

Part II: An Interview with Bernard Stiegler

Bernard Stiegler: Elements of Pharmacology

An interview with Felix Heidenreich and
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Concept, analogy, metaphor, art

Q: We would like to start by talking about the concept of *pharmakon* and pharmacology. In our view it is a key-concept in your body of thought, a kind of center of gravity of your philosophical work. It is a very complex term. How did you come across this term? When did you start to use it?

Stiegler: Oh yes, the term is indeed crucial. I developed this concept at the beginning of the year 2000, when I was the head of IRCAM, the “Institut de Recherche et Coordination Acoustique/Musique” at the Centre Pompidou in Paris. Back then, we were trying to understand contemporary music, and I sought to develop the theory of what I call “general organology”. We attempted to consider instruments and scores as “organs”, but also extended this view to devices like radio-sets or more sophisticated hi-fi-sets. At the time, we needed a common conceptual ground which would allow us to understand music and musical practice in an interdisciplinary setting. Then I enlarged the concept of general organology so as to be able to apply it to everything — not only music, but really *everything*. Every human activity. And this concept of general organology was a kind of methodology for organizing interdis-

1 Stuttgart and Paris, 26th June 2020

ciplinary and transdisciplinary cooperation among representatives of different spheres of thought, for example biologists, anthropologists, historians, philosophers, economists, engineers. The idea was, and still is, that you have three levels of organs: a) biological or “endosomatic” or psychosomatic organs, b) artificial organs — let’s call those tools and instruments, technologies — and c) social organizations. We tried to understand how these levels interact. The proposition was to provide a methodology for evaluating the level of toxicity of technology in a specific context. For example, you know that technology for water can be very good in the context of an industrial society, but it can also destroy an economy in India. So, the idea behind “general organology” was to understand how the three levels of organs interact, what the ramifications of specific ways of using organs are. In many cases the long-term effects of new organs can only be understood in hindsight.

So this was the point of departure of the concept. Then I realized that the terms “*pharmakon*” and “pharmacology” might express more clearly what was on my mind. Of course, I was a student of Jacques Derrida and so I used the concept of *pharmakon* in the context of Socrates and his critical writings — but it was not my point of departure. Even though I find, of course, Derrida’s text on Plato binding and extremely necessary and very useful and in fact not only useful but magnificent — I nevertheless do not consider it at all sufficient.

Q.: It is impossible to sum up Derrida’s text “Plato’s Pharmacy” since it is also partly a collage of citations which does not intend to have *one* point or to express *one* argument.² However, the text shows a movement in which we understand that the spoken word (*la parole*) is not the perfect, pure or transparent position which allows us to overcome the complexity, ambiguity, and difficulty of writing (*l’écriture*). Plato seems to suggest that writing is ambiguous, dangerous, misleading, toxic. Only the spoken word in a dialogue is capable of really expressing adequately what needs to be said, Plato seems to

2 Derrida, Jacques: “La pharmacie de Platon”, in: Jacques Derrida (Ed.), *La dissémination*, Paris: Seuil 1972, pp. 77–213.

be saying. Derrida, however, shows us that we can never completely leave the cave. We can move from one cave to another, from *écriture* to *parole*, but there is no getting outside the cave, “pas de hors-texte”. We wonder if you would agree with this way of describing Derrida’s reading of Plato. It also seemed very important to us that Derrida mainly refers to the *Phaidros*, whereas you focus on the *Protagoras*. Why do we end up with a different picture when we take into account the *Protagoras*?

Stiegler: The *Protagoras* shows more clearly the ambivalence, the two-faced character of all *pharmaka*, Prometheus and Epimetheus, intoxication and remedy, danger and help. Derrida was absolutely right to show that Plato was wrong when he thought that with dialectics it was possible to overcome the limitations created by writing. Derrida argued that the general circumstances of writing set the conditions for *critical* writing, so there will never be a really critical form of writing, capable of criticizing from the outside. And there is a systematic problem: with Derrida you don’t have any positive discourse on the *pharmakon*. It is a philosophy of deficiency, if you like: there is no positive side to the *pharmakon* for Derrida, and this is a problem for me, because in my view the decisive question is how to transform a poison into a remedy. This is a question for everything, for all kind of artifacts. An artifact is necessarily something that disturbs an equilibrium. The writings of Rousseau reflect such a disturbance, and Socrates’ critique of rhetoric could also be viewed as a way of responding to a disturbance of an established equilibrium by the introduction of a new technology or *pharmakon*. However, such a perturbation can be good and even necessary if it is the occasion for producing a leap in individuation, as Gilbert Simondon tried to show in his writings about individuation.³

Q: So in your view, Derrida’s thinking remains “aporetic” in a specific sense. Derrida himself wrote a text on the *aporia*, which literally means the place where you cannot cross the river, where there is

3 Simondon, Gilbert, *L’individuation à la lumière des notions de forme et d’information*, Grenoble: Millon 2005.

no *poré*, no ford, no passage.⁴ Derrida's thinking always seems to aim to get deeper into the aporia, not to overcome it: the aporia of hospitality, the aporia of friendship and politics, the aporia in our relation to animals.

Reading your work and your dialogues with Derrida we had the impression that you agreed with Derrida's view on metaphysics. You seem to concur with Derrida that "writing" is not something purely exterior, not just a tool we can use or not use. It is a *pharmakon* which enters our bodies, transform our brains. However, you seem to say that there are different ways of "using" the *pharmakon* — and that philosophy has something to say about these ways. The term "using" is maybe inappropriate, because it still seems to presuppose the distinction between inside and outside...

Stiegler: Well in my view, the decisive distinction is between *adoption* and *adaptation*. You might also call it the skillful and the unskillful use, if you like. If you are experienced, you can practice an adoption, you can use morphine as a painkiller, if necessary, for a short period of time, at the correct application rate. However, if you are inexperienced and you just adapt, you might end up as an addict. In our society — in every society — *pharmaka* are necessary, unavoidable. However, to say that *pharmaka* are absolutely necessary is not the same as to be naïve about this necessity. This necessity can be also a very bad necessity in the sense of *anagké* for the Greeks. *Anagké* is the Greek term for fate, the tragic fate. So to deal with the tragedy of this situation we need to instantiate what I call a general organology — the goal of which is to address the conditions of possibility for a positive pharmacology.

Q.: Would you agree that the term or the idea of the *pharmakon* is also put forward in opposition to this idea of the tool, which does not really change me? — I use a tool, I can drop it, but it does not enter my being, whereas the *pharmakon* from the start — and of course scripture and writing are the paradigms — changes me, transforms

4 Derrida, Jacques: *Apories*. Mourir, s'attendre aux "limites de la vérité", Paris: Galilée 1996.

me. It is not like a knife that I can drop; and even if I view the knife as a *pharmakon* I would then see that the knife changes the person that holds it: through having the knife they are a different person than the person they would have been without it. So we would ask if this is an important point in your view. What would be the counter-concept of *pharmakon*?

