Part I: Towards a Cura Publica

Chapter 1: Introducing Pharmacology

1.1 The digital onslaught: some basic considerations

The influx of *digital pharmaka* into our societies poses, without any doubt, an epochal challenge. The dystopia of a digital "surveillance capitalism"[1] combined with the brutal repression of an authoritarian regime is the most horrific scenario currently being discussed in the open societies. In China it is already in place. But even if this worst-case scenario of a repressive regime can be avoided, the cultural ramifications of digitalization are unsettling. Attention-disorder has become a widespread phenomenon; mental-illness is a growing problem. It is hard to track these causalities, but it must be assumed that these effects are only the tip of the iceberg. The influx of new technologies is fundamentally transforming the way couples, families, communities interact.

We still do not really understand the profound change that modern societies are facing, this "great transformation" our culture is undergoing as these technologies are becoming ubiquitous. However, in the confrontation between different generations the level of transformation sometimes becomes evident: When "digital natives" born after 1995 and those from the elder generation (intellectually socialized with books) meet, it sometimes seems to be an encounter of two different species, different brains, different ways of Being-in-the-world.

1 Zuboff, Soshana: Surveillance Capitalism. The Fight for a Human Future at the New Frontier of Power, London: Profile Books 2019.

This observation does not imply a moral or aesthetic judgement; we should not object to the younger generation's brains being formatted in a different way. We should, however, take seriously the question of what the obvious technological generation gap actually means, what it implies for the present and the future, and how we can cope with this tectonic shift. "What is going on?" might be the most simple and blunt way of posing this question. The impression that in as short a time as 20 years our way of living and thinking should have changed profoundly, has not, we assume, just arisen by chance. We are witnessing a historical transformation of our mental infrastructure.

The economic, political and cultural ramifications of this transformation are not yet fully clear, although for about 30 years countless books and articles have tried to conceptualize this transformation.[2] To what degree is the enormous inequality in wealth caused by the accumulation of capital resulting from scaling-effects in the digital economy?[3] To what degree can the new populist and authoritarian movements (and regimes!) be explained by the revolution on the information market caused by the internet?[4] Is it the feeling of

2 Pars pro toto: Rheingold, Howard: The Virtual Community. Homesteading on the Electronic Frontier, Reading: Addison-Wesley Publishing Company 1993; Shapiro, Andrew: The Control Revolution. How the Internet Is Putting Individuals in Charge and Changing the World We Know, New York: Public Affairs, 2000; Benkler, Yochai: The Wealth of Networks. How Social Production Transforms Markets and Freedom, New Haven/London: Yale UP 2007; Castells, Manuel: The Rise of the Network Society. The Information Age: Economy, Society, and Culture. Volume I (orig. 1996), John Wiley & Sons: New York, 2nd edition, 2011.

3 Cinnamon, Jonathan: "Social Injustice in Surveillance Capitalism", in: Surveillance & Society 15 (2017), pp. 609–625.

4 Diamond, Larry: "The Road to Digital Unfreedom: The Threat of Postmodern Totalitarianism", in: Journal of Democracy 30 (2019), pp. 20–24; Harari, Yuval Noah: "Why Technology Favors Tyranny", in: The Atlantic (2018), https://www.theatlantic.com/magazine/archive/2018/10/yuval-noah-harari-technology-tyranny/568330/ (01.02.2022); Tufekci, Zeynep: "How social media took us from Tahrir Square to Donald Trump", in: MIT Technology Review

"not being heard", inevitably produced in a world in which everybody else is constantly heard — which causes some people to feel excluded? And finally: to what degree is the new wave of mental illness linked to the influx of omnipresent digital media into our "lifeworld"?

Empirical research is trying to do its best to understand these processes while they are occurring. Hegel claimed that only when night is falling will the owl of Minerva start to fly and examine the ruins of an epoch from an adequate distance: historical formations need to have ended in order to be transparent to our understanding, Hegel thought. Only when the flower is already entering the stage of decomposition, can its essence be conceptualized, he claimed. This seems to be true for the feudal society so well described by Marc Bloch[5] long after it ended. Maybe we will only have a complete, i.e. "Hegelian", picture of the digital age once it begins to morph into something new.

This Hegelian approach, however, does not seem viable in our current situation: we need to understand the storm we are caught in as fast as possible in order to survive it. And this, of course, is what the empirical study of digitalization and its effects is trying to do: to make sense of the fundamental shift in our "being-in-the-world". We can already see what digitalization can cause and will continue to induce in our societies. In order to assess these effects, it is not sufficient to list advantages and disadvantages, or to call for a "responsible" use of new technologies. It will also take a theoretical and philosophical effort to understand "what is going on". Empirical research will provide much of what is needed, but not all that is sufficient for this endeavor. In a way, Heidegger's strange dictum "the essence of technology is not technological"[6] still seems

(2018), https://www.technologyreview.com/2018/08/14/240325/how-social-media-took-us-from-tahrir-square-to-donald-trump/ (01.02.2022).

