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Flusser's Philosophy of Science:

“When you’ve told the story about how the discourse emerged [...] you found out everything there is to know [...]. All that there is to know is the story of how the words are used.”

-- Richard Rorty¹

1. Introduction

How does Vilém Flusser use the term *Science*? In his books and essays, science does not play a prominent role. Still, the term permeates all of Flusser’s writing in interesting ways. As with so many other terms and concepts, Flusser had no insular view of what science is or does. Instead, science, for example, is contrasted to wisdom², viewed in relation to fiction,³ or as a tool to create blue dogs with red spots, to “help the human species to survive its boredom by filling the future-as-Disneyland with multicolored fauna and flora”.⁴

Therefore, I set out on a voyage to explore Flusser’s philosophy of science. My online began with the Flusser Archive in Berlin,⁵ and I became aware of a manuscript of a talk Flusser had given in Chalon on March 26, 1982 (date from manuscript), that seemed to be right on target and an excellent point of departure for my journey into Flusser’s thinking and views about science. In *La création scientifique et artistique*⁶ from 1982, Flusser writes about the relationship between science and art. My English translation⁷ of the (French) original comprises §2 of this paper. In §3, I offer a translation (from German) of Flusser’s essay *Science, Wisdom (and Judaism)*,⁸ which ends in an ambiguous, almost

¹ Interview with Robert Harrison, 11/22/2005, <http://french-italian.stanford.edu/opinions/>; also accessible on YouTube <https://www.youtube.com/watch?v=gLymob6QbhA>, (quote is at 8:09 – 8:41)

² Flusser, undated/1

³ Flusser, V. Science Fiction. (Talk at Vienna TV Club 2 on March 20th, 1988.) Flusser Archiv #2471. English translation by William Hanff in *Flusser Studies 20*.

⁴ Flusser, 1988

⁵ Special thanks to Anita Jóri and Alexander Schindler, who offered generous help and guidance, and to Daniel Irrgang for additional input.

⁶ Flusser, undated/1

⁷ I have ignored grammatical mistakes and obvious typos, left all quotation marks where Flusser put them, and stayed very close to the French text, trying to maintain its German flow and rhythm.

⁸ Flusser, undated/2

obscure reference to Jewish altruism/charity as a point of convergence for science and philosophy/wisdom. Section §4 is a brief conclusion.

2. Vilém Flusser: Scientific and Artistic Creation ⁹

(Conference at the House of Culture in Chalon, March 26, 1982)

The crisis of modern science (Husserl) is first and foremost a crisis of knowledge. The main thrust of modern science is that it creates objective knowledge. This claim is as impossible as it is undesirable. However long we pursue science, it will always remain the preferred source of complete knowledge, because all other disciplines (the arts, politics, philosophy, religion) offer only non-objective knowledge. As soon as we abandon objective knowledge, all disciplines become a source of knowledge. My topic here is the equivalence and complementarity of scientific and artistic knowledge.

Modern science introduces itself by reformulating the concept of “theory”. For the old Greek, “theory” was a vision of given, unchanging forms: ideas stored in transcendence. “Practice“ was, for them, the application of such forms, viewed theoretically, to worldly appearances. Thus, there is no division between theory and practice, between “episteme” and “techne”. Science envisions the form and looks to the artist for application. (For example, science envisions the form of the shoe, and the artist imprints it upon the leather.) Science unites with philosophy: seeing forms is wisdom. Science unites with religion and the forms contemplated are the eternal “gods”.

Such unity of the disciplines collapses with the reformulation of theory. For modern science, (science in the strictest sense), theory isn’t the vision of “given” forms but their creation. Forms are no longer ideas , but models. Theory becomes the fabrication of models to capture appearances, to “explain” and to “modify” them. In this way, a dialectic between theory and observation ensues: one observes appearances to put them into theoretical models; one makes theories to capture the observed appearances. One also observes through theory and theorizes through observation. And this dialectic, which is the method of modern science, is extraordinarily dynamic. One doesn’t observe to confirm this or that theory, but to refute it. In this way new theories emerge that always provoke novel observations. We call this dynamic “progress”, a concept that was insignificant before the arrival of modern science.

