The Sherry Turkle Miracle

Papers prepared for a Hungarian Academy of Sciences online workshop held on May 27, 2021

Budapest 2021

https://mta.hu/ii-osztaly/osztalykozi-allando-bizottsagok-105544#Kommunikáció

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Budapest: May 2021

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Kristóf Nyíri

Introduction

The framework for the workshop the papers of which we here present was the 194th General Assembly of the Hungarian Academy of Sciences, held on May 3–4, 2021, with the appended scientific programs extending over the entire month. The topic that suggested itself was the oeuvre of Sherry Turkle, in particular her *The Empathy Diaries: A Memoir*, published on March 2, 2021, with tremendous media excitement surrounding it.

In the call for papers for the workshop we asked (not always achieving success) for radically short texts. We believe that in the online environment that is now forced upon us one cannot count but on very brief attention spans. The papers accepted we linked, well before the event, to the http:// www.hunfi.hu/nyiri/STM/stm.pdf page. It is these papers we have now collected in the present online volume. Being responsible for the workshop's title, let me explain the same. By the expression "miracle" I intended to convey, first, that when a person with a rather disadvantaged background accomplishes what Turkle in the course of the decades has accomplished, that is a kind of a miracle; secondly, that since I do not believe her scholarly views to be invariably right, I find it to be another kind of miracle that in the literature there do not seem to have appeared approaches critical of her work. Looking at the papers of this workshop my impression is that, by contrast, most of our participants entertain views rather more diversified. This means that the workshop papers as we now have them online, and the online volume we have put together on this basis, will be a foreign voice against the background of that chorus of unmitigated admiration surrounding the publication of *The Empathy Diaries*. The workshop – superbly moderated by Prof. Petra Aczél – clearly amounted to a scholarly step forward, presenting a significant analysis and clarification of the issues involved. With this slim online volume we hope to make our results known to a broader public.

Rich Ling

Simmelian Tensions in the Reading of Turkle

The work of the German sociologist Georg Simmel (1858–1918) has always held appeal for me. In many ways, he was an outsider in academic circles. He collaborated with the leading lights of German sociology at the time, including Max Weber, Edmund Husserl, and Ferdinand Tönnies. However, he never became established in a traditional academic position.

My connection to Simmel arises from his many interesting analyses of, for example, the city,[1] fashion, dyads/triads,[2] and sociation[3]. Another important touchstone is the conceptual tools that he used. It is this conceptual approach that I want to use to examine the work of Turkle.

My characterization of these is that Simmel examined social phenomena through the use of what can be seen as "tensions". His analysis of fashion exemplifies this. In that analysis, he outlines two dimensions with which to understand how fashion[4] is understood. One dimension describes individuality vs. group identification and the other (more or less orthogonal) dimension stretches between being avant-garde vs. being dowdy. The characterizations are my own.[5]

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[1] Georg Simmel, "The Metropolis and Mental Life", in Donald N. Levine (ed.), *Georg Simmel: On Individuality and Social Forms*, Chicago: The University of Chicago Press, 1971, pp. 324–339.

[2] Cf. the "Introduction" by Levine in the above volume.

[3] Georg Simmel, "How Is Society Possible?", *American Journal of Sociology* 16 (November 1910), pp. 372–391.

[4] Georg Simmel, "Fashion", *International Quarterly* 10 (1904), pp. 130–155.

[5] Rich Ling, "Fashion and Vulgarity in the Adoption of the Mobile Telephone among Teens in Norway", in Leopoldina Fortunati, James E. Katz, and Raimonda Riccini (eds.), *Mediating the Human Body: Technology, Communication and Fashion*, Mahwah, NJ: Lawrence Erlbaum Associates, 2003, pp. 93–102.

Using these two dimensions it is possible to locate and examine various interesting aspects of fashions as they move through society. This is the approach that I wish to bring to this short examination of Sherry Turkle.

In Turkle's early work (*The Second Self*) there was a synergy with Actor-Network Theory (Latour) where the devices have a social presence and are interpreted in the context of each other. Here I see a Simmelian tension. One pole looks into the increasingly specific, and difficult to identify, ways that humans are different from machines. The pole in this dimension is the wider "so what" question of how this plays out in society. A second tension possible to see in this work is the contrast between being in touch with people who are physically near at hand vs. those who are far distant. I will look at both of these tensions below.

The "Humanness" of Devices vs. Their Social Consequences

Parsing of the Specific Incident

The first idea is that information technology is becoming more human-like. Bots and AI applications are blurring the boundary between that which is technological and that which is human. Looking at specific situations, we need, for example, to ask if we can distinguish between the information or feedback we get from the machine as opposed to the human interlocutor. This is an issue that one can read out of Turkle's work. Her sense is that, alarmingly, this distinction is becoming cloudy. There is the push to identify that which is human and to cultivate the difference.

However, one can ask, what is "good enough". If the information solves the issue at hand in a reasonable way, then what is the problem? This discussion can sometimes seem like a manic search

for some essential human superiority. Is it, to use Carl Sagan's term, some form of carbon chauvinism?[6]

It seems that pursuing this variation of the Turing test has limited usefulness. Indeed, at what point does that become absurd? To be sure, there is a type of mental uncanny valley that we move into as we try to discern whether it is a bot or person who is speaking to us on the phone as we try to work out an issue with our bank or the hotel where we hope that we have reservations. However, at some point, the bot/person sorts things out and we get on with it. At some point, it becomes irrelevant how the issue was sorted, but it is sorted.

That said, the situation will likely not pass as simply as that. I am reminded of W. I. Thomas and his suggestion that if you believe something to be real, it is real in its consequences. This suggests that if I am a carbon chauvinist, and I believe that the information comes from a machine, then I will discount it, regardless of its usefulness.

Actually, however, the application of AI to everyday life is already happening. We see it in insurance adjustment, driverless cars,[7] parole decisions, college admissions, etc. As a journal editor, for example, I could imagine the development of an AI system that judges manuscripts. It would in all likelihood do a better job than I can do. It would see the articles that fill the research gaps and the articles that would garner the most citations.

Are we in a sense chasing the idea of AI vs. humans into the metaphorical bushes of research? There is the pursuit of increasingly fine-grained differences that allow us to feel human. It is here that we see Turkle's idea that our personal (carbon?) identity is increasingly encrusted in our digital façade. In *Life on the Screen* and *Alone Together* Turkle pursues this "parsing" argument to suggest that people are having trouble understanding the boundary between the human and the digital, the carbon and the silicon.

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[6] See Carl Sagan and Jerome Agel, *The Cosmic Connection*, Garden City, NY: Anchor Press / Doubleday, 1973.

[7] I know there are crashes, but how many people die per day in human-caused crashes? Proportionally a lot more, I would guess.

This is not a new development. Indeed, deconstructing the distinctions between humans and our creations goes back to the ancient Chinese and Greeks and their automata through, for example, Shelly's *Frankenstein*[8] and Capek's play featuring Rossum's Universal Robots (R.U.R)[9] to today's AI-generated virtual influencers such as Lil Miquela[10] and Ling[11](no relation). However, there is a new urgency in this given the development of AI.

"So what" on the Wider Social Stage?

Parsing the boundary between the personal and the digital leads to an increasingly fine line between our sense of what is human and what is non-human. This has been a conceptual project for millennia. However, there is also, necessarily, a link in this line of inquiry to the consequences of the devices. Indeed, this is the other Simmelian pole in the tension. It is here that we see, for example, the argument that the device has somehow colonized a portion of the human domain. There is the concern that we have lost our identity or our ability to be social in the face of technological development. This is a clear focus in the work of Turkle.

Being Social Locally or Virtually

Coming back to applying Simmel's tensions to the work of Turkle, there is the idea in her work that we lose authentic social contact as we adopt various communication devices. Turning to a domain with which I am familiar, mobile communication, there is often a discussion regarding how using the device takes us out of social interaction. Indeed, there is the discussion of smartphone addiction.[12] There is

[8] Mary Shelley, *Frankenstein*, Peterbourough, Canada: Broadview Press, 2012.
[9] Karel Capek, *R.U.R. (Rossum's Universal Robots)*, London: Penguin, 2004.
[10] See https://www.youtube.com/watch?v=S6wnHsEoTmc.
[11] See https://www.youtube.com/watch?v=0NBP2fHLIRM.
[12] Joël Billieux, Adriano Schimmenti, Yasser Khazaal, Pierre Maurage, and Alexandre Heeren, "Are We Overpathologizing Everyday Life? A Tenable Blueprint

the idea that the smartphone becomes a proxy for what we might call synthetic social interaction or simply the consumption of entertainment. It is a portal through which we follow the lives of others with whom we have no actual contact. We are groupies or the influencees of carbon-based or sometimes silicon-based celebrities/influencers.

To be sure, there is a hypnotic dimension to the smartphone. However, it is important to ask whether we are being partitioned off from other co-located people with whom we have little social connection in favour of other deeper social interaction with our closest social sphere. Thinking in terms of Simmelian tensions, do we give up on the superficial chat with a stranger on the bus in order to have a meaningful interaction with our spouse or friend? In exchange for forgoing some idle (but perhaps enriching) chat with the other person at the bus stop, I can be texting or chatting with my daughter in London, my wife in Hardanger, Norway, or my brother in Rifle, Colorado (yes that is the name of the town). The device indeed facilitates social interactions that were not possible heretofore.

Taking this a step further, when there is an emergency, it is clear that the ability to contact our closest ties is very important. This has been seen in, for example, analysis of the calling pattern in the wake of the Oslo bombing,[13] just as it was seen during the false missile alert in Hawaii.[14] In these cases, the mobile phone allowed direct and immediate contact. It gainsays the assertion that we are more isolated because of our embrace of these devises.

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for Behavioral Addiction Research", *Journal of Behavioral Addictions*, vol. 4, issue 3 (September 2015), pp. 119–123, https://doi.org/10.1556/2006.4.2015.009.

[13] Rich Ling, Leysia Palen, Pål Roe Sundsøy, Geoffrey Canright, Johannes Bjelland, and Kenth Engø-Monsen, "Safety, Sensemaking & Solidarity: Mobile Communication in the Immediate Aftermath of the 22 July 2011 Oslo Bombing", in Joshua A. Bell and Joel C. Kuipers (eds.), *Linguistic and Material Intimacies of Mobile Phones*, Winston-Salem, NC: Duke University Press, 2018, pp. 169–189.