Stiegler: Well, the term “tool” refers to an object, whereas the term “*pharmakon*” refers to a relationship. In my terminology, therefore, everything can be a *pharmakon*. Everything. Your wife, husband or partner can be a *pharmakon*. Even a theory can be a *pharmakon*. If for example, you are Marxist and you use the theory of Marx in order to navigate through the world, it becomes a *pharmakon*. And this *pharmakon* can become toxic, if it becomes an ideology. In this case you change your relationship to the words, although the theory stays the same.

Q.: We were wondering to what degree *pharmakon* is a metaphor and in what sense it is a concept. We concluded that maybe it is both. It is an analogy, but it also has a literal sense: The claim seems to be that *pharmaka* actually enter, impact and even transform our brains. To say that music is *like* heroin is not just a metaphor, it is also *literally* true: a teenager using heroin and a teenager practicing music will have transformed brains in both cases, impacted differently, of course, but still in both cases we will see the neurophysiological impact. In both cases the *pharmakon* is not exterior to the body, but in the body, in the brain. What is your view on this question? Is pharmacology actually a discipline of reflecting, training, “practicing” our relationships?

Stiegler: Absolutely. Pharmacology is not a theoretical enterprise. Of course, there is theory in pharmacology, but only as it serves the practice of pharmacology. Pharmacology is practical knowledge, a *prâxis* in the way Aristotle described ethics and politics. How do we “practice”, for example, the hammer? The hammer is, as you know, an important example for philosophers, for Heidegger and Wittgenstein and many others. The hammer can be simply another tool, just

a device, but it can also be the instrument of a specific culture. And in such a case, the hammer transforms the body and mind of a true craftsman. This is maybe not the case for an unskilled laborer, but it is true for someone who has spent years working with a hammer in order to create specific stones, e.g. a mason. For him the hammer is not a tool, but a *pharmakon*: he feels the hammer in his hand and cannot help being transformed. His tools are his friends, he has known them for many years, knows how they react, how they can help him.

I first realized this when I was trying to understand what happens in the relationship between musicians and their instruments. Arturo Benedetti Michelangeli — the very famous pianist — was particularly known for interpreting Claude Debussy. He is maybe the most important performer of Debussy, since his magnificent interpretations have shown a new Debussy. One day he came to Paris to perform at the Salle Pleyel and I listened to him on the radio. It was a live program. It was a very, very important event in Paris in 1979. He had announced that he would be playing “La cathédrale engloutie” by Claude Debussy, which is extremely difficult to play, a long and very complex piece of music. And he entered the stage at the Salle Pleyel, which was at this time the most important concert hall in Paris. He sat down in front of the piano and he stayed silent, and he just didn’t play. One minute went by, then two minutes, on the radio. Then he suddenly said: “My piano is cold.” And he stood up and he left the place. It was a scandal, an absolute scandal. All the journalists said that he was just a diva. But I thought: not at all! The piano is a part of himself. And even if it is separate in terms of outward appearances, it’s not really separated internally from his own being. And I understood what he meant when he said the piano was cold.

So I think I understood that the relation to objects is essential. It is the case with everything. If you are creating a good relation to a thing, an object, it is in a sense an object of addiction. Donald Winnicott puts emphasis on this at the beginning of his work on the transitional object in “Playing and Reality” (1971); he says on the first page that the teddy bear for the small child is addictive. And the problem is: it’s a good addiction, it is a necessary addic-

tion and the 'good enough mother' will be able to tell the time at which it is necessary to consider it a bad addiction and to leave the teddy bear behind. So here the mother practices pharmacology for the child. For me Donald Winnicott is a very important thinker because he shows that the *pharmakon* is a source of the beginning of the construction of the personality and the maturing psychological apparatus. The human mind evolves through the relation to *pharmaka*.⁵

No ontology of *pharmaka*, but savoir-faire

Q: You are employing the concept of pharmacology in such a broad concept that one could almost say that the human condition is pharmacological, not *homo sapiens*, not *homo ludens*, but *homo pharmacans*. You highlighted the fact that the concept is so attractive to you because *pharmaka* can be interpreted as a poison and a cure. So can you say a little bit more about the criteria for differentiating between positive and negative aspects of the *pharmaka* we use? Or is that something which is only possible for us to see in hindsight? Can we differentiate between *pharmaka* that are bad *per se* and *pharmaka* which leave more room for development and adoption instead of adaptation?

Stiegler: No *pharmakon* is bad *per se*. Even the atomic bomb, for example. Why? Because the toxicity and the creativity depend on the situation. That is the accidental character of the situation. This is what is tragic about the human situation: There is always this conflict between Prometheus and Zeus: using too much or too little, at the wrong moment, in the wrong dose. But this is a projection of something that is irreducible in human life. As you know, the god of pharmacy, Asclepius, has two serpents. Snakes are a very common symbol for the ambivalence of a *pharmakon*, because it is at the same time a poison and the remedy. And for thousands of years it

5 This recourse to Winnicott is outlined in B. Stiegler: What Makes Life Worth Living.

has been extremely important to cope with the ambivalence of the snake. This is why you find snakes as symbols everywhere, in China, in Japan, in Siberia, actually everywhere in Africa, in South America, in North America.

So the history of mankind is a constant struggle to practice adoption and to avoid adaptation, to “use” *pharmaka* without abusing them. The two snakes are there from the start.

Q: If a snake can be positive or negative, if even an atomic bomb can be helpful (although we might be hard put to think of such a situation) — then does this mean there is no ontological quality of a specific *pharmakon* at all? The toxicity of substances to us seems very different, and in some cases this toxicity shows itself when we look at large-scale use of different *pharmaka*. If we compare for example the mass use of *khat* in Somalia today and the use of chamber music in Austria in the 19th century, the long term-consequences seem very different. And these consequences seem to be defined not only by the way these two *pharmaka* are used, but also by the ontological character of the two *pharmaka* themselves. This may be an extreme and, in a way, a false example, but for us an important question is: aren't there at least different classes of substances that we can distinguish, even if we don't judge their character normatively or morally? Take, for instance, the case of caffeine and heroin? Both can be misused, but still there seems to be something in the substance itself, doesn't there?

Stiegler: Well, the effects of these substances can depend on the circumstances. I do in fact think that an ontology of *pharmaka* is not possible. This is why Heidegger is still important.