⁹ I am grateful to Marcia Boumil for numerous suggestions how to improve this section.

The consequence of this dialectic is the technique: every new theory requires a new practice in order to be applied. And each new practice, every technique, provokes a new theory. A second dialectic thus arises: that between theory and technique, which is even more dynamic and “progressive”, which is not the case for the dialectic between theory and observation. There is no place in such dialectic for art in its classic sense, and it has to be redefined as two parts: “technique” and “modern art”. Technique refers to theoretical forms of classic art. “Modern” art, by contrast, did not exist as an activity before the modern age: it is the elaboration and application of “aesthetic” forms. That is to say, it originates from the artist’s subjective experience. This activity is implied in classic art, but is subordinate to the technique. Yet, this novel activity is excluded from the “progressive” dialectic. The forms worked out by “modern art” do not have validity as objective knowledge. Modern art, although ideologically glorified, is excluded from current progress and locked away in ghettos. The effective (social) function of classic art is confined in its technique.

Simultaneously, science separates itself from philosophy and religion, and it destroys politics in its classic sense. Philosophy becomes, for lack of unmovable forms to be contemplated, a theory of scientific theories, thus a meta-discourse much more abstract than the concrete notions of wisdom. And religion becomes the expression of “pre-scientific ideologies”, or of existential anxieties, mainly the fear of death. I shall come back later to the turmoil in politics created by science. The uniqueness of disciplines during the classic and medieval periods has been destroyed by modern science.

Modern theory as creation of models rests on an anthropological hypothesis that is not always clearly formulated. Man should be capable of surpassing the world of appearances, of looking at it from the outside. Theoretical models are elaborated in such transcendence. But this is a curious kind of transcendence. Curiously, the models so worked out obey the structure of human thought: they are logical and mathematical. There is no trans-human transcendence. In order to dive into such transcendence, the scientific apprentice has to pass an initiation, an administrative catharsis at the universities. He has to be cleansed of all ethical, political and aesthetic values, and retain only the structure of “pure reason”. Thanks to such catharsis, the models he will create will be without value (“wertfrei”), “beyond” the world of appearances he wants to know and modify. The result is objective scientific knowledge.

The crisis of modern science is due to a dual critique of this anthropological hypotheses.

(1) Such objective transcendence is impossible. Man can never leave the world of appearances: just as he knows the world, he is always in the world. This means that he is always trapped in its values. Scientific models are not “beyond all value”, but they are themselves values. They value (in fact, over-

value) “pure reason”. This is because they do not produce transcendental knowledge, but only partial knowledge. This results from a constrained and intra-worldly viewpoint, that of “pure” reason. For example, heavy bodies do not fall with an “objective” geometric acceleration, but they do so from a viewpoint of “pure reason”, which has a geometrical structure.

(2) Objective transcendence would be desirable if it were possible. Scientists are not Uber-Menschen, but are artificially deprived of certain values. Hence the handicaps. Their knowledge is not “uber-ethical”, uber-political”, and “uber-aesthetical”, but anti-ethical, anti-political, and an-aesthetical. It is truncated knowledge, and in this sense false knowledge. This is why the universe of modern science becomes more and more “empty” and the modifications of the world through technical operations become more and more absurd. In other words, where science and technology work well is where they are “objective” or infra-human. And where they stay human, they don’t work. This way, the search for objectivity turns out to be both an error and a crime.

Who says that man is always of this world, that he is always with other humans? Who says that all he experiences, knows and evaluates, is done thanks to others, with others and for others. This includes even the most solitary experiences, knowledge, and evaluations. Yet, scientific knowledge is meant to be solitary in the sense of a solitary and transcendent god. Even if such knowledge were humanly possible (which is not the case), it would be useless. For all knowledge, in order to be knowledge, needs to be inter-subjective. Surely, all knowledge as a concrete relation between man and world has an objective and a subjective horizon. But these are nothing but the abstract limits of the concrete inter subjective relation. In other words: all knowledge is concretely political, and the objectivity of modern science, like the subjectivity of modern art, are nothing but the horizons of such concreteness. Science and art become concrete in politics.