[14] Rich Ling and Brett Oppegaard, "THIS IS NOT A DRILL: Mobile Telephony, Information Verification, and Expressive Communication during Hawaii's False Missile Alert", *Social Media + Society*, vol. 7, issue 1 (2021), pp. 1–12, https://doi.org/10.1177/2056305121999661.

Thus, I buy, to some degree, Turkle's argument that our engagement in our devices ossifies (co-located) social interaction. This can be seen when an individual is more engaged in their device than in what is happening around them.[15] However, I also see that they enable a type of social interaction that was not possible heretofore.[16]

[15] Rich Ling, "Illicit Side-Engagements: Joachim Höflich and the Micro-Level Analysis of Walking and Using the Smartphone", in C. Linke and I. Schlote (eds.), *Soziales Medienhandeln: Integrative Perspektiven auf den Wandel mediatisierter interpersonaler Kommunikation*, edited by C. Linke and I. Schlote, Wiesbaden: Springer, n.d., pp. 25–39.

[16] The ability to cultivate only a particular type of social interaction can be an issue that results in like-mindedness. This can be the clay from which populist political movements arise.

Zita Komár

Machinery of Women: From Genuine Relationships to Empathic Rhetoric

Turkle became famous for investigating people's relationships with technology and this is more actual in today's pandemic (or shall we say post-pandemic) times than ever – however I will argue that it is a promising opportunity to re-learn and re-valuate human communication through the unexpected proliferation of human–computer interactions, which is indeed a miracle.

It's the first time ever humanity can make sense of the phrase "making contact between human and non-human objects". It's been unprecedented before our modern times that one could communicate with a computer or a robot (for example talk to a chatbot, play chess with a robot, travel with a self-driving car or give vocal and non-verbal orders to smart devices), moreover now it is possible to create sensational feelings and connections towards something that is innately not human, but in fact can communicate in a humanely way in many senses. Turkle highlights the adverse effects of rapidly evolving technology having an impact on human social behaviour – as she puts it in *Alone Together: Why We Expect More from Technology and Less from Each Other*. Nevertheless she fails to take a look at the phenomena from an essential, namely from a rhetorical point of view – which I will attempt to roughly carry out in this paper.

Turkle argues that computers affect the way we think, look at and present ourselves (intrapersonal communication) and shape our relationships with other human beings (interpersonal communication), moreover with groups and communities on a grander scale (cultural communication), leading to the central idea that technology strongly defines the way we think and act on every single level of human interaction. It is somehow evident to her that machines determine human interactions, but isn't it true that (the lack of) human

interactions determine and can change our relationship towards the machine? In my opinion it is.

We now have accepted that computers do not only play the role of a mere mediator, neither can they be considered as simple tools, platforms or vehicles of communication anymore: "they" have become part of our everyday lives and relationships as a silent "third-party person". Therefore computers have a profound effect on users (as Turkle reveals computers are both part of our internal and external worlds) but this influence can be more surprising and promising in the future as users are about to discover new ways of interacting with each other depending on the emergence of computer-mediated communication (CMC). Last year, an unprecedented global health crisis has put us in a situation where machines became inevitable in the management of everyday work and recreation, but human interactions became more so: computers helped to connect to the world, but we are connected with real living creatures; usage of computers created many technological problems, but we, humans learned how to solve these; computer-mediated communication can't replace the entire scale of meta-communicative signs and even makes it harder to interpret these broken clues, so people learned how to be more patient and empathic and developed new skill- and mindsets on the way from *human* to *humane* communication.

In this way, Turkle's work allows us to recognise and re-evaluate our relationships with technology and other human beings. But, if the computer is changing the way we think and see ourselves and others, isn't it a great opportunity to dive deep into the understanding of how human communication works and should change over time? If our everyday interactions with computers affect and influence our mindsets and people nowadays may have trouble with communicating and even with distinguishing between humans and machines (e.g. the rising popularity of chatbots in marketing and online communication shapes new ways of customer experience) it can be a warning sign to all of us that our communication goals, skills and interpretation of success has to change as well. Decades after the so-called "pictorial turn" (which should also be remembered when discussing Turkle's work) the time may have arrived for another fundamental

change in the paradigm of communication and rhetoric. For this purpose, I have chosen three central ideas referring to key arguments of Turkle's work (empathy and rhetoric; empathy and social interactions; emotions and machines) to shade the idea of human-computer encounters, reflecting on the advantages and possible future outcomes which may lay the foundations for an empathic rhetoric.

In the first place, Turkle not only explores how digital technology is changing the way we communicate, but introduces the idea that women have a "non-linear" approach to technology (calling it a "soft mastery" and also uses the word "bricolage" for a better understanding), which resonates with the idea of feminine communication and empathic rhetoric. Turkle's central argument is that technological developments bolstered a sense of alienation between people, but very briefly she mentions that it also contributes to the rise of interconnectivity, community-engagement, creating in my opinion new feelings of togetherness and thoughts of connectedness at the same time. Of course on the other hand (and this techno-pessimistic approach undoubtedly characterizes her work), Turkle raises concerns about the way in which genuine, organic social interactions become degraded through the constant exposure to exchanges with artificial intelligence. At first look, it seems to be a contradictory conflict, but can it be transferred into a thought experiment reflecting on both sides of the same coin? Depending on the above, it seems to me that the conventional way of speaking, relating or persuading the other (all refer to primary goals of communicational actions and are considered to be masculine) is ready for a "fresh cut" and humanity should develop new ways of interacting depending on a – let's say feminine – approach to communication.

This feminine approach to rhetoric and generally to communication can be a new idea to communication theory or accepted models of persuasion, however can easily be related to the epitome of Turkle's empathy through the understanding of human-centered communication,[1] invitational rhetoric,[2] powerful powerless language,[3]

[1] Adam M. Grant, *Give and Take: A Revolutionary Approach to Success*, New York: Viking, 2013.

rhetorical sensorium,[4] feminine leadership skills as operating values of the 21st century[5] and so on. My interpretation of Turkle's work is then to turn this idea of techno-pessimism into an optimistic view of the future by accepting and globalising a radically new image of "empathic rhetoric" transforming the communication skillset of the 21st century based on the idea of genuine social interactions and feminine communication style.

Second, in *Alone Together* Turkle examines the nature of online social interactions, considering whether or not technology is bringing quality to our lives and argues that people use technology as an escape from reality which evidently weakens genuine relationships. Turkle blames technology for creating a framework where people "sacrifice conversation for mere connection" (*Reclaiming Conversation: The Power of Talk in a Digital Age*). Based on her research highlights, Turkle concludes that the cornerstone to empathy is the capacity to interact on a personal basis and the lack of the latter leads to a degradation in the general sense of solitude, empathy and the ability to meet personal and social standards in a general context. I claim that on the contrary, during the pandemia we have learned that empathy can derive from the lack of personal encounters and social communication skills have become more important as people weren't allowed to meet in person. In this way, computer-mediated

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[2] Sonja K. Foss – Cindy L. Griffin, "Beyond Persuasion: A Proposal for an Invitational Rhetoric", *Communication Monographs* 62 (1995), http://www.sonjafoss.com/html/Foss21.pdf.

[3] Lawrence A. Hosman – Susan A. Siltanen, "Powerful and Powerless Language Forms: Their Consequences for Impression Formation, Attributions of Control of Self and Control of Others, Cognitive Responses, and Message Memory", *Journal of Language and Social Psychology*, vol. 25, issue 1 (2006), pp. 33–46, DOI: 10.1177/0261927X05284477, https://journals.sagepub.com/doi/abs/10.1177/0261927x05284477.

[4] Debra Hawhee, "Rhetoric's Sensorium", *Quarterly Journal of Speech*, vol. 101, issue 1 (2015) pp. 2–17. DOI: 10.1080/00335630.2015.995925, https://scholarsphere.psu.edu/downloads/22801pg817.

[5] John Gerzema – Michael D'Antonio, *The Athena Doctrine – How Women (and the Men Who Think Like Them) Will Rule The Future*, San Francisco: Jossey-Bass, 2013.

communication and online social interactions have become crucial in maintaining and strengthening genuine relationships during the periods of isolation (and presumably will remain important in the post-pandemic world as well). Moreover, the increasing usage of technology today does not mean an escape from reality, but instead: it becomes the only option to relate to reality and create a feeling of attending a meeting, take part in a citytour or concert experience, learn or practice sports etc.

Finally, Turkle claims that robots have been designed in a way to interact with humans on an emotional level, and as a result our emotional interactions with other humans and appreciation for human interaction may become eroded as well. But this does not necessarily mean the Skynet[6] is awakening and machines are about to replace human interactions which, as it turned out, can't be replaced by machines, neither by computer-mediated communication solutions in the long run. It is more of a contrary: based on our fresh experiences of re-valuated human interactions and thirst for real, physical encounters, machines can remind and help us find a way (back) to a more emotional, empathic and humanistic manner of interacting and communicating with each other, by simply unfolding the mere truth that when technology becomes ordinary, humans will be extraordinary.

[6] A popular expression from the *Terminator* filmseries.

Giuseppina Pellegrino

Alone Together Ten Years After: Dis-connection, Care and Emotions in a (Post) Pandemic Age

Reading (again) *Alone Together* ten years after its first publication and in the middle of a worldwide pandemic, made global by communication and transport infrastructures, can be a fruitful and enriching experience. Actually the exercise I carry out is to go back to *Alone Together* in order to trace Turkle's contribution to an understanding of current, emergent issues, namely how the COVID-19 pandemic is reshaping communication as a sociotechnical and mediated process.

As an STS scholar, I found *Alone Together* a compelling report on expectations and emotions elicited by technologies, and constituting our relationships to technology "itself", if a technology "itself" ever existed. Turkle's idea of an "inner life" of technologies, and of technologies as evocative objects, appeals to me even if I prefer to see technology as a delegate or an actant, in line with Latour's ANT approach, rather than a substitute/competitor of our face-to-face communications.