5 Bloch, Marc: Feudal Society, 2 Volumes, Chicago: The University of Chicago Press 1961.

6 The original phrase can be found at the beginning of his essay "The Essence of Technology" ("So ist denn auch das Wesen der Technik ganz und gar nichts Technisches".) Hannah Arendt, interestingly, had marked and com-

to point to a relevant structural problem: in order to understand a Beethoven sonata, it is not sufficient to understand how a piano is constructed or what sound frequencies are produced. The technological set-up of the digital age is just the instrument on which the music is being played. The technological dimension, that is, is not the essence of this new technology. There is something in this technology which "transcends" its technological foundations. The essence of *digital pharmaka* is thus not actually digital itself.

A theoretical or philosophical contribution to these attempts will consist, of course, first and foremost in providing conceptual tools. These conceptual tools will not only be specific terminologies, but will consist also of analogies, metaphors, and comparisons. This essay will propose and try to apply a conceptual framework which Bernard Stiegler first introduced, and then, partly also in dialogue with us, elaborated on at greater length: we feel that the term "digital pharmacology", and more generally the concept of the *pharmakon*, is extremely helpful in attempting to understand human interaction with digital media — and not only with digital media.

In Stiegler's view a skillful way of applying *pharmaka* would counterbalance a tendency towards entropy: neg-entropy, the process of 'bringing together', of gathering, convening, assembling elements is the appropriate antidote against the destructive effects of the digital onslaught. This art of fighting entropy, of working for neg-entropy finds an esthetic expression in Richard Long's work. When he creates a circle of stones as on the cover photo we have chosen for this book, an archaic technique of 'bringing together' is displayed. Working for neg-entropy seems to connect us with the most ancient practices of structuring a life-world, of bringing order into chaos.

In a rudimentary sense, this is literally an "essay": we intend to test whether the idea of digital pharmacology will help us to understand more deeply "what is going on".

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mented on many phrases in her copy of this text, but not this decisive sentence. See: https://www.bard.edu/library/arendt/pdfs/Heidegger-TechnikundKehre.pdf.

Putting the question in such unacademic terms not only expresses a certain disorientation caused by the complexity of the subject. It also allows us to point to the entanglement of the different layers of the problem: there is something "going on" on the level of technology, of culture, of politics, and of "psycho-power" at the same time. Trying to think through the interactions between these different levels, to view them as *one thing* going on, presupposes not hiding in the corner of a well-defined academic discipline. Using analogies is one way of leaving such corners, of thinking the *space in-between* the different perspectives, of connecting the dots, as it were.

1.2 Metaphors / analogies / comparisons: approaches to the concept of "pharmacology"

Metaphors and analogies, however, are usually considered to be unscientific. The fact that A is, in a specific regard, similar to B, does not tell us anything about the exact qualities of either A or B. On the contrary, it could be argued that analogical thinking is the opposite of logical thinking. In many cases it is a paranoid mode of thinking that sees similarities and connections everywhere. In some cases, these uncontrolled analogies and comparisons have severe consequences: "Metaphors can kill" — this was the pointed diagnosis of cognitive linguist George Lakoff in a critical essay on the military involvement of the Americans in the Gulf region in 1991.[7] For Lakoff metaphors are not simply a decorative accessory to figurative speech, but rather shape our way of perceiving the world and our thinking, in making possible the understanding of one conceptual domain in terms of another. Among a variety of metaphors used by the US administration to justify a military intervention, Lakoff

7 The text was originally published in *Cognitive Semiotics* (4:2, 2013, pp. 5–19). We cite from a revised version: Lakoff, George: "Metaphor and War: The Metaphor System Used to Justify War in the Gulf", in: Martin Pütz (Ed.), Thirty Years of Linguistic Evolution. Studies in honour of René Dirven on the occasion of his 60th birthday, Philadelphia/Amsterdam: John Benjamins 1992, pp. 463–482.

puts emphasis on a "common metaphor in which military control by the enemy is seen as a *cancer* that can spread. In this metaphor, military 'operations' by friendly powers are seen as hygienic measures to 'clean out' enemy fortifications. Bombing raids are portrayed as 'surgical strikes' to 'take out' anything that can serve a military purpose. The metaphor is supported by imagery of shiny metallic instruments of war, especially jets"[8].