This means that the political space is where scientific knowledge and artistic knowledge meet to become concrete knowledge. Politics is neither a science nor an art, but is both at the same time. It surpasses and synthesizes both. Modern science has destroyed the political space by overrating objectivity. It has replaced intersubjectivity with pseudoscientific political theories, with truly anti-political theories. This true sense of “political”, (that of the classic polis or of medieval catholicism), is lost. It has lost its sense of co-existence, co-knowledge, and co-evaluation.. Life without a political space is absurd.

Overcoming the divorce between science and modern art is not just an epistemological and aesthetic engagement, but an engagement for a new society. This is not just about overcoming the crisis in science and the arts, but chiefly that of society. Liberating art from its ghetto (making sure it

replaces the technique) and liberating science from its epistemological problem (opening it for the aesthetic moment), is first and foremost a liberation of society from the dangers that come with technocratization and the absurd.

I will not discuss the nebulous term “creation”, but will remind the reader of the informatics approach to the problem: new information is created by the insertion of noise into redundant information. In other words, the novel is created by opening the old for the not-yet-articulated. In this sense, there is no difference between scientific and artistic creation. The not-yet-articulated is neither epistemological nor aesthetical, neither objective nor subjective. All scientific creation is also a “piece of art”, and all artistic creation also “theoretical knowledge”. For example, the Newtonian system is a baroque piece of art, the Darwinian system a romantic piece of art, Renaissance paintings are a theory of geometrical perspective, and Schoenberg’s compositions a theory of the whole. Creation ignores, and has always ignored, the modern distinction between science and art. In our engagement for the overcoming of this distinction, we should remain conscious of and be effective in never breaking their unity. We should remind scientists that they are artists, and artists that they are scientists. And we must remind both that they are political beings when they create.

Breaking the barrier between science and art will always overcome the division of classic art into technique and modern art. Politics abolishes modern technique and replace it with an art that becomes again the reapplication of models that are at the same time epistemologic and aesthetic. Let’s make sure that our polytechnics are mistaken for art schools. When technicians become artists again, and the artists become technicians, and when technique and art have become synonyms again, (as it was before the modern age) the danger of technocracy is staved off. Because at that moment, all artistic creation is informed by scientific theories, and all scientific theory informed by artistic creation. A new dialectic will be established between knowledge and the lived experience¹⁰, and all knowledge and all lived experience are marked by the public space, by political values as it was before the modern age. The platonic ideal of truth as *kalokagathia*, the Roman ideal of “*pulchre, bene, recte*” as newly valued, and the current climate of absurdity will evaporate.

The utopia evoked here seems to be near. Scientists are increasingly aware of their epistemological problems, which cannot be discovered in the appearances of their structured, proper thought. Technicians are increasingly aware of their political responsibilities. Artists feel increasingly separated from society, and will soon be out of commission. And politicians are increasingly aware that they will soon be replaced with technicians. All this seems to indicate a solution to the crisis: a synthesis of

¹⁰ Flusser uses the word “*vécu*”

science and art under the auspices of politics and the replacement of the technical with scientific art. But such optimism is premature. Scientific, technical, artistic, and political prejudice stand opposed to such utopia, and certain established interests are effectively even more opposed. The purpose of this conference is precisely that of contributing to an increased awareness of this situation.

3. Vilém Flusser: Science, Wisdom (and Judaism)

To prevent a polemic with Edsommer.¹¹

There seem to be two kinds of knowledge. The first is achieved when rational thought (ratio) interferes with our concrete lifeworld experience in order to dissect that experience into increasingly clear and exact parts. The method for generating this kind of knowledge is science. The other kind is achieved when imprecisely-defined mental capabilities (for example, insight) fit concrete lifeworld experience into the scaffolding of our worldview.¹² The method for this kind of knowledge is wisdom. Since we float in a tradition whose terminology is mainly derived from Greek and Latin, it seems in order to translate the above terms into these languages. Greek: “knowledge”=gnosis, “science”=episteme, “wisdom”=(philo)sophia. Latin: “knowledge”=sapere, “science”=scientia, “wisdom”=sapientia. The meaning of these terms has changed over the course of history, (mainly under pressure from Christian theology), but they have always retained their core meaning.

