the gossip we hear. By putting on our thinking caps we can become critical consumers of gossip and filter out malicious content, so that what remains is helpful to the group. So, the next time gossip comes up, handle it with care and put some effort into thinking deeply about the gossipmonger's motives. This will be beneficial to you, and moreover, your group members will thank you for it.



## Connected Connectedness

*Erik Verhoef<sup>1</sup>*

As a dedicated spatial economist, I now and then find myself cross-checking my own spatial behaviour against predictions from key theories in my field. My move after high school, from a small village in the province of Groningen to its regional capital, not only matched the notion that specialist education requires exploiting economies of scale that a university in a central city can offer. It also fits predictions of search models, explaining why adolescents prefer thick markets of potential partners for life over thin markets. My move a few years later to Amsterdam reflected that greater job opportunities in large agglomerations often outweigh the higher cost of living there. So far so good. But what about my recent moving around, which has enabled this VU-based professor to write this oped at less than 50 metres from the Waddenzee, at the Dutch northern coastline? Can that be optimal in any sense?

The underlying big societal question is: what should be the future of human mobility, of accessibility, and thereof of connectedness? The single most dominant societal

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megatrend behind this question is our shared commitment, in the face of climate change, to eliminate CO<sub>2</sub> emissions. The required energy transition should lead us away from fossil fuel use towards a fully climate-neutral society by 2050 – a moment less distant in time than my move to the city of Groningen. A complete abandoning of fossil fuel energy in mobility will bring drastic changes. And, the more drastic such a required change, the more important it is to combine all possible behavioural changes to achieve it. Think of travel frequency, distances covered, transport modes chosen, technologies, etc. Indeed, transport behaviour is a multi-dimensional phenomenon, and that is just one reason why it is so interesting.

Some people believe that a ‘technology fix’ is the only way to achieve a sustainable future. Unfortunately, it is unlikely that electrification will be able to provide the solution in full. The costs and prices of renewable energy are higher and more volatile than those of conventional energy. Put simply, they peak when there is no sun or wind. An energy-intensive transport technology, such as the private automobile, that relies on travellers that carry with them, say, 1500 kilos of vehicle weight, simply doesn’t fit too well in this future. The prospects for cycling and public transport are a bit more optimistic. Cycling will naturally serve accessibility at shorter distances. Public transport can gain market shares at longer distances, and its growth can be self-reinforcing when higher demand allows for higher frequencies and denser networks, in turn attracting more travellers. Still, higher and more volatile energy prices will also negatively affect public transport use.

It seems we will be needing further changes in future mobility behaviour, certainly for the longer distances. One

of the few good things that the pandemic has brought is a big push in virtual mobility through ‘learning by doing’. On the bright side, working from home has its advantages, including fewer distractions, reduced commute times and less stress. And now that Zoom and Teams meetings have become commonplace and not exclusive skills that only a few tech-obsessed people possess, opportunities to replace physical travel with virtual alternatives have increased drastically. Just like earlier innovations in telecommunication required a sufficient number of users to take off – the very first owner of a fax machine must have felt a little lonely – the opportunities of online working now seem to have reached the critical masses.

Alas, there is also a dark side to working from home: it can lead to social isolation and feelings of loneliness and disconnection. In addition, remote participation in hybrid meetings or fully online meetings is reported to have mixed success. The economic principle of diminishing returns is likely to apply here, too. An optimum may be somewhere in the middle, where sometimes the benefits of live interactions are embraced, and sometimes the benefits of working from home. A climate-neutral future is likely to shift that optimum towards less travelling, and more virtual accessibility.

To make this work, minimising the dark sides of online living and working while enhancing the potential benefits requires a careful reconsideration and redesign of how we can ensure that physical and virtual connectedness synergistically complement each other. If well-designed, this can make physical distance less important, offering welcome prospects for a more balanced use of space throughout the Netherlands, and stimulating remote local communities

that for decades have been fighting uphill battles against magnetic agglomeration forces in the country's central regions. Connected connectedness in a sustainable future – a VU professor writing an oped overlooking the mudflats of the Frisian shallows may very well fit in that idea. I'll stick to that for the time being.

## Smart Health Technology Should Focus on Increasing the Quality of Human Contact

*Michel Klein<sup>1</sup>*

The great paradox of the 21st century is that, in this age of ever-increasing technological possibilities to connect with people, human interaction is decreasing. In the 2013 movie *Her*, we see people in a not-so-distant future communicating to chatbots via earbuds and being so tethered to their mobile devices that they are hardly aware of the people around them. These days, wherever you look, in public transport or stations, you find people doing exactly the same: ignoring the world around them because they are glued to their screens.

Modern communication technology is not only used by the young and healthy. Due to the growing number of people needing care and to reduce the workload of caregivers, the use of technological devices is progressively becoming more common in care settings for elderly people or patients with chronic diseases. In futuristic scenarios, we see robots bringing coffee and medication, usually depicted together with a broadly smiling elderly person. In other scenarios, we see large screens on walls to make video calls with

<sup>1</sup> Michel Klein is an associate professor in artificial intelligence. In his research he focused on the role of technology for behavior change, especially behaviors related to health and wellbeing.

grandchildren easier, or soft furry robots that can talk that are used to combat loneliness among the elderly. Other visions for the future include smart watches and body sensors embedded in clothes that continuously monitor people's health, and cameras that observe people to detect unexpected behaviour.

Although most of these ideas are still in a prototype or concept phase, it is conceivable that such intelligent tools will – at least to some extent – contribute to the well-being of people. Indeed, there is some evidence that using voice-controlled devices such as Alexa, Siri or Google Home reduces the feelings of loneliness.<sup>2</sup> However, the paradox described above also presents a risk in health and social care: the increasing use of smart technology will result in less contact between people. Of course, this is likely to happen when tasks are carried out by robots instead of nurses. But the effect can also be less direct: when people are monitored via technological devices, they may be visited only if there is a valid reason, such as a physical need. Moreover, the awareness that people in need are able to easily initiate communication themselves may result in less frequent contact initiated by others. In general, we see that technology is usually deployed to increase the efficiency and effectiveness of home care, instead of the well-being of people in need of care.

This is not how it should be. Human contact and connection between people are essential to the welfare of people. The challenge therefore is: how can we deploy technological tools in home care in such a way that it promotes social con-

2 <https://news.unl.edu/newsrooms/today/article/hey-alexa-voice-assistants-may-curb-loneliness-in-older-adults-who-live/>

nectedness rather than increase social isolation and loneliness?

A first and essential requirement is that the well-being of people has a central role in the design of home care technology and in the decision whether or not to apply it. People's needs, in the broadest sense, including their psychological needs, must be taken into account. The end users need to be involved in the design choices that are made. Efficiency can be a consequence of applying technological solutions but may never be the main driver. This requires a critical attitude towards optimistic scenarios in which technology is presented as a simple solution.

A second, even more important guideline, is that care technology should not be aimed at replacing human-human contact with technological tools, but at increasing the quality of the contact between humans. This will open new ways of thinking, leading to different types of solutions. Instead of technology that supports people in need, we might want to develop technology that supports caregivers in their daily practices to reduce their workload. Or tools that help them focus their attention on the people most in need of contact. Monitoring technology for people at home should take mental well-being into account. It could also be used to inform relatives about the needs of their loved ones, stimulating them to reach out while lowering barriers to keep in touch.

This necessitates a different perspective on the role of technological tools in care settings. The added value of technology is not to take over tasks formerly done by humans, but to help people take care of others in a better way. Technology can be used to become better aware of the needs of others, so that these needs can be fulfilled. Humans and

smart devices should jointly work together in taking care of people in need. In this way, smart technology will not lead to a reduction of our social contacts – like the world in *Her* where AI has become the primary mode of human interaction – but will help us to focus our attention on those around us and those who need it most.



## Turning the Tide: Reconnecting Citizens to Politics through VR

*Mariken van der Velden<sup>1</sup>*

Polarisation today is sky high. Citizens' trust in politicians and political parties has taken a deep plunge. Is this the end of representative democracy as we know it in most western countries? And what can we do to turn the tide?

Since citizens see politics as part of the problem rather than the solution, I will argue here that we need to bring back the fun in politics. One way of doing this, is by means of gamifying political participation, using the full potential of media technology.

What is going on in representative democracies? Increasingly, people question both the will and the ability of politicians to deal with society's major problems, such as the ramifications of climate change or the adaptations required to address society's changing demographic make-up. High levels of trust in political actors, however, are not a democratic value in and of itself. As long as citizens see the public administration as impartial and are aware of the lack of corruption, there is confidence in the democratic system. We, luckily, observe that too: Citizens typically have rela-

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*Is this the end of representative democracy as we know it?*

*because we are facing the most difficult issues ever, such as climate policy and energy transition*



*and this makes it all the more challenging...*



*polarization around charged topics*



*short-term policies*



*decreasing trust in politics*



*politicians cannot solve the problems*



*influence of lobby groups*

tively high levels of trust in the functioning of democracy.

Yet, there is good reason for concern. The rise of populism, accompanied by the fact that conspiracy thinking has become more mainstream, has sown fertile ground for thinking that politicians lie and deceive ‘the people’. This undermines citizens’ satisfaction with the functioning of democracy. We can actually see this happening in society: A part of the citizenry is no longer ‘just’ discontent with (some of) the decisions politicians have made resulting in policies that do not align with their political preferences, but are openly questioning the legitimacy of politicians to make those decisions. This has happened in the Netherlands

during the recent farmers' protest against reductions of nitrogen emissions. The protesters did not just disagree with the political decision aiming to reduce nitrogen emission. By turning the national flag upside down, they symbolically question the authority of the government to make these policy decisions.

Is time running out for the way we currently organise representative democracies, especially when it comes to the limited direct involvement of the citizenry in political decision making?

Democracy needs a 'booster shot' in the form of innovative citizen participation initiatives (ICPIs), an umbrella term for citizen involvement in public decision making through, for instance, referendums and deliberative mini-publics. ICPIs can help prevent polarisation and increase trust, resulting in sound political decisions. It is therefore important that critical citizens stay engaged with politics. Moreover, ICPIs offer governments an opportunity to show that they can listen and are reliable, and to explain choices and act accordingly.

### *What are ICPI's exactly?*

*a group of selected citizens helping with political decision-making*



### *How it works:*

1. Politicians ask for help with a specific societal problem;
2. Politicians promise in advance what they will do with the outcome of the ICPI - e.g. discuss with parliament or implement immediately. The outcome is thus taken seriously!
3. ICPI participants are given enough time and money
4. An independent organisation hosts the ICPI - hence, limited influence by lobby groups or political organizations

ICPIs in their current form are, however, not an elixir that

we can inject into society to ‘fix’ democracy. Showing up for ICPIs is costly for both citizens and governments. Citizens have to make time for it – give up their free evenings or afternoons – and governments need to organise, facilitate and finance ICPIs as well as display the willingness to actually do something with the outcomes of the ICPIs. This limits participation as well as the number of topics in which citizens can participate.

Luckily, modern media technology in the form of virtual or extended reality (VR/XR) offers a solution. Building a virtual town hall, where people learn about and discuss political topics from the comfort of their homes allows them to be an integral part of the political decision-making process. No, we are not talking about a situation in which people can anonymously spew their bile online. Hostility and dislike is one of the reasons people are disengaging from politics.

So, how can media technology be used in a way that will turn the tide? VR/XR can put the fun back into politics, thereby reconnecting citizens to politics! Participating in a virtual town hall debate using VR is a form of gamifying political participation. Gamification is a proven tool that can enhance levels of motivation and engagement by creating similar experiences to those experienced when playing video games. It produces a novelty effect, the so-called wow factor, and thanks to the technology used, provides users with a near-realistic experience. This allows citizens to have a conversational give-and-take with other participants, including people they would not normally meet or engage with, and make political decisions based on orderly and respectful discussions. Results from my VR games so far demonstrate that gamifying political participation has the potential to reconnect people to politics. The people

who participated in these games said that they had more of an understanding of the complexity of the political process, and therefore are more aware that not everything can go their way.

## Borders That Unite

*Freek Colombijn<sup>1</sup> and Gertrud van Loon<sup>2</sup>*

Historical actors have drawn political boundaries between states in ways that cut once socially and culturally coherent regions into two. Social interaction, however, often continues. For instance, the German-Dutch border has never been a hard social boundary. Local dialects seamlessly blend, and people living in this area do their shopping or go tanking on either side of the state border, just where it suits them best.

Unfortunately, political borders have often hardened and taken on new realities for people living on either side of the frontier. Paraphrasing the Thomas theorem: when people define borders as real, they are real in their consequences. Nomadic people that follow old migratory patterns with their herds, face diverse laws and different tax systems when they traverse state borders. Vernacular architectural practices, which have adjusted to local circumstances and

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2 Gertrud J.M. van Loon (KU Leuven/University of Warsaw) is an art historian specialising in the material culture of Christian Egypt and now collaborating with specialists in Christian Nubia in Warsaw in a cross-border research project.

historically stem from one tradition, may have to comply with different building codes binding on either side of a state border.

Scholarship too is often institutionalised in ways following geographical boundaries; there are, for example, area journals, university chairs, departments, and conferences defined by modern states' territories. While social interaction across the border often continues, researchers lose sight of this continuity on the ground, because they are specialised in different, albeit adjacent regions. Only if they unite, they will be able to see the existing connections.

One example of continuity that scholars were aware of but only seriously studied when they left their territorial strongholds, concerns the religious and cultural continuity between Egypt and Nubia in the 4th to 15th centuries. The territory of Nubia is nowadays divided between the states of Egypt and Sudan, but historically the border between Egypt and Nubia lay at the first cataract, at Aswan. It was a porous border: southern Egypt and Nubia have shared history for millennia.

Christianity was introduced in Nubia from southern Egypt (where it was an established religion by the 4th century) and was institutionalised by 6th century missions initiated by the Byzantine imperial house. Medieval Nubia was a Christian kingdom, with the Patriarch of Alexandria as head of the church. When Arab legions conquered Egypt in the 7th century, the Nubians defeated the advancing Islamic army and the official border was drawn at Aswan. A peace treaty safeguarded mutual economic interests, thereby retaining a porous frontier zone on various levels.

In church architecture and wall painting, Nubian clergy and donors were inspired by established Christian tradi-

tions of the Mediterranean, and especially Egypt. Conversely, churches and wall paintings in southern Egypt show 'Nubian' elements.

Since the 1960s, in the wake of the High Dam Project in Aswan which has flooded the Nile Valley of northern Nubia, significant research of wall painting in Nubian churches has taken place. However, the latter studies are primarily discussed in a Nubian context. Similarly, wall painting in Christian Egypt is mainly discussed from an Egyptian point of view. This one-sided outlook from both sides, Nubiologists and (art) historians of Christian Egypt, has led to empirically unjustified speculation and dead ends. Only recently, a cooperation project has been set up, which has already solved puzzling questions on either side of the once cultural divide.

Another example concerns the collaboration of historians studying the history of the Straits of Malacca. Rivalries between the United Kingdom and the Netherlands resulted in the Anglo-Dutch treaty of 1824, which demarcated the respective spheres of influence of both colonial empires, which more than a century later was solidified in the independent states of Malaysia and Indonesia.

The political border, following the Straits of Malacca, should not obfuscate that the Straits is a marine highway connecting the two shores of the straits rather than a dividing line. Several historical kingdoms, like Johor, occupied land on both sides of the straits, or easily moved the seat of government from one side to the other. At a time when sea transportation was easier than transportation over land, the straits formed a connecting space and not a boundary. Political divisions, resulting in archives being stored in different countries, have not hampered historians to see the



cultural continuity on both sides of the Straits.

These two historical examples can be a source of inspiration for the study of contemporary issues. There are so many urgent topics that we can only understand when researchers are willing to overstep national boundaries. Just like politicians, scholars should not be held back by narrow-minded academic nationalism.

