

Liberating Education: What From, What For?

Editors:

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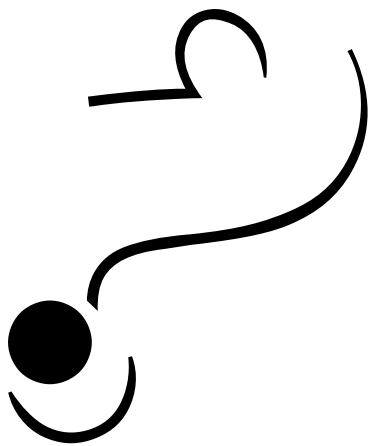


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Knowledge Versus Production: Michel Serres and Idiosyncratic Roads of Education

There are numerous reasons why Michel Serres's philosophy can be interesting and significant when it comes to knowledge and education. First of all, the style and the way in which Serres approaches problems is opposed to the usual academic, but also systematic, educational, most common usage. In addition, one of Serres's main projects, that is – endeavours, was “opening the boundaries” between various forms of knowledge, such as science, philosophy, literature, mythology.² The claim that there are “passages” or “bridges” between fields of knowledge and that the boundaries that currently exist are artificially formed can be directly linked to today's education system and the division of subjects or disciplines.

Based on Serres's ideas, the first part of this paper will re-examine the notions of education and its dominant conditions. Two problems deserve special attention: 1) Separation of school subjects as well as knowledge in general, and 2) favouring technical, engineering, and scientific knowledge as a consequence of the methodocentric approach, which is paradoxically transferred to the very idea of education in gen-

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2 Serres, like Husserl, first graduated in mathematics (focusing his work on the mathematical dimension of quantum mechanics, as well as on information theories) before enrolling in philosophy studies.

eral. If we look at education through Humboldt's idea of *Bildung*, at least in the domain in which knowledge is a "purpose in itself" and education is a way of internal shaping, then the narrow specialization, the problem to which the first point refers, is completely opposite to such a concept (Cvejić & Krstić 2020: 16–17). In addition, goals such as efficiency, effectiveness, and productivity, which, among other things, were imposed on education through the aforementioned bifurcation, and whose nature is primarily economic, are opposed to the original meaning of emancipation. The second point is probably more important than the first, not only because the existence of a narrowly understood dominant methodological framework is the cause of the aforementioned problem of knowledge separation, but also because within Serres's conception of knowledge such an approach leads to teaching as an instruction, whose goal is solely the reproduction of the existing state, that is the reproduction of what is the dominant understanding of knowledge — something he sees as the complete opposite of what teaching is supposed to represent. For Serres, instruction should instead lead to discovery, and not suppress its possibilities by reproducing asymmetric power relations between the instructor and the instructed.

The problems emphasized by Serres do not remain on an abstract level. They are extremely visible within the dominant global educational policy. Such an educational approach is embodied in a clearly defined position of knowledge and the goal that a student should fulfil, as well as in a one-way 'transfer' of knowledge, based on the reproduction of served content. Such reductive 'knowledge' is then quantified through testing that strengthens the hierarchy within the education system and which is guided solely by the task of adapting 'knowledge subjects' to market needs. To show that Serres's ideas are not just an interesting postmodernist (or poststructuralist) narrative that does not communicate with empiricism and is therefore inapplicable - which is a frequent critique of Serres and like-minded thinkers - in the second part, the paper will show, on direct critiques of the neo-liberal educational model, such as those of Michael Apple, how Serres's thought

perfectly emphasizes the basic problems of the educational process, while opening the possibility for Serres's theoretical approach to be applied in practice.

Opposite to the Dominant Current – Against the Hierarchization of Knowledge

Serres will emphasize more than once how the scientific revolutions of his time³ influenced his understanding of philosophy but, more importantly, also freed his thought from “ordinary social milieus and dominant intellectual currents.” (Serres & Latour 1995: 13) The development of thought outside the canon has resulted in an effort to overcome the traditional dualism of the natural sciences and humanities. Serres's aspiration for such a synthesis, far from being just a need for originality, had a strong foundation.

