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**"Becoming towards perishing": Flusser, Plastics, Wheels,
and Artificial Intelligences**

In "Forma e Material", Vilém Flusser (2007) prophesies, or synergizes, the idea that the barriers between science and art no longer make much sense. For example, our perception of plastics has deteriorated as significantly as, if not more than, the values of humanism after the World War II.

Synthetic polymers, colloquially referred to as plastics, were previously regarded as the quintessence of artificiality. They are, paradoxically, in the most varied uses and "incarnations", originating from fossil organic matter, hegemonically phytoplankton and zooplankton of the Mesozoic period, covered up and hidden by the dance of tectonic plates and the exodus of ancestral waters. Underneath the sediments, in the midst of complex overlaps in mixtures of elements, we find primarily hydrocarbons. Carbon and hydrogen molecules make up our petroleum – hence, our plastics.

According to the text discussed, we can say that there is a similarity or analogy between amorphous jelly (*hylé*) and petroleum. For the Greeks, according to Flusser, "behind these phenomena are hidden the eternal, immutable forms, which we can perceive thanks to the supersensible perspective of theory." (Flusser 2007: 23). For a long time and still in a contemporary way, "the amorphous jelly of phenomena" (*hylé*, oil) was seen as something to be drilled and removed by drills and theories for the visualization of reality.

It becomes apparent that the dichotomy, binary opposition, and dialectical relationship between *hylé* and *morphé* (matter-form) have long ceased to suffice, or have proven inadequate, in elucidating contemporary scientific and artistic phenomena. Flusser offers us the perspective that the impact of informatics can be considered a return to the original concept of matter: only a transitory filling. The idea of the change of states of matter gave humanity the bifurcation between two horizons, "one of them (that of absolute zero), everything that is shown is solid (material); at the other horizon (at the speed of light) everything is in a more than gaseous (energetic) state" (Flusser 2007: 25).

The immortality of plastic is a fraud. The polymers of our day-to-day life, as synthetic as they can be, do not have an inorganic origin. Although its traces hang wild sea turtles, are transmitted between placentas and fetuses, ingested through the food we eat, breathed in by us by the particles that evaporate from the oceans, there is nothing infinite about its *hylé* or its *morphé*. The amorphous jelly from which polymers are processed will wipe out – perhaps with it, human civilization.

Nor does it resist the *morphé* of polymers or any petroleum-derived product. All the absurd examples for which plastic is destined, mentioned above, are transgressions, collateral consequences, death in the ways they were initially thought of. Plastics, invisible like mushroom spores, thrive and clump together, in transit amorally and successfully in their symbiosis of mortality.

It is somewhat intriguing that synthetic polymers, which are among the quickest to deteriorate yet the slowest to vanish entirely, were initially marketed as the material embodiment of the utopian vision of complete information. Roland Barthes said (and surely Flusser would agree), that "the 'proteism' of plastic is total: it can form a bucket as easily as a jewel." (Barthes 2001: 112). Plastic was originally proposed as the "filling" (Füllsel) of all the incompleteness, gaps, or gaps of human materiality.

These gaps may even be the most distant that human visualization can capture. Paradoxically, both Barbie and Oppenheimer address "converting matter into energy (fission) and energy into matter (fusion)" (Flusser 2007:25). As seemingly random are the unwary fates of polymers as a thematic connection between a plastic doll and an atomic bomb.



Fig. 1. Carolina Marostica. Mycelium, 2023. *In situ* sculpture. Image and curatorship: Igor Oliveira Prado.

The boundaries between science and art are also blurred. It is possible to discuss at what point the ellipses, whether entropic or syntropic, are found in the scientist and the artist in contemporaneity. What seems difficult, from a *flusserian* perspective, is to believe that there is a material barrier between the two. Flusser provokes us, in "Form and Material", by stating that gas, one of

the states of matter, is the same word as chaos: "everything is energy, that is, it is the possibility of improbable causal agglomerations, it is the capacity of matter to form" (p. 25).

Plastic is information and matter at the same time. If, since before Plato, what mattered was to configure matter to make it visible, by ceding the protagonism of this impetus, space was given to the new need to fill with matter our forms previously conceived by increasingly indistinguishable intelligences, hybrids between human and "artificial" – even if the latter is only a "calculator". It is necessary to adopt here the urgency of a position from a player perspective (against the officials, as well as against the *programs*).

Progressively, both art and science distance themselves from discoveries and fictions and project themselves as models. In this context, the final repositories of the minimal materialities of plastic and the projections, calculations, results, translations, interpretations, image organizations, of the algorithms of "artificial intelligences" have equivalent finitudes. What can be said is that neither what is invisible to the eyes of plastic (when it is microscopic) nor what is blinding to the lights of our visual devices is exactly immaterial. Everything, after all, is also energy.