## **Interdisciplinary and International Community Service Learning an Opportunity to Connect the World?**

*Eduardo Urias, Sarju Sing Rai and Marjolein Zweekhorst<sup>1</sup>*

Vrije Universiteit Amsterdam (VU) encourages students, academics and professionals to be open-minded. To be people with A Broader Mind who expand their perspective academically, develop themselves personally and engage socially. Within the Broader Mind programme, VU offers students the possibility to take courses with a Community Service Learning component.

In Community Service Learning (CSL), students use their academic skills to contribute to societal issues. This happens in close cooperation and interaction with community partners. CSL initiatives are developed to address a wide range of societal issues, from simple problems to complex issues that are dependent on collaboration and co-creation between multiple stakeholders to tackle it.

The issues that are addressed vary in nature. For instance, if a community partner is seeking advice to start an online platform, then students doing a business administration programme may be able to directly contribute to

<sup>1</sup> Eduardo Urias (assistant professor), Sarju Sing Rai (assistant professor), and Marjolein Zweekhorst (full professor) are all affiliated with the Athena Institute, which studies and designs various interfaces between science and society.

addressing the problem relying solely on their own course work. But issues such as loneliness or plastic pollution in Amsterdam require a different approach. These are highly complex issues to which there is no clear answer and that involve many stakeholders with different values and priorities. These types of issues are often referred as ‘wicked problems’.

Addressing ‘wicked’ problems requires an approach that builds upon various (disciplinary) perspectives. This makes it necessary to establish new kinds of engagement that build true university-community partnerships based on reciprocity and mutual benefits and with an intentional focus on resolving a wide range of complex societal problems. At VU, the CSL team offers courses which allow students to address complex problems together with students from other disciplines as well as other nationalities.

The Interdisciplinary Community Service Learning (iCSL) module consists of two courses, ‘Interdisciplinary Community Service Learning: Defining Challenges in a Multi-Stakeholder Context’ (iCSL<sub>1</sub>) and ‘Interdisciplinary Community Service Learning: Addressing Challenges Through Transdisciplinary Research’ (iCSL<sub>2</sub>). The module welcomes Master’s students from any disciplinary background and university (national and international) to engage in inter- and transdisciplinary knowledge co-creation, and experience real-life research. Students are challenged to step out of their bubbles and collaborate across and beyond the campus: they are part of a cross-disciplinary student team, but also work together closely with communities, companies, organisations and governments to make an impact in solving complex challenges.

The two interdisciplinary and international CSL courses

were designed as part of a Comenius Leadership Fellow project and have been made available to all Master's students of VU in the past two years. The iCSL1 course runs from November to December and focuses on defining societal challenges together with community members and partners. In this course, students are prepared for and engage in a dialogue with the community. Various issues are identified which can either be addressed through a CSL course offered by VU, or the ICSL2 course, which is taught from February to June (6 EC). In the latter course, Master's students from various disciplinary backgrounds work in interdisciplinary groups to seek ways to address the (complex) questions. The course can run parallel to or be combined with the students' graduation products.

In November 2020, the iCSL1 course was offered for its second year. In total, 26 students from 15 study backgrounds and seven different faculties participated in the course, including one student of an Aurora university (Austria). From February to June, 38 students from various programmes took part in iCSL2, among which students from the Aurora network as well as international students from universities in Asia and South America. As the course was taught during the COVID-19 pandemic, teaching was undertaken remotely allowing students from all over the world to participate virtually. For more information on the course, see: <https://vu.nl/en/education/more-about/interdisciplinary-community-service-learning>.

In these two courses, the students jointly worked on complex issues covering a variety of local and global topics, including energy transition, food systems transformation, loneliness, mental well-being and digital inclusion. The students not only analysed these issues to find ways of address-

ing them, but also developed competencies for effective intercultural communication, meaningful collaboration, co-creation, knowledge integration and knowledge co-production. As the quotes below demonstrate, these focus areas and competencies are crucial for students to thrive and become leaders or changemakers in an increasingly globalised and connected world.

“It’s for sure a different way of doing science [than I’m used to] and it has a different way of providing insight, but it’s very valuable on the way to understanding reality and improving life for the beings on earth (which I think are the ultimate projects of science).” – Student of iCSL1

“Being part of iCSL2 definitely added value to my academic experience. I very much appreciate having had the opportunity to get to know people outside my usual circle, understand and learn from their backgrounds and contexts, and work together to distil lessons that are of value to society at large.” – Student of iCSL2

## Out of the Bubble and into the Echo Chamber: Researching Media Use and Effects in a Post-Broadcast Era

*Wouter van Atteveldt<sup>1</sup>*

Our perspective on the world is shaped by the information we receive. This includes our direct experience, but to a large (and presumably historically increasing) extent it is shaped by second-hand information we receive through mediated interaction – from the evening news broadcast to messages shared on social media.

If we want to understand why someone perceives the world in a certain way, it is imperative to understand the information they receive. Some of this information is determined by active decisions such as tuning in to a certain news source or searching for it on the Internet. A considerable part of our information environment, however, is shaped only indirectly by the consumer. For example, Dutch television channels differ from those in Russia, news available in Dutch is different from the news available in English, and my YouTube recommendations can differ from those of my colleagues. I could, of course, make a conscious effort to actively seek out information from a different environ-

<sup>1</sup> Wouter van Atteveldt is a professor of computational communication science and political communication. His main research agenda is developing and applying computational methods to study media effects in a fragmented digital media landscape.

ment, for example by using an English language news site or channel, but the reality is that many of our daily choices are determined by convenience.

This is not a novel thought of course, and much has been written in the social science literature about concepts such as selective exposure, filter bubbles, echo chambers and cultural bias. Simply put, selective exposure happens when people choose to consume certain media, especially if these media are ideologically close to their preferences. This can create a filter bubble if the personalisation algorithms of a channel or platform then learns from this behaviour to supply more of the same content, which leads to a positive feedback loop because the consumer is then even less exposed to other ideas. A salient example of this is the TikTok algorithm, which is very effective at learning a user's preferences and supplying similar content. Contrary to what many people fear, however, most news consumption is not yet strongly driven by filter bubbles. Most people still consume news mostly through non-personalised channels, and even platforms like YouTube that do use personalised recommendations tend to steer people towards entertainment content rather than ideological rabbit holes.

This does not mean people are necessarily exposed to a very diverse media diet. Echo chambers, environments in which people are over-exposed to like-minded content and viewpoints, are more pervasive but are created by (conscious or unconscious) choices rather than filtering algorithms. The fact that we consume mostly Dutch (or American, or German) news written by Dutch journalists for a Dutch algorithm creates a sort of nation-wide echo chamber where the cultural biases embedded in this information go mostly unnoticed, but nevertheless create a worldview that may be

radically different from that present in a different cultural context. The things most of us take for granted, about e.g. democracy, the role of religion or the good intentions of western military interventions, are much less self-evident to a consumer in, say, Iran, China or Venezuela. What do we take away from this?

As stated above: to understand why someone perceives the world in a certain way, it is imperative to understand the information they receive. Consider a Dutch person who gets most of his information from fringe YouTube channels, believes that COVID vaccinations are a plot to increase government control, and votes for a radical right party. In my 'bubble', a knee-jerk reaction to this person would be to explain that he is wrong about vaccinations, votes for the wrong party or the wrong reasons, and should stop listening to those people on YouTube. We would probably react similarly to someone defending the Russian or Chinese government based on a worldview shaped in these respective cultural contexts. This, however, is skipping the essential step of trying to understand what information this person receives, why they ended up consuming that information, and how that affects their worldview. On a personal level, this means we should probably try harder to connect with this person rather than correct them, which is much harder than it sounds. Even if ultimately we still think that 'our' perspective is somehow better than 'theirs', if we do not take the effort to understand what information, thoughts and emotions it is based on, we can never hope to connect with them, let alone convince them.

As a scientific field, it also has a clear implication: if we are interested in understanding phenomena such as polarisation, fake news, and science scepticism, we need to



get a much better picture of people's information environments. In essence, we need to return to the classic question of communication science: who receives what information through which channels, why, and with what effect. This requires computational effort to gather and analyse the consumption of both social media and conventional media, but perhaps even more importantly, use qualitative research to understand both the reasons for and reactions to that consumption.

## Woman, Life, Freedom, and the Power of Social Media

*Halleh Ghorashi<sup>1</sup>*

After the in-custody death of Mahsa Zina Amini in September of 2022, there have been ongoing protests in Iran, which have received continuous media attention. People all over the world have been showing their solidarity with the brave young women (and men) who are taking to the streets to protest against the suppressive Iranian regime. The current outrage and bravery in Iran is distinctive in many ways:

The movement, which is led by women who are no longer willing to accept the deep humiliation inflicted on them by the Islamic Republic, has been called feminist by many. Additionally, the women are broadly supported by men, and the movement is widespread.

The movement engages in performative activism (e.g., video, music, art, dance). Women are publicly removing or setting fire to their headscarves and dancing around the fire in protest against the restrictions imposed on them. The protest songs are melodic with lyrics based on daily

<sup>1</sup> Halleh Ghorashi is full professor of sociology. She was born in Iran and participated in the Iranian revolution of 1979 as a leftist activist. She came to the Netherlands as a refugee in 1988. Ghorashi studies narratives of migrants and refugees in relation to diversity and integration discourses, but also publishes regularly about Iran's women's movement.

conversations. The most listened to song globally to emerge from the movement, Baraye, has lyrics made up of tweets from ordinary people, all of which begin with the Persian word baraye meaning for. The song finds its strength in its grassroots simplicity.

There has been an outpouring of solidarity from around the world. Social media has been crucial in this respect.

In this essay I focus on the last two interconnected aspects of the movement: broad exposure of daring and creative performances through social media that have inspired mobilisation of various forms of solidarity around the world. One example is the manifestation of ‘turban tossing’: a ‘game’ that involves young women and men knocking the turbans off the heads of unsuspecting clergymen in public to express their disgust with the regime by humiliating it. Sharing videos of this practice on social media has amplified the impact of the protest actions (see for example: Tossing turbans of clerics becomes a new protest act in Iran).<sup>2</sup>

An example of global solidarity using creative/artistic methods is the growing number of graphics made by Iranian and non-Iranian artists. The caricatures recently published by the French satirical magazine Charlie Hebdo, which have outraged Iranian authorities, can be seen as a provocative form of artistic protest. Music and dance performances have also been a powerful example of global connectedness. The earlier mentioned song Baraye has been performed by groups of dancers around the world, including DC058 in the Netherlands.<sup>3</sup> One impactful performance was done by the famous Iranian actress in diaspora

<sup>2</sup> <https://www.iranintl.com/en/202211083679>

<sup>3</sup> <https://youtu.be/sD845oPGPfM>

Golshifteh Farahani during a Coldplay concert in Argentina. In 2023 Baraye won the first Grammy Award for Best Song for Social Change. In addition, there have been various performances of the Persian version of the Italian protest song *Bella Ciao* by various female artists.

Although the creative and artistic aspect of the current movement in Iran is quite remarkable, its global impact can be attributed to the intensive use of social media in Iran. The role of social media in protests is not without precedent: during the Green Movement protests in 2009, the hashtag #iranelections broke through to Twitter's top 5 of trending topics. With an increasing number of platforms and smartphones, the role of social media has become even stronger. Clips of suppression and demonstrations have spread around the world mainly through Instagram and WhatsApp, which had tens of millions of users when the Iranian government blocked it due to the protests. Iran ranks among the world's most extreme regimes in terms of Internet censorship, but Iranians are using circumvention software that allows access to filtered applications and websites. In the absence of free media in Iran, social media has become the last democratic stronghold of public debate. A good example of this is the group audio chat app Clubhouse, which creates a digital space for anonymous participants to discuss societal issues in sessions of up to ten hours, without being censored by the government. Additionally, satellite TV stations run by the Iranian diaspora (of varying quality) are a major source of information for many Iranians inside and outside Iran.

Thus, in spite of some criticism on the impact of social media and its reliability, social media has played a huge role in mobilising anti-government protests in Iran this

century. It has served as a tool to show the atrocities committed by Iran's suppressive regime, to connect Iranians inside Iran with the Iranian diaspora, and to make Iranian protestors' voices and demands for freedom heard in the rest of the world, inspiring global solidarity.

## Connecting the Worlds of Business and IT in Practice

*Bart van den Hooff<sup>1</sup>*

Recently, I talked to an experienced consultant about my research and teaching focusing on business and IT alignment. He looked at me in surprise, and said that in his view, this is no longer a relevant issue: as digital technologies are now embedded in everything an organisation does, business and IT have become entangled to such an extent that there is no business without IT – and vice versa. Consequently, they are automatically ‘aligned’. Although I understand this point of view, our research consistently shows that truly connecting the worlds of business and IT is still a challenge in many large organisations.

‘Alignment’ is often seen as a strategic subject: as long as we have an IT strategy that is in line with the business objectives of the organisation, we have achieved alignment. From that perspective, the consultant’s statement makes sense. For many organisations, ‘digital’ is a prominent part of their strategy, and as many practitioners and researchers have been arguing for over a decade now, a ‘digital business strategy’ is the focus for many of these organisations.

<sup>1</sup> Bart van den Hooff is a full professor in information systems. The foundational issue in most of his research and teaching is the alignment between the worlds of business and IT.

In other words, a strategy that reflects a ‘fusion between IT strategy and business strategy’, as stated in a paper published in 2013.<sup>2</sup>

But in spite of this trend towards the integration of business and IT strategies, the most pressing issue in connecting the worlds of business and IT is less about strategy than it is about the alignment of human and technical resources at a more operational level. Alignment is about the actual collaboration between people in developing, using and maintaining IT resources that add value to the business. It is about a constant process of aligning operational collaborations rather than establishing a state of alignment at a strategic level, about efforts to mutually understand each other’s language, interests and practices. And at this operational level, we often see that there is still a lot of work to be done in connecting people from the two domains.

For instance, at a bank where we studied the collaboration between business and IT across multiple years, one business representative said: “Developers, well... we just don’t seem to connect. The language they speak doesn’t make any sense to me. They talk too technically about things, and due to that disconnect in our language, there is only very limited collaboration.” To illustrate that this is not a one-way issue, here’s a counter example from a high-tech firm where somebody from the IT department complains about a lack of understanding from the business side: “They just see the front screen and think: OK, this is easy. But they don’t know what’s required behind the scenes to make it work. So they end up feeling frustrated because they don’t

2 Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). Digital business strategy: toward a next generation of insights. *MIS Quarterly*, 37(2), 471-482.

get why things are taking so long. They need to understand there's a lot that needs to be done before you can go live, and why this takes time.”

Although these are just two quotes, they represent a persistent pattern of miscommunication and misunderstanding between people working in business and IT. And it is this persistence that explains why business-IT alignment has been at the top of the list of CIO concerns for the past decades. In the meantime, numerous efforts have been dedicated to connecting the worlds of business and IT, from Agile software development to BizDevOps teams, and although these efforts definitely have contributed to improving the connection between them, they have certainly not solved the issue entirely.

So the question remains: how can we better connect the worlds of business and IT in medium-sized and large organisations? I would love to end this contribution with a definitive answer to this question, but if it were that easy, we (both practitioners and academics) would not have spent the past decades trying to wrap our heads around this. What I do know is that it is about (1) developing a shared language, (2) developing a shared sense of purpose, and (3) actively collaborating in IT-related projects. When there is a willingness to understand the other party (not only the words they use, but also their interests and practices, why they do what they do), and the realisation that ultimately, business and IT are after the same thing (an organisation that functions to the best of its abilities), the worlds of business and IT will become more and more connected. As IT indeed becomes increasingly embedded in organisations, it makes sense that collaboration between business and IT will be more extensive, which, in turn, builds mutual understanding and



shared purpose. On the other hand, this embeddedness of IT also presents new challenges in the relationship between business and IT, such as the 'consumerisation' of IT, cyber-security issues and enterprise architecture management, just to name a few. This means that we can be certain that a lot of research has yet to be done in the coming years in this dynamic and lively field.