According to Susan Sontag, who has devoted a lengthy essay to the analysis of metaphors of illness, "[t]o describe a phenomenon as a cancer is an incitement to violence. The use of cancer in political discourse encourages fatalism and justifies 'severe' measures — as well as strongly reinforcing the widespread notion that the disease is necessarily fatal"[9]. Sontag, who wrote these lines in 1978, was not referring to the political rhetoric of the Bush Snr. administration. Her examples of the violence unleashed by the cancer metaphor are the linguistic characterizations which the Nazis inflicted on the Jews. After the Nazis had portrayed the Jews as an infection of the racial body through 'tuberculosis' and 'syphilis', they later switched to calling the Jews 'cancerous', in order to justify an increasingly harsher politico-medical treatment. The climactic series of metaphors, or so Sonntag's argument goes, led to a corresponding increase in political antidotes, from persecution to ghettoization and eventually extermination.

Metaphors that portray the political enemy as a disease — be it as a viral infection, as an infestation with parasites or as a cancerous tumor — are as common as they are problematic. And — despite the cautionary example that Nazi rhetoric still provides us with today — its use in political discourse is not diminishing. In 2003, in the run-up to America's second Gulf War, Lakoff felt compelled to write a follow-up article entitled "Metaphor and War, Again"[10].

Another failed analogy in the history of political thought is probably Heidegger's claim that the extermination of the European Jews,

8 Ibid., p. 472.

9 Sontag, Susan: Illness as Metaphor, New York: Vintage Books, 1978, p. 84.

10 Lakoff, George: Metaphor and War, Again. UC Berkeley 2003. Retrieved from https://escholarship.org/uc/item/32b962zb (01.02.2022).

i.e. the Holocaust, and industrial farming are "somehow" rooted in the same mindset and therefore "somehow" similar. When he declared the similarity of industrial genocide and industrial farming, he tried to blur the line between modernity in general and National-Socialist violence in particular: if somehow modernity was nothing but "forgetting being" altogether, his own involvement in National Socialism could suddenly be framed as a meaningful "fate". Heidegger is a striking example of analogical thinking getting out of control.

Against this background, it is not astounding that the distrust of analogies should have a long tradition. Plato's famous attack on rhetoric, his attempt to establish a more controlled and proper way of discussing things, the *dialektiké techné*, can be understood as an effort to overcome a way of thinking that progresses by stating similarities without really getting to the bottom of things. The phrase that "somehow" everything is like water (*pánta rhei*), for example, was an analogical statement that marked the insufficient intellectual tools of his predecessors, Plato claimed. Therefore, overcoming confusion for Plato is the same as overcoming false or uncontrolled analogies. Leaving the cave is leaving behind the delusions that wrong analogies produce in our mind. The philosophical *paideia* has to lead us from analogies to logic.

The ironic structure of this *paideia* is obvious, however: the path from analogical to logical thinking is presented in a *paradeigma*, an analogy, the myth of the cave. We can conclude that for Plato the real challenge was not to overcome analogies in general, but to control them, to use them in a skillful, elegant and productive way. This is why Plato himself became the grandmaster of philosophical myth-making, of analogies and metaphors that are still, after more than 2.000 years, a shared heritage of our culture. We overcome the unskilled way of using analogies by using other analogies skillfully.

With regard to metaphors of (political) illness, Susan Sontag shows that these are among the oldest and most powerful political metaphors of all. This has to do with the fact that the political community or the state, long before a second, technical interpretation gained plausibility with the paradigm of a mechanism, was understood as an organism, as a body — a 'body politic'. Three di-

mensions of meaning make this organicist metaphor suitable for thinking about politics: firstly, the 'body politic' denotes a complex unity of plurality that can be differentiated into body parts and organs, but can only become effective in interaction; secondly, the body parts are in more or less hierarchical relationships of superiority and subordination[11]; and thirdly, in the light of this interplay, it is possible to distinguish between ordered and disordered, 'healthy' and 'sick' states of the body.[12] This third dimension opens up a further field of metaphors relating to the task of the politician, who through his actions is charged with the task of maintaining the order of the body as a hierarchically structured whole. In addition to the image of the helmsman, that of the doctor or medic is one of the oldest characterizations of the politician[13]. The metaphorization of the politician as a doctor is used by Plato himself and is a recurring image throughout the history of political ideas. It serves Machiavelli in emphasizing his point that it is not moral integrity but "the ability to recognize diseases that are difficult to diagnose"[14] that constitutes the most important virtue of the politician.