Coupling technological seduction with human vulnerabilities (p. 1), Turkle's question about where technologies lead to, is a core issue, an ethical matter about social desirability and acceptability: "Technology reshapes the landscape of our emotional lives, but is it offering us the lives we want to lead?" (p. 17). This reminds me of what a professor of Embedded Systems told me during my research on ubiquitous computing design in 2008: "We can have a fridge telling us what to buy and even what to eat. But do we really want that?". I could just go on by discussing the very terms of this question, and indeed pandemic is giving us many, partly new, answers on it.

However, my interest is more focused on how the last ten years and the last one in particular showed dis-continuities with *Alone Together*.

First of all, the two digital strands presented in the book are more and more intertwined.

Empathic robotics and ethical issues inherent to AI appear more urgent than ten years ago; a robot has been entitled with citizenship,[1] while politics and international institutions are less than able to address the consequences of a ubiquitous presence of humanoid and non-human(oid) dispositifs in our lives (smart homes, digital vocal assistants, Internet of Things and so on), and a few big web corporations play a quasi-monopolistic role in shaping the global landscape of our digital and tethered lives.

More broadly than ten years ago, a fully networked life is accomplished through AI as part of the installed base of the internet as information infrastructure, and of social media as well (algorithms, machine learning, datafication). Such a base is almost transparent and invisible to users, and it provides them with inner classifications, choices and decisions.

Over the last year, this landscape has been shaken by COVID-19. Pandemic reveals the constitutive ambivalence and paradoxicality of digital life, investigated by Turkle combining a psychoanalytical background and an endless anthropological curiosity which puts at the centre individuals' emotions in interacting with technology and constantly relying on it (more than on each other, as *Alone Together* points out).

Pandemic is also a catalyst of structural, often latent processes, in a global and unprecedented way: it illuminates inequalities, uneven distribution of information infrastructures, unexpected and hidden divides. So it is in Italy with exclusion from distant learning

[1] "Sophia", https://www.hansonrobotics.com/sophia/, 2017.

(DL), where a big school dropout is ongoing, also due to inadequate technological equipment and connectivity.[2]

Even more during pandemic, we realize that digitization of life imbues technologies with often polarized emotions: the fear of loneliness and the need for intimacy, a stronger vulnerability along with the evidence that talk is not fully sustainable at a distance (e.g. Zoom fatigue). The psychic as well as material overload of an enforced life on screen makes Turkle's sensitive and intimate ethnographic approach actual and insightful. We miss face-to-face conversation and its necessity more than ever: Turkle's call for *Reclaiming Conversation* becomes almost a mantra after lockdown, quarantine and a prolonged pandemic life.

What I defined in 2015 as sociotechical discourse, drawing on technological hopes and horrors, is an enduring temptation.[3]

Turkle admits a shift from the enthusiasm of *Life on Screen* to the skepticism and doubt of *Alone Together*. And in front of smart working and distant learning, massively implemented on a global scale during the pandemic, at least in Italy polarized and binary thinking is colonizing the public debate on mainstream and social media. Either a panacea or a nightmare. In so doing, we miss all the nuances – in STS terms, the hybrid alliances – we can build up while doing smart working or being in a class on Teams.

Eventually, I propose three keywords for surfing a post pandemic world, drawing on *Alone Together* ten years after.

First, dis-connection. Here I argue for dis-connection as a deliberate breakdown from the always on, a counteract from Turkle's disconnection as lack of empathic conversation induced by technology, for which, as precised in *Reclaiming Conversation*, "even a silent phone disconnects from us" (p. 20).

Dis-connection emerges as potential source and reserve of resistance: a catharsis rather than a problem, the prerequisite for re-

[2] See https://www.savethechildren.it/press/coronavirus-alcune-citt%C3%A0-italiane-studenti-aula-meno-della-met%C3%A0-del-tempo-previsto-dall%E2%80%99anno.

[3] See https://journals.sagepub.com/doi/10.1177/0011392114556584.

connection to other dimensions. Again, while doing my research on ubiquitous computing design, some PhD students told me that what they were looking for was to erase all possible interferences from their system to make it capable to foresee events and let it be always connected. I interpreted this as a fascinating but also scary plan: to avoid or marginalize contingency.[4] Therefore, deliberate dis-connection from always on can foster not only a resistance to unsustainable burdens, but also inspire creativity and empathy.

Second, care. Care is a broader matter than empathy. Pandemic shows us the urgency of care, in many respects. Care as concern, maintenance and repair in our (digital) lives, to balance the emphasis on continuous innovation pushed by planned obsolescence and to reach a different sustainability in/of digital technologies and of our convergence with them. Care is a virtue for good and fair communication, along with sincerity and precision, as Couldry points out in *Media, Society, World*. The logic of care, as Anne Marie Mol puts it, makes possible an alternative to competitive choice; care means continuous and cooperative attuning of technology to complex lives.

Third, emotions. Not just those binary of sociotechnical discourse, but the whole spectrum of emotions we can experience, are crucial to make our digital lives more acceptable, more desirable and also more ethical. To recognize emotions as not marginal but crucial can help individuals, and also organizations, to explore how new convergences with technology can be carried out.

In the end, can we reverse the assumptions of *Alone Together*?

Altogether, lockdown and quarantine made us really together alone, as Turkle puts it in a contribution to *Time* last March.[5] Pandemic isolation made us feel companions in solitude and technology could also partly relief it.

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[4] See my chapter "Contingency in Infrastructures: Vulnerability, Ductility, Resilience", in A. Mongili and G. Pellegrino (eds.), *Information Infrastructure(s): Boundaries, Ecologies, Multiplicity*, Newcastle Upon Tyne: Cambridge Scholars Publishing, 2014.

[5] See https://time.com/5946966/sherry-turkle-pandemic-lessons/.

And we start expecting less from technology and to care about caring for the others, receiving others' care – the hugs rooms in hospitals showed how constitutive body-to-body communication still stays in a hyperconnected world and how much its enforced mutilation made us miss it and suffer because of it.

The (sanitary and moral) obligation of conducting an almost total networked life, to contrast the pandemic, makes a big difference in consequences, just because the constraints, the limits and the pains of a life on screen seem not well balanced anymore by the choice and the pleasure of exploring ourselves, our identities and social life in and beyond a wireless communication which is pervading us as never before.

Such an unbalanced array makes it urgent to put at the centre the issues of dis-connection, care and emotions as possible pathways to fulfil the need and the desire of new hybrid, empathic alliances with technology, and non humans at large, in a post pandemic world.

Dan Weijers – Nick Munn

Technology as Cause of and Solution to the Empathy Problem

For decades, Sherry Turkle has explored the risks and opportunities of technology for people, relationships, and society. In *The Second Self* (1984), Turkle emphasised the positive potential of digital technologies and computer games. But since then, her work has increasingly documented the risks of technology as they have crystallised into tangible harms. Culminating in her recent memoir, *The Empathy Diaries* (2021), Turkle's oeuvre is best viewed as a warning that our increasing use of ICTs, and reliance on smartphones in particular, is causing us to become less empathetic. Here, we acknowledge Turkle's warning and use her own earlier technological optimism to investigate potential technological solutions to the emerging empathy problem.

In "The Assault on Empathy" (2018), Turkle blames the 40% decrease in empathy observed recently in college students on their excessive use of phones. Turkle argues that without understanding ourselves, we cannot have empathy. But where moments of solitude used to provide opportunities to reflect on ourselves, many young people now compulsively reach for their phones when they are alone. As such, they never develop an understanding of themselves. Young people who have never reflected on themselves fail catastrophically at understanding the complex emotional life of the people they converse with, and so have less empathy for them. Worse, Turkle claims, young people now reach for their phones at the first occurrence of a lull in the conversation. Turkle sees value in the shared experience of awkwardness and vulnerability, as a chance to develop empathy for each other. When people retreat from conversations at the first sign of difficulty, they won't raise deeper more personal issues, won't get the opportunity to develop or exercise empathy, and won't give or receive the kind of support that helps them get through tough times.

After a while, she claims, being empathetic becomes less and less natural, and so if a deep personal issue is raised, others might not know how to respond. In this way, Turkle argues, phones are empathically debilitating social crutches.

Turkle is right about the problem. People do hide from themselves and others in their phones. But phones are mere tools. Just as Turkle saw the potential benefits of early home computers for developing children's skills, we see the possibility of phones and similar technologies enhancing rather than hindering people's development and conversational skills.

In "The Tethered Self" (2011), Turkle argues that text-based communication is impersonal and impoverished. It need not be. For some, text-based communication is empowering. Many groups are disadvantaged by physical, or voice-based communication. Those with speech impediments or cognitive disorders that slow down language processing, those on the autism spectrum, or who do not conform to norms of physical appearance, are disadvantaged by the norms of face-to-face communication. For many in these groups, this technology enables rather than hinders friendships, deeper conversations, and the development of empathy. More generally, text-based interactions reduce the importance of physical cues which serve to exclude some from social interaction. Text as an initial connector of people provides the opportunity for reflecting on shared and different characteristics, and learning more about ourselves and others in a way that can promote empathy.

While the screen-free social times and events that Turkle calls for in most of her recent work are likely to benefit many people, the groups above may be disadvantaged or even miss out on opportunities to develop empathy in themselves or others. Therefore, the use of screen-free times or events needs to be carefully and empathetically considered, and proactively positive uses of technology should not be ruled out just because phones or screens are involved.

Márta Konczos Szombathelyi

Better Future or Armageddon

Since the early days of the personal computer revolution, Sherry Turkle has sounded the alarm about technology's role in undermining human empathy. She has taught us how technology changes not just what we do but who we are. The new connections enabled by our digital devices create barriers to creativity and collaboration in the workplace and inhibit communication in personal relationships. All these raise the question: Is this an age of a Better Future, or an Armageddon?