Political, governmental or business decisions to replace plastics in the daily life of a person in any city, especially in the global North (where the once hegemonic trade centers are located) and insufficiently in the global South (where the production areas with precarious and more exploited labor are located), are undeniably late. Between technophobic anxieties and technophilic market euphoria, it also seems late and apparently unfathomable to visualize clearly or sharply in which direction the interlocution of the artificial intelligences that cross us and will cross us, will guide humanity.

The human person, for Barthes, "measures his power by the amplitude of the transformations and that the very itinerary of the plastic gives him the euphoria of a prestigious movement throughout Nature." (2001: 112). In the essay "Rodas", also present in the book "O Mundo Codificado", Vilém Flusser talks about the disappearance or replacement of wheels in industrialized products and contemporary life. It is an incontrovertible fact how not only wheels have lost hegemony, but also sprockets - we have replaced them with metal wings or hulls.

If plastic is something to disappear macroscopically from the eyes of consumers, due to environmental stains and the heating of new industrial production cycles, it will remain influential and invisible – just like the "artificial intelligences" (AIs) sold under fallacies such as "natural language processing/NLP". "Once biotechnology has overcome mechanics, machines will no longer have wheels and will have fingers, legs and sexual organs." (Flusser 2007: 68)

Although translated, penetrated, intoxicated and invaded by AIs and plastics, perhaps the scientist and the Flusserian artist-player are left with intrinsically close, yet distinct, roles: "a becoming towards perishing" (p.68). One sober, the other, potentially, drunk. One serious, the other not

only. The *kitschization* to which Flusser refers about the representation of what is empirically perceptible by the human person about the movement of the Sun around the Earth (the day, always half the route, with a hidden part, the night), to refer to the end of the "age of the wheel" (Industrial Age), is still valid for the contemporaneity of plastics and artificial intelligences.

Plastic and AIs are inorganic. Even if we are heading, like the wheels, more quickly towards the end because of the two, perhaps something of a human person rests precisely in this *Kitsch*. A facetious protest, also capable of being translated and programmed, against repetition, translation and programming. "And when you look at the world in this way, it looks like this: a scenario in which men and things interact with each other, that is, exchange positions with each other. The wheel of the Sun, the circle of time, puts everything and everything back in its rightful place. Every movement is a crime committed by men and things against themselves and against the eternal circular order, and time moves in a circle to atone for the offenses and return men and things to their proper place. Therefore there are no essential differences between men and things: both are animated by the desire to stir up disorder, and both are carried by time and with time towards perishing. Everything in the world is animated, as everything moves and must have a reason to move. And time is the judge and the executioner: it circulates through the world, arranges everything in its proper places and passes like a wheel over everything, trampling and destroying what it finds in its path" (Flusser 2007: 69).

Let us play, then, in the lost exercise of trying of the human person, in risking giving life to the inorganic: let it feed on light, climb the walls, glue its suction cups to us, scratch and caress us with its hyphae, cover us with its membranes. Until there is nothing more to say - because everything will be up to the interlocutors. Not even the silence of plastic or AI without sound output will be enough for polysemic protagonists to emerge - even if they are not human beings. Still.