## Harnessing Outrage to Create Social Change

*Catherine Molho<sup>1</sup>*

Scrolling through our social media feeds can make it feel like outrage is all the rage. Tons of posts are competing for our attention and it seems like there is never a lack of outrageous or morally polarising content. Think, for example, of recent news that environmental activists splashed tomato soup over Van Gogh's sunflowers painting – met with support by some and causing shock in others – or of posts by internet celebrities flaunting their high-emitting lifestyle. A recent example in which influencer Andrew Tate bragged about his numerous cars and their 'enormous emissions' led to a viral Twitter exchange with environmental activist Greta Thunberg, with responses from users of the platform numbering in the millions.

It is no surprise that morally offensive behaviours evoke strong sentiments like outrage. Moral outrage takes many forms – anger, disgust, or even hate – that have important social functions. In their various nuanced forms, emotions motivate our behaviour, communicate information to others, and elicit intended or unintended reactions from targets and bystanders. Feeling angry motivates us to confront

<sup>1</sup> Catherine Molho is an assistant professor in social psychology. She studies social norms and the role of emotions in moral decisions.

those who offended us – sometimes aggressively, other times constructively – and communicates that we are willing to take direct action. In contrast, expressions of moral disgust help us communicate and coordinate disapproval, for example by gossiping with others and negotiating norms of what is deemed acceptable or reprimandable.

Thus, our sentiments in their various shades allow us to navigate the moral conflicts that arise as we interact with each other in daily life. But what happens when the stage for these moral conflicts moves to online social networks? In social media, news of morally inappropriate behaviour spreads with enormous speed, and outrage can be expressed effortlessly, anonymously, and in mass. Journalists, media experts, and scientists alike have raised the alarm about the potentially corrosive consequences of online outrage for our social connections. A key concern is that the anonymity afforded by online social networks allows users to unleash the nastier, more aggressive sides of outrage with little repercussion. As such, morally offensive comments that in real-life interactions would be most likely witnessed by a few close others are amplified and can become a target of public shaming by thousands of strangers in online social media.

These prevalent concerns emphasise how the technological innovations of social media like Facebook or Twitter facilitate the expression of the toxic sides of outrage. As a result, many of the proposed solutions to the problem of online outrage focus on technological fixes. What if we could reduce the pile-on of abusive negative comments in social networks by tweaking the algorithms that dictate which content populates our feeds, such that it's not the most outrageous posts that get all the attention? Or what if through

a simple intervention that disallows quoting others' posts and commenting on them, we could reduce online harassment?

While it is tempting to rely on such small and easy fixes to change the nature of our online interactions, it is not enough. Instead, building better connections requires us to take a more active role as users and as citizens. Our moral intuitions are not inherently destructive or helpful; they are tools that we can use for bad or for good, to attack and shame offenders and to promote cooperation and create social change. Experiencing anger and other negative moral sentiments is a universal aspect of our psychology and expressing these emotions can be a legitimate means to call attention to injustice. When enough of us express outrage, a social tipping point may be reached, turning online debates into meaningful citizen action.

Still, the question remains: how can we keep the darker sides of outrage at bay and channel our moral sentiments in a more constructive direction? To achieve this, we primarily need institutional innovations rather than technological ones. Decades of interdisciplinary research on cooperation point to this insight – that our unique ability to come up with rules for our social interactions is the best tool we have to restrict antisocial punitive sentiments. Thus, to harness online outrage as a force for positive social change, we have to regulate its more aggressive side. As online citizens and social media users, we have an active role to play in supporting and legitimizing rules that create safer, less toxic, online interactions.

## Connecting Souls

*Ruard Ganzevoort<sup>1</sup>*

What is it with western secularised societies that they tend to avoid or neglect religion from the public arena or even outrightly ban it? The story we hear is that the age of faith has been replaced by the age of reason. Modernity, it is claimed, is the time of rational approaches to society and scientific answers to human questions. It leaves no space for religion. But that story is a myth. Atheism is certainly not gaining ground globally and modernity does not extinguish religion. Many modern societies are not anti-religious at all. And even if they are, they are mostly against institutional religion, not personal spirituality.

The challenge then for modern western societies, and also for their governments, educators, media, and scholars, is to find new and frank ways to engage with religion (or spirituality, world views, or life values, if one prefers those terms). Surely, religion is no longer a major factor in how we organise society in the Netherlands and some similar countries. In large parts of the world, however, society, politics, education, health care, and even economy cannot be prop-

<sup>1</sup> Ruard Ganzevoort is dean of the faculty of religion and theology, chief diversity officer, and politician. All these roles aim at connecting different worlds.

erly understood if we don't pay attention to religion.

That attention needs to include organised religion. In many contexts, cooperation with religious communities and authorities is essential to accomplish any substantial change in society. They can be allies, but also opponents to the values we may wish to promote. Therefore, it is equally important to counterbalance these religious authorities whenever they undermine human rights and endanger ethnic, religious, or sexual minorities. In other words, religion is one of the most potent and positive cultural structures humankind has developed (or received) but also one of its most dangerous examples. To take religion seriously implies an attitude that is both respectful and critical.

But even beyond organised and institutionalised religion, worldviews, spirituality, and values are crucial. They constitute what we can call 'the soul' of individuals, communities, and societies. They define why we connect with some people better than with others. They refer to our passions and desires, our hopes and fears. They mark the past and the future in which we find ourselves. They are, in other words, the storyscape in which we build our lives.

The need for such deep connections is very visible in post-conflict processes of mediation, reconciliation, and peace building. Truth and Reconciliation Committees, like the one in post-apartheid South Africa, work hard to rebuild society by unearthing the stories and creating new connections on the basis of deep values and profound honesty. The rainbow society of South Africa, with its highly inclusive constitution, is an example of such a new storyscape, although its deep values have not materialised to the extent envisaged.

For western, neoliberal societies like the Netherlands,

the loss or lack of social cohesion is directly connected with the erosion of our shared narrative. Secularisation and individualisation have played an important role in minimising the power of religious institutions. It has been much more difficult, however, to build a new storyscape that expresses our values and inspirations. With increased migration and intercultural exchange, the lack of a shared identity is felt much more, even to the point that some opt for a nostalgic return to the times of strong nation states.

Is there a new storyscape, an ethos that can bind us together? Is there a way in which we can connect our souls, locally, nationally, and globally? Surely the framework of the Universal Declaration that was written after the horrors of the Second World War was a milestone in building a new storyscape, even though it never was universal and continues to draw criticism to this very day. The seventeen Sustainable Development Goals are a similar effort in building a shared story. Both are invaluable anchor points.

If applied as legal or technocratic frameworks, however, they will not contribute much to a shared narrative. To build a connected world, we need to connect our souls. Religion, or spirituality, not only offers a language and repertoire to experience that level of soul connection, it also refers to traditions of wisdom that have served humankind in finding storyscapes to navigate the world. Our post-secular and fragmented world is in need of free-hearted, non-authoritarian, and post-dogmatic access to those resources of wisdom.

# The Rise of Immersive Technology: With Great Power Comes Great Responsibility

*Tilo Hartmann<sup>1</sup>*

Imagine a world without spoons, forks, and knives. These tools extend our capabilities beyond what we can do with our bare hands. We have gotten so used to them that we almost regard them as part of our body. Without them, we would be less capable, we could interact with our environment less effectively, and life would be less comfortable.

So, tools are just that, extensions of the human body and mind. Whether they are used for good or bad, however, seems largely determined by the greater ecosystem they are used in, from culture to the individual user. A knife can cut, for better or worse.

Media technologies are also tools. They extend the abilities of our human mind and body. Like a Swiss knife, most new media technologies, such as smartphones, offer several functions at once.

And now a new type of media technology has emerged: immersive media technology. Some say immersive technology, perhaps united in a Metaverse, will be our next Swiss

<sup>1</sup> Tilo Hartmann is a professor for virtual reality in communication science. He draws on psychological theory and methods to understand the use, experience, and effects of immersive technology on people and society.



knife, and that it will succeed the Internet and the smartphone.

Similar to dreaming or hallucinating, immersive technologies, for example virtual reality (VR) or augmented reality (AR), envelope users in powerful perceptual illusions. Unlike in dreams or hallucinations, however, these illusions are provided by technology. Both VR and AR require users to wear equipment like headsets or special glasses for the perceptual illusions to unfold. VR completely immerses the user in a digital environment using computer-generated sensory information. VR users feel physically present in a virtual space when they put on their headsets: their virtual body feels like their actual body, and they feel the physical presence of others in the same space.

In contrast to virtual reality, AR users are not isolated from the real world. They still see their physical environment, but the technology enhances it with perceptually realistic virtual objects, people, and information. While computer generated and virtual, the user perceives these objects like they are actually present. For example, augmented reality can bring to life a virtual three-dimensional dog in your living room or let you see arrows on the street when navigating to a new destination in town.

From a psychological perspective, immersive technologies are powerful tools. They are like a magical dream machine. They hijack the highly automatic human perceptual system, so once they are put on, they make users perceive and experience things without much choice or autonomy. When you are wearing a VR headset, you are stepping out of the real world and into a virtual one that commands your full attention, whether you like it or not.

But if we think about tools as extensions of the human

body and mind, and about tools changing the way we live and interact with both the environment and with others, what then exactly is the function of these new immersive tools? They are psychologically powerful, but to what end? In our digitally connected world, they are a Swiss knife for what?

Both tech entrepreneurs and scholars have shown in a range of domains that immersive technologies like VR and AR can make a difference, extend our human capabilities in seemingly beneficial ways, and change the way 'we do things'. Immersive technologies are already being used for new effective therapies to treat phobias like fear of heights, to provide new training and learning opportunities in organisations, to allow remote users to collaborate and connect, to enable on-the-spot problem solving by virtually blending in additional information or a remote expert, to host virtual concerts that allow artists and fans to connect in new ways, to show virtual homes or other objects to prospective buyers before they are designed or built, and so on. Clearly, immersive technology has great power and potential.

But with great power comes great responsibility. This raises the question of ownership and control. If technology can make people enter a dream-like state or lets them see things that aren't there, who makes sure this tool serves a good purpose, like the welfare, or well-being, of individuals and society? Will the Metaverse, should it ever emerge, be regulated, and by whom? Who is going to own these new hybrid (partly virtual, partly real) public places where we will meet, shop, and work?

The immersive technology ecosystem, from hardware and software to the surveillance and monetisation of us-

er behaviour and data, is currently dominated by a few big tech companies. But immersive technologies extend the realities that we experience with our own brains and bodies. Most people are picky about what they put on their bodies or let into out their thoughts and dreams. After all, is there anything more private or personal?

With the rise of immersive technology, we will have to start thinking about our responsibility as individuals and as a society. We must find a way to nurture the power of this new tool without sacrificing our autonomy and our ability to choose, while creating a culture in which immersive technologies are used to promote, rather than undermine, our welfare and well-being. Let us rise to the occasion.

# **Amplifying Citizens' Voice in Global Governance – Why We Need Inclusive Deliberation Processes to Solve 21<sup>st</sup>-Century Challenges**

*Kristina S. Weißmüller<sup>1</sup>*

We live in an age of global challenges. The COVID-19 pandemic has clearly demonstrated how local issues spread rapidly in a globalised world. Many citizens experienced personally how global challenges affect them, wondering who governs global crises. Political and multilateral institutions struggled to contain the negative impacts of the pandemic, which led to increased distrust in international organisations' (IOs) capacity to coordinate action to global challenges. This is particularly concerning because IOs – such as the United Nations, or the World Trade Organization – negotiate on behalf of their member states and bring together multiple stakeholders and multilateral agents to solve issues that affect the lives of millions of people. In the face of global disease, hunger, climate change, corruption, and war, citizens' trust in political and administrative institutions is eroding and it is of paramount importance to find ways to rebuild this trust.

<sup>1</sup> Kristina S. Weißmüller is an assistant professor in public administration. She researches administrative corruption and the psychological effects of 'publicness', e.g., regarding decision making, motivation, leadership, and negotiation behaviour.

IOs are independent actors in global politics. They represent multilateral bureaucracies that interact with various external stakeholders and a global audience of member states' citizens. Committed to the normative principles of impartiality, democracy, efficiency, and fairness, IOs affect the policies of their member states in many regards, for instance, by engaging in negotiation processes about trade, climate action, and armed conflicts, to name but a few. However, these IOs' negotiation processes are regularly criticised for their lack of decisional fairness, a lack of evidence-based decision making, and a lack of transparency and inclusivity. Simply put, they lack deliberative quality. Deliberative quality is the idea that decision making is more than the simple aggregation of pre-existing preferences but an interactive process through which different actors justify their positions to better assess the distinct options and eventually find agreement. It is the recognition that multilateral decisions are the outcome of an often non-linear and dynamic deliberation process and that it does indeed matter who is allowed to partake in this process and in which way. If we aim to rebuild citizens' trust in IOs, we need to make these global bureaucracies more trustworthy, by making them more transparent, more inclusive, and more just.

Trust is the decision to make oneself vulnerable to the actions of another party, irrespective of the ability of effectively control this other party. It is an inherently risky pursuit, and organisations' trustworthiness relies on three factors: ability, benevolence, and integrity. Simply speaking, it is easier to trust institutions that we perceive as competent in what they are doing, that we believe are acting in our best interests, and that have integrity while fulfilling their pur-

pose. During recent crises, political leaders and institutions often failed to convince citizens that they listen to citizens' concerns and that they are working toward effective solutions to humanity's problems. Therefore, the legitimacy of multilateral principles and logics of policy making and the institutions of global governance and IOs was questioned.

Giving citizens an actual voice is not only a democratic imperative but comes with many practical benefits because citizens are knowledgeable experts about the specific issues where they live. Fostering citizens' bottom-up agency and creative ideation may help overcome cognitive biases and path-dependent deliberation patterns and may simultaneously serve as a post-hoc control of policy implementation.

IOs are global bureaucracies, but they operate like partial organisations and do not correspond to any predefined institutional logic nor to a unique jurisdiction. Consequently, their organisational behaviour is much more 'political' than 'administrative' because they are concerned with various diverse, emerging, and often unrelated issues at the same time, leading to unpredictable and unformalized deliberation and negotiation processes, which often still happen behind closed doors and with only fuzzy documentation and oversight. As a result, empirical evidence and rationale may be traded for political objectives in the process of prioritisation, which is likely to exclude the voice and need of less affluent or less influential member states.

IOs should recognise that – in practice – some member states and some stakeholders have privileged access and, hence, have more power and voice to shape the deliberative process and the eventual negotiation outcomes. Engaging in a more transparent and realistic discussion about accountability and inclusivity in IO decision making will al-

low us to think critically on how to improve the workings of IOs to solve global problems. Encouraging bottom-up initiatives through the affordances of digitalisation and modern communication technologies will improve the deliberation process and build trust in IOs by allowing citizens from all member states to be heard. However, the ball is in IOs' court. IOs can find technical solutions to increase citizen participation. An investment into citizens' education about institutions and the practice of policy making and implementation will also allow citizens to participate in the deliberative process as more empowered and informed agents.

Complex, dynamic, and interconnected global challenges demand novel ways of thinking about problem solving, accountability, and collaboration. Modern technology offers a unique window of opportunity to reconnect with citizens and to rebuild trust through inclusive global governance. This means reforming the deliberation and decision-making processes in international organisations by including citizen voice and feedback more centrally. Dare to be more experimental and more transparent in finding better solutions to global issues. Dare to be more accountable and open to make these processes and their outcomes more legitimate and sustainable in an increasingly conflicted multilateral world order.