The history of human race can be regarded as processes of evolution and revolutions of human communication. Different authors identify different numbers of communication revolutions or periods in the history of humanity. Meerman Scott[1] speaks about three major periods in human communications: 1) The pre-printing-press era from the beginning of humanity through the mid-1400s; 2) the era of printed information; 3) the era of web and mobile communications. Steele and Stein[2] named three "clear-cut revolutions in modern communications. The first occurred during the nineteenth century with the development of the telegraph (and later the telephone)… The second revolution included the development of real broadcasting (e.g., through television pictures) and also included the development of satellites, which made it possible to cover the entire planet and beam words and pictures from any place on earth to any

[1] David Meerman Scott, "Communications Revolution", 2013, see https://www.davidmeermanscott.com/blog/2013/04/communications-revolution.html.

[2] Cherie Steele – Arthur A. Stein, "Communications Revolutions and International Relations", in Juliann Emmons Allison (ed.), *Technology, Development, and Democracy: International Conflict and Cooperation in the Information Age*, SUNY Series in Global Politics, Albany: State University of New York Press, 2002, pp. 25–53, see http://www.grandstrategy.net/Articles-pdf/Communications_Revolution.pdf.

other." According them "we are currently undergoing a possible third modern communications revolution that includes the development of the Internet and networking".

In my thinking there were five major revolutions in human communications: 1) the development of speech abilities of the human race; 2) the invention of writing and so the foundation of first great ancient empires; 3) the invention of printing in the mid-1400s, when books could be mass-produced, knowledge became cheap because it could be reproduced in such a way that most anybody could have access to their own books; 4) modern communications revolution, which occurred in the nineteenth century with many of inventions, such as telegraph, telephone, radio and television; 5) the internet and the World Wide Web. The development of real-time communications instantly connects every human on earth with every other human on earth. As Benczúr wrote in his paper[3], one of the most characteristic phenomena at the beginning of the third millennium is the speed of the development of the information technologies that exceeds the pace of every former technological development and leads to the information revolution. As Al Suwaidi argued,[4] there are spectacular developments in emerging technologies, such as artificial intelligence (AI), robotics, the internet of things (IOT), autonomous vehicles, 3D printing, quantum computing, and more.

Each of these developments initially brought wonder and amazement and soon was simply incorporated into people's expectations. Each of these communication revolutions has been double-edged: they have been used for war and have generated conflict even as they have increased international communications and understanding. As Steele and Stein argued the improvements in the speed of communication can lower the costs of trade and investment, or can broaden the speed and scope of military action.

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[3] A. Benczúr, "The Evolution of Human Communication and the Information Revolution – A Mathematical Perspective", *Mathematical and Computer Modelling*, vol. 38, issues 7–9 (2003), pp. 691–708.

[4] Jamal Sanad Al Suwaidi, "The Information and Communication Revolution: An Engine of Global Change", 2018, see https://gulfnews.com/opinion/op-eds/the-information-and-communication-revolution-an-engine-of-global-change-1.2199183.

Similarly to the industrial revolutions, each of these communication revolutions has radically changed economic, political, social life and human relations as the humans as well.

Does the wide availability of mobile technologies and web content to the entire world mean a danger for us? In *The Second Self: Computers and the Human Spirit* (1984) Turkle defines the computer as more than just a tool, but part of our everyday personal and psychological lives. She looks at how the computer affects the way we look at ourselves and our relationships with others, claiming that technology defines the way we think and act. In her book *Life on the Screen: Identity in the Age of the Internet*" (1995) she discusses how our everyday interactions with computers affect our minds and the way we think about ourselves, and how people now have trouble distinguishing between humans and machines. In the book titled *Alone Together: Why We Expect More from Technology and Less from Each Other?* (2011) Sherry Turkle describes new unsettling relationships between friends, lovers, parents, and children, and new instabilities in how we understand privacy and community, intimacy, and solitude. She argues that the technological developments which have most contributed to the rise of inter-connectivity have at the same time bolstered a sense of alienation between people; our interactions with robots that simulate emotion pose serious threats to our ability to relate to one another properly. Turkle investigates – in her book titled *Reclaiming Conversation; The Power of Talk in a Digital Age* (2015) – how a flight from conversation undermines our relationships, creativity, and productivity and why reclaiming face-to-face conversation can help us regaining lost ground. In her latest book – *The Empathy Diaries: A Memoir* (2021) – Turkle teaches us that "our devices offer the illusion of companionship without the demands of intimacy or the challenges of empathy".

Drawing the conclusion we can say that each of the communication revolutions radically changed our life and influenced our mind-set. For regarding them as the path to a better future – this is the title of the book about Pope Francis: *Let Us Dream: The Path to*

a Better Future[5] – and not as an Armageddon, we have come to a better understanding of where our technology can and cannot take us and that the time is right to reclaim conversation. That is why we need to learn new techniques for listening to and engaging with each other; and how to strike a balance between leveraging the best of technology while maintaining healthy levels of engaged human interactions. And Turkle helps us with that.

[5] Pope Francis in conversation with Austen Ivereigh: A. Ivereigh, *Let Us Dream: The Path to a Better Future*, New York: Simon & Schuster, 2020.

Judit Hidasi

Merging Values in a Multicultural Context of Science

In the context of globalization we witness a shift from intercultural to multicultural environment, in which major challenges are becoming more and more international in nature.[1] Hence interactions in science, in politics, in business – and for that matter in everyday life as well – are challenged by the diversity of interaction patterns, of communication styles, attitudes and behaviours. These in their turn are characteristically governed by different cultural and moral values, that we may also call mental programming. Mental programming, or "software of the mind" as Hofstede[2] put it, differs from culture to culture. How to overcome the "cultural/mental programming gap" across countries? Many countries of Eastern Europe for example have undergone significant changes during the three plus decades of regime transition since the 1990s which had an impact on the moral and legal aspects of science management, of technological development and of societal changes. Should or can science be looked upon as a universal language? In our times science's role has widened: there is a need to leverage science engagement and exchange in support of broader objectives beyond science discovery.[3]

In the process of absorption of rapid scientific and technological development one aspect, the human factor,[4] has seemingly not

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[1] See esp. Peter L. Berger – S. P. Huntington, *Many Globalizations: Cultural Diversity in the Contemporary World*, Oxford University Press, 2003.
[2] Geert Hofstede, *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*, Sage Publications, 2001.
[3] See esp. Albert-László Barabási, *Network Science*, Cambridge University Press, 2016.
[4] See esp. Sherry Turkle, *Reclaiming Conversation: The Power of Talk in a Digital Age*, New York: Penguin Press, 2015.

been given sufficient attention to. This can be traced and best seen in the way how our relationships – in terms of human interactions, in communication, in connections – have transformed and consequently changed. In order to improve the science-technology (including digital communication) and human interface more scholarly engagement should be at work.[5]

Awareness should be raised with respect to the ways in which people's worldviews affect their perception, learning, understanding, production, and interaction. Neglecting differences in mental programming – and for that matter in communication – might lead to low effectiveness. A better understanding of the differences might also help to avoid frustrations arising from misunderstandings. Hence, we are left with the need of discovering much more about the ways and means of mental programming and reprogramming.[6]

The question arises what and whose interests govern national science policies or values. Interests and values however are closely interconnected because values are often reflected and expressed in "interests" of particular countries or governments. The crosscutting challenges affect a wide range of foreign policy areas, such as trade, security, migration, climate change and international spaces (oceans, polar zones, etc.). Scientists should provide evidence or expertise not only on request from policy-makers or governments, but also proactively aid policy makers in identifying and prioritizing strategies and programs needed to resolve these challenges.

There is a varying degree of capabilities of nations to absorb changes that are brought about by uncontrolled technological development and diversifying lifestyles into their own set of values – both in terms of depth and in terms of speed. Cultural filters (religion,

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[5] Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other*, New York: Basic Books, 2011.

[6] I have discussed this in some detail in Judit Hidasi, "A globalizáció és a nemzetköziesedés vetületei" [Aspects of globalization and internationalization], in Á. Borgulya – Cs. Deák (eds.), *Vállalati kommunikáció a 21. század elején* [Corporate communication at the beginning of the 21st century], Miskolc (Hungary): Z-Press, 2011, pp. 189–200.

ethical norms, etc.) might counteract and even serve as obstacles in achieving common goals. Here, social science has a crucial role to act as a facilitator of societal discussion about the true risks and about the benefits of changes.

Ferenc Hammer

Human-Object Continuities in Sherry Turkle's STS-Anthropology

Let me start my discussion on Turkle's work with a personal, somewhat autobiographical observation about technology. I guess my choice of embarking would not be entirely alien to Turkle's style of psycho-biographical approach to her object- and technology-related research subjects anyway. Perhaps I'm not the only observer who has seen a contradiction in popular evaluations of craftmanship in technical trades, at least at a superficial first sight. On the one hand, technical training has always possessed the lowest prestige and evaluation in secondary education in Hungary, and perhaps in other countries too, at least in terms of the numbers of points graduating students from the 8-class elementary school have had to present at the entry examinations. Trade school has been understood often as Plan C for students who had not got accepted at a higher level, matura-level trade school, or especially at a grammar school. But on the other hand, the story about craftmanship presents a sharp U-turn, when the issue is not modern secondary education school prestige but mythology. We all know examples of significant characters from Greek or Norse mythologies who, as builders, metal workers, ship makers, or fire-starters, just to name a bunch of skills and trades, enjoyed remarkably distinguished status in godly hierarchies, and this distinction sometimes contains the element of a threshold position of a semi-worldly, semi-godly trickster. And if you are still waiting for the biographical element here, just take a look at the big fat entries about blacksmiths in mythology handbooks or in Chevalier and Gheerbrant's marvelous symbol dictionary[1] and then see my surname.

[1] Jean Chevalier – Alain Gheerbrant, *A Dictionary of Symbols*, vol. 10, Penguin Books, 1996.