Q: Heidegger who claimed: “The essence of technology is nothing technological.” Heidegger thought that modern “technology” was a way of looking at the world, a specific “understanding of Being”. So, this could mean that it is not in the things, but in our relationship to the things. For us, speaking from a German background, it is very important to see that in France Heidegger's philosophy of technology is considered important. It is a pity we cannot enter into

the details of your philosophical debate with Heidegger outlined in “Technics and Time, 1: The Fault of Epimetheus”. Heidegger’s personal pharmacology was rather strict. He had no TV, and would spend months in his cabin in the Black Forest. And there are his remarks on the “world of motorways”. The motorway to him seemed to have metaphysical meaning; it was a symbol of what he called the “planetarian movement”. Somehow it seems to be difficult not to categorize some *pharmaka* in this way.

Stiegler: I really think that there’s no ontology for *pharmaka*. However, there are criteria for evaluating or understanding pharmacological effects. There are, I think, two possible criteria. The first one is knowledge. This may sound simple, but it is not that simple. When you are capable of transforming a poison into a remedy, it is because you have developed a knowledge of this *pharmakon*. And you can tell yourself or other people, “Don’t use it, it’s very dangerous”. This is what many experts do, doctors, or, for example if you are a mathematician you can critically assess the use of geometry in architecture. You can predict what is possible and what isn’t, and in order to define the limits of what can be built you can use your skills as an expert. In this first sense, there is something similar to science necessary.

Q: The term “skill” is being used in a certain sense here, right?

Stiegler: Well, a “skill” means that something can be reproduced, trained. It is in a way technical knowledge. The emphasis on skills in modern education should therefore be questioned. OK, some skills are necessary, but there is more. The second criterion is different. I would like to call it “savoir” in French, because “knowledge” in English sounds as if it was just referring to academic knowledge, to a knowing-that. However, for me pharmacology is not at all about academic or scientific knowledge only, but also about everyday life knowledge, about experience, about knowing-how. This is most obvious in sports, for example, or cooking. Or the upbringing of children is also a “savoir-faire”. The French term *savoir* covers these two elements.

Q.: “Savoir-vivre” is also about taste, isn’t it?

Stiegler: Absolutely. Taste needs to be formed by experience. This is why aesthetic education is so important for our children. Now for me all kinds of knowledge or *savoir* are “negentropic”. That would be a more scientific way of putting it: toxicity is entropy, *savoir* produces negentropy. Heroin-addiction destroys the brain’s capacity to produce its own substances and consequently the brain relies on the input of heroin. The brain then is less complicated: it has, if I can put it this way, more entropy. However, if you manage to use *pharmaka* in order to build up complexity, you produce negentropy.

Q.: This is also a very important point in your work: there are entropy and negentropy, dispersion and collection. Digital pharmacy can distract us terribly. However, it is interesting to see that in the history of European culture there is a long tradition of distraction. Some of Mozart’s greatest pieces are called *divertimento*. Culture is also very much about distraction, about fighting contemplation in theaters, in opera houses, in the cinema...

Stiegler: Distraction is not *per se* a problem. You are right to claim that many aspects of European culture are *pharmaka* that offer distraction, *divertimento*, and so on. However, distraction becomes problematic when it turns into a large-scale production of what is called “Je-m’en-fous-tisme” (“I-don’t-give-a-fuckism”) in French: a poisoning neglect, indifference, moral insensibility, the pandemic absence of taking-care.

Q.: That is a mechanism that you described in “Taking Care of Youth and the Generations” as a gigantic machine operating in order to confuse and distract people. We will come back to this topic later. This “art” of using the right *pharmaka* in the right way is what defines the history of mankind. But can we tell what is use and what is abuse? The difference between *adaption* and *adoption* on the one hand seems plausible intuitively; on the other hand, these two modes seem intertwined, often hard to distinguish.

Stiegler: Well, it is an extremely tricky art or craftsmanship. In some cases, it is hard to tell. Even heroin was used by artists such as Charlie Parker, John Coltrane or Jimi Hendrix. I don't think that bebop would have been possible without heroin. So even such a dangerous *pharmakon* can be used in order to serve a purpose. And then of course, we have an endless number of examples of the skillful use of *pharmaka*, from the Hopi in New Mexico (who were so important to Aby Warburg) to all sorts of ways of using music, dance, chemicals, tea, coffee, theory, theology — whatever. Anything can be helpful or harmful. In French we call such a situation “casuistique”. This term refers to the Jesuit tradition of solving difficult legal or theological questions in a case-by-case approach. There may be some heuristics, but there is no general framework that will deliver ready-made answers.

Q: This almost sounds like an Aristotelean idea of *phronesis* or *prudentia*, practical wisdom.

Stiegler: Well, the difference is that Aristotle could presuppose a well-ordered *kosmos* full of teleology, full of natural, given *teloi*. For him, an ontology of *pharmaka* was still possible. He tried to *find* the right answers, whereas we have to *invent* them.

The subject of pharmacology: auto-therapy

Q.: In this framework there would also be no “point zero”, no absolute soberness. Human beings are always in a relation to the world, so there is always an “already”, a *toujours déjà*, in pharmacology. Even soberness could become a *pharmakon*. Of course, you know the entire tradition of deconstructing the idea of the Ego and the Cogito and the idea of the sovereign subject in French post war philosophy. There is no “pure” or “sober” Cogito. There is a philosophical question implied here: how should we think the subject of pharmacology?

Stiegler: Well, of course I would agree that autonomy is not possible, but it is possible to take care of oneself, which is, in a way, analo-

gous to an adoption of one's heteronomy. "Taking care" is important to me, *cura*. What I called "savoir" could also be viewed as a therapy. Nietzsche already had this therapeutic vision of philosophy. Of course, we also have to view this philosophy as a *pharmakon*. Derrida's style of deconstruction has become for some people a *pharmakon* by which they are almost intoxicated, which is tragic. They repeat Derrida's style although Derrida himself never repeated anything. Georges Canguilhem in his writings about thought and thinking turning into an ideology has some wonderful descriptions of this tipping-point. Such knowledge not only can, but always will become a *pharmakon* itself. So, in order to answer your question: we don't have to imagine the subject to be a sovereign *cogito* in order to understand that it can have an auto-therapeutic relation to itself; it can practice what Foucault called the care for the self.

Q: I think this is a very important point: that in a way what used to be autonomy in the European tradition — or the idea of the autonomous subject, particularly in the liberal tradition — then becomes "autopharmacology." Autopharmacology is not the same as autonomy, since we are never the complete masters of our *pharmaka*. Would that be a way of putting it?

Stiegler: I completely agree. And I do think that it is extremely important to get these things right. You see, when Derrida was young and published his first books, deconstruction was something very theoretical. Today in France, the contestation of autonomy is a daily experience. Today, everybody knows that there is no sovereign subject. So, the questions of autonomy and heteronomy are posed in a different context. If you adopt a therapeutic point of view, you always operate with the assumption of a quasi-causality. You will never be able to prove what really helps; you have to believe in your empowerment. And you have to try to make good health possible, although you know that in the end you will fail. You cannot "produce" good health, and eventually you will die anyway, but good health is always a possibility.