# The Connected World at the Heart of Science

*Frank van Harmelen<sup>1</sup>*

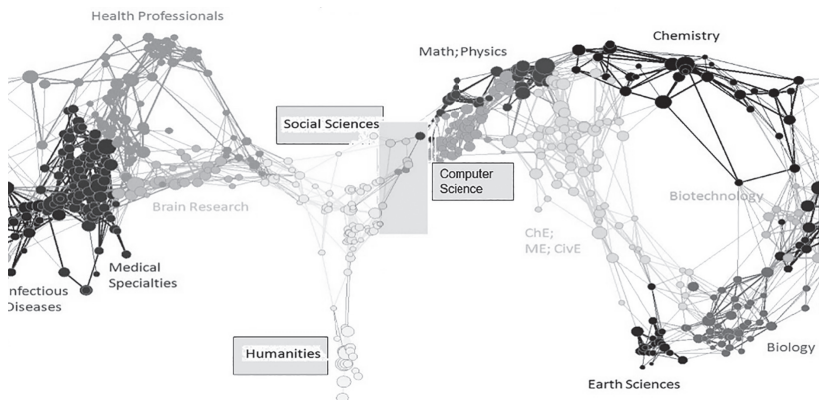
‘The Connected World’ is a cleverly nebulous term for a university-wide research theme – one which leaves much to our imagination. What is ‘being connected’? And in which world? Is the Connected World about computers connected by cables and communication protocols to form the Internet? Is it about people being connected on social networks? Or is it perhaps about large volumes of data that are being connected to each other to construct even larger volumes of data?

The answer is, of course, that we don’t have to choose, it is all of the above. And, perhaps unexpectedly, this doesn’t make the Connected World a collection of disconnected research topics (pun intended). Many of these questions feed into each other: the computer protocols that we designed for the Internet determine the capabilities of our social networks; the algorithms that recommend information to individuals have reshaped our democracies; and the technical design of the World Wide Web has led directly to the current unbalanced power structure in the online world.

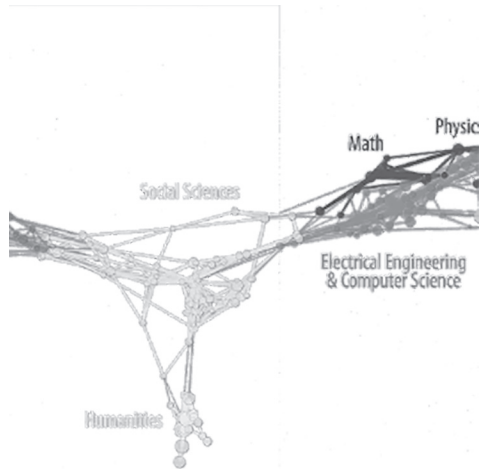
<sup>1</sup> Frank van Harmelen is professor of artificial intelligence. He helped to initiate the Connected World as one of the research areas of the VU and was the director of the Network Institute from 2012 to 2016.



On second thought, this coherence of such seemingly disparate topics should not have come as a surprise. The figure below shows the UCSD Map of Science, a reference-standard disciplinary classification system derived from articles and citations contained in more than 25,000 journals carried by Thomson Reuters' Web of Science and Scopus.



On the UCSD map, each article is located within a network (!) of 554 subdisciplines, which are then aggregated into 13 primary disciplinary classifications. Each colourful circle represents a unique subdiscipline and is sized by how many scientific articles are present within that subdiscipline (see <https://doi.org/10.1371/journal.pone.0039464>). Notice that the map is a 360° projection, so it wraps around from left to right. But even more importantly, notice what happens in the centre of the map: the areas of humanities, social sciences and computer science form an interconnected cluster, explaining the strengths of the vision behind the Connected World.

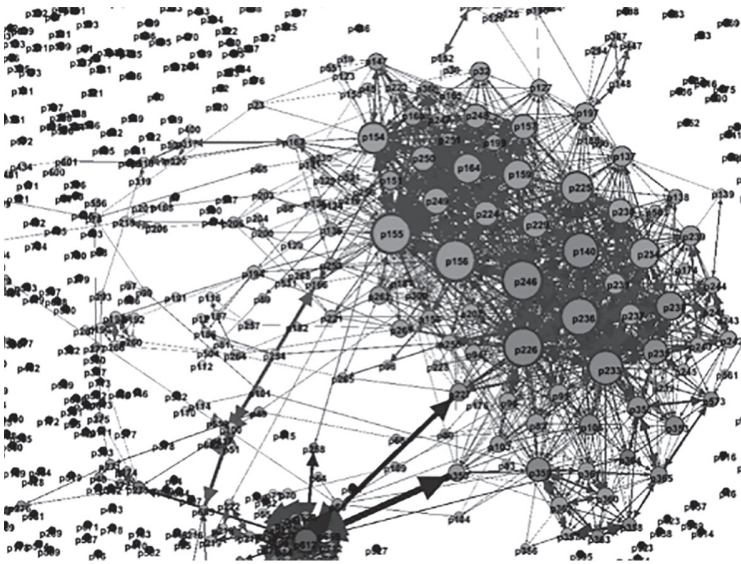


I have been repeatedly surprised by the unexpected connections between computer science on the one hand and social science and humanities on the other. Let me just mention two.

The first example goes back all the way to the PhD work of Wouter van Atteveldt. Wouter decided he would use computers to automatically annotate a large volume of newspaper articles in the run-up to a national election: who said what about whom, and whether it was positive or negative. I told him this would not be possible, since at the time I expected that computers would not sufficiently understand linguistic subtleties. But he proved me wrong entirely. (These are the moments you live for as a PhD supervisor!) After aggregating everything up to the level of political parties, he obtained an influence diagram which perfectly predicted the outcome of the coalition formation after the election. Wouter has recently been appointed Professor of Computational Social Science at Vrije Universiteit (VU) Amsterdam, and the name of his chair perfectly embodies the ideas behind the

Connected World and the Network Institute.

A second, and to me rather surprising, example is work by computer scientist Stefan Schlobach and philosopher Arianna Betti. Rather than close reading philosophical works themselves, they decided to let the computer read them. The diagram below shows part of the similarity network among all paragraphs in Bolzano's *Wissenschaftslehre* from 1837. Clusters of similar (but not necessarily adjacent) paragraphs reveal the central themes of the work.



This work was closely connected to Arianna's ERC grant for the project 'Semantics and Axiomatics from Bolzano to Tarski' and to her later work entitled 'Ideas at scale, a computational history of ideas'. Arianna is now professor at the Humanities Faculty of the University of Amsterdam (UvA) and maintains a keen interest in computational methods for philosophical investigations.

With its decades-long history of projects by ‘academy assistants’, the Network Institute is one of the pillars of the Connected World at VU.



From environmentally sustainable cloud computing to socially equitable AI algorithms, and from the influence of meteorological conditions on expressions of aggression in social media to using neural networks to study Biblical Hebrew, these projects are a true treasure trove of investigations into the Connected World. If you are ever doubtful of the societal and intellectual validity of research into the Connected World, just visit the Academy Projects at <https://networkinstitute.org/>. VU would do well to keep investing in these academically fruitful and socially relevant interdisciplinary collaborations!

# The Power of Stories: Connecting with Others and Ourselves

*Katalin Eva Bálint<sup>1</sup>*

Empathy is at the heart of a connected world. The human capability of understanding and sharing what happens in another person's mind is one of the most potent glues that bind people together. Empathy is crucial for compassion, cooperation, and building solid relationships, whereas a lack of empathy, or incapability of expressing it, can lead to lonely and empty lives. My research focuses on one of the most powerful empathy machine: stories. I examine the psychology of stories, how stories can help people feel empathy and how they can impact psychological well-being.

Humans are homo narrans – we live and breathe stories. We experience and remember life events as stories. When we listen to a story, we automatically connect it to previous stories that we store in our minds. Humans make sense of their experiences through stories. We feel the need to create coherent narratives of significant life events, and we keep talking to others and ourselves until we get the whole story right. Through this creation and sharing of stories, we create a self-narrative to understand our own life, as well as the

<sup>1</sup> Katalin Eva Bálint is an associate professor in communication science. She loves listening to personal stories. In her work, she studies the psychology of fictional narratives.

narrative of our community's past, present, and future. We are wired for stories and storytelling.

Stories are empathy machines. Most fictional stories are centred around a conflict that one or more characters have to face and make attempts to solve against all odds until a resolution arises. The audience feels with and for the characters and focuses on every detail of the storyline to gain a deeper understanding of the story's events. To understand the significance of the events, audience members need to track the mind of the characters: what do they want, what do they feel, and what do they plan to do? In other words, there is no way of understanding and appreciating stories without a minimal level of empathy. We need to understand the character's inner world for the story to make sense. However, this kind of attention requires a great deal of mental effort. When do we spend two hours just listening and trying to comprehend another person's life story? That's the power of stories, they playfully force us to exercise empathy for an extended period of time.

Empathising with fictional characters can lead to empathy with real people and with ourselves. Research shows that being engaged with a story of a character from a minority group can increase empathy for that group in real life. Stories have the potential to lessen prejudice and stigmatisation, which are great barriers to connection among individuals. Stories can not only improve our attitude toward others but can also help us better the relationship we have with ourselves. Sometimes we find ourselves watching a story depicting struggles we also have in our own life but never shared with anyone. Self-disclosure is difficult because it makes us vulnerable. But it is also an effective buffer against more serious mental health issues. Sometimes

simply seeing a fictional character go through the same moments and emotions is enough to make us feel less alone and can encourage us to talk about problems with trusted others. Our latest paper showed that when people empathise with a story character, they are more likely to open up about their own issues to someone in the following week. You could say that stories reduce shame or offer a means to overcome it.

As Jonathan Gottschall says in his book *The Storytelling Animal: How Stories Make Us Human*, humans are storytelling animals. Our brains are geared to react to storytelling. The media psychology of narratives offers opportunities to capitalise on the power of stories to forge deeper and more authentic connections.

# Connected World, Cultural Heritage and the Living Environment

*Gert-Jan Burgers<sup>1</sup>*

At the heart of the statement ‘today’s world is a Connected World’ lies an uncomfortable paradox. On the one hand, globalisation is accompanied by ‘universal’ sustainable development goals and the world wide web guarantees 24/7 connectedness. On the other, the same processes contribute to disconnection and exclusion. This paradox also holds true for cultural heritage, the subject of the present paper. Cultural heritage has long been seen as a connector par excellence, the key to community identity and cohesion. From this perspective it is increasingly being embraced worldwide as a resource for spatial planning and design of the living environment. However, looking at heritage from a critical perspective, one cannot deny that it often has been a vehicle for conflict and contestation. In the present paper I will argue that marrying the spatial planning and the critical approach to heritage opens new avenues to confront urgent societal challenges.

Since the 1960s, great progress has been made in creating structures to guide heritage conservation, especially in Europe. As the 21st century proceeds, however, it is becom-

<sup>1</sup> Gert-Jan Burgers is full professor in heritage and history of cultural landscapes and urban environments.



ing clear that a shift in heritage theory and practice, moving beyond conservation, is required. There are new drivers for change, including greater connections between communities, democratisation, and environmental change. Confronted with such a fast-changing context, heritage management has become more proactive and planners and policymakers worldwide are now integrating heritage in spatial planning and design projects to create more connected living environments.

However, not all heritage specialists are planners and designers. Those educated and working in the humanities often favour a critical, reflexive approach, asking questions like: How is heritage defined? Who is in charge? and Who owns heritage? Under the influence of critical theory, a tradition of critical heritage studies (CHS) has developed since the 1980s. CHS have adopted a constructivist approach, focusing on the making of heritage and on its use for socio-political goals. They argue that landscapes, sites and monuments are the subject of 'memorisation' and 'heritisation', as strategies in societal processes, serving to establish, enhance or contest power positions. In this view, heritage management is commonly part of an authorised heritage discourse which feeds an unchallenged consensual view of the past and the present. Moreover, this discourse quite often contrasts with heritage values of individual citizens and minority groups.

CHS have also reached spatial heritage practice, judging from the increasing attention paid to citizen participation in this field. However, the degree of participation remains quite limited and the dominant role of experts is hardly questioned. Likewise, in spatial heritage planning the rule still is building consensus, with images of golden ages

and other positively valued heritage concepts. Against this light, CHS can inspire spatial heritage planners to be more self-reflexive, and to question strategies and actions in the context of the discourses and social structures that they have internalised. CHS can also help to highlight conflict, domination and inequality in past and present.

On the other hand, it must be mentioned that few CHS move beyond theoretical deconstruction of past and present. This can lead to alienation from the future, from the urgent challenges which modern society poses – from migration to multiculturalism and from democratisation to digitisation. It can be argued that CHS would benefit from extending its scope and engaging in future-oriented analyses of key societal issues, in collaboration with spatial heritage planners. There are many ways to do so. One is to broaden the concept of heritage to include the uncomfortable, dark sides of history in spatial terms (e.g., tracing the geography of slavery, or open terrorscape as sites of conscience). Another way to embrace the critical call is to abandon the excessive fear of loss which incites conservation. This allows room for abandonment and, more in general, change in society.

All this clearly leads to a considerable widening of the field of heritage studies, and I would like to extend it even further. Key in my argument of bringing together spatial planning and critical heritage studies is the notion, common throughout the social sciences and the humanities, that landscapes and objects are intimately tied up in networks with human agency, social structures and value systems. These networks should be the very subject matter of heritage studies. They can even be approached as heritage, not in the sense of a stable, geographically defined, essen-

tialised historical entity, but as a quality, fluid and dynamic, continuously in the (re-)making. Analysis of these networks is vital for understanding how communities are connected, how groups are in- or excluded, how in these processes landscapes are shaped, and how they are eventually heritised.

Such analyses should not be limited to past and present landscapes, but include the design of future ones. Here, anthropologist Arjun Appadurai can serve as a guide. Whilst the future is traditionally the domain of urbanists, planners and economists, Appadurai forcefully argues that it is foremost a cultural fact. Meaning that also ideas and designs of the future are thoroughly entrenched in and informed by the social structures and value systems that we have just defined as heritage. To conclude, this is why I would like to invite, with Appadurai, the cultural sciences and humanities to connect with the future, and to join spatial scientists and practitioners in planning and designing connected environments.

## Connected and Open: Next Level Open Access

*David Oldenhof and Hilde van Wijngaarden<sup>1</sup>*

In a connected and digital world, sharing research information should be easy and natural. But what should be a ‘no-brainer’ has become a very complicated problem with many stakeholders, players, practical obstacles, big business concerns and global ambitions. Scientists and librarians from all over the world want to open up their research and have come up with very colourful solutions (Green, Gold, Bronze and Diamond Open Access), but seem to have got stuck. After the inventions of book printing and the Internet, are we now on the verge of another paradigm shift? Do we need to reinvent the world of scholarly communication? Are we moving in the right direction?

100% Open Access to all publicly funded scientific papers is the ambitious target set by the Dutch government. Currently, many universities are approaching this number, which amounts to a considerable shift in the scientific enterprise. However, the shift to Open Access has exposed significant risks for the inclusivity of science. Shifting from pay-to-read to pay-to-publish is turning primarily into a

<sup>1</sup> Hilde van Wijngaarden is the director of the VU Library, and David Oldenhof is policy advisor in this library. They work on many aspects of open science and open access.

new business model for publishers. This way of publishing runs the risk of becoming an exclusive practice for rich universities and elite research institutions. Libraries now have to protect their ability to participate in the knowledge-creation process for all, while they were early advocates of Open Access for this very reason. However, libraries should also be very critical when Open Access turns into an exclusive development.

A quick recap of the Open Access 'colours' is probably useful in this discussion. Green Open Access means that research papers are made available via an institutional repository in which they are deposited by the authors. In Gold Open Access, articles become free to read as soon as they are published, but this requires payment of an article processing charge (APC). Diamond Open Access is a model of publishing in which open journals or platforms are funded differently: not by selling subscriptions or payment to publish, but by organisations or universities or any other supporting party.

