



Vilém Flusser

writings

Andreas Ströhl, Editor

Translated by Erik Eisel

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Orders of Magnitude and Humanism

Translated by Elizabeth Wilson and Andreas Ströhl

“Man is the measure of all things.” That was easy for the ancients to say. Then everything in the world could indeed be measured in centimeters, hours, dollars (or the contemporary equivalents thereof). What was not measurable thus was unmeasurable. For example, the sea was wide without measure and the grain of sand small without measure because it was uncomfortable to apply the above-mentioned units of measurement to them. They were outstanding things; they stood outside of the human norm. Things that were big without measure had to be worshiped; things that were small without measure could be held in contempt.

We cannot afford this anymore. We can no longer pray reverentially to things that explode in megatons. We have to measure them. We can no longer disdainfully neglect things that explode in microseconds or flash on screens. We have to measure them. If somebody tells us that Allah is great, then we must ask that person how great he is; and if somebody tells us that we are nitpicking, then we have to ask him what order of magnitude he has in mind. We are forced to differentiate between orders of magnitude. In this, the human order is one among many. Humanism is inappropriate to the present.

The lens is to blame. It made visible small things on the surface of the moon, so that it became difficult to admire the size of the moon. It made visible great things in human semen, so that it became uncomfortable to hold it in disgust and contempt. The present apparatuses, with the machines and instruments that are based on them, are descendants of the lens. However, the lens alone does not bear the blame for the penetration of inhuman orders of magnitude into concrete everyday life. If the church

had managed to burn the writings of Galileo and the remaining humanists in order to save humanism, the penetration would not have been avoided. For the world has not only expanded into space in order to bend at one of its horizons and to fray into quarks at the other, it has also expanded into time, in order to creep into the big bang on the one hand, and into the quantum leap on the other. It would have been necessary to burn the stopwatches too. Besides, the world has also expanded with respect to values, thereby assuming inhuman dimensions, in gross net products on the one hand, and calculations of cost on the other. The slide rules would have had to be burned too. In short: man has advanced into the inhuman, the inhuman strikes back at him, and under these blows, humanism breaks down.

At the time of the ancients, the island of centimeters, hours, and dollars that was inhabited by human beings was surrounded by the immeasurable world. An ocean of enormous sizes and eternal values then washed around the beaches of this settlement that provided measures. Then there were fishermen indeed who fetched food out of the ocean and adventurers who dared to sail out on it in boats, as well as divers who risked their lives in order to bring pearls to the light of day; but most people were farmers who dug measured furrows in order to fill calibrated measures of quantity with the fruit of measuredness. At present, hardly anything of this measured Mediterranean landscape can be noticed anymore. We are somewhere in the interior of a *matryoshka* (Russian doll), a hierarchy of orders of magnitude in which each contains all smaller ones while being contained by all bigger ones. We ourselves are such containing and contained dolls. The transformation of our region from a Mediterranean island into the Russian doll is called—not to put too fine a point on it—the “Copernican revolution.”

But we have to put a fine point on it, for it is just what is pointy about it that hits us in our glands, guts, and heart, deep in our marrow and brain. It is not in question whether the earth spins around the sun or—to put it in a more modern way—whether mental processes can be reduced to quantum leaps of particles between nerve synapses. It is in question what we are actually doing when we jump from doll to doll, from measure to measure, from scale of values to scale of values.

Without a doubt, we must differentiate between orders of magnitude. If we do not, we cause nonsense and mischief. One example of nonsense: a person who wanted to apply Einsteinian equations to the production of ink pens would be stupid, because, for the order of magnitude of ink pens, Newtonian equations are valid. One example of mischief: a person

who brings up the term *race* in political discourse commits a criminal act and has to account for millions of deaths because the order of magnitude of race is measured in hundreds of thousands of years and political phenomena in decades. Although necessary, it is not easy to tell orders of magnitude from each other. There is no exact point at which Newton stops being valid and Einstein becomes valid. There is no exact point at which political thinking would have to resign in favor of biological thinking. The dolls not only contain one another; they are also each permeable by the other. It is especially these gray zones between the orders of magnitude that set our teeth on edge—in case we stay long enough in that doll inside of which we have teeth, marrow, and bone.

For we only have marrow and bone in the margin between 10^{-5} and 10^5 cm and between decades and seconds, that is, in that order of magnitude which we can perceive with our senses but which we leave more and more often. Because neurophysiology has taught us that our perceptions take place in the order of magnitude of particles of atom nuclei, we emigrate there more and more frequently. For it is there that our fantasies, notions, wishes, feelings, decisions take place—in short, what earlier was called “mind.” And from there we can project the spiritual processes on intelligent tools in order to program them from the outside. Thus released from the skullcap, the mind can develop even if it has lost much of its former glitter.