Q: However, we wondered if you would agree that maybe there's something like a class difference in regard to pharmacology. Different social classes not only differ in their income and wealth, but also in regard to what Bourdieu called "cultural capital". A decisive part of this cultural capital is the competence in using *pharmaka* in a skillful way. What people inherit (or do not inherit) is the skill of pharmacology. Could we re-describe class-stratification in terms of pharmacology? Bourdieu would argue that cultural capital is distributed unequally, and that there are systematic reasons why the children of the internet-managers in Palo Alto are put into Steiner-schools, and protected from digital intoxication.

Stiegler: Oh yes, of course there is a correlation between pharmacological skills and social class. Digital *pharmaka* are poured into society and the skills are distributed very unequally. Some people have to work in call-centers, others don't. There is an analogy to other toxic substances. A higher social status allows you to avoid contact with dangerous chemicals, at least in some cases. Rich people have their personal assistant to do all the e-mailing for them. And of course, there are very unequal options for protecting your children from digital *pharmaka*. However, the correlation is not absolutely clear. It is like in the case of alcoholism, which can be found across the board, in all social contexts. Indeed, the introduction of gin and the following "gin craze" in England had a harder, almost epidemic impact on the lower classes. In particular women were introduced to alcoholism in a new way. Gerald Moore wrote brilliantly about this disruptive change in drinking behavior in England in the 19th century. The impact of gin was incredible. However, gin also affected the upper classes. Evidently, there is also upper-class alcoholism — and there are also rich people who are addicted to their smartphones. I have many friends who are from the French bourgeoisie and even high-bourgeoisie, and they have problems to keeping their fingers from their smartphones. In my view, the class difference is not even so important. I think what has been happening in the last 20 years is a disruptive influx of new *pharmaka* — and in this case there is not so much competence you can inherit.

New *pharmaka* disturb things, and I am not sure that the old class structures can simply absorb such a rapid influx.

The writing self and the digital self

Q.: This is an extremely important point for the idea of digital pharmacology: You claim that we are witnessing the introduction of new *pharmaka* — and that this process can be understood in analogy to historical examples. Could you tell us more about the way you conceptualize the emergence of a digital pharmacology in contrast to a pre-digital pharmacology?

Stiegler: Well, I think we can learn a lot from earlier examples of new *pharmaka* being introduced into a society. The radio is not just a medium that will help you to transmit messages, but when it started to become an element of mass-culture, it changed our hearts and minds. In the 1950s and 60s rock'n roll was a new, a mood-transforming *pharmakon*. And already back then the older generation was appalled by the “yeah-yeah”-music (that was the term back then in France). It's usually the younger generation that absorbs new *pharmaka* right away. So as a mother or a father, you are in a way always too late. Today it is often our children who teach us digital pharmacology. Our non-digital experience may probably help us, but it is not clear in what way exactly. There are other possible comparisons that might help us to understand what is going on more properly.

Q: Maybe we could look at ourselves in analogy to the indigenous people in North America when they were confronted with alcohol. We are not experienced with these new digital *pharmaka* that are coming from California and China (in most cases), and like the First Nations we now have to learn as fast as possible. You seem to be sceptical about the option of using our older experiences with other *pharmaka*. On the other hand, you suggest that we might counter the dangerous new *pharmaka* with something that we know better, older *pharmaka*. In your case this would be the defense of the practice of reading and writing, which in Europe has a long tradition.

Stiegler: Oh yes, of course reading and writing are absolutely essential in Europe. It was very important for me to see in what way the Chinese culture of reading and writing differs from the European. The experience in China made me understand the relevance of Foucault's work on reading and writing more clearly. There is this wonderful text by Michel Foucault about "Writing the Self" (1983).⁶ It is a tiny, magnificent text, written only a short time before he died. In Foucault's work on the "techniques of the self" writing and reading play an essential role. It is very important to see that Foucault shows that Seneca's teachings are not about mere erudition, but that they intend to transmit wisdom, the wisdom of using reading in writing in order to take care of ourselves. The way we think, feel, what we are — all this is linked to the *pharmakon* of reading and writing. Foucault described it beautifully, although he didn't use Derrida's term *pharmakon*. Foucault uses the term "governmentality". It is a pity and even a bit ridiculous that Foucault and Derrida just could not discuss things with one another, although there would have been so much to talk about. Modern research shows that Foucault was right. I'm thinking in particular of the book by Maryanne Wolf.⁷

Q: In her book *Proust and the Squid* she shows in what way reading forms and transforms the human brain. She compares the brains of persons who read the Latin alphabet, the Chinese script and the Japanese mixed Kanji writing system, and the two-syllable-alphabets. Her research seems to suggest that these three groups of readers actually have almost different brains. So, when Foucault talks about the fact that a discourse "inscribes" itself in the subject ("s'inscrit") we can now see that this is not just a metaphor. The brain actually changes: there is a true neuro-plasticity. You also call this process a process of "grammatization"...

Stiegler: Yes, I do think that philosophy absolutely needs to take this research into account. Reading is an education of your attention-

6 M. Foucault, Michel: "L'écriture de soi".

7 M. Wolf: *Proust and the Squid*, 2008.

spam, of the way you perceive the world. We should, however, remember that reading used to be considered dangerous and toxic. Up to the 20th century, in many families, parents would tell their children not to get lost in books, not to read so passionately, not to be addicted to books. And then there were of course institutions like the church which tried to control what could be read and what couldn't. The priest would tell you how to use the *pharmakon* of reading and what not to read. It is very important to understand that the Bible can be seen as a dangerous, even toxic *pharmakon*. There is a text by a Portuguese Jesuit priest saying explicitly that the most powerful substance that was brought to America was the Bible. The term "grammatization" refers to a form of constructing or creating subjects on the basis of reading and writing.

Q.: In Germany, there are several books which propose a "bibliotherapy". For every difficult situation in life they recommend a specific novel. Books are "prescribed" in order to self-medicate your moods.⁸ There is even an Italian editing house, Mondadori, with an advertisement saying: *Un libro per ogni emozioni* — a book for every emotion. To view the Bible as a *pharmakon* would also continue the line of thought of Foucault. You explicitly refer to Foucault, but you propose talking about "psycho-power" instead of "bio-power". Foucault talked about the way institutions such as the military or schools form our bodies, and produce a memory of the flesh. In contrast, you emphasize the absence of discipline in contemporary psycho-power: power by distraction and confusion, not by discipline. We were wondering to what degree this perspective addresses a general tendency.

