

Piotr Sitarski, Maria B. Garda, Krzysztof Jajko

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# New Media Behind the Iron Curtain



Cultural History of Video, Microcomputers  
and Satellite Television in **Communist Poland**

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## **Behind the Iron Curtain**



WYDAWNICTWO  
UNIWERSYTETU  
ŁÓDZKIEGO

Piotr Sitarski, Maria B. Garda, Krzysztof Jajko  
with a Foreword by Graeme Kirkpatrick

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Piotr Sitarski  
Maria B. Garda  
Krzysztof Jajko

## Foreword

*Graeme Kirkpatrick*

Viewed from the United Kingdom, where I lived at the time, Poland in the 1980s was a peculiar place. It was in the news as the country with an avowedly socialist government being challenged by a heroic trade union called “Solidarity.” It was on movie screens in *Moonlighting* (Jerzy Skolimowski, 1982), a film in which Jeremy Irons played a Pole working illegally in Britain and watching, on multiple TV sets in a shop window, scenes of chaos in the streets of his home town. Part of the poignancy of this scene was the sense of distance and remoteness – the shop is closed, the screens are on the far side of the glass which Irons wipes furiously in an attempt to see better – conjoined with one of intimacy and closeness – the streets are familiar, his family are “there” a few feet away, yet all flights home have been suspended due to the military coup.

In the 1980s Britain had an oppressive government of its own, engaged in the violent repression of more than one trade union. Poland seemed similar, familiar even, yet all the terms through which such conflicts are normally interpreted (in particular, left/right) seemed to be reversed, as if in a mirror.

All around the world at this time new technological media were springing into existence. In Britain, the TV shop also doubtless contained VCRs (indeed, in one scene we see a sign advertising “video recorders”), TV satellite dishes and possibly some of the new home computers then being manufactured in the UK (Spectrums, Dragons, Acorns, BBCs). The reception and social shaping of these technologies in the Western context has been well studied, especially by scholars with a constructivist outlook. The discipline of Science and Technology Studies (STS) has explored the social shaping of home computers,<sup>1</sup> for example, showing how they were caught up in and shaped by marketing strategies with various, competing constituencies in mind.

The situation in Poland, which is presented in this book, was very different and yet in many ways also similar. The first appearance of new media was in a context largely free of marketing. In constructivist terminology, the new technologies were “underdetermined” everywhere – Andrew Feenberg writes that home

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<sup>1</sup> Tom Lean, *Electronic Dreams: How 1980s Britain Learned to Love the Computer* (London: Bloomsbury Sigma, 2016).

computers, for example, “were launched on the market with infinite promise and no applications.”<sup>2</sup> But in Western contexts some attempt was made to shape perceptions and to guide first users into certain kinds of relationship with the machines. Most commonly, educational uses were foregrounded and people were encouraged to buy home computers to give their children competitive advantage in the high-tech jobs market of the future. A concerted effort was made to cultivate a market for games played on the machines. This amounted to a significant cultural intervention, in which magazine publications, often with the backing of computer manufacturers, sought to define new kinds of consumer, capitulating them into participation in “gaming” and defining them as “gamers.”<sup>3</sup>

This kind of cultural activity had implications for the way that distinctions might be drawn between objects, with some machines associated with learning (the BBC Micro in the UK, the Meritum computer in Poland) and social boundaries formed between “in” and “out” groups – in the case of gamers, this involved excluding anyone who wasn’t young and male.<sup>4</sup> At the same time regulative concepts<sup>5</sup> were introduced, so that a new lexicon of appreciation (“great gameplay,” “super graphics”) came into circulation. In this way new fields of cultural activity were designed and new subjectivities (“gamer,” “user,” “hacker”) were produced. In the British context, these processes were played out in the pages of magazines, at marketing events up and down the country, in school classrooms, on TV screens and in radio broadcasts, as well as in living rooms and teenagers’ bedrooms.