Searching for a point of separation, Serres finds that the Enlightenment period was crucial: it characterized as irrational any reason that was not formed by science. Locating this ‘epistemological rupture’ within the 18th century, Serres points out that science sought to establish rule over the totality of reason, or we could add reasonability. In this regard, we highlight the following:

I maintain that there is as much reason in the works of Montaigne or Verlaine as there is in physics or biochemistry and, reciprocally, that often there is as much unreason scattered through the sciences as there is in certain dreams. Reason is statistically distributed everywhere; no one can claim exclusive rights to it. (Serres 1995: 50)

For Serres knowledge is everywhere and it develops precisely on its folds, edges, and borders. Pretensions of the ‘age of reason’ to the universality of scientific knowledge introduce a false hierarchy with-

³ Serres emphasizes three moments here: one is the transition from classical to quantum mechanics, the other is Brullion's book *Science and the Theory of Information*, and as the third moment he singles out the work of Jacques Monod *Chance and Necessity* (Serres & Latour 1995: 12-13).

in knowledge, thanks to the boundaries that are “artificially inserted” (Serres 1982: xi). Crossing points of different expressions of knowledge, i.e. edges and folds, cease to be places where knowledge develops, thus becoming an irrelevant periphery, inhabited by those who do not have adequate scientific knowledge. The classification of knowledge is not nearly as simple as it seems, and the passages between disciplines, although not easily discernible, still exist, Serres claims: “The passage is rare and narrow [...] From the sciences of man to the exact sciences, or inversely, the path does not cross a homogeneous and empty space”, but rather “follows a path that is difficult to measure” (Serres 1980: 18). Serres’s effort is not based on a desire to establish a certain, specific way in which knowledge is connected, which would therefore represent a new dominant position of learning. Instead, he realizes that translating knowledge opens up new possibilities for research, new ways and means of perceiving the world, or ways that encourage or lead to *discovery*.

To put it differently, an interest that implies parallel development of scientific, literary, and philosophical trends, as well as metaphors such as “criticism is generalized physics”, are opposed to the idea of two separate cultures - scientific and humanistic - between which no communication is possible. René Girard will also notice this, adding that: “regardless of whether knowledge is written in philosophical, scientific or literary vocabulary, it still articulates a common set of problems that transcends academic disciplines and artificial boundaries.” (as cited in: Harari & Bell 1982: xi)

These ideas are directly related to the problems of education, and probably the biggest problem that Serres points out, which is the motive for his endeavour, is the problem of *discovery*. The established hierarchy of knowledge, by its nature, reduces the possibilities of discovery, and education based on such a hierarchy narrows the possibilities of examining, thinking, and forming different views of the world (Ostojić, Nešić, Jozić 2019: 69). Such claims need to be argued for, and therefore, although we will return to education soon, it is necessary to

examine another segment on which this hierarchy rests: methodocentrism. Namely, just at the time when Serres diagnosed the epistemological rift, there was a strong tendency in the Western world to arrange life and reality through ‘certainty of facts’. The possibility of predicting the future, the universalization of mathematical and the necessity of deductive thinking, the preference or favouring of consistency over contingency, the belief that the observed phenomenon is isolated, all this undoubtedly led to the standardization of opinion, but also to a form of anthropocentrism that leaves everything non-human (based on its own judgment) beyond any discourse (Weaver & Snaza 2017: 1056).

Prigogine and Stengers will detect this approach calling it the “Laplacian dream” – they characterize it as Laplacian science – Stengers analyses the point that will precede the division of science into normative and descriptive, giving the former a greater objective value based on ‘facts’, as follows: “For this Laplacian science, a description is objective to the extent to which the observer is excluded and the description itself is made from a point lying *de jure* outside the world.” (Prigogine & Stengers 1984: 52) The experimental method will thus, for the sake of accuracy of measuring and determining specific aspects of a phenomenon, result in a reduction of the complexity of the natural world. Moreover, this separation of the observer and the observed will lead directly to methodocentrism: the belief that particular methods, formed before encountering the phenomenon, guarantee the validity of intellectual inquiry. In this regard, Stengers acknowledges that methodocentrism emerges as an effort to minimize the “risk” of intellectual investigation, but states that such a way of avoiding risk or error undoubtedly leads to “bad science” (Stengers 1997).

