# What is the Difference between a School and a Cloud? Some Reflections on Peter Sloterdijk's Philosophy of Education and Artificial Intelligence

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## Abstract

Although artificial intelligence is not a central topic in Sloterdijk's philosophy, his concept of "anthropotechnics" may be used to justify the development of artificial intelligence within the process of "anthropogenesis", but also and, most importantly, to reveal its risks and limitations as far as education is concerned. Indeed, Sloterdijk argues against Kurzweil's concept of the "cloud" as one operative system of information. Even if the interconnected world might one day become a non-dominant vehicle of knowledge, we are stuck today in the "Cold War" age of the postmodern era, where the diversity of "clouds" and economic forces at stake invite us to maintain a critical approach to technology.

## Keywords

Artificial intelligence; cloud; education; evolution; information; internet; media theory; technics; technology; metaphysics; modernity; ontology.

## 0. Introduction

Although artificial intelligence is not a central theme in Peter Sloterdijk's philosophy, with the notion of "anthropotechnics" or "anthropo-technology" he develops an important reflection on the anthropological meaning of

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technics and offers an interesting perspective on the way artificial intelligence is already a part of human life.

Sloterdijk is not a technophobic philosopher;[1] on the contrary he denounces what he calls the "anti-technological hysteria" of the present time. According to him, artificial intelligence is a matter of fact: "there is artificial intelligence" Sloterdijk writes, but the task of the philosopher is to understand how artificial intelligence actually exists, and how it gets integrated into human activity. Raising such a question will lead us to another problem: how does artificial intelligence contribute to the "Bildung" of human beings? Granted that, as early as 1983, Sloterdijk has announced "the end of the belief in education, the end of European Scholasticism,"[2] will artificial intelligence be a *tool* or even a *substitute* for education?

I will mainly focus on Sloterdijk's book *You Must Change your Life* (a title taken from a poem by Rilke) where he deals with the concept of exercise as a way of transforming oneself, and where he tackles the question of education. I will also use two conferences from 2000, one entitled "Anthropo-technology" and the other "The Domestication of Being" as well as an interview, given to the *Huffington Post* in 2014, and devoted to the very problem of artificial intelligence.

## 1. How does artificial intelligence actually exist?

My first question is: how does artificial intelligence actually exist? What is its "mode of existence"? And how does it get incorporated into human life?

The traditional answer to this question is that artificial intelligence brings together a set of highly technical artefacts that can be used by human subjects as tools to perform tasks and solve problems of high complexity. Theses artefacts are machines following programmes; they are designed and controlled by human minds.

According to Sloterdijk, this traditional view rests upon a metaphysical prejudice distinguishing between objects and subjects, bodies and minds, slaves and masters. Objects are enslaved bodies. Subjects are domineering minds. Sloterdijk's claim is that such a metaphysical view misses the point of our current situation because the world that we are living in is a world filled with objects that are "hybrids" of intelligent matter:

> "The fundamental differentiation [in the metaphysical period] of soul and thing, spirit and matter, subject and object, freedom and technique cannot cope with entities that are by their very constitution hybrids with a spiritual and material "component." Cybernetics, as the theory and practice of intelligent machines, and modern biology, as the study of system-environment-units, have forced the questions of the old metaphysical divisions to be posed anew.

> Here, the concept of objective spirit turns into the principle of information. Information enters between thoughts and things as a third value, between the pole of reflection and the pole of the thing, between spirit and matter. Intelligent machines—like all artifices that are culturally created—eventually also compel the recognition of "spirit." Reflection or thought is infused into matter and remains there ready to be re-found and further cultivated. Machines and artifices are thus memories or reflections turned objective."[3]

The crucial event described here is that spirit has been materialized, that it has "turned objective." We decide, but machines are now able to decide as well; we think, but they also think somehow. We cannot ascribe to the human soul a superabundance of characteristics and deny "to things and materials an abundance of characteristics that upon closer look they in fact do possess."[4] The words "artificial" and "intelligence" in the expression "artificial intelligence" describe one "fused" entity. The fusion of spirit and matter triggered by technology leads to a brand-new ontology. As a consequence, the concept of domination does not hold anymore. We cannot behave as if we were intelligent masters subordinating stupid machines.

But there is another important thing to consider, namely that we have here a double encroachment: "encroachment of the subjective into the mechanical" (machines becoming intelligent), and also encroachment of the mechanical into the subjective (human agents expanded by artificial components, what post-humanism calls "Person Engineering Technologies"). We may add that the first encroachment (of the subjective into the mechanical) is the consequence of the second encroachment (of the mechanical into the subjective). Human intelligence evolves using tools that are like prostheses, and these prostheses evolve today in a way that makes them intelligent agents. As an intellectual subject, I am fused with my computer which is my intellectual prosthesis.