Stiegler: Foucault's analysis of bio-power is very important to me. His reconstruction of disciplinary power, and even his description of neoliberalism, however, describe a society which is not the one we

8 Berthoud, Ella/Elderkin, Susan, with Bünger, Traudl: *The Novel Cure. An A to Z of Literary Remedies*, Edinburgh: Canongate Books 2013.; Schönberger, Margit/Bittel, Karl Heinz: *Die literarische Notapotheke: 100 Romane für alle Lebenslagen*, München: Knauer, 2014.

live in today. In his perspective, power is all about the optimization of production: schools, universities, the job market, self-marketing — all of this tries to create a subject which is willing and able to produce to the maximum. In “From Bio-power to Psycho-power” I tried to show that we live in a different society. Today we live in a society which tries to maximize consumption; psycho-power produces not primarily discipline, but confusion, carelessness. Foucault cannot help us, I’m afraid, to understand in what way psycho-power tries to cut the links between generations. Our cultural heritage is attacked because it prevents us from enjoying maximized consumption.

Q.: Your defense of the European tradition of reading and writing the self could be pushed one step further: we are currently completely losing the tradition of “learning by heart”. The generation of our grandparents knew dozens, if not hundreds, of poems by heart. Is that another *pharmakon* we might rediscover? Could that be an antidote to digital dementia? Or would that just be a case of regressive nostalgia?

Stiegler: To have several *pharmaka* at your disposal is definitely an advantage. Not to mention older *pharmaka*, and not losing our knowledge about them, which in my view is essential. This is not a reactionary or conservative point of view. I do not claim that older *pharmaka* are *per se* better than new ones. The ethics of taking care is neither left nor right.

Q.: We would like to go back to the historical comparisons. You said that the influx of new *pharmaka* can disrubble societies. We have briefly touched on the topic of the introduction of writing in ancient Greece, the introduction of gin in England, the introduction of beat music in France. You claim that once again we are seeing the turbulences created by a new *pharmakon*. Your latest book is entitled *The Age of Disruption*.

Stiegler: I think that this is exactly what we are witnessing at the moment, and have been experiencing for the last 15 years. We are all overwhelmed by the sheer quantity of digital *pharmaka*. This is why

the whole planet is intoxicated: men and women, animals, plants, everything. We really have to be absolutely clear about this. We are going through a crisis of mass-intoxication. I am working with poor families in the North of Paris, working-class families, where absolutely everyone is intoxicated with smartphones: the parents, the children, even the babies. The brains of our children are under attack, and this attack is occurring at a mind-boggling pace.

Q.: At the same time older *pharmaka* seem to be losing importance. It is striking to see that “violence” (which could also be viewed as a *pharmakon*) is, at least in most of Europe, not normal anymore. It is very interesting to see that a “bar brawl” or “pub fight” was considered to be an element of normal Sunday afternoon behavior for many centuries, both in Europe and in North America: On Sunday, after holy mass, men would drink and fight at the local pub. This custom was even recognized in penal law and the punishment was very mild, if it existed at all. Beating up or even raping your wife was normal, and even the public torturing of criminals was a common spectacle. Clearly, we are still witnessing much too much violence, maybe even the rise of new forms of violence, but we also seem to be letting go of some of the very harmful older *pharmaka*, don't we? Schivelbusch⁹ describes in his cultural history of drugs that for many centuries people in Europe were more or less constantly drunk. So maybe the decline in alcohol consumption, and in the practice of violence and religion have created an opening for the new *pharmaka*? Does this explain the rise of new, digital *pharmaka*, this demand for the replacement of classics like religion, violence and alcohol?

Stiegler: It is always the case that newer *pharmaka* replace older ones. Whether it is a step forward or a step backwards has to be decided on a case-by-case basis. It seems to me, for example, that today's generation of young adults who grew up with social networks are less absorbed by telecommunications technology than their (infantilized) parents. They seem to crave for social relationships, for

9 W. Schivelbusch: Tastes of Paradise.

which — unfortunately — most social media are often only a poor substitute. However, I am skeptical as to whether a downward trend can really be determined in the level of violence. Rather, it seems to me that violence is taking on ever more subtle forms.

Q.: We would also very much like to hear more from you about the combination of different *pharmaka*. In German there is a specific term for mixing multiple drugs: “mixed consumption” (“Mischkonsum”) means, for instance, that people use heroin *and* cocaine, they use caffeine to get up in the morning and alcohol to get to sleep at night. Of course, this is maybe more an empirical than a philosophical question, but to us it seemed very important to see that the digital intoxication you talk about often goes hand-in-hand with specific kinds of chemical mass-intoxication. We are thinking not only of the gigantic consumption of sugar, caffeine and alcohol in Western societies, but also of drugs like aspirine, ibuprofene, paracetamol, Prozac, Ritaline, Valium, cannabis etc. The reciprocal effects seem to make digital pharmacology extremely difficult. Gaming and cannabis-consumption often go hand-in-hand, and maté-based soft drinks were popular in the hacker-scene long before they entered student-life. However, we seem to know very little about the way all these *pharmaka* interact. Maybe digital *pharmaka* push people towards anti-depressants, but maybe it is the other way around. As a society we seem rather lost. You already mentioned that you consider the American “war on drugs” to be a disaster. Do you place any hope in the new “techniques of the self” that are gaining importance: Yoga, Meditation, MBSR?

Stiegler: With my partners and friends, and in my collaborative networks, we are working very hard and exactly to gain and distribute new pharmacological knowledge and competence. Of course, digital tools can also be used as a remedy. What makes all of this so difficult is the incredible pace involved. This influx is happening a lot faster than the earlier historical examples you mentioned. This is why, it seems to me, our societies have become destabilized.

Q.: However, it seems to be the case that digital *pharmaka* are not only being mixed with other (analogue) *pharmaka* — with the possible effects of mutual reinforcement or moderation. The same applies to digital *pharmaka* vis-à-vis other digital *pharmaka*. Think for example of different apps on the very same smartphone. Some apps (e.g. Amazon or eBay) want to seduce me into consuming (ever more), others provide me with music, but at the same time present data on my moods, depending on the time of day (e.g. Spotify) etc., while yet others act as an antidote to absorption in consumption: they remind me of my daily meditation exercise, they advise me to go to bed earlier, they help me to identify harmful ingredients in cosmetics, and so on. Does this plurality make something like *consumer sovereignty* possible?

Stiegler: The term “consumer sovereignty” is ill-chosen, because sovereignty is in itself an illusion. I prefer to call this the adoption of one’s inevitable heteronomy, and this of course remains a possibility in the digital era. There are choices left to us: It is hard, but not impossible to navigate in the Internet without relying on Google’s hegemonic search engine; we don’t have to take advantage of Facebook’s “single sign-on”-service, etc. We still have at least some discretionary space to decide for ourselves which drugs we want to be affected by and can try to find antidotes to the poisons. What is more, there are genuine examples of new forms of sociality that are made possible by networking media. One might think here of local platforms that help organize neighborly assistance and for instance offer our help (for shopping and other errands of everyday life) to older people in times of corona.