In Poland, much of this activity was missing and the vital mediations that frame a new media technology, giving its meaning and locating it in its specific cultural niche were all very different. In each of the three chapters that follow, these issues are explored in connection with video, computers and satellite TV. These technologies were all equally “new” in Poland at this time, as elsewhere. The book rightly presents itself, therefore, as a study of “new media” that includes digital devices and challenges the easy, deterministic association of that phrase with computers, the internet and other “digital” innovations. The social and cultural context makes what it will of the affordances of each device. From the perspective of an age in which we think we know what computers and satellite TV “are” and what they are “for,” it is fascinating to look back and reflect on the diverse range of our initial responses and uses.

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<sup>2</sup> Andrew Feenberg, *Questioning Technology* (London: Routledge, 1999), 85.

<sup>3</sup> Graeme Kirkpatrick, *The Formation of Gaming Culture* (Basingstoke: Palgrave-Macmillan, 2015).

<sup>4</sup> Graeme Kirkpatrick, “Meritums, Spectrums and Narrative Memories of ‘pre-virtual’ Computing in Cold War Europe,” *Sociological Review* 55, no. 2 (2007).

<sup>5</sup> Lydia Goehr, *The Imaginary Museum of Musical Works: An Essay in the Philosophy of Music. Revised Edition* (New York: Oxford University Press, 2007).

This book studies home computers and digital storage devices as part of a wave of new media technologies that also included video and audio tapes and associated machines (players and recorders) and new kinds of TV. All of these devices appeared a few years later in Poland than in Western Europe and the US, video arriving only around 1980, for instance, when it had already transformed popular culture in other parts of Europe. But the new media included things that didn't succeed elsewhere, like communal satellite TV services, and inventions, like teletext, that specifically didn't work in Poland even though they succeeded elsewhere. These things developed, or failed to, alongside magnetic video tape and other things that didn't catch on anywhere. One of the strengths of this book, which makes it such a delightful read, is the feeling of chaotic technical experimentation with objects and practices whose meaning has not yet been settled, in a context where the authorities tried to be controlling and restrictive but were mostly incapable of understanding what they should do in order to achieve this.

The focus of each of the studies included here is not on a linear "diffusion" of technology and its cultural impacts, but rather on the creative practices and associated cultural mediations that arose specifically during the early period of new media technology's presence in the Polish context. This culture of experimentation produced quirky practices that may be distinctive to the Polish context. For example, Piotr Sitarski describes how VHS was used for sound recording, when facilities designed for that purpose were unavailable. Was there a politics to this? Sitarski writes that many of these practices "existed on the margin of what was allowed." The government planned to introduce 2,000 video clubs, for example, where people could make and show films, but the people had other ideas, acquiring VCRs "under the counter" and organising private screenings, especially among student groups. Dynamism and responsiveness were largely the preserve of such informal group responses, as opposed to the seeming sclerosis of the administration.

This is nowhere more clear than when we read about the government trying to shape the new technology in line with some conception of socialism. Sitarski reports, for example, that in the 1980s thousands of VCRs were produced in Poland, most of them not sold to private individuals, but to state-run companies, cultural centres and universities. The socialistic aspiration implicit in this founded on systemic incompetence, reflected in the decision to keep producing VCRs long after anyone had ceased making compatible tapes. And then there are the stories of a secret distribution network servicing the Party leadership with video entertainments, compounding the impression of a system that was failing on its own terms.

The theme of multiple, sometimes conflicting forms of reception is continued in Maria B. Garda's contribution, where she notes that party and state incorporated micro-computers in one way, while ordinary people did it through

their own, multifarious forms of practice with varying degrees of institutionalisation. The official discourse in the socialist Eastern Bloc countries focused on communal and not individual access to technology. But in Poland, as elsewhere, individual hobbyists desired to own their own computers and they were often willing to go to extraordinary lengths to obtain one.<sup>6</sup> In Poland, Garda estimates that about 80% of the computers in people's homes came from abroad, as people would acquire them when on visits overseas, or through the black market. This became a cause for concern for the authorities, who believed the machines were being used by spies.