Serres’s metaphor of the “third man” perfectly exposes the stated problems. The figure of the *third man* is simultaneously included and excluded from dialogue, from discourse, it represents the border of understanding, it presupposes misunderstanding between the self and the other, between us and the world. But *the Third* is being brought under

the language by one constant process, as Serres explains. It is through language that *the Third* becomes the totality of the social collective that surrounds us: he is *one* and *each* and *all* and *they*. The use of language, Serres skilfully points out here, is only an indication of a far more comprehensive process of transformation of *the third*:

Metaphysically, the Third and its law found physics, while linking it to proof, by giving nature its general objectivity, as well as by making natural phenomena function outside the intention of those concerned with, and within the purview of, discourse. . . Thus the third person provides a foundation for the whole of the external real, for objectivity in its totality, unique and universal, outside any first- or second-person subject. (Serres 1997: 48)

Attaining what is supposed to be the goal of any communication also means ending it. Turning *the third*, not into the bearer of the message, into *Hermes*, into an unexplored way in which self and otherness are connected and intertwined, but into a confirmation of a predefined relationship, means that communication with knowledge is over, because it is too clear how things stand or how they 'should' stand.

Today, it is becoming increasingly clear - many like Serres rightly note this - that research must not rely on prefabricated methods that fictitiously guarantee the certainty or validity of scientific research. Rather, it is necessary to find a way to *listen to the world* in different ways. Contrary to the idea of Laplacian science, Serres offers an alternative vision of research that is not based on the separation of the observer and the observed, but quite the opposite, on their diverse intertwining:

In a different way more difficult, subtle, and complete, the life and earth sciences, henceforth put in the center of cognition, take over. They practice a more sharing, open, connected way of knowing, in which he who knows participates in the things he knows, is reborn from them, tries to speak their language, listens to their voices, respects their habitat ... is enchanted by their narratives, limits finally, through them and for them, his power and his politics. (Serres 2012: 33)

To understand the alternative offered by Serres, let us dwell a little longer on methodocentrism. In an attempt to define it more closely, we could say that it represents the belief that the pre-established method that was chosen to conduct research determines the legitimacy or truthfulness of the research. To avoid confusion, Serres's critique of methodocentrism does not mean opposing the method within particular studies if they approach problems in an established way. The point is that the belief that methods must be chosen from an existing set of 'legitimate' methods before encountering the subject of research not only leads to bad science, as Weaver and Snaza point out, "but is deeply connected to anthropocentric and colonialist politics." (Weaver & Snaza 2016: 1057) Such insights come from the very field of science itself. Physicist Karen Barad will say that there is always an "apparatus entangled with the phenomenon" (Barad 2007) – overlooking this fact closes us in the 'objective', previously established boundaries of knowledge, which significantly reduce the possibility of discovery.

The real problem for Serres is not the existence of methodocentrism, but its institutionalization, its dominance in the educational process, the dominance that shapes new minds. The school or academic mind is disciplined to think in a certain way, and the apparent or false objectivity of the dominant method is transferred to the categorization and hierarchization of knowledge, determining the value of an approach or the "necessary set of knowledge" that guarantees that the dominant method is followed, and establishes criteria on the basis of which researchers, students, and even children are quantified.⁴ This indoctrination is fundamentally reproductive in nature. In it, minds are disciplined to follow established paths, ask questions in a certain way, and ultimately *produce*, or rather exclusively *reproduce*, the meanings that the ruling paradigm imposes, meanings imposed within, but also outside of the governing curriculum. It can be noticed that this is certainly an ideological reproduction,

4 One of the most well-known examples is Baby PISA by OECD (Organisation for Economic Co-operation and Development), again setting a dangerous relation between the economy and the education of children. A good critical reflection on this subject as a sort of introduction can be found in Pence 2016 and Purešević 2020.

of which we will talk more in the second part of this paper, when we focus on the works of Michael Apple and Martha Nussbaum. Let's stay for now on Serres and the problem of industrial reproduction of meaning.

The above-mentioned process will lead Stengers to notice how such training creates a “disconnect between the singular forms of inspiration and meaning generation” (what she calls the “necessarily fictional quality of all true science”) and the “objective form of its presentation, which rhetorically hides the work of the sciences in ‘the expression of a unanimous and impersonal consensus” (Stengers 2007: 113). The main goal of these processes is precisely the introduction of hierarchy; their motivation is always political in nature, it is always a game of power. Firmly set rules, norms, and comfort - which abolish creativity and imagination, rejecting the need for discovery - are, therefore, for Serres, nothing more than forms of intellectual terrorism:

I have passed enough of my life on warships and in lecture halls to testify before youth, which already knows, that there is no difference between the purely animal or hierarchical customs of the playground, military tactics, and academic conduct: the same terror reigns in the covered playground, in front of torpedo launchers, and on campus, this fear that can pass for the fundamental passion of intellectual workers, in the majestic shape of absolute knowledge, this phantom standing behind those who write at their table. I sense it and divine it, stinking, slimy, bestial, returning as regularly as the bell rang, opening and closing colloquia where eloquence vociferates in order to terrify speakers all around. (Serres 1997: 134)

The presumed finality, correctness, and truthfulness of a certain type of knowledge has another consequence. Namely, such a belief propagates stations or ‘points’ of knowledge that need to be reached. This again assumes that students, starting from the specific point A, which symbolizes the point of ignorance, should reach the specific and clearly defined point B which represents the point of knowledge. The problems are various: these points are always being set by the ‘ruling

paradigm' that determines them, which is outside the sphere of knowledge, that is, these positions are determined by economic parameters and market needs, which we will talk about later. Furthermore, this setting allows to set precisely defined positions of teachers and students within the educational curriculum, an asymmetric relationship in which the teacher and the student are not together within the process of education and cognition as internal shaping, nor in a relationship that mutually stimulates the discovery of the new. Education that does not lead to the discovery of the new is precisely the problem that Serres is most focused on.

Education as an Exodus – Roads of Discovery

Every learning implies a journey, a journey that brings a novelty. This is a necessary process of emancipation, which means liberation from influence, emergence from non-independence - like the one of the child. The same conclusion is related to learning and initiation of thought. The initial ideas are just a repetition of the old, "Young: old parrot" (Serres 1997: 8), as Serres would say. In that sense, in search for a new thought, education inevitably brings with it a kind of wandering, traveling, leaving the mother's womb, going into the unknown. "The voyage of children, that is the naked meaning of the Greek word *pedagogy*." (Serres 1997: 8)

Although according to Serres's understanding of education, a teacher is present as an escort or as a companion, he is not there to lead along a certain path because such a journey would not be wandering. The teacher is only there to guide you to a certain point: *pedagogos* in the original means the 'hand-leader of the child', most often it was a slave who was in charge of accompanying the child to school in ancient Greece. The child is not the master of the slave, but neither does the slave have authority over the child, they keep each other company on the part of the road they cross together, developing a friendship based on temporary equality (equal position). That

part of the road is known to the slave, but the child gets acquainted with that path again, in his own way: the slave is only an escort to the point where wandering begins. Wandering here should be understood in a specific sense, not as a loss, but as a search for the unknown.⁵

In other words, the goal of learning and the education itself should be the *discovery of new knowledge*. Such knowledge implies an adventure, which is more an exodus than an established method. Becoming yourself and being original cannot happen within the universal curriculum - in addition to imposing a certain type of discipline, any generalization of the rules, which every narrow curriculum necessarily carries with it, leads to stereotypes. The nature of stereotypes is extremely dangerous for education, and the entire curriculum represents one big stereotype, which tends to remain so. Stereotypes are fatal for at least two reasons. They allow lazy minds to stay that way because they offer ready-made, extremely simplified representations of very complex things, and precisely because of that, they are most often inaccurate. The level of generalization that comes with methodocentric approaches, but also from the educational system through the curriculum, prevents not only critical thinking but, according to Serres, also thinking itself. Reproduction of content appears as the only request, which confirms the consistent following of the given path, the only one characterized as correct. Even though the philosophy of science has pointed to the instability of facts, the possibility of scientific revolutions, significant roles of imagination in the process of scientific discovery, strict methodological, and educational approaches to a large extent tend to remain inert. By recognizing this problem, Serres points to a completely different approach, which enables children and everyone who learns to regain or establish imaginative and creative approaches to learning. This is exactly the meaning of *teaching*. The instruction is there to initiate the voyage:

The goal of instruction is the end of instruction, that is to say, invention.

5 In this sense, the etymological connection of the English *wonder* and *wander* should be borne in mind. The terms cannot be adequately translated. Besides delving into unknown lands physically, it also means movement – wandering of thoughts, wondering, questioning.