Q: So a lot of things are similar. But still there is something decisively new about digital pharmacology. On the one hand it is just another kind of *pharmakon*, but on the other hand there is something new going on. Could you help us to disentangle this riddle?

Stiegler: The first difference is speed. The influx of alcohol in America took centuries, but now everything is happening incredibly fast. You have to imagine what “digitalization” means, not only in Eu-

rope, but in Latin America, Africa etc. Within a few years our world has completely changed. Millions of smartphones have been produced, as well as tablets and other gadgets. And this process seems to be accelerating. A new technology or app can be outdated within months. Human beings have to have time in order to understand new *pharmaka*, but no sooner have we partly understood one kind of addictive app than there is already the next on the market: Facebook, Twitter, Instagram, TikTok, it never ends. So in my view the speed of influx is an important factor, since it makes it a lot more difficult to practice adoption. Speed pushes us towards adaptation. Adoption takes time.

The second difference is the degree of automation,¹⁰ which has increased immensely. Nowadays not only our practical knowledge, our *savoir-faire*, is being made superfluous by the mechanization of production, as in Fordism; even our theoretical skills and our capacity to form a will and make decisions are “aided” by so called “artificial intelligence” (which is, in fact, artificial stupidity).

Q.: A concrete example would be helpful in understanding this. Are you referring here to the mechanism of “parsing”, which means that every human input into an algorithm has to be “translated” into another format so that it can be processed further? — Facebook, to give only one prominent example, has “solved” the problem of parsing by short-circuiting the input-giver. Whenever you begin to type in a word in order to characterize yourself, your text is then completed by a pre-given list of possible answers. You cannot escape the virtual logic of the drop-down menu. Thus the design of the human-machine interface determines the data entry process, so that the user cannot but fulfill the task of assigning their details to a semantic category registered on the server side.¹¹

10 On this see Stiegler, Bernard: *Automatic Society*, Volume I. *The Future of Work*, Cambridge et al.: Polity 2016.

11 This example is taken from Mühlhoff, Rainer: “Big Data Is Watching You. Digitale Entmündigung am Beispiel von Facebook und Google”, in: Rainer Mühlhoff/Anja Breljak/Jan Slaby (Eds.), *Affekt Macht Netz. Auf dem Weg*

Stiegler: This is a very illuminating example of the way in which digital technologies intervene in our perceptions of opportunities, and hence influence our decision-making processes. Selections are taken over by prefabricated options that are tailored through “user profiling” and “auto-completion” technologies. This form of assistance can be of great help, of course. Think of “Google Translate”, for example, which I use a lot, because I cannot speak Chinese. It enables me to communicate with people I could otherwise not address; but to the effect that the nuances of speech are flattened out and that my message is depersonalized. A third difference comes into play here. There is a theory tacitly inherent in the use of computers and smartphones: the idea that everything can be solved by calculation. And this, of course, is absolutely wrong. Nothing can be solved by calculation. You always need a decision that is not calculable. Derrida has written about this at great length: the really important things like hospitality, love, forgiveness, politics, etc., have a blind spot. If you can explain your love by calculation, it is not love.

Q.: This was almost a *leitmotif* in his later writings. Only an “impossible”, i.e. incalculable, unlegitimizable friendship is friendship. In this sense a “Facebook-friend”, to Derrida, is not a friend. Friends never exist in the form of a given, but only as a possibility that can be addressed in the vocative. In this regard Montaigne’s phrase “Oh my friends, there are no friends!” suddenly makes sense...

Stiegler: Indeed, Facebook epitomizes an industrialization of friendship on an unprecedented scale. It is made possible by the digital grammatization of our social relationships, which reconfigures these by virtue of algorithmic calculations. The “making” of friends on Facebook is largely “out-sourced” to a technical function through which everyone in my address book automatically gets an invitation to become my friend. I would argue that as a result of this kind of automation, our social relationships are at risk of being proletarianized, i.e. mentally impoverished, and that the real exchange of ideas,

zu einer Sozialtheorie der Digitalen Gesellschaft, Bielefeld: transcript 2019, pp. 81–107.

recognition and disclosure, which Aristotle linked with friendship, or *philia*, is prevented.¹² And since friendship is the basis of larger social entities called community, I would go so far as to claim that the so called “social networks” can be very harmful to our social connections.

The underlying process can be coined “digital grammatization”, i.e. the process of analyzing and formalizing human behavior into a code that can be digitally processed. For example, the Facebook user is stripped of his personality, he is disindividuated, by being broken down by the algorithm into a series of data which he — in part on a voluntary basis, but to a growing extent involuntarily — discloses by navigating through the Facebook sites, by liking and disliking and showing his interest/disinterest etc. It is on the basis of these data that social networks form connections, make suggestions and thus determine the rules of our communalization, or transindividuation, as I prefer to out it with recourse to Simondon.

Q.: That sounds as if you were assuming a technological determinism according to which social organization is determined by the technical organs. But isn't digital grammatization also pharmacological in the sense you explained above? In your book “Taking Care of Youth and the Generations” you convincingly show the pharmacological character of the leap in (pre-digital) grammatization that occurred as a result of the invention of the printing press, followed by the Reformation, the Counter-Reformation and finally the Enlightenment (whose passionate striving toward registration and categorization is beautifully exemplified by Diderot's project of the *Encyclopédie*). All these events brought about not only an increased normalization and standardization (of language use and behavior as a whole), which made the individual the subject of state control, but also created the public sphere as a “critical space”.¹³ Do you also see positive aspects associated with the digital grammatization

12 For a deeper elaboration on this see Stiegler, Bernard: “Five Hundred Million Friends: The Pharmacology of Friendship”, in: UMBR(a): Technology 17 (2012), pp. 59–75.

13 See B. Stiegler: Taking Care of Youth and the Generations, p. 138ff.

brought about by social media platforms? Can we use the existing tools for social networking in a non-proletarianizing or subversive way, based on “algorithmic literacy”, i.e. a critical knowledge of the mechanisms that are at work? Or do we need alternative digital technologies — hardware or software — in order to counter the anti-social effect of current “social media”?