The sense of slight discomfort attached to socio-cultural understanding of crafts and trades has perhaps somehow borrowed an apparent analytical and theoretical hesitation regarding epistemologies, meanings and roles of objects and to materialities in general. In brief, there is no royal road, or perhaps it is better to say, convenient analytical shortcuts to objects, or to the use of objects, or to relationships between humans and objects, or to conceptualized human-object combos, and we have already delved into the middle of the discussion indeed. Approaches to objects often represent a tiptoe mode, which may be connected to objects' pervasiveness and vast variety in terms of their physical nature, complexity, size, meanings, value or rarity, just to single out a few parameters. Perhaps acknowledging these analytical complications, Candlin and Guins, editors of a Routledge reader on objects[2] chose an ironical, somewhat Borgesian solution with simply dumping the reader with actual objects covered by the volume:

> ... baskets, snail shells, jugs, sculpture, wreckage, blogjects, Christian relics, carved wooden figures of gringos, wooden turtle decoys, Trobriand island canoe prows, a cathedral built of matchsticks, seatbelts, revolving doors, door keys, books, bicycles, tyres, prosthetic limbs, Weimar film sets, film footage, photographs, pancake mix packaging, public toilets, plastic religious icons, trash, Tandy's TRS-80 computer...

Then follows possible uses of these objects:

> These objects are picked up, exhibited and displayed, given, exchanged, sold, networked, watched, worn, glimpsed, read, ridden on, played with, collected, inserted, pissed into, and thrown away. They are also found, loved, desired, worshipped, remembered, hated, feared, lost, scrutinized, studied, revered and much more.

[2] Fiona Candlin – Raiford Guins, "Introducing Objects: What, When and Where, How", in Candlin – Guins (eds.) *The Object Reader*, Routledge, 2009.

This ironic inventory, already suggesting forthcoming presumable analytical complications, concludes with similar lists concerning the objects' possible meanings and impacts on our life, all appearing in *The Object Reader*. Probably all of us who have endeavoured into analytical classifications of uses of objects can attest that sooner or later in the project we have to make painful choices concerning what our study would not be about. [3]

In this short piece I create a sketch of Sherry Turkle's choices attested by her major works regarding what she singled out to take a look at and what to leave out from the discussion about objects in her technological anthropology.[4] My analysis seeks to reconstruct a route Turkle chose in her immersion into everyday practices done with (or without) objects. I contend that in many of her analytical approaches a certain form of continuity between humans and objects can be attested, often marked by remarkably different readings by the observer, or perhaps more accurate, the observer participant Sherry Turkle.

In her volume-size debut into object anthropology, *The Second Self: Computers and the Human Spirit* (1984, republished in 2005) Turkle seeks to map machine use, mainly computers and video games, through a qualitative inquiry of proverbial digital people, i.e. gamers, children users, geeks, hackers and the like. In stressing the importance of relationships between humans and objects, her early work can be read easily as a thoughtful warning against essentialist claims about computers and people, an ever-present topic since the

[3] To highlight my personal angle to this issue, I still find amusing how smoothly and quickly I had slid in my ethnographic work about personal recollections about blue jeans wearing in communist Hungary into unforeseen conceptualization struggles about the self, significant life events, the materiality of denim, all narrated in remembering the deep past. See: Ferenc Hammer, "The *Real One*: Western Brands and Competing Notions of Authenticity in Socialist Hungary", in Andrew Bevan and David Wengrow (eds.), *Cultures of Commodity Branding*, Walnut Creek, CA: Left Coast Press, 2010; Ferenc Hammer, "Teenage Metamorphoses: Elements of Change in First-Person Memories about the First Pair of Jeans", in Marta Rabikowska (ed.), *The Everyday of Memory: Between Communism and Postcommunism*, Oxford: Peter Lang, 2013.

[4] In my discussion I do not cover her early work on the relationship between psychoanalysis and French thought and politics.

1980s.[5] Interestingly, her debut also works as a humanist manifesto for machines themselves, as a juxtaposition to technological deterministic approaches to objects, and indeed she asserts:

> Technology catalyzes changes not only in what we do but in how we think. It changes people's awareness of themselves, of one another, of their relationship with the world.[6]

In terms of human-object continuities, the scope of the present piece, she chose a quite safe, "everything is everywhere" strategy, as suggested by these two chapter titles from the book

> 8 Thinking of Yourself as a Machine
> 9 The Human Spirit in a Computer Culture

In also a relatively early work Turkle and her coauthor, perhaps amending the research program of the *The Second Self*, extend their scope of investigation to those, missing from the 1984 book, the ones who do not use digital machines, or do it with reluctance. The authors make important distinctions and classifications regarding object use, claiming that the great diversity in attitudes and skills towards objects and to the idea of object use, indicated in the title of the article, already suggests a possible conceptual connection between humans and objects, in the present case computers, arguing:

> The computer can be a partner in a great diversity of relationships. *The computer is an expressive medium that different people can make their own in their own way.*[7]

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[5] In 2006 I found a deeply entertaining case study about potentials of the "children and computers" topic to be utilized in mediated panic economies, see: Ferenc Hammer, "Strange but Responsive Bedfellows: Single-Issue Activism and the Media", *Eastbound*, 2006/1, the paper is accessible at https://www.academia.edu/16963221/Strange_but_responsive_bedfellows_Single_issue_activism_and_the_media.

[6] 1984 / 2005: p. 3 / pp. 18 f.

Diversity in computer-related affinity of students can be conceptualized by a notion of symbolic distance and marking computer reticence as a result of perceiving computers something as symbolizing "an alien way of thinking",[8] assert the authors about a good decade after Ridley Scott's *Alien*'s appearance in the cinemas. Assessing all these, the 1990 paper is a spectacular detour already from the object anthropology program presented in the 1984 book in two aspects. Firstly, the work acknowledges computer cultures as a gendered space and secondly, there is a shift in the text in terms of topological imagination and agency, in which objects can perform friendly or vile intentions, the latter may be distant but perhaps also hidden in some of us already without our knowledge, remember Ripley.

The 1995 Turkle volume, the *Life on the Screen: Identity in the Age of the Internet* brings the notion of the "as if" into the discussion via stressing the role of simulation in digital life, creating a buffer zone, more neutrally perhaps, a mediating scene between humans and objects. In the Epilogue of the book Turkle compares the work in the 1984 book with the present 1995 account of the theme. Computers are understood as

> providing an evocative object for our self-reflection, the essential message of that book [*The Second Self*]. Now it is the basis for a new culture of simulation and a fundamental reconsideration of human identity...[9]

As stressed in *Life on the Screen* several times, the volume represents important insights of the author not only as a social scientist but also as a practicing psychotherapist. While the 1984 *The Second Self* can be understood as an early form of mapping a social practice with developing ideal type kind of digital actors, the clinical insights offer important statements regarding the psyche, but alas,

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[7] Shery Turkle – Seymourt Papert, "Epistemological Pluralism: Styles and Voices within the Computer Culture", *Signs: Journal of Women in Culture and Society*, vol. 16, no. 1 (1990), pp. 128–157, this passage on p. 135, italics in the original.
[8] *Ibid*.
[9] Sherry Turkle, *Life on the Screen* (1995), New York: Touchstone, 1997, p. 321.

consequently performing a stepping away from the social. While *Life on the Screen* digs deeper and deeper into revealing what digital phenomena may signify in one's life, a groundbreaking work indeed in the advent of the internet age, this scope presents less interest towards socio-cultural differences being present in classrooms or gamer communities, for example. We learn things about how computer use can be functional in school learning, but we learn less about how and why computer use within the same school or classroom can contribute to entirely different learning patterns and outcomes. Turkle herself defines the multiple roles in her approach to object anthropology in the following way:

> One voice is from a memoir, one from the clinical notebooks of a psychoanalyst, and the third from the field notes of an anthropologist, an ethnographer.[10]

In Turkle's choice of methods quoted above, each represents some form of a methodological individualism, which overall strategy outlines certain implications regarding the theme of the present discussion. While the obvious presence of the social in any interaction, even in any silence in modern societies is already a 20th century textbook wisdom, the digitally enacted presence and agency of others via instant "referenda" on social media and web 3.0 algorithms have brought a new concreteness to the social. Turkle's work in the 2010–20s, the 2011 *Alone Together*, the 2015 *Reclaiming Conversation*, and the brand-new 2021 *The Empathy Diaries* seem to withdraw from the ambition of offering a larger social map and in return, they present an inquiry about conditions, and a claim for a meaningfully lived experience in the digital world, stated firmly in the recent memoir:

[10] Unfortunately my two favourite Turkle books, the 2007 *Evocative Objects* and the 2008 *The Inner History of Devices* are edited volumes with illuminating case studies in object anthropology, and though her intellectual drive is present in the introductions and in the editorial work of the books, they, as edited volumes, fall outside the frame of the present discussion.

> To fix our crisis of intimacy and privacy, of empathy and human connection, we don't need more apps. We need one another. We are the empathy app.[11]

This claim represents almost a Luddite turn compared to her views on technology in the 1980s indeed. The balance between humans and machines outlined in the early books has been disrupted.

> The way we live now is an experiment in which we are the human subjects – treated as objects by the technology we have created. Our apps use us as much as we use our apps. ... When we are treated as objects, we are encouraged to objectify one another and, of course, ourselves.[12]

The tone of the open-ended inquiry all present in the edited volumes on cellos, vacuum cleaners or 1964 Ford Falcon automobiles, seems to belong to the past now. The humanist approach to objects, which already offers an opportunity to destabilize the almighty objectification claim (since how can anything be truly objectified if even objects are just not only objects anymore?) has given a way to a form of humanistic escapism. The deeply cherished covenant between humans and machines seems to be been broken now for Sherry Turkle.

[11] *The Empathy Diaries: A Memoir*, New York: Penguin Press, p. 342.
[12] *Ibid.*, p. 341.

Judit Szalai

Understanding and Predicting the Behaviour of Artificial Agents

One of the leading themes of Sherry Turkle's more recent work (*Reclaiming Conversation: The Power of Talk in a Digital Age*; *Alone Together: Why We Expect More from Technology and Less from Each Other*) is the drive to have sustained communicative and emotional connection with fellow-humans, the fulfilment of which is partially undermined by the use of current digital technologies. She identifies novel tendencies in relating to ourselves and to others, altered social routines that home computers, social media platforms, android phones and other smart devices enable and encourage. Current technologies serve as channels or outlets for discharging our emotional-interactive needs in ways that often modify our perception of these needs themselves or compel us to imaginarily bend our communicative possibilities.