This claim is related to Sloterdijk's interpretation of modernity as it is exposed in *You Must Change Your Life*. The main idea of the book is that the human being is made for transcendence: it is part of our human condition that we have to get better and higher, since humans are "ecstatic" or "eccentric" animals using techniques to transform themselves. "Wherever one encounters members of the human race, they always show the traits of a being that is condemned to surrealistic effort. Whoever goes in search of humans will find acrobats."[5] But whereas the ancient conceptualisation of *metanoia* as improvement of oneself used to be a purely spiritual quest, the modern *metanoia* corresponds to a technical transformation of the human being as a whole, implying new bodily equipment. One of the major events of modernity, according to Sloterdijk, is when scientists have started to produce "mechanical doppelgangers" or "anthropomorphic automata" — soulless machines designed to imitate all the functions of real human beings: as Sloterdijk remarks, from the 17th century onwards, "the android moves towards its animation while increasing parts of real human existence are

demystified as higher forms of mechanics."[6] Machines and mechanization do take part in the "production" of our humanity. Reflecting today on the human condition is reflecting on how tools and machines built by humans can help us becoming better human beings. Such an evolution is typical of "anthropogenesis":

> "If there is man, then that is because a technology has made him evolve out of the prehuman. It is that which authentically brings about humans. Therefore humans encounter nothing strange when they expose themselves to further creation and manipulation, and they do nothing perverse when they change themselves autotechnologically."[7]

Making oneself human implies to transform the world around us; to make new equipment available, to modify our environment. I improve myself, and I improve the world at the same time. I produce new tools and machines to help me become an accomplished human being. Man is the "being that makes houses that make Man."[8] This is what Sloterdijk calls "half-price metanoia" which is another word for "progress": the modern *metanoia* is not focused on spiritual development anymore, but on technological devices that contribute to human development. We work hard to build better computers, because having better computers will help us think better and faster. Today is the time when human "plastic autocreation" is achieved by mechanical and automatic devices, and eventually by intelligent technologies. Developing artificial intelligence is our modern way of revealing ourselves as human beings.

## 2. On anthropotechnical schools

But an important thing to consider is that "anthropotechnics" does not limit itself to the use of machines like computers, to the fact that my computer and I are one "ontological hybrid", one integrated system. The idea that humanity is produced by "automatical programs" also includes the use of pedagogy and schools. It is no accident that *You Must Change your Life* tackles the subject of education right after having introduced the "soul-drama of the Modern Times" as a "technical drama" implying "the constant back and forth between the poles of the android and the human ego."[9] The android is an idealized portrait of man and modern education also imposes an idealistic view. There are teachers and institutions determining and shaping the individuals *from the outside*. Sloterdijk explains that modern Europe has become a "network of total schooling"[10], not only in the sense that there are schools everywhere and that all the individuals are now forced to be educated, but also in the sense that we are constantly learning and that our very experience of the world is the experience of a world that is full of information:

> "The new media of the Gutenberg era contributed to the expansions of practice zones […] They were joined in the twentieth century by the telephone and radio peoples, who were subsequently sublated into the world people or the Internet. Media fitness is the element in which modern populations elaborate both their global and specific fitness."[11]

Interestingly, Sloterdijk emphasizes the fact that the idea that "all the world's a school" is the very basis of Jan Comenius's project of education as formulated in his *Via Lucis* of 1668:

> "That it is right to call the world a school is shown first of all by the matter itself […] for what is a school? It is generally defined as a company of persons who teach and learn what is useful. If this is true, then the world is a school, since it is entirely made up of an order of teachers, learners, and disciplines. 3. For everything that exists in the world teaches or learns, or it does both alternately […] 5. Therefore everything is filled with disciplines, i.e., with various tools for admonishing, advising and driving on: therefore it is not wrong to call the world a *house of discipline*."[12]

This thesis is connected to another idea in Comenius that, "the reformed school, this workshop (*officina*) of humaneness, must function in the manner of an automaton"[13], its task being "to send perfect reproductions of humans into the world — as genuine, well-formed humans."[14] The whole world as a network of total schooling is made manifest when we consider that, "the early school drill has always pre-empted the student's own performance; syllabuses lay down the courses of study before it can even occur to pupils that they might have an interest of their own in this or that subject."[15] We are pupils before becoming thinking individuals. And we are still pupils once we have left school: when we want to improve or to develop in one way or another, we resort to books, training classes or tutorials. "Self-operation" is not the only option we have to improve ourselves; "having-oneself-operated-on" is another option —in order to learn and get better "I expose myself to the effects of others' operating competence and let them mould me."[16] For Sloterdijk, "Modern conditions are characterized by the fact that self-competent individuals increasingly draw on the operative competence of others for their acts on themselves."[17]