One could argue that the two kinds of knowledge are complementary: in some areas we know scientifically, in others we know philosophically, apart from those areas in which we don’t know anything, or those of which we don’t even know at all. Such opinion comes with the view that Western culture is scientific and the “East” is wise, and that the two can fertilize each other. Another, less conciliatory position asks for the West, blinded by science, to be enlightened by Eastern wisdom. Currently, this position has its loudest voice probably in Islam, (and recently also in slavophilic Russia that maintains orthodox traditions), but it is part of all Eastern and Western schools of wisdom in one way or another.

¹¹ “Edsommer“ (sic) probably refers to the artist Edmund (Ed) Sommer (1932-2015) who made photomontages of Flusser in the 1980s and 90s; see for example <https://zkm.de/en/introduction-to-the-exhibition>.

¹² Flusser actually uses the term “Lebenseinstellung”, which refers to the stance and positions one takes in life.

No more or less knowledgeable representative of those teachings of wisdom will deny that (Western) science developed out of (Greek) philosophy, then turned against its roots to get rid of them. Presocratic philosophers of nature thought about a field that has long shifted into the realm of the natural sciences (although Newton still called his work “Natural Philosophy”). Far into the 18th century, life and the living was thought to have escaped science’s grasp and that one has to tackle such issues philosophically. Biology (and its practice, bio-technology) have undermined this view. Until recently, the soul, the mind, the “spiritual” was considered the realm of wisdom, and many laypersons still hold this view. Science, however, approached this hard nut with pliers consisting of psychology and neurophysiology and is in the process of cracking it open, paving the way for technical manipulations. The same is true for economic, social and political phenomena: economics, sociology and politology give up teachings of wisdom of the good life, of just cities, of a society of God in favor of rational knowledge, used in technical ways (for example in telematics). Vis-à-vis wisdom, science is impatient and imperialistic.

The above-mentioned more or less knowledgeable representative of schools of wisdom will see such imperialism as detrimental. Even if he has to admit that scientific imperialism keeps itself at bay: philosophy declares that it is incapable of criticizing itself and that this is a task for philosophy, for wisdom. The more or less knowledgeable representative of schools of wisdom will interpret science’s preparedness to accept criticism from philosophy as follows: the displacement of wisdom by science is detrimental. “Nature” is not anymore what Ionian philosophers were talking about, “life” is not anymore what *Lebensphilosophie*¹³ is about, “soul” is not anymore what Judaism has put front and center, and “society” is not anymore what countless political activists have been tortured for and killed in dungeons. All values take refuge from wherever science goes to displace wisdom. The representative of teachings of wisdom will refer to Nietzsche: wherever science moves, divine tides will recede and expose the sludge science is digging into. And he will refer to the Nietzsche quote¹⁴, according to which, in starry nights, a quiet voice laments over the Mediterranean: “The great Pan is dead!”, and according to which hope is still alive that after the low tides of science a flood of wisdom will fertilize mankind.

The “Wannabe-Illuminator”, the representative of schools of wisdom, misperceives science and indulges in obscurantism. It is correct that science renders everything value-free that it considers (its

¹³ “Philosophy of life”; school of thought in the early 20th century, including thinkers Wilhelm Dilthey, Henri Bergson, Max Scheler, Georg Simmel, Jakob von Uexküll, José Ortega y Gasset, Hans Jonas, *inter alia*.