Similarly, in the case of satellite TV, initially the authorities reacted with fear and tried to close down popular usage, before they realised that its expense alone was sufficient to keep the numbers involved very low. Meanwhile, there were plans to bring in a regulated version of satellite TV use across the Soviet Union. These plans were never implemented but there was an official use of satellite TV, which involved state broadcasters recording programmes received from satellites and then re-broadcasting them, on official, terrestrial channels. Krzysztof Jajko's chapter tells the story of Porion, a company that imported satellite TV antennae into Poland from Sweden in the second half of the 1980s. The "repressive socialist state" effectively turned a blind eye but one gets the impression this was not benign but rather a reflection of complete inefficiency: the socialist security apparatus was so atrophied it was simply incapable of assessing new threats.

At the same time, this was a state that was capable of supporting initiatives and even encouraging entrepreneurialism, as reported by one of Jajko's respondents, who recalls government-sponsored "research and development units," which was a status conferred on some businesses that would entitle them to support, including tax exemptions: "In spite of how it seems, the way that everyone believes that everything that was back in the day, during so-called 'komuna', is so bad, it is not that way at all. Because there were also wise people. This is seen in the example of these research and development units. There was a government bill passed for those." Partly on this basis, socialist Poland became an exporter of satellite dishes.

Similarly, the authorities seem to have encouraged local, cable TV including associated social activism, which reflected enthusiasm for the TV and, as Jajko puts it, "could have been used for building a mature civil society" (p. 95), but was stymied by a lack of public resources to pay for cable. The government allowed private, local TV firms to sell satellite TV to housing co-ops, with representatives

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<sup>6</sup> See Jaroslav Švelch, "Say it with a Computer Game: Hobby Computer Culture and the Non-entertainment Uses of Homebrew Games in the 1980s Czechoslovakia," *Game Studies* 13, no. 2 (2013).

from the co-ops choosing what would be broadcast to the whole community. In so doing they hoped to prevent what they perceived as more threatening, namely, the “free for all” of individual viewers choosing what they wanted to watch.

This book is an outcome of a several years-long research project, funded by the Polish National Science Centre. It represents one of several such explorations of the local contexts in which digital communications technologies were shaped by individuals and communities with diverse interests, who found multiple meanings in the technology. Similar studies are now appearing or have appeared of other local histories, notably of Australia and Czechoslovakia, for example, as well as my own work on the British context.<sup>7</sup> These studies undermine technology’s appearance as the incarnation of authoritative knowledge and show that, in reality, it is the outcome of people experimenting and creating things that are meaningful to them. However, these social shaping processes do not occur in a vacuum but under conditions defined by different kinds of structural inequality and political domination. In this, they do not only concern the past but have much to teach us about the present and how the future will be made.

## Bibliography

- Feenberg, Andrew. *Questioning Technology*. London: Routledge, 1999.
- Goehr, Lydia. *The Imaginary Museum of Musical Works: An Essay in the Philosophy of Music. Revised Edition*. New York: Oxford University Press, 2007.
- Kirkpatrick, Graeme. “Meritums, Spectrums and Narrative Memories of ‘pre-virtual’ Computing in Cold War Europe.” *Sociological Review* 55, no. 2 (2007).
- Kirkpatrick, Graeme. *The Formation of Gaming Culture*. Basingstoke: Palgrave-Macmillan, 2015.
- Lean, Tom. *Electronic Dreams: How 1980s Britain Learned to Love the Computer*. London: Bloomsbury Sigma, 2016.
- Švelch, Jaroslav. *Gaming the Iron Curtain*. Cambridge, MA: The MIT Press, 2018.
- Švelch, Jaroslav. “Say it with a Computer Game: Hobby Computer Culture and the Non-entertainment Uses of Homebrew Games in the 1980s Czechoslovakia.” *Game Studies* 13, no. 2 (2013).
- Swalwell, Melanie. *Homebrew Gaming and the Beginnings of Vernacular Digitality*. Cambridge, MA: The MIT Press, forthcoming.

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<sup>7</sup> Jaroslav Švelch, *Gaming the Iron Curtain* (Cambridge, MA: The MIT Press, 2018) and Melanie Swalwell, *Homebrew Gaming and the Beginnings of Vernacular Digitality* (Cambridge, MA: The MIT Press, forthcoming).