If modern education is a global process, understood as a machine system, and if humanization is now grounded in the production of intelligent machines, then we understand that our contemporary connected world fits with Sloterdijk's notion of human auto-creation. Such a global network is highly compatible with the modern requirement of a generalized and perpetual process of learning. In *Philosophical Temperaments*, Sloterdijk calls for "a system of education and self-education that would be capable of producing individuals fit for a globalized world."[18]

But, of course, there is an important difference between the theological and millenarian notion of education that we find in Comenius, and the place of education in our contemporary interconnected world. Information is not the natural vehicle of truth; it is distinct from knowledge. Information is raw material: it is a "given" from which genuine knowledge can be elaborated by competent agents. The problem of "fake news" has recently shown that information can be misleading and destructive of the human ability to produce knowledge: "Media fitness is the element in which modern populations elaborate both their global and specific fitness" Sloterdijk says, but "passive media consumption leads almost inevitably to unfitness" because it is a form of "negative training."[19] Information can be either transformed into knowledge or simply consumed.

If we think that truth matters, then artificial intelligence should not only give access to information, but also, and most importantly, to critical devices that will make it possible to draw knowledge from information. What we need on this basis, Sloterdijk says, is a "renewal of the idea of enlightenment."

## 3. Which singularity?

It is understandable then that Sloterdijk, while defending an anthropo-technological concept of education, opposes one of the most influential conceptualisations of artificial intelligence today, Ray Kurzweil's "Singularity."[20] This is where the notion of the cloud enters the scene.

I insisted earlier that my computer and its programmes can be seen as an extension of my intelligence, but Ray Kurzweil's notion of such an extension is much more ambitious: in the interconnected world, my brain is not just connected to my computer but to the "cloud" namely to the infinite ocean of information that is described by Sloterdijk as a contemporary and technical embodiment of the Hegelian "objective spirit"[21]. The "objective spirit" is materialized and made available through an interface, which means that spiritual content is no longer handed down to individuals from institutions like schools or universities, but by technological devices connected to the cloud. This is an important aspect of the cloud information system: on one side, the cloud may be seen as a massive source of information to be used like a book or a syllabus in institutional contexts; but on the other, more interestingly, such a global informative organ means that we no longer need such institutions. Sloterdijk defines clouds as "liquidized institutions, as it were, in which the mass of prior experience that is capable and worthy of transmission is made available for later interested parties." "Liquidized institutions" means there are not localized, embodied in buildings and people, but it also raises the problem of knowing which kind of institutions they are. Sloterdijk compares schools and clouds in the following passage:

> "The difference between a cloud and a school reveals itself
> in the fact that in the former, the autodidactic (and *eo ipso* auto-

domesticative) factor increases — whereas schools, as prototypes of formal institutions, are principally heterodidactic (authoritative) and conservative (hetero-domesticative) in their structures.

What clouds and schools have in common is that both wrestle with a nonsense problem: schools can never be entirely sure of passing on what is worth knowing, and cloud visitors are all the more incapable of distinguishing with certainty between nonsense and no nonsense. One part of the modern-postmodern situation is *the instability of the difference between institutionalized and de-institutionalized knowledge*.

In this respect, one must take the cloud metaphor seriously in a literal sense: clouds cover up the clear sky. The current infospheric encasement of the human field is the continuation of the "objective spirit" by other means — and today, those are digital means."[22]

The cloud realizes more fully than the traditional school the movement of empowerment that characterizes the modern era. It gives the opportunity of building both a personal and cooperative culture. The disintegration of institutions and authorities is an aspect of it: Sloterdijk underlines it in his conference "The Domestication of Being" in a positive manner with the concept of "homeotechnics" —"a non-domineering form of operativity" emerging with intelligent technologies[23]. He goes on: "There is only raw material where domineering subjects in the traditional sense […] apply corresponding raw technologies to them […]" but homeotechnics, on the contrary, "has the character of cooperation rather than that of domination"[24] in the sense that everyone will access the same contents and express oneself freely like any other agent. This is the basis of a Sloterdijk's technological utopia: as long as everybody gains access to the same information, anthropotechnology would be able "to open up an ethics of relations that are free of enemies and domination."[25] Interconnecting everything and everyone would erase both the possibility of domination and the threat of evil. Fully autopoetic technology would solve the problem of values. Following this idea, education as a process based on authority is doomed to disappear, as Sloterdijk says in "The Domestication of being":

> "Advanced biotechnology and nanotechnology groom a refined, cooperative subject who plays with himself, *who is formed in association with complex texts and hyper-complex contexts*. Here emerges the matrix of a humanism after humanism. Domination must tend in the direction of ceasing because, as crudeness, it makes itself impossible."[26]