¹⁴ See Nietzsche, F. Birth of Tragedy or Hellenism and Pessimism. Transl. by Oscar Levy. <https://www.gutenberg.org/files/51356/51356-h/51356-h.htm>

objects of research and theorizing), but it does not devalue it. It is correct that “nature”, from the scientific perspective, is not anymore just the context of silver moon and lions killing lambs. Rather, it is the context that excludes all ethical and aesthetic parameters to allow reason to formulate everything as precisely as possible, preferably in algorithms. What our wise critic of science does not see is the intention behind this goal of rendering everything value-free: to utilize the knowledge gained, to substantiate its value. It may be (and so the wise will object), that technology based on the natural sciences will not improve nature, but make it deteriorate. This cannot be decided globally and isn’t of importance here. What is important though is to recognize that science wants to know in order to realize values, that it is digging in the sludge to make lotus flowers blossom. That is to say, in a Pascalian way, to recognize that reason has a heart, which this very heart cannot fathom, and that this heart beats in science more than in any school of wisdom.

This will be even more prominently visible in the realm of aesthetics. The aesthetic phenomenon (the “beautiful”) is, as the term “aistheton” indicates¹⁵, concrete experience. Rilke says it is the beginning of the terrible. Indeed, like Moses, we fall to our knees when it overcomes us. And Aristotle considers this terrible-beautiful experience the beginning of all wisdom: “propter admirationem enim et nunc et primo homines principiabant philosophari”.¹⁶ And now, theory of information starts to calculate it, and computers begin to compute it. Science begins to pull the phenomenon of the beautiful over from wisdom. The wannabe-illuminator representative of schools of wisdom has to consider this a crime (in exactly the sense of “breaking apart”).¹⁷ Such corrosion of the experience of the beautiful has to destroy the beautiful, and to anesthetize us, (make us numb for the beautiful.) All value in beauty, all feeling, the soul, awe and admiration, but also inspiration and creative will is lost with such rational “informaticist” position.

Such an obscurant aesthete is entirely off the mark. If research is performed on general experience, it is not to render it unappetizing (unaesthetic), but to release it from the disgusting slime of sentimentalism. And if the beautiful is formulated mathematically, (which has so far not been achieved), it is not done to neutralize it aesthetically, but so that it shines more brightly. If one could, for example, in exact mathematical fashion show how a fugue by Bach is constructed, its aesthetic parameters would be better visible. Informatizing the aesthetic phenomenon would abolish some

¹⁵ Flusser refers to *αἰσθητικόν* (aisthetikon), the capacity of perception

¹⁶ “For on account of wonder and astonishment men now philosophize, as they began to do in the first place.” Transl. by E.F.J. Payne. Arthur Schopenhauer, *The World as Will and Representation*, Vol. II, p.160. Dover, 1958.

¹⁷ Flusser alludes to “breaking apart” in parallel to the German “auseinanderbrechen”, which has the “brechen” (breaking) in common with the German noun for crime, “Verbrechen”.

highbrow buzzwords (inspiration, genius, etc), but one could expect greater perceptibility on the one hand, and greater artistic creativity on the other.

What currently comes out of computers (this applied information theory), may not be too impressive, although aesthetes and teachers of wisdom babble lots of nonsense about it. But it is just a starting point, and it is not the first one. Already people like Dante, Shakespeare, Bach, Klee, to name only a few, have tried to formalize the beautiful, using the means available to them. At any rate, the example of the aesthetic shows what happens if science replaces wisdom: a disenchantment, immediately followed by a frenzy of enthusiasm. Reason does not only have a heart, which the heart cannot fathom, but also an artistic creativity, that genius art critics do not understand.

Up to here, we have talked about science=episteme, as it evolved from wisdom=sophia. However, it underwent a Jewish critique, to evolve further, from a Greek, then occidental, and finally pan-human discipline. The idea that knowledge is only the first step towards acceptance is central to Judaism. Acceptance is dialogical (mutual). To arrive at the “I – You” relationship, knowledge-generating science has to break out of the subject-object-relationship. “You” assumes the presence of the complete other, and if “I” am the other of the “You”, the “I-You” has to assume and accept a completely different “You”. (Altruism as the method to love the completely different other.) Only if Greek science leads to Jewish altruism can both kinds of knowledge lead to one another (“zedakah”)¹⁸ and in a sense recondition¹⁹ each other. That is (I think), the nature of the West, the and reason for its failure.