A skillful and productive use of metaphors can be found in Heidegger as well. A word like "Gestell" can be helpful since it allows us to imagine a totality of imperatives. To be "gestellt" means to be stopped in one's tracks or cornered (for instance, by a fierce dog),

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11 The body metaphor leaves room for various political interpretations. While the political theory of absolutism, for example, relies on 'localist' concepts of organism, which are based on the categorical distinction between head/body which is reconciled in the heart, the French revolutionaries refer to 'vitalistic' concepts, according to which the life of the body is sustained through the bloodstream. Cf. de Baecque, Antoine: Le corps de l'histoire. Métaphores et politique (1770–1800), Paris: Calmann-Lévy 1993, p. 119.

12 Musolff, Andreas: "Political metaphor and bodies politic", in: Urszula Okulska/Piotr Cap (Eds.), Perspectives in Politics and Discourse, Amsterdam: John Benjamins 2010, pp. 23–42, p. 25.

13 Münkler, Herfried: "Arzt und Steuermann: Metaphern des Politikers", in: Herfried Münkler (Ed.), Politische Bilder, Politik der Metaphern, Frankfurt a.M.: Fischer 1994, pp. 125–140.

14 Ibid., p. 134. All translations from non-English texts are ours.

while a "Gestell" is a structure or frame of connected imperatives, the totality of obligations and mandatory conditions surrounding us in modern society. The fact that Heidegger's use of analogies (oscillating between conceptual and metaphorical use) turns out to be fatal in some cases and helpful in others, shows the ambivalence of analogical thinking.

Metaphors and analogies therefore should not be considered as mere anomalies of thought, as signs of "wild thinking" or as mere rhetorical tricks. We could also frame them as tools which allow us to open a space of thought, to explore a field of possible, though not necessary, similarities. It is helpful, it seems, to remember what Hans Blumenberg wrote about "controlled ambiguity": it is exactly the non-binary, non-propositional, multi-valent character of the analogy which allows it to operate as an eye-opener. Not everything such "opened eyes" perceive will turn out to be true; but new aspects, new connections, new ideas are generated when unexpected comparisons are proposed.

Bernard Stiegler's term "digital pharmacology", we take it, is exactly such an explorative analogy. It opens a field of possible and supposedly fruitful comparisons. Stiegler introduces the term "digital pharmacology" in the context of his larger research project on the general concept of pharmacology.

The most striking and important aspect of this new way of looking at the interaction of the human mind and its exogenic organs is the implication that the "tools" we use are actually a lot more than tools: they enter our body and mind, they restructure our brains and our thought.

For Bernard Stiegler the importance of writing (and handwriting) and reading is the most evident and empirically explored example. The practice of reading and writing "format" our being, they change the way the human being thinks, lives, and feels. Foucault's text about "Writing the Self"[15] was crucial to Stiegler, but what makes Stiegler so outstanding as a philosopher is his deep interest in contemporary empirical research. Notably Maryanne

15 Foucault, Michel: "L'écriture de soi", in: Dits et écrits, Paris: Gallimard (Quarto) 2001, t. II, n° 329.

Wolf[16], with her "science of the reading brain", allowed him to underscore his point: the human being thinks not only with the brain, but also with books, with pens, with all the *pharmaka* he or she uses. It is important to emphasize that for Stiegler, the term *pharmakon* was not just an analogy or a metaphor: the *pharmakon* of the book actually, *literally*, impacts our brains, it is not *like* a *pharmakon*, but it actually *is* a *pharmakon*.

The real sense in which digital media can become *pharmaka* is shown by the fact that excessive internet-use nowadays is not only referred to as "internet addiction", but is sometimes actually treated like a severe form of physical drug addiction.[17] On the basis of neurophysiological findings,[18] the distinction between 'hard' dependence on chemical substances and 'soft' dependence on habits such as internet use is actually collapsing: "emerging evidence points to 'strong neural similarities' that effectively deconstruct the distinction […] between 'physical' and 'psychological' addiction […], meaning that the dopamine system can be programmed by technology just as much as Class A drugs"[19].

In order to use the fruitful term "digital pharmacology" as an explorative analogy, as an idea which opens a field of reflection, we will, in this paper, try to reconstruct und think further Stiegler's coining of the term. We will proceed in three steps: in a first step we will reconstruct the thought figure of pharmacology in a thinker who most thoroughly penetrated the pharmacological structure of

16 Wolf, Maryanne: Proust and the Squid. The Story and Science of the Reading Brain, New York: Harper Perennial 2008.

17 For a systematic review of the pharmacological literature see Przepiorka, Aneta/Małgorzata, Blachnio/Miziak, Agata/Czuczwar, Barbara/Jerzy, Stanisław: "Clinical approaches to treatment of Internet addiction", in: Pharmacological Reports 66 (2014), pp. 187–191.