Major publishers have been switching their business models to mostly gold and hybrid open access formulas. Even though these publishers provide advance knowledge infrastructure to researchers, gold and hybrid open access models make knowledge transfer only available to wealthy research organisations that have the funds to cover the article processing charges, driving a wedge between rich and developing countries. This cannot be the future of Open Access. We have to find alternatives to keep this goal of a truly open and transparent knowledge infrastructure alive.

What complicates the picture, is that the scholarly communication ecosystem is not just about sharing information with increasingly technological advanced methods.

It is also about quality and trust: how can we recognise responsible research, how can we share information with the reassurance that each individual will be valued for their contribution and can trust their fellow scientists to work together and not steal other people's work? Publishers have set up a controlled system that offers this trust, but at what costs? Do these companies offer the open and inclusive environment that we need and are they working for the benefit of all? Or do they mostly serve their stakeholders?

Libraries themselves do not have the capacity to build and maintain trusted Open Access platforms. Therefore, they have to partner with research groups, government agencies and publishers. The big commercial publishers certainly have a role to play, but these giant companies cannot become the sole providers of the knowledge infrastructure, however attractive their shiny platforms may be to researchers. The global research community is ultimately best served with an ecosystem of interconnected Diamond Open Access platforms.

Creating this ecosystem is the next big challenge in the Open Access movement, and libraries and university policymakers have to work hard to make it possible. Libraries are institutions that are primarily founded to promote the common good, and they have supported global public infrastructures such as Wikipedia and Internet Archive since the start of the Internet. In the digital world, publishing information is not hard. Building trust, on the other hand, is terribly difficult. Libraries are among the few institutions that are still highly trusted by society, a reputation that brings great responsibility. To jointly create and sustain a rich publishing ecosystem, libraries need to become trusted and corporative partners of Diamond Open Access in-

initiatives. Only then can universities across the globe truly participate in the scientific dialogue. It's a way for all voices to be heard, which is so crucial in this time of global interconnectedness and the many challenges that we face.

## Should We Celebrate Education As the Great Enabler of a Connected World?

*Niels van Manen<sup>1</sup>*

In February 2012, I found myself in an ordinary classroom in an old school building opposite Artis Zoo in Amsterdam. But it wasn't long before I realised I was in for an extraordinary learning experience.

It was the first day of term. Having just completed my postdoctoral research on the history of fires and insurance in Europe, I was excited about the prospect of teaching a brand-new course on hazards and risk management. I was flanked by two colleagues. Martin, who had done PhD research on the Yellow River when China was still closed off from the world and subsequently made a career with Shell, was dressed in proper field work attire, a geological hammer at hand. And Henk, appointed in 1990 by VU as the first Professor of Spatial Informatics in Europe and CEO of a successful Geo-IT company, had brought the latest software used by emergency services to tackle floods and other hazards. Together, we were an unusual but as it turned out strong instructor team.

We discovered that our seventeen students, who studied

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Liberal Arts and Sciences at Amsterdam University College, had equally diverse backgrounds and brought exciting expertise to the table. Three students had gone to high school in Jakarta or Hong Kong. Located in the infamous Ring of Fire region, they had experienced typhoons, floods and earthquakes first hand. A German first-year student had recently returned from earthquake-struck Haiti, where he had volunteered for a public health NGO. The students' academic specialisations ranged from communication science, climate science, hydrology and environmental economics, to mathematics, international relations, engineering and physics. In the subsequent sixteen weeks we built as much on our expertise as that of the students, learning from each other in the process. We made risk profiles of potential flood zones in the Netherlands, visited emergency responders in safety region Utrecht, simulated a flood response in the classroom using software and training manuals developed for Jeddah (Saudi Arabia), and created post-earthquake recovery plans for Haiti.

In 2012, interdisciplinary, international and small-scale liberal arts and sciences programmes were highly innovative in the Netherlands. But in the last 10 years, education has changed drastically and arguably become a major enabler for an ever-increasing Connected World. New didactic approaches, new curricula and greater diversity among students and lecturers are a testimony to this.

At Vrije Universiteit Amsterdam (VU), through teaching methods like 'Community Service Learning' and 'Blended Activating Learning', students engage with stakeholders to explore major societal challenges and are actively involved in the design of their learning. Broader mind and mixed classroom pedagogies invite students and teachers to reflect

on their unique skills, values and personality traits, and to make the most of this diversity in practical learning experiences. New programmes like Law and Society, Science, Business and Innovation, Earth Science, Economics and Sustainability, Media and Culture and, (with UTwente), Creative Technology and Mechanical Engineering, are knocking down the traditional walls between disciplines, faculties and universities, attracting international students to Amsterdam. Although the campus and physical (living) labs remain important, digital technologies play an increasing role, allowing VU students to connect with peers globally. The Massive Open Online Course (MOOC) 'English Pronunciation in a Global World', developed by the VU Department of Language, Literature and Communication in collaboration with the Centre for Teaching & Learning, is a prime example of this. Since its launch in 2019, the course has attracted over 109,000 (!) learners from 191 (!) countries. It also contributes to UN Sustainable Development Goal 10 (reducing inequality) by offering high-quality English education free of charge to people who otherwise lack access. At the same time, it brings VU students into contact with English speakers from around the world, exposing them to more varieties of English than a regular teaching environment would.

In all these ways, education, through new didactic approaches and technologies, new curricula and increasing mobility and digital connectedness, is a great enabler of an ever increasingly Connected World. I feel privileged to be an educator and lifelong learner in this day and age.

*An afterthought...*

Researching for this essay, I looked closer at where the journeys of the seventeen students has led them since taking

my class in 2012. It is exciting that several students built on the experiences we created together. Some directly, by pursuing a thesis project on solar energy for Haiti or doing internships in our department, others indirectly by pursuing further studies and careers in journalism, engineering, business and science, each in their own way helping to tackle major societal challenges.

Teaching the course has been enriching for me, too. The skills I developed as a teacher of an interdisciplinary course with strong experiential learning components, and working in such a diverse team, have helped me to develop and lead comparable programmes for doctoral, Master's and Bachelor's students at VU, in collaboration with societal stakeholders and international partners. Together with Centre for Teaching & Learning colleagues, I am leading the Scholarship of Teaching and Learning programme at VU, with the aim to monitor and evaluate initiatives like these, and to help disseminate good practices.

## Everything is Connected to Everything Else

*Kristine Steenbergh<sup>1</sup>*

The book you are holding in your hands is connected to trees whose wood was used to form its pages. The jet-black gloss of these words very likely comes from a powder in the printing ink called carbon black, produced by the incomplete combustion of heavy petroleum products such as ethylene cracking tar. Should you be reading these words on a screen, then they are now connected to silicon, copper, boron, cobalt and tungsten: raw materials that made their way into your device through the most complex supply chain system in human history. They are also connected to the landscapes where all these materials came from, as well as to the people who extracted, transported and manufactured them.

The first law of ecology states that everything is connected to everything else. The meaning of a connected world is not restricted to the connectivity of human communication (digital or analogue). The urgent problems of the Anthropocene, the epoch characterised by immense human impact on the planet, find their roots precisely in the notion that we exist separately from non-human others. The climate crisis,

<sup>1</sup> Kristine Steenbergh is an associate professor of English literature. Her research focuses on early modern literature and culture, the history of emotions, ecocriticism and the environmental humanities.

pollution of the oceans, species extinction: they all emerge from the split we perceive between ourselves and what we call the natural world. Especially in western culture, minerals, plants, and animals have come to be seen as unlimited resources for human ingenuity and progress. Plants, for example, are uprooted in one part of the world and grown in industrial monocrops on land that has been cleared of all other life. Because non-human others are no longer perceived as beings, but as objects, we have lost a sense of interdependence with the more-than-human world.

What role can universities play in regaining an awareness of this entanglement in a connected world? How can we cultivate attention to all the countless interactions that make up a more-than-human ecosystem? I wholeheartedly believe that we need an interdisciplinary slow science attentive to the lives of non-human others as well as the myriad ways in which everything is connected to everything else. Students and researchers in this slow science would passionately immerse themselves in the entanglements they are studying—opening themselves up to the experience of the non-human other and to their interactions with other beings. Before immersing themselves into the lives of others, these slow scientists first try to empty themselves of their human preconceptions and anthropocentrism as much as possible, so that they can understand the other in their otherness.

Despite their anthropocentric name, the humanities have a key role to play in such an interdisciplinary slow science. One of the key questions for the humanities to explore in this context, is how humans can cultivate an awareness and understanding of interconnectedness with the planet. In the field of ecocriticism, for example, researchers have found that this kind of open attention to the non-human other

can be inspired and strengthened by literary texts or artworks that invite you into the experience of a tree, a tiger, or a mountain. New modes of teaching, such as wild pedagogies, can help to create the space for students and lecturers to encounter the non-human other without anthropomorphising them. In turn, exploring such alternative ecological imaginaries leads to a new ethical practice for the Anthropocene.

Moreover, the humanities have a tradition of understanding situated interconnections between situated phenomena and larger networks and timescales (which leads to monographs that allow for such a capacious analysis). These interconnections are not always fuzzy or warm: they include unequal power relations and the entanglement of social with ecological justice, as well as the interdependencies between past, present and future generations. Humanities scholarship can trace these interconnections from the perspective of intersectionality, exploring how ecological issues are entangled with gender and race, as well as with intergenerational and multispecies ethics.

In this research and teaching, the humanities can learn from and collaborate with indigenous cultures across the globe who have kept this sense of entanglement with the non-human other alive over centuries, despite violent efforts by western colonisers to eradicate it. I would suggest that we can also find such imaginaries of an ecologically connected world in the European past: if the modern idea of progress shaped our current predicament, then the archives of the pre-modern past also offer us traces of a western imaginary in which humans are connected to everything else. Humanities research is vital in cultivating a critical awareness of the myriad ways the world is alive and vibrating with potential for reciprocal ecological entanglements.

# **Citizen Assemblies as Method and Goal: Towards More Dialogical Science Communication**

*Jaron Harambam<sup>1</sup>*

Our world faces enormous challenges today: from climate change and rampant inequalities to widespread political distrust and growing risks of infectious zoonotic diseases. To combat these great challenges, policymakers and politicians often look for techno-scientific solutions provided by science. Our beloved knowledge institution is generally seen as the way to make such problems visible and solvable. After all, science provides us with reliable knowledge about the world without being led by clear political or economic interests. It can thus inform public debate rather neutrally with objective knowledge and effective possible solutions. Or so goes the idealised public image of science.

But it is precisely with these ‘wicked problems’ that this role of science as a neutral knowledge producer is not sustainable, especially when societal controversies develop around scientific knowledge claims. More scientific knowledge and stronger claims on certainty often lead to more scepticism, distrust and resistance towards science. How

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does that work? Answers to these questions are myriad, and do not have one single origin or cause, but various sociological research shows how the experienced social and cultural distance to science plays a central role. If people cannot relate to or identify with bearers of knowledge (such as scientists) trust is difficult to garner.

Yes, science is a beacon of light for many, but there are various groups in our societies who think differently. For them, science is too far removed from their everyday world, offers no solutions to their problems or cannot be trusted at all. They experience science as an elusive elite working for their own benefits, while not attending to the issues people face on the ground. Scientists, on the other hand, are often hesitant to engage with citizens in public debates: they fear the politicisation of science, they don't know how to react to hostile societal opposition, they are unsure about how to partake in mass and social media, and they ultimately feel misunderstood as scientists. Yet, being able to meaningfully engage with societal actors is more important than ever if scientists are to have any sustainable impact. So how do we bring science and society closer together?

This question is central to much science communication. Traditionally, people thought that a lack of knowledge caused a lack of love for science. It was thought that citizens simply do not understand how science works and what wonderful progress it brings us. If we only give them more information, distrust towards science would disappear and people would esteem science again. And so, much science communication focuses on informing the widest possible audience in crisp and clear language. To make scientific knowledge as accessible and convincing as possible, the inevitable uncertainty and complexity of science is removed,



while communicative solutions are found in the provision of simplified and unambiguous science information.

While such traditional science communication may work well for many, it falls especially short for the societal groups distrustful of science, and sometimes even has the opposite effect. People either feel patronised and not taken seriously, or the simplified forms of scientific knowledge are an easy prey for political adversaries. Perhaps knowledge is not what really matters here. Instead of the traditional unidirectional flow of information as the means to convince citizens of the merits of science, innovative science communicators understood well that only dialogical communication between science and society can foster robust and trustful relations between the two. Mutual understanding instead of knowledge provision is key.

One specific way to organise dialogical science communication is to deploy the tried and tested deliberative methodologies of citizen assemblies but now in the context of science. This means bringing together (randomly selected) citizens with various scientists to work in organised dialogue towards scientific knowledge (agendas) that are better aligned with societal needs. Especially since scientific knowledge plays such a pivotal political role in today's crises, it is important to include citizens in the making, and not just after scientific knowledge is produced. This is not just a democratic argument, but an epistemological one as well: drawing on a wider range of viewpoints improves the quality of (scientific) knowledge.

But these dialogical assemblies can also bridge the social and cultural gaps between citizens and scientists, and combat polarisation, distrust and alienation. While much of our public sphere is dominated by talkshow soundbites,

parliamentary quarrels, and social media algorithms which all stimulate controversy, citizen assemblies are designed to foster emphatic listening instead of dogmatic convincing. Moreover, by closely working together over a longer period of time, citizens and scientists come to know each other as human beings, making pervasive demonisations of the dangerous Other unlikely.

At VU's Athena Institute, a diverse group of scholars works on improving such science-society relations via the transdisciplinary research they do: bringing together different kinds of people and expertise to create more robust knowledge and more sustainable futures. With a new NWA Science Communication grant, the team of Willemine Willems and I are organising 'climate science citizen assemblies' this year to study how such dialogical engagements can help to bring science and society together, while setting the agenda for more societally responsive climate science.

## Feeding Back Findings from Interaction Research: Lessons Learned

*Joyce Lamerichs<sup>1</sup>*

In my work, I study the social fabric of health interactions from a micro perspective. In analogy to the threaded structure of a piece of cloth, my gaze is focussed on the turn-by-turn unfolding of talk, using interaction analysis as my lens. Working with audio and video recordings of real life family consultations or counselling sessions, I unravel how health professionals, patients and families together shape the conversations they participate in. By following how one speaker reacts to the previous one, I can illuminate how a turn at talk might be received as an information request, a challenge, or as an invitation to elaborate. The latter being three examples of actions we accomplish when we talk. To depart from how an utterance is taken up, enables me to ground my observations in ways that correspond to the ‘actions’ the speakers are accomplishing at that moment in talk and time. It also enables me to focus on how utterances are being received, irrespective of the prior speakers

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(good) intentions. This view in itself already constitutes a novel outlook for colleagues in the field and for many of the health professionals I collaborate with.

Using this fine-grained approach illuminates for example how psychosomatic therapists recurrently use ‘preliminary summaries’ of their clients’ problems. We have termed these actions ‘preliminary summaries’ because we see that they are often cautiously designed (i.e., presented with hesitations or word searches, seemingly looking to use just the right words). We also observed that clients respond to these cautious summaries with agreements, often followed by small modifications or with elaborations, which we have termed ‘second stories’. In the therapeutic context in which this example is situated, presenting such preliminary summaries can be a way to secure a shared problem identification, as they invite affiliative responses from clients that are coupled with further detailing of the client’s health problem. To arrive at such shared view of what the problem is, is an important therapeutic goal.

The above example is taken from an actual research project I’m currently working on together with a trained therapist and a general practitioner, who both work with people faced with medically unexplained symptoms (also referred to as persistent somatic symptoms or PSS). We have data sessions together in which we share observations on the transcribed recordings. I introduce to these data sessions notions from interaction research that describe language features which therapists also recognise; how clients respond with ‘second stories’ for example. And therapists bring in their expertise on what constitute therapeutic goals. Our data sessions offer room to bring our perspectives on what happens in the data together in new and mutually enriching ways.