PART I

PIOTR SITARSKI

**NEW MEDIA AND THE FALL  
OF THE POLISH PEOPLE'S REPUBLIC**

## Introduction

The Faculty of Philology at University of Łódź was, until recently, dispersed over the city centre, located in small and large buildings, tenement houses, and even single floors or flats. Walking through the streets, you could come across students carrying dictionaries and lecturer notes discussing Old-Polish devotional literature. It made the life of academia fit nicely into the rhythm of everyday life, making Łódź – in a seemingly paradoxical way – similar to a medieval city.

Before moving to a new building, which was to house the entire faculty, the university administrators decided to inspect the existing equipment and dispose of old and redundant items. Since they were focused mainly on audio and video equipment, my colleagues and I decided to examine the apparatus kept in the dusty storerooms. As it turned out, a cabinet located in a room used by a technician from a neophilology institute housed a ZK 140T reel-to-reel tape recorder together with a collection of tapes. In the last two decades of the Polish People's Republic (PPR) such recorders were an important tool in language teaching, so finding one was not so surprising. Because the device was working, we played some of the tapes to satisfy our curiosity, and, to our surprise, we discovered that they were recordings of disco music from the 1980s.

This event will not be recorded in the history of the university, and there will be no trace of it in the archives. Maybe a conscientious historian will be able to determine, after many years, what kind of equipment was used by specific institutes and departments, but they will not be able to learn anything beyond their official, intended use, for learning languages and entertainment. However, this find synthesises numerous important questions presented within this book. How did it happen that university equipment was used for recording songs that most likely had no didactic application? How was the recording made? Did someone listen to it while working? Did they lend it to someone organising a party and forget to erase the tapes? Perhaps it was some sort of technical trial of the device? Furthermore, who recorded music instead of linguistic exercises? Were they technicians with easy access to the device, or professors who had the proper know-how? Or, were these songs, perhaps, recorded by students? These questions compose this book's main research goal: that is, to discover the real application of revolutionarily new media technology.

## Media in the society

It is worth starting our work with a few general, arguably even obvious remarks on media *sensu largo* and how they functioned in the society. Media is used for communication. The term “communication” contains intentional ambiguity connected with two basic meanings of the word. Firstly, communication is a deeply human activity, based on sharing signs, which ultimately convey experience, emotions, and viewpoints. In a nutshell, communication is understood here as in the title of James W. Carey’s famous book – simply as culture.<sup>1</sup> Media is, therefore, in the very heart of human culture. This can be understood in a general and metaphorical way, as well as in a specific and historical manner. On the one hand, it is how we use media to communicate that make us tangibly human. On the other, media places us in a cultural reality which is changeable and unique. Cited by Carey, John Dewey says: “Society not only continues to exist by transmission, *by* communication, but it may fairly be said to exist *in* transmission, *in* communication.”<sup>2</sup> The quote pertains to the histories and everyday lives of numerous specific societies.

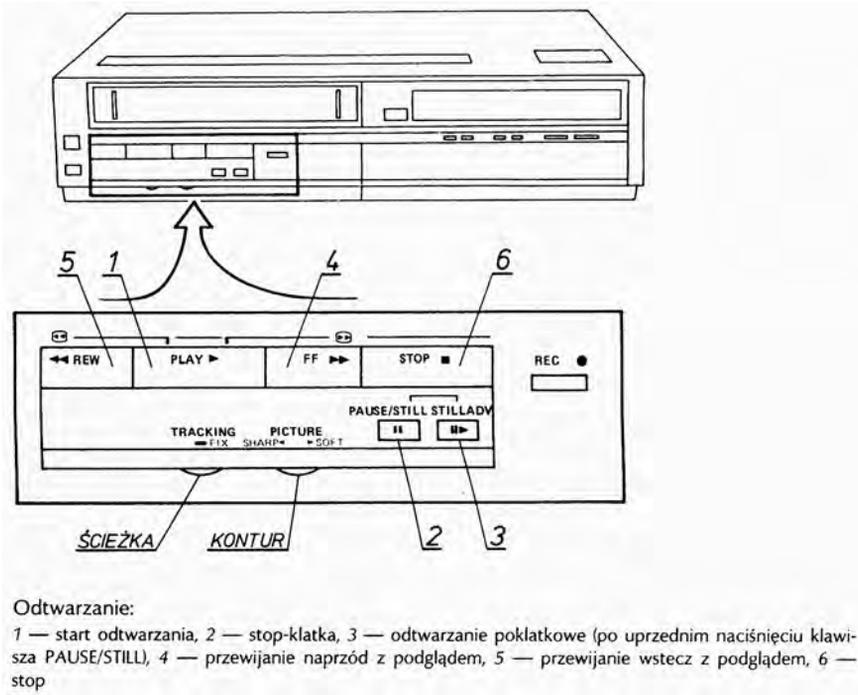
Communication is also transmission – and this is the second basic, “cybernetic” way this term may be understood. In this context, communication creates a network of exchanges of signs, information, and goods, which are moved from one place to another. Thus understood, communication can be achieved without building a community, without a homogenous mental map, without emotional engagement. Therefore, it can pertain not only to humans, but also to animals or machines.