The context would be the new teacher and would make self-education possible. But, of course, "the modern-postmodern situation" has nothing to do with such utopia. This is how I interpret Sloterdijk's emphasis on "the instability of the difference between institutionalized and de-institutionalized knowledge": the apparent democratization through advanced technologies conceals the selfish powers acting upon us. It is not so much the destruction

of institutions taking place today in cyberspace, as it is the replacement of visible public institutions, like schools and states, by secretly operating private institutions like Google and Facebook. One of the big issues in the era of the dematerialization of knowledge is who exercises authority over learners. It looks like people can orient themselves freely through the cloud; but this is not really the case, as the "search engine problem" suggests: you may type whatever you want in the search engine to access information, but you do not know how this information is selected and prioritized. The cloud system tends to give full access to information, but it does not let you know how this information is given, by whom, using which method and pursuing which ends. The cloud is not a natural source of information but a technologically and politically constructed device provided by tech companies. Indeed, the Google cloud is not just THE cloud. As Sloterdijk insists, there is a multiplicity of clouds, and there is no "singularity" ahead, but rather a "war of clouds" between economical super-agents:

> "Anyone who uses the word "cloud" in the singular risks falling prey to mystification. At present, once more, there are several cloud systems, and what we once called the Cold War now returns as the war of clouds. One of the nasty surprises of the incipient 21$^{st}$ century is that the demons of propaganda have returned in a digitally updated form. To counter the new empires of lie and perspectival distortion, a renewal of the idea of enlightenment is indispensable."[27]

If the metaphysical concept of domination should eventually disappear from cyberspace, it still prevails today at the level of economic agents: as long as clouds are products of economic super-agents, they cannot be considered as a true means of cooperation. Companies are not fused within the integrated system of communication: they are producing it and financing it, which means that the autopoetic dimension of advanced technology, where there would be no difference between object and subject, is still to come. Because of this situation, it looks like we are entering a "cognitive war" threatening our system of current education since it might provoke the "de-democratization of knowledge"[28].

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The relationship between artificial intelligence and education is ambivalent in Sloterdijk's philosophy: if artificial intelligence is to work within the process of education, if it might even replace it in the long run to ground a strictly autonomous process of learning, the economic side of advanced technology maintains us within the age of domination and forces us to adopt a critical approach to technology. Sloterdijk holds a utopian view of the interconnected world as a non-dominant vehicle of knowledge but he also warns us that we have still to cope with the "relics of domination" that we are now stuck within

a "Cold War" age. The cloud should be the means of "self-education" but it is still an ambiguous object made up of subjectivity and violence.

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## Notes

[1] On technophobia and philosophy, see for instance J.-Y. Goffi, 1988; J.-Y. Goffi, 2006; G. Hottois, 2002.

[2] P. Sloterdijk, 2011, "Preface," p. xxix.

[3] P. Sloterdijk, 2014, p. 12-13.

[4] *Ibid.*, p. 14.

[5] P. Sloterdijk, 2013*a*, p. 29.

[6] *Ibid.*, p. 359.

[7] P. Sloterdijk, 2014, p. 16. See also "The Domestication of Being," in P. Sloterdijk, 2017, p. 142.

[8] F. Vandenberghe, 2013, p. 313.

[9] P. Sloterdijk, 2013*a*, p. 359.

[10] *Ibid.*, p. 360.

[11] *Ibid.*

[12] *Ibid.*, p. 350.

[13] *Ibid.*, p. 356.

[14] *Ibid.*, p. 357.

[15] *Ibid.*, p. 372.

[16] *Ibid.*, p. 374.

[17] *Ibid.* A particularly striking aspect of such a dependence of one's own development on institutions and systems of education and training is the fact that the very sciences of education tend to consider that, according to the TPACK framework (M. J. Koehler, P. Mishra, 2009) "content knowledge" is just one part of the act of educating human beings; teachers are being viewed as experts in their own field, but also as experts in "pedagogical knowledge" and "technological knowledge" including powerpoint presentations, MOOCs or any kind of connected and interactive teaching.

[18] P. Sloterdijk, 2013*b*, p. 80.

[19] P. Sloterdijk, 2013*a*, p. 360.

[20] See R. Kurzweil, *2005.*

[21] P. Sloterdijk, N. Gardels, 2015.

[22] *Ibid.*

[23] "The technology used for operating on materials that are of the same ontological quality as the operator" (S. Van Tuinen, 2011, p. 53).

[24] P. Sloterdijk, 2017, p. 144.

[25] "While in the allotechnological world domineering subjects are in command over raw materials, in the homeotechnological world it will hardly be possible for raw-masters to exercise power over the finest materials. The very condensed contexts of the interconnected world no longer favorably receive domineering inputs — here only that which also benefits countless others can successfully spread […]" (*Ibid.*)

[26] P. Sloterdijk, 2017, p. 146.

[27] P. Sloterdijk, N. Gardels, 2015.

[28] P. Sloterdijk, 2017, p. 147.