One such strategy is extensively examined in *The Second Self*, where Turkle discusses our tendency to invest machines with psychological attributes. The behaviour of even well-informed, sophisticated users towards ELIZA, an early computer psychotherapist, is observed to be markedly anthropomorphizing. Being aware of its lack of emotional capacities and very limited cognitive repertoire, users "went out of their way to ask questions in a form that they believed would provoke a lifelike response", in an attempt to "maintain the illusion that ELIZA was able to respond to them". The inclination to understand artificial systems' behaviour in terms of human psychology, which Turkle also amply demonstrates in the case of children, has been confirmed since by anthropological studies (e.g., B. Chun and H. Knight: "The Robot Makers…").

This tendency will no doubt be enhanced by the increasingly broadening functions of humanoid and non-humanoid robots, especially those with agentic (self-learning and decision-making) prop-

erties. When it comes to other agents, human or non-human, we are bound to try to understand, explain and predict their behaviour. People are folk psychological reasoners. Folk psychology is not just a matter of convenience, it is ineliminable. While we are likely to find it easier to connect to AI-based systems with humanoid features, being unable to make sense of the actions of an autonomous car or a "sex robot" could equally have unwelcome consequences. Systematically lacking such folk psychologies while having to count with non-human agents making decisions and acting around, and for, us could be paralyzing or lead to rather suboptimal behaviour.

Our anthropomorphizing tendencies can thoroughly lead us astray, however. It would be a grave mistake to use the same folk psychology for artificial agents we do with our conspecifics. Artificial agents not just lack certain human functions, especially affective ones. Their purely "cognitive" functions are also qualitatively different, e.g., the "reasoning" used in machine learning is also largely inaccessible to human thinking. With the transition of artificial systems from being instrument-like to agentic, the chances and stakes of understanding and prediction equally change. As Kaplan describes it, in the past, programmers fully understood the steps required for a computer to accomplish a task and then wrote "a program that, in effect, cause[d] the machine to simulate these steps precisely" (J. Kaplan, *Humans Need Not Apply*). "Synthetic intellects", in contrast, "are not programmed in the conventional sense… where they wind up is unpredictable and not under their creator's control."

Relying on prediction and interaction is not made possible, as in human cases, by the fact that, being members of the same species, we share the same kind of physical-biological body and mental make-up. The radical qualitative difference of AI-based agents' mental-like processes is only one issue, though. Another factor that will complicate what is often called "human-robot-interaction" is the heterogeneity of the set of AI-based systems. The therapeutic baby seal robot PARO, with a limited range of actions, is very different from neural networks with biological cells extracted from mouse embryos.

Since analogous thinking relying on a theory of the human mind is not an option with non-human agents, we need to find ap-

propriate epistemic channels to secure some measure of predictability and explainability in interaction with artificial entities. Just as the need for the regulation of the capacities and functions of AI-based systems has recently been clearly realized (see, e.g., the work of the European Union's Higher-Level Expert Group on AI), having, for instance, the external design of the AI system reflect those capacities and functions to help understanding and prediction, and thereby inform interaction, also seems inevitable.

Barry Smith

Neural Chitchat

Introducing Little Bing

A constant theme in Sherry Turkle's work is the idea that computers shape our social and psychological lives. This idea is of course in a sense trivial, as can be observed when walking down any city street and noting how many of the passers-by have their heads buried in screens. In *The Second Self*, however, Turkle makes a stronger claim to the effect that where people confront machines that seem to think this suggests a new way for us to think – about human thought, emotion, memory, and understanding and thereby affects the way we think and see ourselves as humans.

I will attempt here[1] to throw a new light on claims of this sort by examining the Chinese chatbot 小冰 (pronounced "Xiǎoice", and loosely translated as "Little Bing"). Xiǎoice is a neural chatbot introduced by Microsoft in 2014,[2] and it is described in Zhou et al.[3] as "the most popular social chatbot in the world".

Zhou and his collaborators report that XiaoIce was "designed as an AI companion with an emotional connection to satisfy the human need for communication, affection, and social belonging". Their paper claims that XiaoIce "dynamically recognizes human feelings and states, understands user intents, and responds to user needs throughout long conversations". We are told further that since its re-

[1] This work is co-authored by Jobst Landgrebe, and some of the material within it is derived from a book manuscript entitled *There Will Be No Singularity* by Landgrebe and Smith.

[2] A visual impression of one of her achievements is here: https://www.youtube.com/watch?v=ihfbyvCzErw&t=199s.

[3] Li Zhou et al., "The Design and Implementation of XiaoIce, an Empathetic Social Chatbot", *Computational Linguistics*, vol. 46, issue 1, 2020, pp. 53–93.

lease in 2014, XiaoIce has "communicated with over 660 million users and succeeded in establishing long-term relationships with many of them".

Double Blandness

Like other "neural" chitchat applications, however, XiaoIce displays two major flaws, either of which will cause any interlocutor to realize immediately that they are not dealing with a human being and which will prevent any sane user from "establishing a long-term relationship" with the algorithm.

This is because such applications often create repetitive, generic, deflective, and bland responses, such as "I don't know" or "I'm OK", at least in longer conversations. This is because the training corpora which are used as training samples for algorithms of this sort contain many such answers, and so the likelihood that such an answer might somehow fit is rated by the system as high. Several attempts have been made to improve answer quality in this respect, but the utterances produced by the algorithms are still very poor.

"Bland" has two meanings: 1. the use of commonly repeated expressions, 2. the lack of any sort of creative step forward in the dialogue of a sort that would be of genuine interest or utility to the user. The reason for both of these effects is the method underlying how XiaoIce is built.

In this XiaoIce is analogous to a machine translation engine of the sort which merely reproduces sentence pairs from existing training sets. The translation corpus for the translation engine uses tuples of the form <l1s, l2s>, where l1s is the sentence to be translated in language 1, and l2s is some translation of l1s in language l2. XiaoIce uses a collection of tuples of the form <s1, s2>, which are pairs of sentences succeeding each other in one or other of the many dialogues stored in XiaoIce's large dialogue corpus.

Both google translate and XioaIce use statistical methods to generate inputs from outputs. And both merely mimic existing input-to-output-tuples without *interpreting* the specific utterance the sys-

tem is reacting to, and without taking into account the *context* in which the input was originated. Hence the double blandness.

Everything Depends on Context

To see why context is important, consider the sentence

> After Paris we need to get to Abbeville before nightfall.

This sentence might be used, in a first context, as part of a conversation between two British tourists planning a trip from Paris to Normandy, where they are discussing the closing times on Somme battlefield memorial sites. On the other hand, it might be used in a second context as part of a conversation between two Oklahoma truck drivers, discussing potential traffic holdups on Interstate 49 on the way from Paris, Texas to Abbeville, Louisiana. In both cases, the utterance in question involves multiple spatial and temporal contexts, including in both cases spatial and temporal contexts embedded inside each other. In the one case it is set in a social context determined by British speakers of a military tourism idiolect using a dialect of British English. In the other case its social context is associated with the use of a trucker idiolect by speakers of a dialect of American English. In both cases we have in addition a planning context determined by the intentions of the speakers involved, giving the dialogue in each case an immediate relevance and utility. In an urgent planning context (one of the speakers has discovered that there has been a large pile-up on the road from Paris to Abbeville) this may add a moment of urgency to the dialogue, resulting in one or both speakers adopting an urgent or angry or pleading tone. Or adding new gestures, or facial expressions, or attempts to grab his interlocutor and shake him round the shoulders, leading in turn to new contexts: of protesting on the part of the one who is grabbed, or of attempts to calm down the one who is doing the grabbing.

In any case, not bland.

Ungroundedness

It is context that gives ground to dialogue, sets the scene for interpretation by each dialogue partner of what the other has said and for both dialogue partners to use the dialogue as a means to realize their intentions.

In XiaoIce and in all similar applications no attempt is made to *interpret* utterance inputs. Interpretation is indeed impossible in the absence of any consideration of context. Rather, the machine simply tries to copy in its responses those utterances in the training set which have immediately followed syntactically and morphologically similar input symbol sequences in the past. Because utterances are decoupled from context, responses appear ungrounded.

Attempts to improve matters by the developers of XiaoIce using what are called "Grounded Conversation Models", which try to include background or context-specific knowledge, have not solved the problem. For the attempt to take context into account faces a sampling problem. While we can gather large amounts of data for contexts in general, as soon as we attempt to collect a representative sample of data relating to dialogue in some specific context, we find that this is impossible. [4] Available samples that could be used to train the algorithm are both too sparse and unable to represent the variance in the sorts of genuine human conversation that take place in that context.

A further problem faced by neural chitchat applications is that they create ever more incoherent utterances as a dialogue develops over time. This is first of all because they cannot keep track of the dialogue as it becomes its own context – for example when the grabbee, in the above scenario, tells the grabber that their conversation is at an end.

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[4] With a few exceptions. See the appendix to Jobst Landgrebe and Barry Smith, "Making AI Meaningful Again", *Synthese* 198 (March 2021), pp. 2061–2081.

And secondly it is because the datasets they are trained from are actually models of inconsistency due to the fact that they are created as mere collections of fragments drawn from large numbers of different dialogues. Attempts to alleviate the problem using "speaker" embeddings or "persona"-based response-generation models are able to improve the situation slightly,[5] but they do not come close to ensuring realistic, convincing conversations.[6]

Given that machines of the mentioned sorts can neither interpret utterances by taking into account the sources of variance, nor produce utterances on the basis of such interpretations, the approach cannot be seen as promising when it comes to conducting convincing conversations.

Therefore when Turkle writes that where people confront machines that seem to think this suggests a new way for us to think, she is wrong on two fronts: first, neural chitchat algorithms do not seem to think; what they *do* is compute output behaviour generated to optimize a measure of a certain sort; for what they *seem to do* in the eyes of their users we need a whole new word. And second: what they do *not* do is to suggest new ways for us to think.

[5] Jianfeng Gao, Michel Galley, and Lihong Li, *Neural Approaches to Conversational AI*, 2018, arXiv abs/1809.08267, section 5.3.
[6] Li Zhou et al., *op. cit*.