I am deeply convinced that research collaborations with the people whose conversations we study as interaction analysts teaches us something invaluable. It has thought me to translate the interaction analytic vocabulary and my analytic observations to audiences that might not be familiar with our approaches or concepts. These collaborations and conversations such as data sessions invite both new questions and reflections, and bring up practice implications we couldn't have envisage beforehand. In all instances, it readily shows what practitioners find valuable in our analysis and what we, sometimes need to explicate more. Such was the point made by the general practitioner, when he mentioned that he never thought of patients who might be doing agreements when offering 'second stories'. Our discussion during the data session, made him reflect on how he might respond to them in other ways.

To facilitate such open conversations with the parties whose conversations we study, is a helpful strategy with considerable analytic benefits. If we want to become better researchers and better connectors across disciplines, we should train our novice researchers to collaborate with different stakeholders in gathering data and in conducting data sessions to collect different views of the data, both informed by interaction analytic expertise and expertise from the field. Much attention is still geared towards feeding back results to health professionals. Besides collaborating with health professionals, teaming up with patient representatives or carers as co-researchers could be a valuable next step to explore. New threads in the social fabric of health interactions may be laid bare, and with this, new connections with people outside our own disciplinary boundaries and even outside academia may arise and pro-

vide fruitful and novel viewpoints on the data. It might help us to promote the value of fine-grained interaction research and might even contribute to richer analyses.

## Let's Get Wild: Connecting the Human and More-Than-Human World

*Peter-Ben Smit and Iris Veerbeek<sup>1</sup>*

The Connected World theme of Vrije Universiteit Amsterdam (VU) invites us to look beyond our own bubble and connect with others around the world to form a global community of learners. Interacting with the world in this manner contributes to humanising the world, as it prioritises cooperation over conflict and community over competition. Yet, when seeking to connect interculturally, one also encounters topics that go beyond interhuman relationships: many current and potential conflicts in the world as well as situations of systemic abuse have much to do with humankind's relationship to more-than-human nature. Take, for example, wars being fought over access to natural resources needed to sustain growth-oriented consumerist societies, people (e.g., slave labourers) being abused to mine such materials, or people being forced to sell themselves into involuntary sex work in order to sustain families affected by drought or rising sea levels. Truly connecting with other people worldwide thus compels one to reflect on and re-think one's way of relating to more-than-human nature. In

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this contribution, we present an example of how this can be achieved by discussing the Locusts and Wild Honey project. Led by Iris Veerbeek, this endeavour seeks to introduce what is called ‘wild pedagogies’ into teaching at the Faculty of Religion and Theology and the Faculty of Humanities at VU, and is funded by the Amsterdam Sustainability Institute as a seed money project.

### *Connecting outside of our human bubble*

Rethinking one’s relationship to more-than-human nature involves actually listening to more-than-human ‘voices’. However, more-than-human beings may not always communicate the way humans do. The manner in which humans communicate and acquire knowledge is typically human, and therefore also human centred: it influences our perspective and is led by human interests. For example, humans – at least in western societies – are mainly focused on senses that are dominant for us, namely sight and sound. Whereas non-human beings may prefer communication through other senses, such as touch and smell, but also chemicals and pheromones. Therefore, if we want to rethink our relationship to the more-than-human world and live together in a sustainable way, we need to start taking into account more-than-human perspectives on the world. We need to get out of our human bubble and start listening and connecting in new ways.

### *Nature as co-teacher*

The Locusts and Wild Honey project aims to create awareness of more-than-human perspectives in the education offered by the faculties of Humanities, Religion and Theology. We do this by applying insights from wild pedagogies



to the way we approach literature. Wild pedagogies are pedagogical approaches that are about re-imagining and enacting human relationships within the more-than-human world. This is done through bringing the more-than-human world into educational practices, thereby recognising nature's agency and seeing it as 'co-teacher'. Active, reciprocal interaction with more-than-human nature in this manner aims to stimulate critical reflection on human-centredness in the way we gain knowledge and interact with the world.

*Listening to a glass of water*

Interacting with the more-than-human world in higher education may not feel natural to all of us. It requires stepping out of our comfort zones and being open to the unknown, the unexpected. It means letting go of an overabundant sense of control and recognising learning opportunities in every situation. This is how we found ourselves at one point listening to a glass of water. In the context of the "Sacred Food" course, part of the joint BA in theology, offered by the Faculty of Religion and Theology and the Protestant Theological University, we read the Bible passage in which Jesus turns water into wine. We asked the students to what extent their own experience of water – of tasting it, smelling it, looking at it, even listening to it – enriched their understanding of the text? We discussed whether our own experience of water was the same as that of people two thousand years ago. And whether we could really understand what this event meant for them. Our own (bodily) situatedness turned out to be an important factor in our interpretation of the text and the knowledge we gained from it. It is amazing what water can teach us.

### *Conclusion*

Vrije Universiteit's notion of the Connected World invites us to connect with the whole of the world, with other humans but also, and especially, with more-than-human nature. This challenges both the self-perception of humans in ways that can further the transition to more sustainable ways of living, and it challenges the VU community itself, both in terms of research and teaching. The example of introducing wild pedagogies in the classrooms of the Faculty of Religion and Theology offers a way to combine both: students are encouraged to rethink their way of looking at more-than-human nature and academic education receives a new impulse that is heuristically innovative and motivating.

## Protesting in a Contemporary, Connected World

*Jacquelien van Stekelenburg<sup>1</sup>*

All you have to do is watch the 8 o'clock news to see that citizens around the world are increasingly protesting to voice their opinions. As early as 1964, McLuhan proclaimed: 'The world is a global village'. Anno 2023, this is even more the case. As we are all connected in real time in this global digitised world, international conflicts are imported into the public sphere, putting social relations in countries on edge. In addition to these 'explosive imports', homegrown frustrations are causing citizens to turn away from society in relatively large numbers, and therewith from the state, science and also traditional media. But not only the number of demonstrations is on the rise, they also have a different look and feel. Why is that?

### *A digitalised networked society*

Late modern societies are changing. Solid societal patterns are eroding and we are moving towards a more liquid society, a network society in which connections between peo-

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ple are becoming looser and more flexible. People in late modern societies tend to prefer less binding and more flexible relationships with organisations over traditional rigid and hierarchical ones. They operate their own personal community network and are becoming increasingly connected as individuals rather than as members of communities, groups or local solidarities. Despite this process of individualisation, people are still committed to collective causes. Underlying this is what Lichterman calls 'personalism': people feel a personal sense of political responsibility rather than feeling restricted or obliged to a community or group. It is thus not the organisation or network per se that determines the connection, but an interaction between an individual and the organisation or network.

Although the process of individualisation has evolved since the late 1950s and 1960s, it has been greatly accelerated and moved to a new level by the rise of ICTs. Without ICTs, the network society as we now know it would not have been possible. Every citizen today can start a blog to communicate specific political ideas. Instant messaging via Twitter or MSN, but also blogs and wikis, facilitate fast and inexpensive many-to-many communication. People are able to form groups effortlessly via social media (e.g., LinkedIn, MySpace, FaceBook). Everything and everyone seem to be connected through virtual networks. What used to be effortful and time consuming – and thus costly – has become simple with the tools provided by social media.

*How is this influencing protesting behaviour?*

Although the population seems to be less organised in formal collectives and organisations, we are seeing more rather than fewer protests. Again, the reason for this can be

found in our digital network society. Since the rise of social media, there has been a shift from traditional organised protests to a new form of 'connective action'. Social media have enabled self-organised action (i.e., leaderless organising) and changed the dynamics of contention fundamentally by offering an arena and the tools for producing, expressing and engaging in political dissent and reducing the cost of information, communication and coordination. This supsize effect has made it possible to reach large groups of people in a short time at low cost, which has led to the emergence of protests led by apparently spontaneous, leaderless movements.

Social media have globalised protests, fostering collective identity across dispersed populations. (A staggering 75% of the Amsterdam demonstrations are so-called diaspora or solidarity protests.) What makes social media unique is that they enable users to publicly display their connections and visualise their social networks. Moreover, they allow people to display their identity. For instance, by adopting or donating a site or by adding a Twibbon to a profile (an image that can be overlaid on a social media profile picture in order to show support for a cause). An example of this is Black Lives Matter, where hundreds of thousands of people worldwide 'blacked' their Instagram profile.

But there is more: social media also have the power to connect the formerly unconnected. Unlike in the 1960s, demonstrations are to a lesser degree shaped by motivations tied to political orientation or ideology. Take, for instance, the protests against coronavirus measures and Dutch farmers protesting over emission cuts, where right-wing and left-wing extremism, anti-government sentiments, conspiracy theories and dissatisfaction with implemented policies came to-

gether. In addition, social media have expanded the tactical repertoire with novel tools such as online petitions, email bombs and hacktivism. Moreover, smartphones have made it possible to follow activists in real time, which has led to new tactics such as 'black bloc', where protestors wear black clothing and conceal their face with masks or scarves, making it harder for authorities to identify and prosecute them.

Bottom-up organising strategies (without the use of organisations) have also influenced the way protests are organised and conducted: contemporary demonstrations are often spontaneous gatherings. Without the experience and expertise from organisers and a fixed 'script', they tend to be less professional, which can make it more difficult for the authorities to come to agreements with the protestors. Calls for demonstrations spread through various social media platforms, as well as through protected messaging services like Telegram. Consequently, demonstrations have become more unpredictable and are more likely to get out of hand. This new form of protesting poses a challenge to public order and security and may put the democratic process of freedom of expression under strain.

## ***Data is Plural, except for the Experts***

*Luuk Lagerwerf<sup>1</sup>*

I am very interested in the research of texts, especially in studying the effects of formulations in specific text types. I focus on micro-analysis, for instance of advertising, political slogans and news headings, but I also want to understand the effect of formulation on readers and generalise over larger quantities of phenomena. For instance, the use of metaphors in news headlines such as ‘Landslide Victory of Conservatives in Election’ may influence our thinking about elections in terms of natural disaster. However, if we were to assess how often such metaphors occur in headlines, or how readers respond to metaphors in headlines, the results would probably not be very impressive. Meta-analyses have shown only small effects.

People with an interest in language use and meticulous analyses should also investigate larger quantities of texts or readers to assess the relevance of the phenomena they investigate. In other words, it is worthwhile to analyse data sets on a larger scale. Luckily, there are a lot of computational researchers that can handle really large data sets and

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analyse them automatically. Although working with these researchers is exciting, I often end up feeling detached. This feeling seems to be triggered by their use of the word *data*. Since *data* is a plural noun it should take a plural verb, as in *the data were analysed*. Listening to people say *the data was analysed* always makes me cringe. And yet, this is what computational data analysts do, without exception. Maybe the distinction between plural and singular *data* is more apparent in Dutch, but it exists in English as well.

Since I am both a text researcher and a teacher, I might be oversensitive to certain language particularities. I do believe that students who use *data* in the singular form do the same with *media*, and make many other common grammatical mistakes in academic writing. I tend to think that people who commit these errors simply cannot write. However, in many scientific journals and books *data* is used as a singular word. And despite my personal annoyance, the singular *data* is commonly used in spoken language.

And it gets worse. On the rare occasions that it felt safe enough to ask my fellow researchers why they used the singular variant, they were really offended. Their use of the word was not a mistake, it was the only right way to talk about data. Treating the word *data* as a singular entity defines you as a data analyst, people who use the plural form show that they can't handle data properly. In other words, not only was I wrong to get annoyed with their language use, the fact that I preferred the plural form was clear proof of my own incompetence. We seem to have gotten to a stage where the word is used as a shibboleth, or indexical marker, to distinguish true computational scholars from would-be intellectuals. So, if you don't want to be cancelled by computational scholars, it would be wise to stick to the singular form.



Maybe the cause for this division between computational scholars and me (to keep it small) is that they gather data automatically, by scraping the internet with search terms. The fact that data are on different platforms, each with their own limitations of access, is hampering the collection of a really massive set of texts. A change of paradigm in text analysis (or natural language processing) might be another factor. Before the turn of the century, rule-based computational grammars were developed to analyse text, but statistical approaches appeared to outperform grammars in applications like, for instance, automatic translation, without much linguistic insight. One professor in the new era shocked a plenary conference room of text analysts by claiming that ‘a text is nothing but a bag of words’.

Even if the rise of *data* as a singular noun was only accidental, I can’t help but wonder why experts in data handling use the term like they do. Scholars of word meaning, or lexicologists, know that the meaning of words is highly determined by their surroundings. To a large extent, contexts determine the meaning of lexical items. For example, a small elephant is still bigger than a big mouse. The genre of a text, or the platform on which it is published, may determine part of its meaning. If you perform text analysis on a large scale you need to be aware that your data are structured and layered. This is what data researchers warn for themselves: ‘Be careful, the data is structured and layered.’ It would help to conceptualise the data if you thought of them as plural.

# Toward Sustainable Food Systems: The Need for Transformative Research and Innovation

*Jacqueline Broerse<sup>1</sup> and Kristiaan Kok<sup>2</sup>*

Food is a crucial part of our lives; it is not only necessary for our health and well-being, food also plays an important role in social cohesion and cultural identity. Food is produced, processed, distributed and consumed in so-called food systems, which comprise a complex web of food-related activities, institutions and actors. Over the past two decades, it is increasingly acknowledged that our current food systems are unsustainable and serious socio-economic and environmental challenges have become evident. To solve these challenges, we argue, there is also a need for transformative research and innovation (R&I) that can more effectively support transformation toward sustainable food systems.

In many parts of the world, millions of people are still unable to afford a sufficient meal every day. At the same

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time, food environments across the world strongly promote unhealthy foods (i.e., foods high in refined carbohydrates, sugar, saturated fatty acids and salt, highly processed foods and animal-based products). This is one of the main causes of overweight and obesity, and the rates are increasing at alarming speed. It is estimated that over half of the adult population in Europe is currently overweight and at risk for or living with diet-related health problems, such as cardiovascular diseases, diabetes and certain cancers. Current dietary patterns and the way the food system is organised are also associated with considerable environmental challenges. Food systems – with their large-scale production, high dependency on chemical inputs and long-distance mobility – inflict serious damage to ecosystems, affecting biodiversity and soil and water quality, and contributing to climate change. Furthermore, small-scale farmers, fishers and workers involved in harvesting and processing, struggle to earn a reasonable income. These challenges reinforce one another: the environmental effects aggravate the human health implications and vice versa. Both are highly unequally distributed, particularly affecting low income and migrant populations. Prospects are bleak unless we radically change our food systems. Around the globe there are increasing pleas to transform food systems to become more sustainable, healthy and just.

It is often argued that R&I could be important catalysts for sustainable transformation. R&I can provide opportunities and drivers that may facilitate pathways toward sustainable food systems. As food systems are highly complex adaptive systems and their challenges are strongly entangled, pathways to change are typically faced with many barriers, resistance and unexpected trade-offs. This complexity

necessitates a systemic approach, which implies that R&I should take into account the many different factors, actors, sectors, disciplines and levels in the food system. Besides a systemic perspective, it is argued that R&I should adopt transdisciplinary research approaches that include different voices and perspectives from society (such as citizens, policymakers, and businesses) in the co-creation of knowledge, innovations and policy. The literature on system innovation and transition theory argues that system transformation also requires reflexive governance approaches, including the strengthening of multi-actor networks, co-creating sustainability visions, developing transition agendas and pathways, co-designing and implementing transition experiments in real-life settings, and reflexively monitoring progress in action. R&I that adopts systemic and transdisciplinary approaches has been labelled transformative R&I.

To date though, R&I have not fulfilled the promise to pave the way toward a sustainable future, despite the fact that an increasing amount of funds are being made available. Rather than contributing to transformative change, R&I efforts are mainly focused on further optimising the current food system (e.g., investments in the development of end-of-pipe technologies to reduce greenhouse gas and nitrogen emissions from large-scale livestock stables, instead of upstream innovations that support the protein transition towards more plant-based production).