4. Postscript

The previous two sections are essays by Flusser that, taken together, justify a view of Flusser’s concept of science as being situated at the center of a triangle of reciprocal relationships between philosophy, art, and religion (Figure).

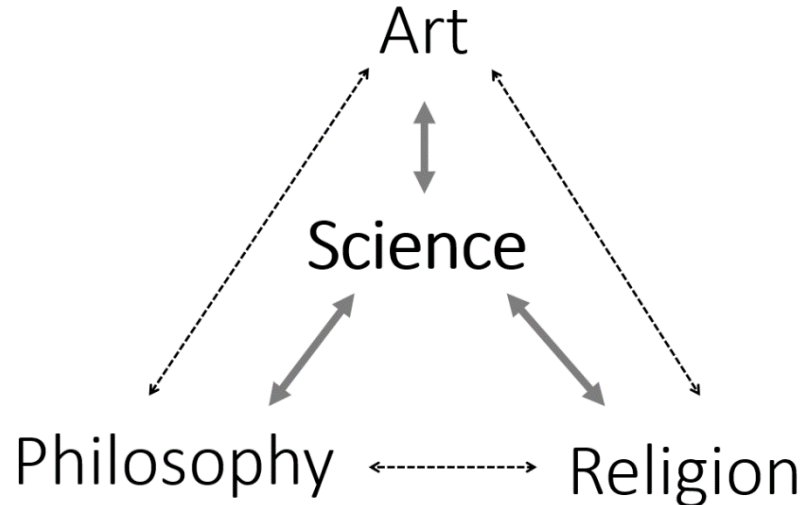
This view of Flusser’s philosophy of science resonates with Martina Bruštková Špidlová’s concise entry on Science/Humanities in the *Flusseriana Toolbox*.²⁰ She writes that Flusser’s definition of science

¹⁸ In Judaism, tzedakah (lit. righteousness) is often used to mean “charity”. See, e.g., <http://www.jewfaq.org/tzedakah.htm>

¹⁹ Flusser uses the word “überholen”, which can mean either refurbish/recondition or outpace/pass.

²⁰ Bruštková Špidlová, 2015

includes the humanities as well as the natural sciences and that he suggests abandoning the divide, because “both are fictional, illusive, and valid only within their own discourses.” More importantly for our present context, however, Špidlová also holds that his concept of science has descriptive, creative,



and ethical functions. She maps epistemological aspects of his view onto *Lingua e Realidade* (1963),²¹ aesthetic aspects onto *Da Ficção* (1966), *Vampyrotheutis Infernalis* (2011), and *Into the Universe of Technical Images* (2011),²² and ethical aspects onto *History of the Devil* (2014).^{23,24} In my triangle of relations, the epistemological aspects are mapped to the double-headed arrow between science and philosophy, the aesthetic aspects to the arrow between science and art, and the ethical aspects to the arrow between science and religion.

I am not aware of any comprehensive analysis of how Flusser conceptualizes science as a human undertaking and where it stands in relationship to the many other phenomena he thought and wrote about, like language, philosophy, art, religion, and so forth. I believe these are interesting questions and I am planning to work on this project over the years to come, using the above triangle and Špidlová’s proposed key to Flusser’s works as a point of departure. I would be grateful for any input the community of Flusser scholars might be willing to offer (please email me at olaf.dammann@tufts.edu).

²¹ Available in English as Flusser, 2018

²² Flusser, 2011

²³ Flusser, 2014

²⁴ She also lists *Vampyrotheutis*, *Bodenlos*, and *Fenomenologia do Brasileiro* as sources for “new methods contributing to all three aspects”. Further, she points to *Kommunikologie* as a place where Flusser compares scientific and church discourse as “pyramid-like structures that result in ideology” and proposes “synchronization of [...] ‘amphiteater discourse’ and ‘network dialogue’ [...] to achieve a more informative and creative science discourse.”

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