Róbert Tardos

Understanding New Media from the Bottom Up

An overview of the last decades presents close to a dozen publications on the new digital technologies with a hint to the rediscovered opus *Understanding Media* (1964) by McLuhan. Beyond the novelties extending our potentialities, though, less attention has been paid to the crux of the renowned phrase "the medium is the message". The one-time guru of media studies had no doubt more in mind than direct material implications like the bulk of leisure time spent before a television screen. What sounded so loudly was the call for a fresh look at distinct means of communication and their tendencies to form awareness, evoke or curb involvement on the users' part.

These ideas were not without antecedents in the field of communication studies then attracting the cream of social research. Following the launch of an array of mass media and their general greeting in the token of new horizons for many, it did not take long to notice the dark sides having much to do with their deployment by totalitarian propaganda machines less envisioned by the optimistic scenarios. The classical 1948 review of mass media functions by Lazarsfeld and Merton at the dawn of the television age also included narcotizing dysfunction and gave impetus to a stream of studies on escapism in media consumption. In another classic, the *Lonely Crowd* (1950), Riesman and his co-authors, somewhat also in a critical manner, outlined a character typology with a focus on the ascending "other-directed" type, increasingly shaped by mass media socialization amidst the prevalence of peer-group influences. Later currents (like "uses and gratifications") made a turn by emphasizing the active role of audience in offsetting strong media effects, highlighting needs of information and some chances of media education too.

The overall applause on the advance of the new digital technologies by the turn of the century certainly had to do with their inherently empowering interactive potential and the hope of a long-

term liberation from media giants' control of contents and consumption. The conspicuous pace of the appearance of new tools and applications also grasped much interest. As internet and online social media became ubiquitous with a new generation already grown into the digital environment, the drawbacks came also to the surface, somewhat experienced by the "indigenous" as well. These discontents created a solid niche of attention awaiting new attempts from the research area long preoccupied with the promises of novelties. The fresh insights by Sherry Turkle concerning various ambivalences of the digital culture, from the chains of connectedness to possible effects of robotic services, proved timely enough to resonate in broad segments of expert and lay audienc. Not theorizing in the manner of the authors referred to above (but likely inspired by some of them) she relies on ethnographic evidence and psychoanalytic experiences to express feelings recognized by many as their own. Without going into gloomy dystopia, key themes of her books *Alone Together* (2011) or *Reclaiming Conversation* (2016) with telling phrases like "always-on/always-on-you", "the tethered self", "fleeing from solitude", "from conversation to connection", "eroding boundaries between work and leisure" react to widely felt discomforts. More abstract notions like the "second self", the compulsion of peer validation or the blurred boundaries between private and public may inspire further elaborations along various lines of social research.

Turkle's focus on connectivity naturally involved some elements of social network analysis (such as when highlighting the growing preference of weak ties against more intimate settings). Related linkages between research fields may be extended through the exploitation of large comparative programs like ISSP and EU-SILC. Pilot analyses of data on kin and friendly relations from several dozen countries tend to confirm observations of a growing prevalence of indirect (in recent decades increasingly online) contacts versus face-to-face events. Though this trend proceeds from core regions to non-core (e.g. emerging) ones, the results do not seem to prove a unilinear tendency. So populations of the Nordic countries, in spite of their prime role in the digital penetration, do not stand out in the recent prevalence of virtual (vs. offline) communication. The

malaise of current pandemic certainly entails new complications, but maybe people can come to grips with the new media and make them fit, just as it used to happen among fortunate circumstances with the older media too.

Árpád Rab

Why Is Sherry Turkle's Work Important to Me?

Sherry Turkle's work and the issues she raises are very important and exciting to me. The spread of digital culture, the great reprogramming of the information society, is really fundamentally changing many seemingly traditional ways of working in human society. We need to talk about them, and look for answers. Sherry Turkle's credibility is enhanced by her confrontation with her former self, her vast amount of writing, her empathic approach. However, Sherry Turkle's messages are, in my view, worth looking at in a broader context.

Digital culture is not (only) an important business model, a passing fashion, but an important step in a long process of development. It is not an option, but a fundamental survival strategy that will enable humanity to respond successfully to the challenges it faces. Culture is the survival strategy of humanity. As a species, we are doing well with the help of technological evolution, and in our last five-thousand-year history, this is the most non-violent century in humanity. Over the past two hundred years, we have doubled, and even slowly tripled our biologically originally encoded lifespan, and our economy has grown 250-fold thanks to the quality-of-life technologies (and the emergence of consumer society). We live longer, healthier, cleaner; deep poverty on Earth has been reduced from 84% to 14% in one hundred and fifty years (1880–2018). As a result of fewer and fewer people being able to produce food for more and more people, while most of its history has been ruralized, now half of humanity lives in cities, and by 2050, two-thirds are expected to do so. Cities are the focal points of our economy, our cultural life and our innovations. Racial success has also led to an increase in population, with 7.7 billion people currently living on Earth. We have reached the Land of Abundance and look around a little indefinitely: the usual social, economic, regulatory, communication systems of recent centuries are being radically transformed.

It is no coincidence that these devices were needed so quickly by everyone, regardless of gender, age, religion, geographical location. Digital culture has realized our ancient desires. With its help, in a technological way we have achieved that we can know everything, we can speak all the languages of the world, we cannot get lost, we can keep in touch with those who are not near us, and so on.

In my opinion, one of the main functions of digital culture in the history of mankind is that the humanity flowing into cities, living densely there, forced into thousands of interactions and information every day, can cooperate with each other automatically and easily. It allowed friends, strangers, and even slow people to work with software and machines in an instant way, achieving the desired effect (be it information, a temporary used car, renting an apartment, or buying food). Digital culture is a system for ensuring the quality of life in cities.

The other main function of digital culture, in my opinion, is for humanity entering the sixth Kondratiev wave to reach a balance between the ecological environment, the amount of resources, and the desired standard of living through effective cooperation. With the help of information technology this is possible, without it – in my opinion – not.

These are just a few examples of the success of community collaboration technologies that have often been surrounded by fear in a sensational way. In the light of these, we need to question a number of alarms and rather ask the question, why is this happening, what will humanity gain from it? We do not try to understand the phenomena of the information society on the basis of the logics of the industrial society. It is part of the search for a way for us to shape digital culture by arriving at the Land of Abundance, forcing ourselves to higher self-awareness.

The question, then, is not whether these technologies are good or whether we should be afraid of them, but whether we can increase our own awareness of the skills we have acquired for our own survival (since not through a learning process achieved them, but by technology). This awareness applies to all elements of the former triangle (use of technology, ecological balance, social functioning) and

it really needs to evolve. But which skills and values will be important may not need to be considered in fear and focused on one area, but in a broader context, with an understanding of their longer-term goals. Digital culture has not taken away our toolbox so far – it has expanded and enriched it. The social tensions caused by the coronavirus epidemic also seem, for the time being, to be a snap response to Sherry Turkle's work.

I am grateful for Sherry Turkle's alerts, generating debate and raising awareness, a prominent and respected figure in the information society dialogue – with my lines I have only tried to find its greatest use in my own narrow research approach. Last but not least, it is an eternal question for me about her work: is the digital culture the cause of the changes she is telling about, or is it just a visible signifier?

Anna Reading

Life Bytes

Turkle's work is usually characterised as being resolutely "anti-technology" and technologically determinist which is more problematic than usual with the transformations and human adaptations of digital technologies within COVID times. It is, after all, our nimble and creative use of video platforms (as on this occasion) that have saved workplaces during lockdown; oiled the capitalist production-consumer cycle; enabled some semblance of education for our locked down children; facilitated non-contact based medical care and allowed pandemic isolated humans to create, destroy, and talk, laugh and swear with family and friends beyond their households.

Turkle's *The Empathy Diaries* memoir takes us through her own troubled and troubling coming of age, and her development of what she terms "an intimate ethnography of contemporary life". What the memoir surfaces are some contradictions within Turkle's work.

Early on the memoir advocates for "theoretical promiscuity" (p. 89): "use the theory that is most useful for sorting through a time, a place, a new set of materials. Expand your intellectual tool kit. Be theoretically promiscuous. In more academic language, practice theoretical pluralism." What bites is not the idea of an expanded understanding of theory, but rather that theory is simply a tool – like a hammer or saw – that the intellectual can use to craft an understanding of the world. Yet Turkle's expounding of pluralism, indeed any pluralism, is not neutral. Just as the hammer shapes the fist, so a theory, including Turkle's theory, shapes our worlds. Neither the hammer or theory should be used without a sense of one's place within them and a critical engagement with their power. A hammer and an intellectual tool kit may be used to build a house, they can also destroy it.

Turkle's particular combination of psychoanalytical theory is derived not from the ego psychology of Freud but what she sees as

the idea of the de-centred mind of Lacanian theory she connects to early ideas of the de-centralised computer. Importantly, within this she considers minds as if they/we are of one kind. Yet what we know from the neurodiversity paradigm that has emerged recently is that human neurology is diverse. And what we know from other studies of West coast technology developers such Baron-Cohen is how technology companies were and are more frequently peopled by those with neurodivergent minds. Lacanian theory doesn't pay heed to the idea of neurodiversity and difference in this regard. And neither then does Turkle's idea of how technology shapes us.

At the same time, however, Turkle's memoir advocates for "epistemological pluralism" (p. 166) with an admission that everyone learns and develops ideas in different ways. For some, she says, they may respond to a top-down approach of developing an outline, a plan. Turkle prefers the "soft mastery" of Lévi-Strauss – what she calls the "tinkering" approach to developing an idea, or writing a paper or a book. In her stories of her own teaching she describes her creative use of objects with students. Epistemological pluralism is something that those involved with disability studies have also long advocated – that humans are neurodiverse and that accordingly there are different ways of learning – of sensing, cognising, processing and communicating the world. And – this is the point – this bytes into Turkle's earlier studies and parts of the memoir that advocate that technology prevents connection or talk. It lays a pathway to suggest that in fact technology may in fact for some (I would say all) enable talk and in COVID times it very much has.