Various barriers have been identified that hinder the uptake of transformative R&I. First, the R&I system is still highly fragmented into separated disciplines and sectors. It has successfully addressed compartmentalised parts of the food system, such as agriculture and food consumption, but rarely takes an integrated systems approach. Second,

active involvement of stakeholders, particularly civil society organisations, small-scale farmers, consumers and citizens rarely occurs. Many researchers lack transdisciplinary research competences; they hardly value experiential knowledge of users and consumers, and lack the skills to organise multi-stakeholder involvement and knowledge co-creation in research processes. Third, current academic incentive structures and funding agencies often do not support and reward transdisciplinary research approaches, which further discourages researchers from adopting such approaches. Therefore, if R&I systems are to be successful catalysts of food system transformation, they need to change as well. We thus need a coupled system transformation of both the food system as well as the R&I system.

At the Athena Institute (Faculty of Science, Vrije Universiteit Amsterdam), we conduct research on how to understand and stimulate such a coupled system transformation. To this end, we received substantial financial support from the European Commission within the policy framework Food2030 and the Farm-to-Fork Strategy (part of the European Green Deal). In various projects across Europe and beyond, we experiment with strengthening Food Policy Networks (science-policy-practice interfaces), mobilising actors, managing Living Labs for transformation, reflexive monitoring in action, as well as competence development among young scientists and actors in the food system. These efforts are combined and aligned with other developments in academia such as Community Service Learning. We are committed to doing and organising research and innovation differently to help rapidly accelerate transformations toward sustainable, healthy and just food systems across the globe.

## Connecting the Divine

*Bert Jan Lietaert Peerbolte<sup>1</sup>*

Religion is a contested phenomenon in the modern western world. Why would human beings want to venerate an imaginary friend, who is invisible, and claims to be almighty? And if this friend indeed exists and did create this world, why would this almighty Supreme Being allow evil to happen? Why would this Supreme Being be interested in humankind at all? These are serious questions that every religious tradition has to answer. There is obviously a variety of possible answers here and the answer does not only depend on the religious tradition that formulates it, but also on people's position within any of these traditions.

The question of suffering is answered in many different ways. Christians will say, this is exactly why God became human – to experience suffering and sacrifice Himself in expiation for the suffering of others. Buddhists will probably answer that suffering is an experience of the mind: only the wish to change the situation causes the suffering, for if you are at peace with what happens, you do not suffer. Many other religious traditions offer alternative explanations for the existence of evil.

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Religion is a way for humans to make sense of a world full of unexplained phenomena. While often seen in the modern West as divisive – since religion not only includes, but also excludes people – its social function has been that of connecting people. To each other, to unknown outsiders, and to the unseen world. Scholars of religion have a hard time defining this phenomenon. It is seen as a modern, western label, protestant in character even, that sets apart a dimension of human culture as an independent field whereas it would not be seen as such by many religious practitioners, past as well as present.

The scholarly problem of searching for a watertight definition of religion as a cultural phenomenon can be solved when approached through the lens of the Connected World. This is what religions intend to do: foster the relationship human beings have with each other, with the Divine, with the cosmos. In fact, the term itself is derived from the Latin *religio*, which stems from the verb *religare*, and has the root meaning of connectedness: the binding connection. The verb is used in ancient Latin for instance for the binding of a ship to the shore. It expresses the strong connection made by the cables that fasten the boat in order to safeguard it from drifting off.

The paradox of religion is that the word indicates the function of connecting people, realms, worlds to each other, while the object of most religions is defined as the sacred. This word, in turn, is also derived from Latin, in this case from the adjective *sacer*. And *sacer* is the opposite of *religio*: it describes anything that is ‘set apart’ from mundane society, not belonging to the human sphere, sacred. The term also has a negative meaning and is used to designate things that are dangerous or cursed, realms not to

be messed with. The paradox of religion is that it connects people to a realm that is considered set apart, because it is out of this world – because it is, or can be, dangerous.

Why study religion in a secular society? Our university has set itself this task and will hopefully continue to do so. The social and personal impact of religious groups and affiliations can be tremendous. Religion has the power to motivate, empower, console, and help us find our identities as social beings. But religion can be misused, too. Also this misuse should be studied, if only to prevent further misuse.

What makes religion not just an interesting, but even an important field of scholarly inquiry, is that it takes so many different forms. On average, religions tend to not only shape people's convictions and thoughts, but also their patterns of behaviour. Many religions set certain writings apart as authoritative, and the study of these writings and their reception history, as well as their modern usage, are of eminent importance for our understanding of human cultures. Convictions, patterns of behaviour, authoritative writings, but also authoritative places and persons, and their dealings with history, they all make up religious traditions and are worth studying in an effort to understand how human beings shape their own connections to the world that they perceive as surrounding them.

Religion matters, even in a secular a society as the Netherlands today. Also because a secular bias is in danger of becoming a normative, colonial starting point for studying the rest of the world, and thus may cause us to lose our connection with many societies that are inherently religious.



# From Connection to Correspondence As Approach to Transcultural and Transdisciplinary Collaboration

*Joana Meroz<sup>1</sup>*

One of the most urgent discussions within sustainability research today is: how can global ecological collapse be countered without erasing the local realities of Indigenous peoples? “As Alyne Costa observes, the challenge is that while the ongoing ecological damage is systemic and hence forms a global emergency that affects everyone (even if differentially), any universal solution is problematic since it is by definition bound to override local, Indigenous autonomy.” For example, a ‘conventional’ approach to sustainability that is guided exclusively by ‘universal’ techno-scientific theories of ecosystem restoration may bring about a low-carbon future – but is problematic because it might well entail Indigenous and traditional communities being prohibited from living and working in their lands in traditional ways.

In response, a host of scholars have started examining how sustainability transitions can be achieved ‘justly’, which is to say, where the multiple needs, perspectives, tra-

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ditions and realities of marginalised populations are also acknowledged and respected.

This is a significant first step; but we need to go further. Decolonial scholarship moves beyond questions of representation and reparation to posit instead a radical de-hierarchisation of research practice. In other words, the decolonial proposition is for knowledge production to become a matter of thinking with historically marginalised groups, rather than arising exclusively and autonomously from academic institutions.

However, speaking from my position as an assistant professor of Design Culture Studies working at and from the confines of Dutch academia, I view the translation of decolonial theory into research practices as fraught with challenges. What role can researchers (such as myself), thoroughly implicated as I am/we are in Eurocentric knowledge systems, play in the project of decolonising sustainability research practices and in the co-production of local alternatives? As Ahmed Ansari notes, we generally lack the knowledge of non-hegemonic European languages, cultures, histories, texts and contexts to be able to translate, interpret and configure non-Anglo-European canons.

While I agree, the decolonial project fundamentally entails involving the voices of a variety of actors, such as Indigenous and local experts and scholars, communities of practice and makers, activists and students with whom to co-create alternative ways of knowing/doing, precisely to re-define the knowledge canon. I would argue that one of the core challenges facing the decolonial imperative therefore concerns developing cross-border collaborations without either 'othering' or 'saming' (to borrow from Eduardo Viveiros de Castro). In other words: how to ensure that we are not

surreptitiously reinscribing Eurocentric and reductionist modes of defining who is allowed to enunciate and produce knowledge? How to move away from reinforcing essentialised identities while remaining sensitive to difference?

In our collaborative research project *Decolonising Sustainability Research in Practice*, we are engaging these questions by using Tim Ingold's concept of 'correspondence' to think against the grain of the concept of 'connection'.

The notion of 'connection' evokes fully-formed, distinct and fixed points in space that can be linked up into a network. Across this network, pre-existent views, beliefs and interests can be transported, back and forth. Connection thus assumes and relies upon the idea of static and self-contained positions that exist prior to and independently of each other, which risks reducing difference to predetermined and essentialised identities.

Although sounding similar, Ingold's notion of correspondence is diametrically opposed to the concept of connection. Correspondence refers to points that are not rigid but are set in motion in a process of answering and being answered to. In this movement through time, points transform into lines; lines whose shapes are not independent but mutually responsive – like two people who go out for a walk and attune their steps in relation to the terrain and to the movements of the other. These paths grow in time through processes of co-creating new artefacts and the new knowledge needed to understand them. So, while connection is about the joining up of already-formed identities, Ingold emphasises that correspondence is about the generation of being. The focus is on getting points to move from their fixed positions, meet each other halfway and together cre-

ate new paths for both, paths that are distinct yet reciprocally attuned.

Correspondence's 'togethering' – rather than 'saming' – thus generates conceptual possibilities for developing decolonial modes of transcultural and transdisciplinary collaborations that circumvent connection's problematic 'othering'. Particularly promising is correspondence's notion of 'walking along in difference'. It opens up the prospects, on the one hand, for a relational creation of identities rather than assuming them to be already fixed in advance, and on the other, for a relational creation of knowledge that contains (in the sense both of defying and encompassing) the hierarchical system of knowledge underlying academia.

## Broaden Norms to Connect the World

*Marieke Slootman<sup>1</sup>*

Society's disintegration will not be solved by fitting in the 'Other' into the narrow norms that exist in society but by broadening the norms in a way that more people can fit in with society. Genuine connections call for shifting our gaze to those who recreate societal norms every day – through their decisions, actions and expressions. This is a call for all of us to stand still, listen and reflect. All it takes is a little openness and modesty. Specifically from people in positions of power. Starting with you. And me.

I'm embarrassed when I catch myself doing it. Attributing more expertise to a broadly built, male speaker with a low voice who comfortably occupies the space, than to a female panellist with a higher pitched voice. Being pleasantly surprised at the intelligent words coming from a comedian with migrant roots. (Why do I find this noteworthy?) Or reminding myself not to address the person pushing the wheelchair but the person in the wheelchair, who is perfectly capable of holding a conversation.

Despite my Master's degree in gender studies and conducting many years of research on processes of exclusion, I

<sup>1</sup> Marieke Slootman is a researcher in sociology. She studies processes of inclusion and exclusion in education and was VU diversity officer education from 2019 to 2021.

regularly catch myself using stereotypes and underestimating people.

The fact that categorising and stereotyping are common psychological tendencies does not mean that we have to follow those tendencies. They are extremely consequential and need to be challenged. They determine who is seen as respectable, professional or trustworthy. Such conceptions are connected to gender, skin colour, religiosity, disability, accent, body shape, and more. These biases shape who is perceived as a good leader, a promising student, an inspiring manager or a pleasant colleague – and who is not. They have become part of our norms, norms that prescribe what constitutes desirable behaviour, acceptable communication or an admirable work attitude – and what does not. They shape the norms that determine who is taken seriously, hired, appreciated or promoted – and who is not.

Narrow and exclusionary societal norms stand in the way of genuine connections, true belonging and social inequity. They feed polarisation and segregation. They feed conflict and intolerance. They enable inequity to become embedded in organisations and institutions. This is why we must change them. We need to broaden our norms to appreciate more styles, attitudes, perspectives and bodies.

To do this, it is necessary to first recognise existing norms and stereotypes. As many stereotypes are stored in what Gloria Wekker calls our ‘cultural archive’,<sup>2</sup> they often go unnoticed. Many of us are unaware of making exclusionary judgements, or we take them for granted. To recognise what role our unconscious biases play, we need to pause and park our egos. We need to examine how we favour some

2 Wekker, G. (2016). *White innocence*. In *White Innocence*. Duke University Press.

people over others in our judgements and behaviours. We need to open a dialogue, suspend our presumptions and genuinely listen to the experiences of others in order to understand the impact of exclusion. Ghorashi and Ponzoni describe this as 'stepping aside' to create an 'interspace' for connection<sup>3</sup>

In organisations and institutions, developing awareness of how our norms work and can be broadened requires breathing time. But how to find time to pause for reflection when we are running around like madmen? Stress and work pressure are the ultimate enemies of connection and dialogue as they inhibit the creation of interspaces.

For individuals, developing awareness requires modesty and acceptance of discomfort. This might sound easy but can be extremely challenging. It is particularly uneasy for the privileged among us who are not used to discomfort. And it is certainly not easy in a society where determination and firmness are praised, where vulnerability is punished, and where labels such as 'political correctness' and 'woke' have become dirty words, disqualifying nuance and consideration of alternative views. It is urgent that we change this. Together.

So, the best I can do with my embarrassment is to embrace it. To see discomfort as a signal. A sign to pay attention and be perceptive. To hesitantly park my ego and my well-intentioned opinions and open up for dialogue. For genuine connection.<sup>4</sup>

<sup>3</sup> Ghorashi, H., & Ponzoni, E. (2014). Reviving agency: Taking time and making space for rethinking diversity and inclusion. *European Journal of Social Work*, 17(2), 161-174.

<sup>4</sup> This contribution is inspired by Slootman's earlier blog post at [www.socialevraagstukken.nl](http://www.socialevraagstukken.nl) (15 July 2020, in Dutch).

## Religious Heritage Amsterdam on the Map

Forgotten collections that tell of the deeper  
layers of ourselves

*August Den Hollander, Hermine Pool and Birgit Büchner<sup>1</sup>*

In the oldest part of Amsterdam's inner city, once so posh that the area was called the Fluwelen (Velvet) Burgwallen, houses of worship of various faiths stand close together. A Buddhist temple is around the corner from the city's oldest church, a little further on in a former monastery the Walloon Church, within walking distance the Portuguese Synagogue and the English Church, on the Rozengracht you will find a mosque. Some houses of worship are hidden from view. One could almost speak of a religiously diverse microcosm. The houses of worship reflect the turbulent history of religious Amsterdam that changed society and defined the city. By researching and relating religious collections and buildings, insights can be gained into the complex multi-religious and multi-cultural DNA of Dutch society.

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### *Religion is ubiquitous in the city*

Religion is still omnipresent in the city of Amsterdam and Dutch society: in the news, in art, at work, in safety, in public spaces and in what 'new' Dutch people bring. Therefore, knowledge of religion and religious diversity in society in the past and present is important. The study of religious heritage can make an important contribution to this. Studying religious heritage can provide insight into the cultural and spiritual traditions, practices, and cultural artifacts that are associated with a particular religion or faith tradition. It includes physical elements such as buildings, artwork, ritual objects, books, or other objects that are connected to a specific religion, as well as intangible elements such as rituals, music, stories, teachings or other aspects of religious traditions.

### *Present and past*

Religious heritage can be important for people who actively participate in a religion, as it can help to connect them to their spiritual or cultural roots and provide a sense of meaning and purpose. It can also be significant for people who are not actively religious, as it can be seen as an important part of the cultural or historical heritage of a place or region. In this case, religious heritage can serve as a way to connect with the past and to preserve and transmit cultural values and traditions to future generations. By gaining a deeper understanding of the beliefs, practices, and historical context of various religions, and how these have changed over time, individuals can become more empathetic and less likely to stereotype or discriminate against those of different faiths, which can lead to a more compassionate and inclusive society. In addition, religious heritage

can be an important part of the cultural or historical heritage of a place or region, and can contribute to cultural understanding and respect among different groups in society. It can also play a role in attracting tourism and supporting the economy of a region, by attracting visitors who are interested in the religious heritage of a place.

### *Museum and University join forces*

It was with this in mind that in the autumn of 2021, the Religious Heritage Amsterdam on the Map project was launched. A growing number of involved institutions and participants are working together in this project. The goal is to follow the growth of the city from the centre of Amsterdam to eventually put religious heritage on the digital map in all parts of the city. The felt urgency to connect religious heritage to social themes was the start of an inspiring collaboration between the initiators Museum Our Lord in the Attic and the Faculty of Religion and Theology of Vrije Universiteit (VU) Amsterdam. The project will result in a website Religious Heritage Amsterdam. This website will tell the story of the heritage of various religious groups in Amsterdam. This not only involves traces that these groups left behind in the city over the centuries. It also covers the ways in which believers today shape their religious practices and reflect on the future of their faith community.