18 See Mosher, Dave: "High Wired: Does Addictive Internet Use Restructure the Brain?", in: Scientific American (2011), https://www.scientificamerican.com/article/does-addictive-internet-use-restructure-brain/ (01.02.2022).

19 Moore, Gerald: "The pharmacology of addiction", in: Parrhesia 29 (2018), pp. 190–211, p. 197.

the pre-digital world, without using the term *pharmakon*, but employing related metaphors in the field of medicine: Rousseau.

Stiegler systematically refers to Rousseau as a "transcendental" anthropologist, who has brought to light the "aporia of origin".[20] There are considerable parallels between the two, which suggest that Rousseau can be interpreted as a pharmacological thinker (in the double sense of the word). Firstly, like Stiegler, Rousseau also sees contemporary society plagued by numerous pathologies which he attributes to the influx of technological and cultural innovations. Illness, however, is not something accidental that can be separated from the human condition. Rather, and this is the second parallel, man is essentially a pharmacological being himself. Thirdly, promising means of healing have to take this pharmacological constellation into account; they have to conceive of (self-)education as auto-pharmacology. With Rousseau as an example, it can be shown in what sense the post-metaphysical condition of modernity opens the field to pharmacology.

In a second step we will discuss to what extent Stiegler's idea of a *digital* pharmacology goes beyond Rousseau's general pharmacological analysis, with which — as already indicated — it has remarkable similarities. Our aim is to show to what extent Stiegler's concept of "grammatization" is a key term for analyzing the digital media technology present in a given context.

In a third step we will try to do something that Bernard Stiegler himself would probably have refused to do: we would like to push the idea of "digital pharmacology" to its limits, rendering explicit the implications the term seems to contain. After all, if Bernard Stiegler was right to claim that smartphones, computers, smartwatches and tablets are best understood as *pharmaka* flooding our world, it seems evident that our way of dealing with such *pharmaka* might profit from our experience with non-digital *pharmaka*.

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20 Stiegler, Bernard: Technics and time, 1. The fault of Epimetheus. Transl Richard Beardsworth and George Collins, Stanford: Stanford University Press 1998, pp. 82ff. On Stiegler's reading of Rousseau, see Roberts, Ben "Rousseau, Stiegler and the aporia of origin", in: Forum for Modern Language Studies 42 (2006), pp. 382–394.

In order to do this, we propose, first of all, to consider pharmacology as a political activity: dealing (in the double sense) with *pharmaka* is a social practice. The law defines the parameters, the rules of engagement, and the ways in which *pharmaka* are produced, distributed, consumed, mixed and viewed. Pharmacology is not just a scientific endeavor, an attempt to understand the complex causalities at work when we use chemical or biological substances. Politics understood as the *practice of establishing collectively binding decisions*, also decides about what we drink, smoke, or inject. This is why different societies have developed very different cultures of pharmacology.

It might be helpful to distinguish a level of *explicit rules*, i.e. the laws defining what substances are categorized as recreational drugs, what substances are viewed as medicine and what is considered just a kind of food. We are, at the moment, witnessing major changes in our pharmacological governmentality, as more and more countries start to legalize cannabis. However, governmentality also implied for Foucault all the implicit rules, all the ways in which different things are valued or framed. Drinking champagne is different from drinking beer, just as smoking expensive Cuban cigars is different from smoking cheap cigarettes. Pharmacology is therefore not only a political matter in the sense of an *explicit* policy, but also in the sense of an *implicit* culture, a social consensus.

If we take into account both the explicit and the implicit level, the important consequence consists in overcoming the paradigm of pharmacology as an individual task: Of course, every human being has a responsibility to use *pharmaka* in an intelligent way. However, if we frame pharmacology (with Stiegler) in the general sense as a social practice, we can conclude that the parameters of the way we interact with *pharmaka* are not within the realm of our individual horizon: only a culture, a social network can establish and transfer the art of writing and reading. Wittgenstein claimed that there could not be a fully private language: and in the same way we state that there cannot be a private pharmacology.

This is also why Stiegler emphasized with great zeal the importance of intergenerational transmission: it is crucial that not every generation should have to repeat the mistakes of its predecessors.

The objects of the "third retention", i.e. culturally stored knowledge, were therefore in the focus of Stiegler' attention: books in particular allow cultures to transfer knowledge and experience across generations. What is taught, how it is taught, to whom it is taught — all these questions are decided on in a political context. Pharmacology is therefore always already embedded in a "politics of pharmacology".