Invention is the only true intellectual act, the only act of intelligence. The rest? Copying, cheating, reproduction, laziness, convention, battle, sleep. Only discovery awakens. Only invention proves that one truly thinks what one thinks, whatever that may be. (Serres 1997: 92-93)

From this observation, Serres's critique develops in at least two directions. As we have already indicated, one direction is the problem of (im)possibility of scientific discovery, that is, discovery in general. The impossibility of including the conditions under which the discovery occurs calls into question the model that imposes a positivist scientific ideal. This is especially problematic if we have in mind the relation between imagination and scientific discovery (Ostojić 2019: 916). Besides, this ideal unjustifiably implies that there is a real or the most appropriate approach to 'objective reality' and reason, and that knowledge, like a body instrumentalized for a specific purpose by a series of repetitions, should reach that ideal of objectivity or 'pure science'. The assumption that 'pure science', as a way of relating to knowledge, is independent of ontological or ethical issues and that it is immune to the cultural and social influences within which it takes place (and which it even forms) has been seriously shaken by numerous studies in the philosophy of science (Kuhn, Feyerabend, Bohr, Heisenberg), as well as in sociological, philosophical or psychological approaches that, starting with Husserl, questioned the process of subjectification, i.e. the problem of how the subject is constituted in intertwinement with the world (Foucault, Latour, Strauss, Theo).

The other direction of Serres's criticism refers to the consequences that such an approach has on education. A university or a school is certainly not a place where creative, independent, and associative thinking is encouraged. Students must follow, repeat, and quote the given canon. Their success is to an almost absurd to an almost absurd degree determined by the number of repetitions of information. The task of faithfully repeating the given information before thinking about it is present from the very beginning of schooling until

its completion (despite the fact that⁶ studies speak of the shortcomings of such an approach). When Serres says: “Transcribe a single model and you are called a plagiarist, but if you copy one hundred, you are soon awarded a Ph.D.” (Serres 1997: 38) it may sound like a satirical depiction of the academy by David Lodge, but that does not make it any less true. Overthrowing the repetition of “finished and shaped” as the dominant model of education is in line with the task of abolishing final forms of knowledge. If understood in this way, Serres’s urge for discovery, or the end of instruction can be related to Rancière’s vision in *The Ignorant Schoolmaster*. Revealing the nature of instruction, the goal, and the conditions under which it survives, Rancière writes:

Explication is not necessary to remedy an incapacity to understand. On the contrary, that very incapacity provides the structuring fiction of the explicative conception of the world. It is the explicator who needs the incapable and not the other way around; it is he who constitutes the incapable as such. To explain something to someone is first of all to show him he cannot understand it by himself. Before being the act of the pedagogue, explication is the myth of pedagogy, the parable of a world divided into knowing minds and ignorant ones, ripe minds and immature ones, the capable and the incapable, the intelligent and the stupid. The explicator’s special trick consists of this double inaugural gesture. On the one hand, he decrees the absolute beginning: it is only now that the act of learning will begin. On the other, having thrown a veil of ignorance over everything that is to be learned, he appoints himself to the task of lifting it. (Rancière 1991: 6-7)

The classically understood explanation, which is present in classrooms, but also outside, and which Rancière is talking about, requires a predetermined terrain and predefined positions. In order for the explanation to fulfil its claim to ‘lead’ to the position of knowledge, it needs the position of ignorance, against which the imposed ‘knowledge’ would gain its legitimacy. This assumption of the initial and final position as a defined path that the ‘ignorant’ should cross is the

6 Naming just one out of many: Ammermueller 2004.

same established, limited path that for Serres it is necessary to avoid.

And yet, it seems that this idea of ‘openness’ of education, or learning process, is more of an unattainable ideal: the (im)possibility of implementation and the (in)effectiveness of such an approach are constantly emphasized. A common objection is that, although such a form of open dialogue within which knowledge is shaped is in part possible within the humanities, it is unacceptable within the natural sciences. How to teach Euclidean geometry openly, that is, without assuming the final position of knowledge, which the one being taught should reach? If we teach someone to make a car, the demands of Serres or Rancière seem not only unfeasible but also unacceptable. Nevertheless, the demand for innovation does not seek to challenge a certain type of functionality of a given form of knowledge, but to question its final determination and necessity, stimulating the one who learns to move in different, unknown paths - that is, to think. The objection must therefore be rejected because numerous models will show that knowledge that aspires to absolute universality inevitably makes a mistake, and in such cases, the relationship between the one who thinks he knows and the one who does not know is changed very quickly. Such is the case, let us not forget, with Euclidean geometry, as Bernard Riemann showed in 1859.