Stiegler: Of course, I do see the chance for a renewal of social life on the basis of the unprecedented formalization of social relations due to digital grammatization, and the social networks could well add to this development. The enthusiasm of young people for social networks is an indication of the longing for social relationships in an anomic world, and I am convinced that something good can be created from this. There is no denying the fact that Facebook is a largely a marketing tool which has newly defined the terms for personalized targeting. However, Facebook does not necessarily corrupt its users. For example, the self-profiling demanded by Facebook can strengthen your reflective powers, instigating a practice of auto-ethnography which might generate a heightened awareness of the conditions and the importance of social bonding. Knowledge of what you are doing (and of what is done to you) when you navigate on Facebook is absolutely important. We need to arrive at an understanding of these networks both on the social and technological level. I don't like the term “algorithmic literacy”, because it sounds like standardized knowledge, like a prefabricated competence. But you are right that a minimum level of understanding of the technical mechanisms underlying social networking is helpful.

Q.: So again, it is not technology *per se* that is dangerous...

Stiegler: Well, we have to see that the ideology of calculation and the digital *pharmaka* go hand-in-hand with a neoliberal mindset. I say this explicitly, because it is extremely important to understand that Silicon Valley is the last stage of what I call ultra-liberalism. The rise of neoliberalism goes back a long time. When it entered the political stage with Thatcher and Reagan in the 1980s, all the theory was there already, in particular Hayek. And Hayek said: everything is calcula-

ble. Gary S. Becker even applied the model of the *homo oeconomicus* to the mother-and-child-relationship.¹⁴ This was the reason for him to think that neoliberalism was better than any other kind of political economy. And this is the reason why he said we don't need any government, we don't need any state, we need only to the market decide everything. Silicon Valley is based on such a kind of libertarianism and the most developed discourse on that is transhumanism. As you know, the transhumanists intend to replace mankind by machines which are stronger than any human being.

Q: Do you think this is a real danger? From a continental European point of view it sounds just like science-fiction-madness...

Stiegler: What is dangerous is the mindset. You can address a medical question, for instance, only through judgment, i.e. the diagnosis by a doctor or a collective of doctors. You need a "faculty of judgement", an "Urteilskraft" in Kant's terminology, not just calculation. The corona-crisis could not have been anticipated based on data from the past. It takes more than just calculation to make intelligent decisions...

Q.: Would it be appropriate to use Kant's distinction between *reasonable* ("vernünftig", *Vernunft*) and *rational* ("verständlich", *Verstand*) in order to describe what is missing in pure calculation?

Stiegler: That is indeed a very valuable distinction, but one which is nowadays almost forgotten. In the wake of the Industrial Revolution, the spiritual, or *noëtic* dimension of intellectual life was almost absorbed by the ratio, or the computational faculty of the mind. Reason is for Kant, first and foremost, the faculty of envisaging ends, or what I prefer to call critical protentions. Reason is entrusted with the question of what goals are valuable, and how I can achieve those goals without preventing others from pursuing theirs — in short: how I ought to live. In a society determined

14 Becker, Gary S.: *A Treatise on the Family*, Cambridge, MA: Harvard University Press, 1981, Enlarged ed., 1991.

by consumption, these questions no longer arise; the satisfaction of needs is short-circuited by the permanent presentation of objects that seem desirable through marketing. This is why Adorno and Horkheimer called consumer capitalism a new form of “barbarism” — and rightly so. However, with the advent of computational capitalism, things have gone even further. Operations of understanding, which are now mimicked and taken over by machines and algorithms, are exosomatized and thus in a literal sense split off from the synthetic functions of reason. This amounts to a state that I call generalized madness, which means that an immense process of disinhibition takes place. And this is characteristic of contemporary capitalist societies.¹⁵

Q.: The connection you draw between the rise of capitalism and the process of disinhibition is not yet completely clear to us. In his groundbreaking work on the “civilizing process” Norbert Elias seems to claim quite the opposite: that modernity is characterized by the development of inhibition, or affect control, which he characterizes as the “dampening of spontaneous flashes (and) restraint of affects”¹⁶. Affect control is traced back by Elias to the sociogenetic process of social differentiation, which begins with the emergence of the territorial state and the abolition of feudal structures, but is then further promoted by the development of capitalism. From a completely different angle, Foucault also seems to suggest a connection between the disciplining of society, which is evident in the criminalization of deviance and supported by institutions like school and prison, and the development of modernity, of which capitalism is an important aspect. Against this backdrop, could you specify what you mean by “disinhibition”?

Stiegler: I do not find anthropological conceptions particularly helpful that distinguish, in a scholastic vein, between ratio and affect.

15 On this see B. Stiegler: *The Age of Disruption*.

16 Elias, Norbert: *The Civilizing Process, Volume I. The History of Manners*, Oxford: Blackwell, 1969; Elias, Norbert: *The Civilizing Process, Volume II. State Formation and Civilization*, Oxford: Blackwell, 1982.

Such dichotomies are too abstract, and fail to grasp the interconnectedness between the three levels of organs which I outlined at the beginning of our interview. I prefer the term *libido*, inherited from psychoanalysis, or the conception of libidinal economy, by which I understand the way in which we take (or do not take) care of objects. In principle, two tendencies of libidinal economy can be distinguished, one based on short circuits, dominated by mere drives which aim to consume their object; and the other, based on long-circuits, brought about by a sublimation of drives which opens up room for attention, the formation of will and finally results in care for their objects.¹⁷ Against this background it can be seen that the systematic short-circuiting of our libido by psychopower, which I call disinhibition, leads to a corruption of the will and splits off the analytic functions of understanding from reason, or a practice of care. Disinhibition in this sense does not mean that actions will be guided by mere “affect”, that is, will be devoid of any calculation or instrumental rationality — quite the contrary: Jean-Baptiste Fressoz aptly refers to modernity as a process of “reflexive disinhibition”.¹⁸

A school of pharmacology

Q.: One possible starting point to change the prevailing mindset would be the school system. Foucault was fundamentally skeptical about school because he sees it primarily as a “disciplining dispositive”. Although he never made an explicit analysis of educational institutions, in the course of his historical reconstruction of the emergence of modern institutions like hospital and prison, school as well is in the focus of attention as one modern institution through which the conditions, attitudes, and behaviors of its subjects are formed. These have less to do with the content of teaching than with the type

17 This theory is outlined in B. Stiegler: *What Makes Life Worth Living*, p. 24f.

18 Fressoz, Jean-Baptiste: *L'apocalypse joyeuse. Une histoire du risque technologique*, Paris: Le Seuil 2012, p. 160.

or the form of teaching. You seem to be more optimistic that school may have an educating function in the humanist sense.

Stiegler: Foucault is right to stress that school is about training, or rather, instilling discipline, although this is just one effect. A further point is that school takes care of the “transindividuation of knowledge”, an important part of which is the passing on of knowledge from one generation to the next. It constitutes in itself, through this very function, a system of care.

Q.: In the aftermath of the PISA-study, beginning in the year 2000 the European school systems started to undergo a change, from “input-orientation” to “output-orientation”. The curriculum is no longer defined by the knowledge to be imparted, but rather by skills that the students are intended to acquire. What do you think about this paradigm-change?