These two meanings, although apparently contradictory, in fact complement each other. By turning on a tape or a DVD player, I begin to communicate with the device as we exchange information. The builders of the device also, in a sense, communicate with me. We collectively share a similar view on the device: together we assume the same general aim and method of using any given piece of technology, which helps the individual understand how to turn on and use the device. For example, I know what the arrows and other pictograms on the buttons mean. When an image appears on the screen its creators communicate with me and engage in complex ideological, aesthetic, and other types of relations.

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<sup>1</sup> James W. Carey, *Communication as Culture. Essays on Media and Society* (New York: Routledge, 2009).

<sup>2</sup> John Dewey, *Democracy and education*, Project Gutenberg, accessed May 17, 2019, <https://www.gutenberg.org/files/852/852-h/852-h.htm>



**Fig. 1.** Learning how to use buttons which seem intuitive and obvious nowadays

**Source:** Tadeusz Kurek, ABC wideo (Warszawa: Watra, n.d.), 58

Media, apart from being used in communication, are also machines. They belong to the same category as pickaxes, machine tools, or needles and threads. It is the reason why media is so often compared to simple tools, the reason why, in his famous book, Marshall McLuhan mentions clothes, accommodation and clocks next to newspapers and movies as examples of media.<sup>3</sup> Devices as tools exist in a twofold manner: they are a part of the material world, but they also belong to the social sphere. Lisa Gitelman refers to this when she defines media as “socially realised structures of communication, where structures include both technological forms and their associated protocols, and where communication is a cultural practice, a ritualised collocation of different people on the same mental map, sharing or engaged with popular ontologies of representation.”<sup>4</sup>

The relationship between “technological forms” and “protocols,” or, in other words, between technology and society, is one of the key questions both in media

<sup>3</sup> See Marshall McLuhan, *Understanding Media* (New York: Signet Books, 1964).

<sup>4</sup> Lisa Gitelman, *Always Already New* (Cambridge, MA: The MIT Press, 2006), 7.

theory, as well as in their everyday understanding. In fact, this question goes beyond theory and becomes an undeniable megatheory, an enormous metaphor joining views on media and more general convictions about the world.

Andrew Feenberg distinguishes between four fundamental types of attitudes towards technology:<sup>5</sup>

**Tab. 1.** Attitudes towards technology according to A. Feenberg

<b>Technology is:</b>	<b>Autonomous</b>	<b>Controlled by people</b>
Neutral (complete separation of means and ends)	Determinism (e.g. traditional Marxism)	Instrumentalism (liberal faith in progress)
Value-laden (means form a way of life that includes ends)	Substantivism (means and ends linked in systems)	Critical Theory (choice of alternative means-ends systems)

**Source:** Andrew Feenberg, *Questioning Technology* (London: Routledge, 1999), 9

If technology is autonomous, its changes depend on society, and while technological progress is driven by people, they can only perform tasks devised by technology. Feenberg sees traditional Marxism as an example of this attitude, believing that for Marx, technology is a neutral power, similar to the power of nature, one that acts continuously and can be used to different ends by a capitalist exploiter as well as by revolutionary proletariat: "The ultimate motive force of historical change is technology, productive forces, the whole of the equipment available to society plus acquired technical ability plus the technical division of labour."<sup>6</sup> Just like the proletariat revolution, technological development needs to take place; however, much like the revolution, it will not start itself. Through work in their laboratories and factories, scientists and engineers participate in a great project – the development of mankind. They are its agents, but they don't operate autonomously.<sup>7</sup>

Even though the table above presents the four types of attitudes as equal, determinism is, in fact, rarely accompanied by a belief that technology is neutral

<sup>5</sup> Andrew Feenberg, *Questioning Technology* (London: Routledge, 1999), 9.