In the order of magnitude of spiritual processes, the point is not marrow and bone, but rather the computation of quantum leaps. However, at present, we are slipping into another doll; and there, marrow and bone are spoken of in a way that makes the flesh of many of us creep, that is, in the order of magnitude of molecules. In it, processes take place for which chemistry is competent. Among these processes are also the processes of life. We are beginning to understand the processes by which life emerges from the inanimate in order to turn back into the inanimate. This insight allows interference in the processes of living and dying. We are beginning to produce marrow and bone at will so that, in the near future, we can populate the world perceptible through the senses with living beings (including artificial supermen). Compared with this “genetic revolution” of molecules, even the “informatic” one of particles of nuclei fades. For one day it will be nonsense to want to differentiate not just artificial from natural bacteria, but also artificial from natural human beings. Then the question concerning life and death will put itself forward in the even-tempered mood of the production programmer.

The three orders of magnitude considered here, that is, “perceptible

by the senses,” “quantum,” and “molecular,” show what thrills us to the core: the gray zones between the three orders and the jumping from order to order. Both tear apart our deep respect for mind, life, and death.

The indifference to mind, life, and death is antihumanist (barbarian). It identifies, for instance, the Nazis. But it is advisable to distinguish the new technical barbarism from the preceding one if we want to overcome it and find a new humanism. The preceding barbarism despises without measure, it was measureless, it could not measure mind, life, and death. Precisely because they measure, the emerging technologies despise mind, life, and death. This is why traditional humanism cannot get at the new barbarism. The new barbarism is more enlightened than traditional humanism. The new barbarism, and not traditional humanism, is ultimate enlightenment. With it, enlightenment has left traditional humanism far behind, as an obscurantist ideology. The new humanism would have to criticize the gray zones between the orders of magnitude, that is, the zones in which dwell artificial intelligence, artificial life, and artificial immortality.

Let us illustrate what a new humanism would have to provide by looking at the example of immortality: the “I” is a diffuse term, if it is a term at all. It is enshrouded with theological, philosophical, and psychological fogs. The new technologies start to define the “I” clearly, that is, as a complex system of electromagnetic and chemical brain processes. Brains or parts of brains can be transplanted, for instance, from dying bodies to fetuses—for the time being, only in the case of rats. Nevertheless, the immortality of the “I” in the sense of its repeated transfer to new bodies has thus entered the realm of the technically doable. A new humanism would have to show that in this entanglement of the order of magnitude perceptible by the senses with that of particles and that of molecules, a decisive aspect of the “I” slips away, that is, the one from which the “I” is seen as the “you” of a different “you.”

Such a new humanism would have no intention of making the *mat-rjoschka* a Mediterranean island again. The new barbarism cannot be attacked from behind; and lenses, stopwatches, slide rules, computers, or genetically manipulated tomatoes cannot be assaulted. The raging bull of progress can only be taken by the horns. The new humanism cannot want to deny that different orders of measurement overlap each other and interpenetrate. On the contrary, it has to emphasize that, for each order of magnitude, there is a typical epistemology, ethics, and aesthetics that is effective, and that, in spite of the gray zones, abysses gape between the orders of magnitude. Thus, it is mischief to apply the geometry of

what is perceptible by the senses to the astronomical order of magnitude or causal thinking to the order of magnitude of particles of atom nuclei. The specificity of each order of magnitude would have to enable the new humanism to call attention to the priority of the human order of magnitude. A Ptolemaic counterrevolution is required.

The accomplishment of this task is inconvenient. If a person says to a starving Brazilian child that it has no beans because the national debt is several billions of dollars, this is an enlightened and enlightening explanation that can contribute to putting “right” the problem of beans and bring it closer to a solution. The new humanism, however, would have to show that it is inhuman, barbarian, to speak like this to a child, because in this way inhuman orders of magnitude are introduced into the human relation to the child.

This example shows that the extreme rationalism of the new technical barbarism turns into the irrational. Of course, every humanism has the task of fighting the irrational, and so does the new one. But at the present, the irrationalism manifests itself as extreme rationalism. The Enlightenment has overshot its mark. The position that must be taken in the struggle against this extremism is extraordinarily uncomfortable because it is—where humanism and barbarism seem to change sides—always in danger of falling into irrationalism itself.

In order to be able to maintain the priority of the human order of magnitude, the new humanism has to refer to something nameless. It must circle it and beat around the bush. This may serve as an explanation (and apology) for the rather intricate argument of this essay.

By the way, some people affirm that God writes in winding lines in order to hit his goal. The new humanism is forced to break out of the linearity of technical progress into the winding.

(1990)

“Until now there has been a dismal lack of translation of Vilém Flusser’s work here in the United States, which makes Andreas Ströhl’s carefully compiled collection all the more important. Flusser is the perfect theorist to read after postmodernity because in his work there is a forward-looking gesture addressing our current situation, that of a transitional period between epochs.”

—*Rain Taxi*

“This collection is a must-read introduction into the connected and networked world of one of the most original and prophetic thinkers of the past century.”

—*Leonardo*

The first English-language anthology of Flusser’s work, this volume displays the extraordinary range and subtlety of his intellect. A number of the essays collected here introduce and elaborate his theory of communication, influenced by thinkers as diverse as Martin Buber, Edmund Husserl, and Thomas Kuhn. While taking dystopian, posthuman visions of communication technologies into account, Flusser celebrates their liberatory and humanizing aspects. Taken together, these essays confirm Flusser’s importance and prescience within contemporary philosophy.

Vilém Flusser (1920–1991) was born in Prague and taught philosophy in Brazil.

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