Stiegler: I think that knowledge is extremely important. But, in a way, we have to re-invent what knowledge is. Because today we are not producing knowledge. As you said, we are producing skills. We are producing competence. But for me knowledge is not at all skill and competence. Knowledge is the capacity to produce singularity in a singular situation, i.e. to produce a purely single answer. A skill is not at all singular. It is always standardized. And this is the effect of industrialization, and now we have to enter into a new form of industry: let’s call it the industry of post-intoxication. Children have to learn how to overcome the stage of intoxication, “intoxication” being understood here, of course, not only as that of alcoholics and other drug addicts. So there is a new political economy being erected on the basis of this intoxication.

Q: You do not only reflect theoretically about questions regarding the design of the educational system. You were a member of the “Agence nationale de la recherche” for a while. In 2008 you were asked by Vincent Peillon, at the time Minister of Education in France, to lead a group on the introduction of digital technology

into school. What were your plans? And why did you eventually resign?

Stiegler: In 2008 the approach was wrong. It was dominated by Microsoft and the general understanding of the computer as a “computing machine”. However, I am still working on establishing an alternative digital culture. In the suburbs north of Paris¹⁹ we are using two big tools or programs, softwares and databases. The first one is an information-modeling technology for the building and construction sector. It is completely transforming urban development, urban programming, planning etc., thereby making a new structure possible for cities. And we use this video game called Minecraft, albeit as a free software version (“Minetest”). I am now launching a campaign in France to completely change the character of national education. For me, national education should become a laboratory at all levels: from kindergarten to high schools and universities the understanding of a computer must be changed completely.

Q.: One seems to find traces of a positive digital pharmacology here...

Stiegler: The Internet has great potential, the most remarkable of which is that it breaks up the opposition between consumption and production. The problem is not the internet itself, but its embeddedness within computational capitalism. However, there are collaborative technologies, and a kind of a struggle for free software, a growing community subscribing to the principle of “open source” and “creative commons” — these are practices which are not covered by the logic of algorithmic governmentality, and which foreshadow a *practice of care*.

19 For more information on the Stiegler project “Pleine Commune”, see PROJET D'EXPÉRIMENTATION TERRITORIALE PLAINE COMMUNE TERRITOIRE APPRENANT CONTRIBUTIF (<http://francestrategie1727.fr/wp-content/uploads/2016/02/projet-plaine-commune-10.03-bernard-stiegler.pdf>).

Q: You described pharmacology as a “savoir-faire”. It’s a kind of art or craft; on the one hand it is an individual, a self-educational project, if you like — you have to know what is good for you in a way. The stoicism Foucault worked on was in a way an individualistic movement. On the other hand, pharmacology is a political challenge. It’s also something that we have to decide on together. Even if prohibition wasn’t very successful and even if the war on drugs is a disaster — still it is something we somehow do together. We don’t know if you would agree with this difference between, if you like, a liberal or even neoliberal pharmacology, and what may sound almost like a French Republican idea of democratic *collective* self-determination.

Stiegler: Well, I agree that digital pharmacology is not a realistic individual project. However, I am not sure that the national level is the right level and that the French Republic is a good model for implementing helpful collective decisions. In my experience there are other helpful models that operate more on the basic level of community work. In our work in the north of Paris we are trying to learn from the experience of people like Gregory Bateson. We use the concept of the Alcoholics Anonymous as they were studied by him. Bateson showed very clearly that if an alcoholic wants to stop drinking, the best way is to help another alcoholic to stop drinking. The bad experience, the tragic experience of alcoholism is the destruction of self-esteem. But this experience can give you the competence which allows you to help others. Suddenly you transform the experience into knowledge from which you can benefit. The efficiency of this association is four times better than the efficiency today, for example, of hospitals. I recall this example, because I consider the question of new forms of knowledge to be something which has to play out on the level of localities. I don’t believe in top-down pharmacology, but in people helping themselves. So, I think here the question is to re-invent and re-establish a proper idea of “knowledge”. Intelligent machines can make their users more stupid and we have to cope with the fact that we are producing a new proletariat.

Q: This is a very important observation for which there is even some support from a few empirical studies on France. One could hope that machines would do the stupid work for us, and that humans would do the intelligent work, coding machines etc., but this seems not to be the case. In fact, very few people actually code and a lot of people are told by algorithms where to deliver the parcels. Richard Sennett has worked a lot on the decline of craftsmanship. In this regard it seems that by your account digital pharmacology is almost a game-changer. It is so toxic that the positive use of digital tools depends on the re-inventing of the computer, you claim. And you outlined the political circumstances under which re-invention and re-contextualizing might be possible, but this seems to have almost utopian character. What makes you think that in the end we will really survive the onslaught of digital *pharmaka*?

Stiegler: Failure is simply not an option. We have already talked about *pharmaka* as soft power. The United States and China are dominating the production of digital *pharmaka*. If we don't manage to answer this challenge, European companies might disappear. Even Mercedes or Volkswagen can disappear. Everything can be destroyed by China and America, if we don't manage to defend a European way of life. I think that this European singularity can be described as a culture of hyper-retention: a culture of books, both in the Greek and in the Jewish tradition. This culture of textuality is different from the Chinese tradition of writing. I hope and believe that we can preserve this. The reason for which I believe that it is possible is because it is reasonable. The way in which Silicon Valley is developing everything is rational, but completely unreasonable. And this produced Donald Trump. And it is not only me who says so. They are saying that today in Silicon Valley itself. So in order to establish and develop a European digital pharmacology we should stop emulating American or Chinese models. We therefore have to re-evaluate locality, and this is a question of what I call a new political economy.

Q.: In this example too, as in the case of the Bible, the term *pharmakon* also seems to describe a weapon. You can not only intoxi-

cate yourself, but also others. And if we are understanding you correctly, you're saying that organizing our *pharmaka* together is also a way of keeping our weapons polished, as it were, and ourselves prepared for self-defense. *Pharmakon* as a weapon; there is this term: "weapons of mass-distraction".

Stiegler: Oh yes, of course. America's strength in the 20th century was not at all the GIs. The GIs lost in Vietnam. The strength of America was Mickey Mouse, Hollywood and art. But you see, the wounds we have can also be a starting point of a healing. This is an old romantic idea, of course, but you can also imagine it in a more practical sense. Django Reinhardt, the French gypsy musician, lost two fingers, and after the accident he became the famous musician that we will never forget. Before this traumatic event he was already an excellent musician, but after the accident he became a genius. I think it is extremely important to understand that the accidents, the toxicities, the diseases, our wounds, can also be sources of invention, creativity, maybe even of the most brilliant ideas. So, from all the intoxication, all the misuse of *pharmaka*, we may also learn – and progress and practice pharmacology together.