<sup>6</sup> Leszek Kołakowski, *Main Currents of Marxism. Its Rise, Growth and Dissolution, Volume I: The Founders*, trans. P.S. Falla (Oxford: Clarendon Press, 1978), 337.

<sup>7</sup> This is Feenberg's position, but it is questionable to what extent Marx really perceived technology as a wholly neutral force. It is likely that the newest research on Marx's work, including unpublished works, will shed some light on the matter. See a detailed study on the role of technology in Marx's work: Regina Roth, "Marx on technical change in the critical edition," *The European Journal of the History of Economic Thought* 17, no. 5 (2010).

– that there is no connection between technological means and goals that can be achieved through them. In the case of Marxism, the development of technology – of the means of production – is a visible manifestation of historical progress and, as such, it is not neutral. Although for some time technology has been able to cause oppression, it must ultimately result in the triumph of the perfect society. This can be seen especially clearly in political practice, which *ex definitione* assumed the primacy of communist science and technology and saw them as a means of defeating their western competition. Technological progress has been seen not only as natural, and thus inevitable, but also desirable, since it hastened the victory of the “global proletariat.” The belief in the inevitability and usefulness of technological progress was one of the secondary elements of practical Marxism-Leninism doctrine, but it was diffused through common awareness in Poland (and probably also in other countries of the Eastern Bloc) and became an important element of change.

Thus, Marxism sheds its belief in the neutrality of technology and changes into substantivism, which admits that technology is not just a flexible tool but also has its own substance which defines achieved goals. We can claim that firearms can be used in multiple ways (e.g. as starting pistols or flare-guns), but it can be reasonably argued that the substance of firearms boils down to shooting other people or animals, with other applications being marginal. Jacques Ellul, a radical substantivist, describes it like this:

Technique integrates everything. It avoids shock and sensational events. Man is not adapted to a world of steel; technique adapts him to it. It changes the arrangement of this blind world so that man can be a part of it without colliding with its rough edges, without the anguish of being delivered up to the inhuman. Technique thus provides a model; it specifies attitudes that are valid once and for all. [...] But when technique enters into every area of life, including human, it ceases to be external to man and becomes his very substance. It is no longer face to face with man but is integrated with him, and it progressively absorbs him. In this respect, technique is radically different from the machine. This transformation, so obvious in modern society, is the result of the fact that technique has become autonomous.<sup>8</sup>

According to this view – shared by many modern thinkers who deal with media, especially the Toronto School headed by Marshall McLuhan – technology develops according to its own plan, and it cannot be used to serve just any goal. On the contrary, it sets its own goals, and new inventions and innovations trigger social changes: people adapt to the progress of technology. This approach

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<sup>8</sup> Jacques Ellul, *Technological Society*, trans. John Wilkinson (New York: Knopf, 1964), 6.

usually has a gloomy and pessimistic dimension, despite originating from romantic resistance against industrialisation and its “dark infernal mills.” In the twentieth century it was supported by the philosophy of Martin Heidegger, who in his essay *The Question Concerning Technology* describes the ways that technical thinking affects how modern people approach the world, how it becomes the main way to discover it, and how it changes the world into a technological resource. “A tract of land is challenged to putting out coal and ore. The earth now reveals itself as a coal mining district, the soil as a mineral deposit.”<sup>9</sup>