### *Religious Map of Amsterdam*

Central to the website is the Religious Map of Amsterdam. This map shows buildings, places and objects connected to a network of people, their religious thought and emotions in the past and present. Each building and place is highlighted from one to three objects that tell a meaningful

story about that place. Using all the stories, a living picture of religious life in Amsterdam emerges as an inseparable part of the city's story through the centuries. In 2025, at the celebration of Amsterdam's 750th anniversary, the map will be complete and the city's religious heritage in all its facets and interrelationships will literally be on the map.

### *Collaboration*

The website Religious Heritage Amsterdam and the Religious Map of Amsterdam are the result of collaboration between museums and other heritage institutions, educational institutions and faith communities in the city. Students and researchers from various (Amsterdam) educational institutions, professionals and volunteers contribute to this. Initiators are Museum Our Lord in the Attic and the VU Faculty of Religion and Theology. Through the website, educational and public activities are offered, such as workshops, lectures, trainings and walks. Religious Heritage Amsterdam on the Map is for and from as many people in Amsterdam as possible.

## Luring in Casey and Emma: Use Hybrid Language, Break Routines and Let the Conversation Begin

*Willemine Willems<sup>1</sup>*

Most if not every single one of today's crises is intricately related to science and technology. The climate crisis is a telling example. Without scientific and technological advancement, we would not have these massive amounts of gas emissions in the atmosphere. At the same time, it is only through scientific measurement that we have started to understand the situation, and its future consequences. Shocked by the outcomes we turn to science, desperate for a solution. Will some smart scientist or engineer find a way to make this problem magically disappear and enable us to continue our way of living?

At the same time, these issues are also thoroughly political, moral and social. Who should take responsibility: governments, individuals, agriculture or industry? Which scientific, technological or policy solutions should we prioritise? What traditions should we keep and what public values are at stake? Who should carry what burden? How much certainty do we need to make radical lifestyle changes? Meaningful conversations about the social aspects of

<sup>1</sup> Willemine Willems is an assistant professor in science communication. She studies how to connect science and society in times of crisis.

any crisis are essential, but if we have learned anything after four years of nitrogen crisis and three years of vaccination debates it is this: such conversations do not happen by themselves.

Holding meaningful conversations on the interface of science and society might seem easy. Any professional operating on any interface between two worlds will explain it is all about being able to put yourself in someone else's position and using the 'right' language. Editors of magazines like to create personas to help imagine what it is like to be on the other side of the paper. (Meet 'Casey', mother of three and part-time financial controller at a large consultancy agency. On weekends, she enjoys lounging on the sofa flicking through women's magazines when her children are out playing football.) The 'right' language is usually 'plain' language, devoid of jargon, with no words with more than two syllables or sentences longer than three lines. Just imagine being Casey.

Such commonplaces are very much present in our own research practices as well. This is how I got to know 'Emma'. 'Emma' is the CEO of a company that specialises in eHealth solutions to self-monitor heart health at home. As a teenager, 'Emma' loved to play the latest computer games. She is still fascinated by technology and if there's a new smartphone gadget out, she's got it. In her current job she can combine her passion for technology with her knack for streamlining organisational processes and responding swiftly to market changes.

The 'Emma' persona was introduced to me by a project manager of an innovation organisation. As project manager, she was responsible for designing a repository of formats and methods for engaging citizens in design and develop-

ment processes. The right design would help us bring the findings of our project work into the world of our intended audience: people like 'Emma'.

Luring in Emma means using the right language. But doesn't that defeat the purpose? The project manager presented effective words for catching the target group's attention: 'guidelines' instead of 'toolbox', 'user consultation' instead of 'citizen engagement', and 'markets' instead of 'society'. But this is where we run into problems. E-health innovation does not only shape the lives of its users; it will fundamentally change how we age and how we care for the elderly and sick people. This is something that concerns not only patients, but every member of society. If we lure in Emma to do something she is already comfortable with – talking with her users and anticipating on the market – we might as well not have started the conversation at all. At some point in the luring process, we need to surprise, to fascinate, to cause friction. Rather than just adopt their language, we need to construct a hybrid of languages that harbours both worlds without dissolving differences, allowing us to acknowledge how we are different, and what makes us different.

Meeting Emma made me wonder which persona helped the Guardian editors realise that they should introduce terms that more accurately describe the environmental crises facing the world. By favouring 'climate crisis' over 'climate change', the Guardian has taken a more activist stance on the topic. As an example of how two worlds – science and activism – can be harboured in one language, it showed how language can connect while yielding a strong sense of uneasiness. This can be a powerful way to stir a meaningful conversation about what is at stake. If anything, an

important part of connecting worlds through meaningful conversations across boundaries is about finding the 'right' language. This is not a matter of dumbing down words and sentences, or replacing one set of words with another; instead, combining languages of different worlds helps capture uneasiness and break routines. Let the conversation begin.

## Connecting Is More Than Being Friendly: Why Interdisciplinarity Is As Hard As It Is Vital

*Lia van Wesenbeeck<sup>1</sup>*

Interdisciplinary approaches are high on the agenda, as it becomes clearer and clearer that the most pressing concerns of our time – climate change, inequality, violence and oppression – are too complex to be handled by one discipline. In this sense, ‘connected world’ has a double meaning: on our planet, we are connected through common fundamental challenges, and as researchers and society, we should connect to be able to deal with these.

However, true connection requires understanding of the other, and willingness to open up to other viewpoints, socially as well as methodologically, while maintaining ‘ownness’. In my own experience with research in the field of food security, this is a very hard process that requires commitment of and trust between the partners. Commitment, since trying to understand the language, values and habits of other fields is difficult and at times very frustrating. Trust, since it requires an atmosphere in

<sup>1</sup> Lia van Wesenbeeck is associate professor development economics and director of the Amsterdam Centre for World Food Studies. Her work concentrates on understanding causes for food and nutrition insecurity within a system perspective, implying her work is deeply interdisciplinary.



which people feel secure enough to acknowledge where their own disciplines may have failed to solve an issue, or even contributed to it, and from this *mea culpa* search for ways forward.

These ways forward can come in many ways; from new theoretical conceptualisations, new models, better ways of analysing data and information, to better design of policies and interventions and more impactful representations. As my own experience lies predominantly in the field of models, data analysis and policy research, I will mainly concentrate on these types of interdisciplinary efforts.

New theoretical conceptualisations are needed to highlight the importance of linkages between different fields. Nexus thinking (for example, the Water-Energy-Food nexus) is an example. It highlights how interventions in one field can be restricted by or affect the other two, creating feedbacks that can even make the original problem worse. Hence, these new conceptualisations highlight the notion of interconnectedness (the Mesh if you want). However, the pitfall is that they could evolve into a vast system of arrows, in an attempt to include every possible relation to keep everybody happy. Then, they fail to achieve the abstraction needed for understanding complex realities.

New models are ways to operationalise conceptualisations. The contribution is that relations are made explicit (what does the arrow in the conceptual framework mean? Can we think of a process that would represent the arrow?). The pitfall is that the road of least resistance could lead to a collection of connected black boxes rather than an integrated whole. Every field (researcher) can happily maintain its (their) own methods, uses the input generated by some boxes and potentially generated output for yet other boxes. The

only discussion that is needed is the specification of who delivers what to whom.

Truly integrated models cannot be developed without confrontation, as methodological principles will hardly ever match between fields. Methodological imperialism can be one consequence, where other fields are cramped into the mould of a dominant one, losing the essence of these fields as well as alienating its researchers in the process. If all goes well, however, the dominant field must work harder than all others, as this field must re-examine its own assumptions and common ways of doing things, to ‘make room’ for the other fields. Leaving common assumptions implies leaving the threaded paths and finding new ways to maintain transparency and solvability. In my experience, for example, going down to fine resolutions in space and time allows fields like hydrology and agronomy to be included in economic models, with ‘acceptable’ concessions on all sides.

So why bother? Why invest all this time and energy in integrated models? Having worked in transboundary settings in the Middle East, where trust between countries is all but self-evident, I know that black boxes simply are not acceptable, and toy models can cause immense damage. Any model or tool used for policy recommendations should be rich enough to capture the complexity of the situation, yet in its essence transparent enough to convince policy makers that there are no hidden ‘tricks’, and no secret agendas.

The overriding problems of today are transboundary and complex and therefore require these rich, yet fully transparent approaches. This holds for the models we design, but also for the tools we use to analyse data and information. Also here, integrated approaches are key, and also here, in-

terdisciplinarity requires the design of new tools, capable of handling the different types of data used in different disciplines.

Concluding, really connecting implies investing. Investing in partnerships to build trust and understanding. Investing in methods to allow different fields to fully contribute to the whole. There are no silver bullets: interdisciplinarity is as hard as it is vital. The reward? Long-lasting relations, interesting scientific challenges and most of all, the sense that what we do is relevant for the connected world we live in.

## Ties That Bind

*Pepijn Brandon<sup>1</sup>*

In autumn 2015, my wife and I drove from Pittsburgh, where I was doing a postdoc and she was working for a small digital startup, to Thomas Jefferson's Monticello plantation in Virginia. It was the year before Donald Trump carried the presidential elections, and six years before Virginia's hard-line Republican governor Glenn Youngkin issued a ban on teaching critical race theory.

Monticello is an interesting case study for the way in which recognition of the history of slavery can lead to a major refashioning of the narrative presented at historic landmarks. At the same time, it also illustrates the powerful obstacles preventing such a historic reckoning from leading to new ways of connecting the past, present and future. Even though Monticello's primary function was that of a plantation where enslaved Africans grew tobacco and other crops, slavery has long remained marginal to the story told on these grounds. Publications, exhibitions and tours focused on Thomas Jefferson as principal author of the Declaration of Independence and third president of the United States.

<sup>1</sup> Pepijn Brandon is professor of global economic and social history. He works on the history of slavery and its legacies in and beyond the Netherlands.

The narrative constructed around Monticello, begun by Jefferson himself, fashioned him at the pinnacle of enlightenment. His commitment to rationality and improvement was made visible through his library, his scientific instruments, the careful crafting of the plantation landscape and the design of the iconic plantation house. The image of Monticello flawlessly fit the self-image of the United States as a forward-striving nation. Since 1938, the Monticello mansion has adorned the tail-side of the nickel.

Where in this fest of national purpose are the enslaved? Made invisible, they are right there at the flipside of the coin. To finance his remodelling of the house, Jefferson took out several loans with the financiers Van Staphorst & Hubbard of Amsterdam. The contract for one of the loans specifies the collateral to consist of seventeen enslaved individuals: Ned and Jenny with their children Ned, Fanny, Dick, Gill and Scilla; Rachael with her children Nancy and Abram; Old Betty and Val; Bagwell and Minerva with their children Ursula, Mary and Virginia.

Since the 1990s, curators, historians and archaeologists in close contact with organisations of descendants have put great effort into making slavery visible at Monticello. In 2012, Monticello opened the permanent outdoor exhibit 'Landscape of Slavery: Mulberry Row at Monticello', which focuses on the remains of slave dwellings. More than that, the history of slavery has also been given a prominent place in the exhibition at the main house itself. A crucial element in this new narrative is the life story of Sarah 'Sally' Hemings, the enslaved woman who bore six children fathered but not recognised by Thomas Jefferson.

On our 2015 visit, we took the tour of the exhibit. It was impressive, but so was the capacity of the participants to ab-

sorb the information without in any way letting it affect their sense of historic attachment. Here we were on a chilly Virginia afternoon, white, affluent, well beyond middle age (on average), moderate liberals (most). A hand was raised for the first question: “Was Jefferson an enlightened slaveholder? Did he treat his slaves better than the owners of surrounding plantations?” The next: “How do we know that the relation between him and Sally wasn’t a loving one?” The tour guide clearly was well prepared. Politely, but insistently, he refused to redeem Jefferson. The participants solemnly nodded. They thanked the guide. Then, I saw one elderly lady turn to her neighbour, reminding her: “Quick, we still have to take our picture with Jefferson’s statue before closing time!”

The moment has stayed with me throughout recent debates in the Netherlands. It is indeed possible to acknowledge the history of slavery, while keeping intact the affectionate ties to the enslavers. This may be welcome news for some. All recent speeches announcing formal apologies for slavery emphasised the importance of embracing ‘our shared history’ as a bridge towards a ‘common future’. What this false sense of connection obfuscates are the very real inequalities that mark history, the present, and in all likelihood the immediate future. No amount of recognition of Sally’s suffering will change the fact that it was Jefferson who owned Monticello, while laying claim on her as well. Today Jefferson’s decidedly unenlightened descendants of wealth and power, not the biological descendants he shares with Sally, control Virginia and introduce legislation fanning the flames of racial division. Smooth integration of past injustice into an optimistic story about future cooperation will not change this. In order to move towards a more connected world, some ties to the past really need to be severed.

## Translation Is an Attitude

*Interview with Jeroen Geurts<sup>1</sup>*

“As a neuroscientist, I study connections in the brain. In building societal connections – for example between different scientific disciplines – we could learn a lot from how the brain works. In every healthy person’s brain, different regions, each with their own areas of expertise, work together seamlessly to process great amounts of information and produce effective responses. This system has been fine-tuned over millions of years.

“Fortunately, in science we are now also learning that we need to connect different types of expertise to produce effective responses to the ‘wicked’ problems that society is facing. We are starting to realise that the walls we have built between the different disciplines need to be torn down. In particular at VU Amsterdam, there are many great initiatives that facilitate and promote interdisciplinary research.

“Researchers from different disciplines do not always understand each other well. They often use different methods, languages, and concepts to describe what they study, and how they study it. This can make collaborating difficult. I

<sup>1</sup> Jeroen Geurts is Rector Magnificus of Vrije Universiteit Amsterdam and professor of translational neuroscience. The interview was conducted by Ivar Vermeulen.

hold a chair in translational neuroscience, and although connections are a necessary condition for translational work, I think the emphasis could be more on what comes next: the practice of translating.

“A few years ago, out of sheer interest, I took up studying philosophy. My master’s thesis project was about the French hermeneutic philosopher Paul Ricoeur, in particular his reflections on linguistic translation. I looked at whether Ricoeur’s ideas on translation between languages could also be applied to translation between scientific disciplines. His hermeneutic approach to translation requires actors to engage in continuous dialogue about the meaning of concepts: asking for clarifications, explaining, re-clarifying, and so on. This may hold for translation between languages, but also for translation between disciplines. Such a never-finished dialogue can be a tiring process, but it may be strictly necessary in order to better understand each other. Translation, according to Ricoeur, is more of an attitude than a process.

“Connecting with fellow scientists is hard as it is, let alone connecting with non-scientists. When it comes to the latter, there is an even larger gap to be bridged through translation. On the one hand, researchers must explain their work in a way that is understandable for everyone, with or without prior knowledge, while on the other hand, stakeholders need to be able to explain, for example, relevant first-hand experiences to researchers who may have very little understanding of such experiences. When I was an MS researcher, many of my colleagues never talked with MS patients. They had no idea how the issues they were working on were impacting the daily lives of the people living with MS.

“I believe that it is important for researchers to genuinely



connect with the people who deal with the problems they study. To put it in philosophical terms, such connections, and the translational work that it requires, enrich our scientific concepts. Talking to a person with Alzheimer's disease, or to their families, enriches the brain researcher's concept of Alzheimer's as a concept. Talking to citizens who are worried about how big tech companies collect and use their personal data enriches the privacy researcher's concepts of privacy. I have experienced first-hand that providing neuroscience students with an opportunity to explain their work to a non-academic audience enriches their linguistic and conceptual range. So, the benefits of translational work are very much reciprocal: everybody learns.

“VU is in a unique position to build genuine connections with the public. As a university, we have a tradition of being embedded in society and actively involved in social debates. This is expressed in our core values: responsible, open and personally engaged. These are more than just labels; they reflect the type of people that choose to work at VU, and their motivation to create knowledge with societal impact.”