To remain open for becoming different, to discover; otherwise education subordinated to reproduction, which imposes the unification of thought, an endless cycle of repetition, leads to decadence, totalitarianism, a society in which knowledge ceases to move, or in Serres’s words:

When all the people of the world finally speak the same language and commune in the same message or the same norm of reason, we will descend, idiot imbeciles, lower than rats, more stupidly than lizards. The same maniacal language and science, the same repetitions of the same in all latitudes—an earth covered with screeching parrots. (Serres 1997: 124)

Educational Reproduction of Productional Order

Expressed views can certainly be placed in a postmodernist or poststructuralist narrative. However, if such a categorization aims to discredit the mentioned ideas, judging by their 'functionality', it is just a cheap trick, behind which stands the tendency of the dominant order to remain dominant, as we will show.

Precise positioning and identification of such an order, as well as the tools it uses, can be found within the numerous works of authors dealing with the sociology of knowledge or education. Even the first look at such studies shows us that the micro-plan is inseparable from the macro-plan, and the educational system is seen as a *producer of social order* in the field of social mobility. Selective tradition, selection of meanings, their exclusion, creation, reinterpretation, but also the very way in which meanings are transmitted, are the basic forces aimed at maintaining the existing structure, and they can be recognized only when the process of determining and transmitting knowledge (today educational process) is reflected on regarding its cultural, economic, and political position. As Young notes:

Those in positions of power will attempt to define what is taken as knowledge, how accessible to different groups any knowledge is, and what are accepted relationships between different knowledge areas and between those who have access to them and make them available. (Young 1971: 8)

Examining all aspects of knowledge and education through the prisms of hegemony and ideology is an inconceivable task, which has already been approached by numerous historians of education such as Feinberg, Karier, Kaestle, Katz, Bourdieu, or in a different way by Foucault. Nevertheless, all these forms of dominant structures in modern times pour over into one predominant form that was hinted at in the introduction - the needs of the market, all under the slogan of a specifically narrow understanding of economic interest that puts profit first.

The basic feature that accompanies the functioning of the ruling structure of education, which is general problem almost everywhere present, is exactly what Serres called the artificial hierarchy introduced into knowledge - the division into 'high' and 'low' status knowledge. Now, decades of uneven investment in various disciplines have led to segregation and stratification within the field of knowledge, where the highest position is occupied by technical and 'strictly scientific' knowledge present in the natural sciences. The motives for giving the highest status to technical knowledge and their connection with the educational process are validly analysed by Michael Apple in the well-known critical study *Ideology and Curriculum*. The 'benefits' of maximizing the production of scientific and technical knowledge are easily visible and are reflected in the following: it is (seemingly) non-controversial, it has a stable structure, a (supposedly) identifiable content, and most important of all, *it is testable* (Apple 2019: 37). Thus, giving the highest value to technical knowledge is directly related to the basic function of the educational process, and that is not the education of an individual - but, as Apple states - *selection*. Indeed, the classification and stratification of individuals carried out according to 'academic criteria' is incomparably easier when it comes to technical knowledge. Nevertheless, it is not just a matter of selecting according to one technical criterion, but also for one goal or purpose - those individuals are selected that will contribute to the production of the required form of knowledge. Within this process, cultural content and everything that is defined as high-status knowledge is used exclusively to perform economic classification and to provide a single resource of interest that is nothing but - economical.

As a number of economists have recently noted, the most economically important 'latent' function of school life is the selection and generation of personality attributes and normative meanings that enable one to have a supposed chance at economic rewards (Apple 2019: 41).

First, there is the reification of knowledge, and then the knowledge as a resource is exclusively used for the purpose of accessing economic

resources. This is a radical change of perspective (or reversal) that previously implied that knowledge is the main goal, and not just a means. Such a turn violates the very concepts of knowledge and education, which will be explicitly pointed out by Harry Braverman (Braverman 1975) and Martha Nussbaum (Nussbaum 2010). At the same time, the problem is the narrow understanding of that economic interest or profit, which now obviously and openly rejects critical thinking along with other fruits of humanistic disciplines, as an unimportant and unnecessary appendix, at least when it comes to satisfying the primary interest:

A flourishing economy requires the same skills that support citizenship, and thus the proponents of what I shall call 'education for profit', or (to put it more comprehensively) 'education for economic growth', have adopted an impoverished conception of what is required to meet their own goal. (Nussbaum 2010: 10)

Having in mind what has been said, the conclusion that Serres points out justifiably imposes itself: any attempt to make a substantial change in the relationship between the status of knowledge - Serres's idea of 'equalizing' the rationality (meaningfulness) of different regions - would meet, or rather meets strong resistance. The idea of intellectual terrorism, which abolishes creativity and imagination, and which Serres talks about, is not a postmodernist phrase but a basic *modus operandi* that is imposed through the educational system by the dominant structure. At the same time, this order does not allow 'knowledge' to be viewed or valued in any other way, declaring any different approach as illegitimate (Young 1971: 34).

However, the question is, how is this delegitimization of different approaches performed? How is the notion of knowledge manipulated, and how does discrimination against different regions have its legitimacy that (seemingly) cannot be questioned?

The answers to these questions should be sought first in the values

assigned to scientific knowledge and then in the use of these values through the so-called ‘language of science’. More precisely, not only has it become a generally accepted view that scientific criteria of evaluation produce, or guarantee ‘knowledge’ over ‘subjective’ considerations offered by other approaches, but through the ‘neutral’ language of science all structural problems are redefined as differences in intelligence or ability, differences in possession or non-possession of expertise, thus shifting the focus from the economic and social causes that govern the dominant order (Apple 2019: 38).

Placing the figure of the Third as *Hermes*, as a difference that, in an infinite process of translation, over and over again releases the excess of meaning that occurs in communication between us and the world – pointing the way of an infinite learning process, and showing its transformation into a guarantor, or foundation of all objectivity (in which our relation with the totality of the world is reduced to a two-dimensional one), Serres undoubtedly points to the problem of the ‘sublime’ language of science. Science, which has the role of providing unquestionably correct principles, about which, because they are unquestionable, there must be a *consensus*.

The language in which science and technology carry the logical imperative (as well as an ideological commitment) is ideal for creating a new set of ‘meanings’, making literally a new version of the ‘sacred’ (Apple 2019: 80). Such language, according to Huebner, is

[...] the language of legitimacy, and serves to establish a person’s claim that he or she knows what he or she is doing, or that he has the right, responsibility, authority and legitimacy to do it. (Huebner 1975: 255)

Regardless of the warnings and objections, which did not come from outside, but from the very scientific field itself, such as those raised by Stengers and Prigogine (Prigogine & Stengers 1997), among others, which indicate the ‘end’ of certainty, the instability of ‘facts’ and the danger of ‘objectivity’ of explanations that claim absolute validity,

science and technology created a field of values within which different 'schools of thought' are not allowed. That is, even if they are, 'objective' criteria will stand out to judge who is right and who is wrong. Such an established consensus, which is closely related to the value system of a higher economic order (Apple 2019: 79), is what is transmitted to students, to those who study within the education system - who are treated as 'ignorant' by that system.

Of course, the problem is not what is transmitted but what is not, and the rhetoric of science and its veil of neutrality indeed hide more than they communicate. All disagreements about methodology, goals, and other elements that make up the science paradigm or the scientific activity paradigm are left aside. In our schools, scientific work is tacitly always linked with accepted standards of validity and is seen and thought of as always subjected to empirical verifications with no outside influences, either personal or political. (Apple 2019: 91)

An even bigger problem within this narrative, which directly concerns Serres's views on the possibility of discovery, new thought, and the suppression of the same, is that such transfer of knowledge ignores the insight that disagreement and controversy have always been an essential fertile ground for the development of science. Science, like any opinion, develops (and has developed) precisely on its folds, edges, borders - in the encounter with the Other and the Different. Disagreement and re-examination indicate potential problems, stimulating discovery, and that is usually not what students, and society in general, are familiar with.

Ideology is circular - the stability of the existing economic (and political) structure is based on the consensus of technical and positivist knowledge, encompassing and subordinating the formal and informal curriculum, as well as cultural capital. Power and knowledge are thus again intimately and subtly connected through the roots of our common sense, through hegemony, Apple will con-

clude (Apple 2019: 104). And so, we return again to Serres’s metaphor of the “screeching parrots”: “When all the people of the world finally speak the same language and communicate the same message or the same norm of reason, we will descend, idiot imbeciles...”

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