Technopessimism, founded on the nineteenth-century fear of the peril that machines and their efficiency posed to humankind, together with a deterministic worldview, is not only important as an influential philosophical stance. It has also pervaded popular culture and become a foundation of, for instance, “science-fiction.” Roger Caillois addresses this: “a science-fiction novel reflects the anxiety of our era, which is terrified at the very thought of the progress of technology theory, and which is no longer protected by science against the Unthinkable. Quite the contrary, it itself has started to pull mankind into the abyss. It is because science no longer means clarity and safety – it has become a disturbing mystery.”<sup>10</sup> Even though this book is primarily meant to present views on the role of technology in our contemporary world, I mention the above because ideas have consequences. Ideas – embodied as they are in each situation – played an important role in the processes of innovation and its spread, described in this book. For this reason, one more thinker deserves our attention. He is much less well-known and influential than Martin Heidegger and mentioned much less often in the context of philosophy of technology, especially in English literature. Even though the belief in the substantial nature of technology is often pessimistic in form, with its vision of mankind enslaved by dark, antihuman forces, Pierre Teilhard de Chardin writes in his works about a very different world. As an evolutionist, de Chardin perceives the progress of technology as a consequence of a general process which leads from inorganic matter, to animals, to humans, to the creation of a collective awareness in the “noosphere.” This process is not subject to human will; it is programmed into the world by God, and in this sense de Chardin is a substantialist. The evolution of mankind progresses to point Omega, where matter becomes purely spiritual, divine. This progress is, then, not only independent from humans but also leading to the ultimate good. According to de Chardin, the progress of technology – as a part of this larger process – is an element of a greater scheme which should not be opposed: “for Mankind as a whole,

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<sup>9</sup> Martin Heidegger, *The Question Concerning Technology And Other Essays*, trans. William Lovitt (New York: Garland Publishing, 1977), 14.

<sup>10</sup> Roger Caillois, *Obliques* (Paris: Gallimard, 1987), 46.

a way of progress is offered and awaits us, analogous to that which the individual cannot reject without falling into sin and damnation.”<sup>11</sup>

The ideas of Teilhard de Chardin became somewhat popular in the 1990s, because he was thought to have predicted the development of the Internet and inspired its makers.<sup>12</sup> Indeed, overwhelming evolution does entail, according to the French Jesuit, the creation of transistors and integrated circuits and, later – thanks to miniaturisation – personal computers. They, in turn, must connect into a network which will become the noosphere. These inventions, despite their human origin, had been predicted and programmed earlier in the divine plan and thus had to take place. The works of Teilhard de Chardin have been published, read, and commented on in Poland since the 1960s, and it is clear that he had some influence on shaping attitudes towards technology.<sup>13</sup> It may be no coincidence, rather a reflection of the zeitgeist, that the publication of the complete collection of his works began in Poland in 1984, at the time of new media revolution. The orthodox doctrine had a much more powerful impact, however, especially the teachings of the Catholic Church, which formed individual, as well as institutional, thinking. In the Feenberg table, it is situated in the neutral and non-deterministic area. The Catechism of the Catholic Church states it most clearly:

2293 Basic scientific research, as well as applied research, is a significant expression of man’s dominion over creation. Science and technology are precious resources when placed at the service of man and promote his integral development for the benefit of all. By themselves however they cannot disclose the meaning of existence and of human progress. Science and technology are ordered to man, from whom they take their origin and development; hence they find in the person and in his moral values both evidence of their purpose and awareness of their limits.

2294 It is an illusion to claim moral neutrality in scientific research and its applications. On the other hand, guiding principles cannot be inferred from simple technical efficiency, or from the usefulness accruing to some at the expense of others or, even worse, from prevailing ideologies. Science and technology by their very nature require unconditional respect for fundamental moral criteria. They must be at the service of the human person, of his inalienable rights, of his true and integral good, in conformity with the plan and the will of God.<sup>14</sup>

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<sup>11</sup> Pierre Teilhard de Chardin, *The Future of Man*, trans. Norman Denny (New York: Image Books/Doubleday, 2004), 10.

<sup>12</sup> See Jennifer Cobb Kreisberg, “A Globe, Clothing Itself with a Brain,” *Wired* 1995, accessed December 12, 2016, <https://www.wired.com/1995/06/teilhard/>

<sup>13</sup> Teilhard De Chardin remains a disputed figure in Poland and in the last 50 years a number of books and papers discussing his thought have been published.

<sup>14</sup> Catholic Church, *Catechism of the Catholic Church*, 2nd ed. (Vatican: Libreria Editrice Vaticana, 2012).