Throughout the narrative of Turkle's memoir she peppers her prose with the stories she attaches to objects, clothes, cars and foodways, that act – as in the methods of her research – as textual/object metonyms: "we love", she says, "the objects we think with; we think with the objects we love" (p. 312). Earlier on though she negates computer technology as obscuring its underlying knowledge: "A child immersed in opaque apps is not learning computational ideas" (p. 272). Yet when we drive a car (unless we are trained mechanics) we likewise do not understand or learn how the engine works. There are elements of her observations that chime with work on the polit-

ical economy of technology but there is no place for play or the playboy: “When we are online and when we are tracked by our devices our lives are bought and sold in bits and pieces to the highest bidder and for any purpose” (p. 337). Her argument is the one that we are familiar with from her work – that technology treats us as objects. And we then are “encouraged to objectify one another and, or course, ourselves”. A chat bot “reduces a person to lines of code”. From this Turkle then calls on us to call an end to this experiment and to reclaim “our complex selves. We are people with bodies and emotional and social histories.”

The memoir surfaces how her research works that argue for the deterministic power of digital technologies are also in part connected with and shaped by her own obscured experiences of objectification having been experimented on by her own father. Indeed, what Turkle’s memoir also reminds us of are how particular structural and intersectional inequalities – in this case faced by a Jewish female academic – will also then in turn shape the knowledge we produce and interests to which we turn, as well as having a toll on our public selves through what Miranda Fricker has recently very usefully termed epistemic injustice. It is towards the end of her memoir (p. 329) that Turkle makes the connection between the “experiments” her father did on her in which he treated her as an object to test out his theories of deprivation and isolation effectively making her into an object; and the ways in which Turkle experienced structural exclusion.

Finally, an important contradiction and thus a productive part of Turkle’s memoir concerns her comment on how we need to think about technology and nature.

> At the very moment we are called to connect to the earth and be stewards of our plants, we are intensifying our connection to objects that really don’t care if humanity dies. The urgent move, I think, is in the opposite direction.

We find that nature in Turkle’s memoir rarely features – we know the ocean was close to her childhood home, but she does not

recount it; as with the theories she picks out – particularly Lacanian theory – there is no acknowledgement or strong memories in her memoir for anything but the drama of human beings thereby reinforcing an already extractive technological model that she herself is seeking to critique. So, perhaps it is not the opposite direction that we need to go in, but rather that we might add to the idea of an intimate understanding of the role of technology in everyday life to include within that it is not only objects but the natural world around us with which we remain intimately connected. For through and with our computers we generate connected experiences not only with other humans but with the living earth.

Kristóf Nyíri

Another Little Sherry

The title of the present paper is an allusion to my favourite detective story *Another Little Drink* by Peter Cheyney, in which the protagonist fools his surroundings by pretending to drink too much, and indeed by drinking too much; but it also expresses my slight annoyance at Turkle's *Empathy Diaries* allotting so very many pages to the author's childhood memories, regularly using the occasion to rub in how very smart and pretty little Sherry was. As an undercurrent a detective story – the *nom du père* story – does actually run, too, through the *Diaries*.

There is, also, a love story: the story of Turkle's encounter and marriage with MIT computer scientist and educator Seymour Papert. The marriage didn't last very long, but it was while it lasted that Papert published his famous book *Mindstorms: Children, Computers, and Powerful Ideas* (1980). In it he expresses his gratitude to his wife, without whom the book "could not have been written. Ideas borrowed from Sherry turned out to be missing links" – runs the acknowledgement – "in my attempts to develop ways of thinking about computers and cultures", with one of the major questions asked by Turkle being "how people's relationships with computation influence … their views of themselves". As to Papert's own messages in the book, they were complex, sharp-witted, and almost entirely misguided. I say "almost", since he seems to have had some inkling of the sensorimotor aspect of the mind; and the idea of his pet computational "object-to-think-with" – the "Turtle", that animal-like object children acquiring the LOGO program language were learning to physically move – relied, say implicitly, on the capacity of visual thinking. Still, his idea of human–computer interaction was essentially that of issuing linguistic commands. True, in his "Introduction" he asked the reader to "imagine an electronic sketchpad, a computer graphics display of the not-too-distant future. This is a television screen that can display moving

pictures in color. You can also 'draw' on it, giving it instructions, perhaps by typing, perhaps by speaking, or perhaps by pointing with a wand." But the drift of the book itself did not take into account that "not-too-distant-future", and in fact Papert absolutely missed the connection when it came to the WIMP (Xerox PARC, Macintosh, and eventually the Windows operating system) developments. Turkle was more alert to, but became from a political point of view unhappy with, what was happening (see esp. the reminiscences in the "Introduction" to the "twentieth anniversary edition", 2004, of *The Second Self*). Back to Papert, his reading appears to have been very selective. For instance, he does not refer to Dennett's *Brainstorms* (1978) – did not even the title strike him? – in which the first chapter, "Intentional Systems" (1971), contains the author's oft-quoted argument to the effect that playing chess against a computer program promises optimal results not if the human opponent wonders about how the program works, but on the contrary if he assumes that the computer has the *intention* to find the best move.[1] Then there is e.g. painfully missing a reference to Arnheim's *Visual Thinking* (1969), especially to the "Thinking with Pure Shapes" chapter which deals with teaching mathematics. Had Papert assimilated Arnheim, he might have developed a better understanding for Bruner's distinctions between knowing through doing, knowing through picturing, and knowing through language.[2]

Obviously and naturally, many of Papert's themes are echoed in *The Second Self* (1984). But Turkle was incomparably better read, possessed much broader interests and was more open-minded than her husband has been. Say she was certainly not unaware of Dennett on intentionality, even if completely misunderstanding his point.[3] Nor did she entirely fail to see the significance of visual mental

[1] I have cited Dennett's argument in my "Wittgenstein and the Problem of Machine Consciousness" (1989) before coming to extensively quote from Turkle's *The Second Self*.

[2] I am referring to the remarks on p. 96 and p. 221 of *Mindstorms.*

[3] On p. 49 in the 1984 edition she refers to "philosopher Daniel Dennett … attributing the machine's limitations to its lack of intentionality". The passage is corrected in the 2005 edition (p. 58), but the price is a misprint: "philosoher" instead of "philosopher".

images.[4] Clearly it cannot be my purpose here to summarize her book, but by way of concluding there are two central Turkle themes I would like to comment on. The first is the claim that "the computer … affects the way that we think".[5] I do not believe ordinary people were ever, or are even today, influenced by their computers in such a way. For them the machine was, and remains, a mere tool. On the other hand the mode of thinking of psychologists, philosophers, and the like, was indeed radically changed first with the introduction of the typewriter, then with the emergence of word processing,[6] and finally with the rise of computer graphics. It was the spread of the typewriter that was responsible for the "linguistic turn" in psychology and philosophy – the view that we think in nothing but words,[7] with mental images being at best epiphenomena – and it was the emerging possibility of producing and editing pictures on one's computer that created the framework for the *iconic turn* happening since the 1980s.

The second theme is the "Terrified of being alone, yet afraid of intimacy… … here the computer, a companion without emotional demands, offers a compromise"[8] one, which over the decades developed into Turkle's *Alone Together: Why We Expect More from Technology and Less from Each Other* (2011) approach, becoming her main subject and message. Now I myself have always been a techno-opti-

[4] Some expressions she uses (1984/2005 editions page numbers): "visual images" (p.6/p.21); developing ideas "impressionistically, with language or visual images" (p.102/p.101); "how we grasp visual images" (p.283/p.248); "In the 'mind' there are images, concepts, ideas, language, and thought" (p.287/p.252).

[5] See p.3/p.19, and *passim*.

[6] I have discussed these two developments in my 1993 paper "Thinking with a Word Processor".

[7] As I have put it in my "Postscript" (pp. 261 f.) to the volume *Vision Fulfilled: The Victory of the Pictorial Turn* (2019): "Just as our computers and smartphones today have an influence on our ways of composing a text (or indeed texts combined with images, still or moving), so did the typewriter, by the 1900s, determine the thinking of its users. … One thinks what one types, and one can type only words. So one unlearns to think in images, and denies the possibility of thinking in images."

[8] *The Second Self*, 1984/2005, p.320/pp.279 f.

mist, as my ten-years project http://www.mta.t-mobile.mpt.bme.hu/index_en.htm perhaps amply testifies. Still, when mobile telephony began to become from intimate person-to-person communication to a framework for social networking, I became distanced. Also, I became critical of mass tourism.[9] Social networking of course is one of the factors enhancing mass tourism. Now the COVID-19 pandemic sadly verified my, say, premonitions. I offered a – very radical – diagnosis in my "Back to the Roots – Conservatism Revindicated" paper. In a sense, I became a techno-pessimist. Then the *Diaries* arrived. Turkle is obviously a techno-pessimist, too. But somehow I am, still, not on her side of the fence. It is the difference between us I tried to get clearer about in this talk.

[9] See my https://www.academia.edu/20240415/Dont_Travel_Communicate_2009_2010_.

Publications by the Committee for Communication and Media Theory, Hungarian Academy of Sciences:

Petra Aczél – Kristóf Nyíri (eds.), *Communications Theory / Media Theory* (https://www.academia.edu/37455512/Communications_Theory_Media_Theory_in_Hungarian_), 2018.

Petra Aczél – Kristóf Nyíri (eds.), *Hogyan hivatkozzunk?* (https://www.academia.edu/41222876/HOW_TO_CITE) – 2019.

Kristóf Nyíri, "HOW TO CITE? The Glory and Misery of the (author, year) Reference Style" (https://www.academia.edu/41222876/HOW_TO_CITE), 2020.

Petra Aczél – Kristóf Nyíri (eds.), *Online Communication and the New World of Scholarship* (https://www.academia.edu/44372821/Online_Communication_and_the_New_World_of_Scholarship), 2020.

Kristóf Nyíri (ed.), *The Sherry Turkle Miracle* (http://www.hunfi.hu/nyiri/STM/Booklet.pdf), 2021.

Papers prepared for the workshop *The Sherry Turkle Miracle*, organized by the Committee for Communication and Media Theory, Hungarian Academy of Sciences, held online on May 27, 2021. This is a discussion on the work of Sherry Turkle, in particular her *The Empathy Diaries: A Memoir*, published on March 2, 2021, with tremendous media excitement surrounding it. In the literature there do not seem to have appeared approaches in any way critical of her oeuvre. By contrast, the papers of this workshop entertain views rather more diversified. The volume is edited by Kristóf Nyíri.

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