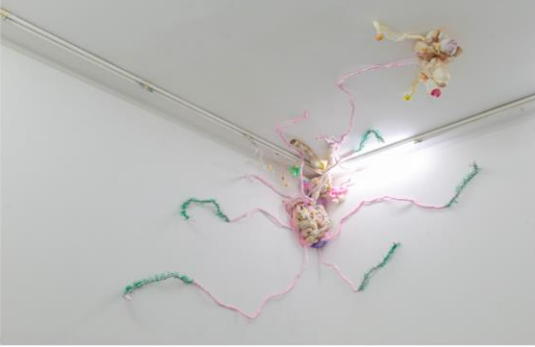
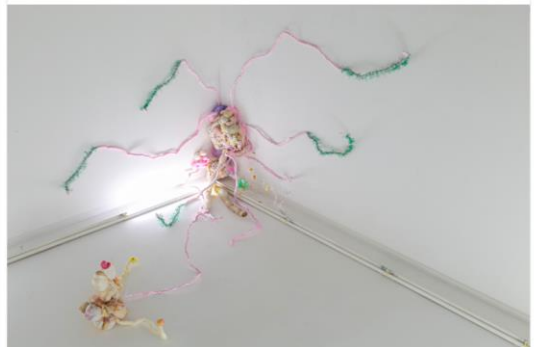
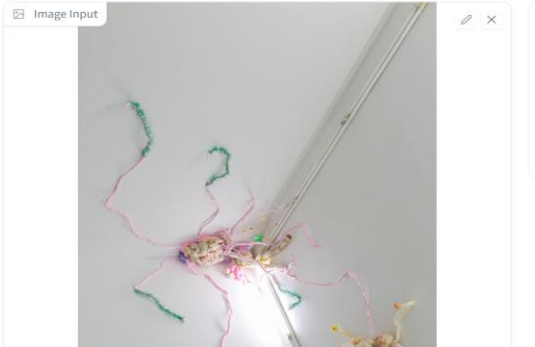
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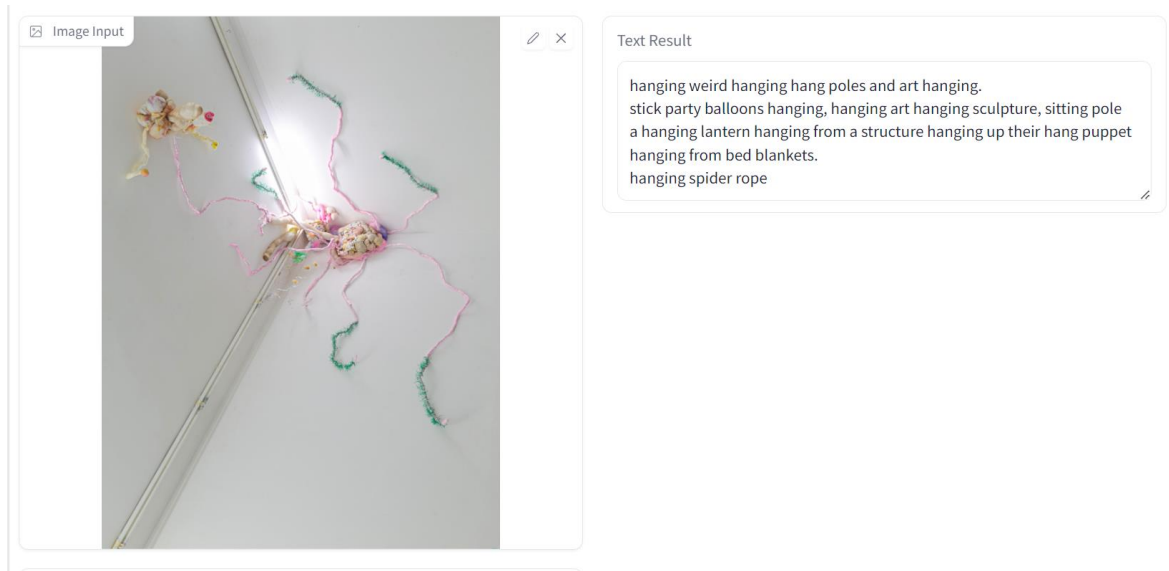
Built essentially with a myriad of polymers, a record and visual interpretation of the sculpture "Mycelium" by Carolina Marostica, originally exhibited at the Faculty of Fine Arts of the University of Porto, curated and edited by Igor Oliveira Prado, was provided as input to the Versatile Diffusion program/paper/research, self-titled by developers Xingqian Xu, Zhangyang Wang, Eric Zhang, Kai Wang, Humphrey Shi of Cornell University, as "the first unified multi-stream multimodal diffusion framework, as a step towards Universal Generative Artificial Intelligence."

Universal Generative Artificial Intelligence is a concept-quest on the part of artificial intelligence developers to locate and "understand" all forms of human expression that can be encoded:

visual, verbal, written, and all other probable forms. Trained through the LAION2B database, with more than 2 billion objects between words and images, Versatile Diffusion proposes the interpretation of images through the "image to text" translation modality.

From four different perspectives, this example of artificial intelligence that "interprets like us", among all the words offered, failed to capture what is sometimes invisible to the eye, however present it may be: plastic.

	<p>Text Result</p> <p>large group of crazy hang festival banging construct art banners hanging doors and hanging decorations of shrong sticks, or railing structure foliage, colorful ropes balloons, hanging posters, flaming paint costume, balloon shaped pole lantern hanging, hanging decorations, painting balloons in the art window, patio, on a giant candle hanging up from a hang-saw overhead hoop installation of lights hanging from a wall decorated keyboard hanging from those walls. hang of hang lantern space art, spider wall painting, and crazy ring sign, hanging on it</p>
	<p>Text Result</p> <p>hanging bright groups hanging hang ropes lanterns and hanging art hang branches. hanging balloons, flower tent hanging banner on pole, dance equipment a hanging beam hanging up a wall hanging lantern hanging rope hanging from her body frame in the tent. hanging rainbow tent</p>
	<p>Text Result</p> <p>light flyers groups came swinging bird banging hang art lantern lights and hanging hang lantern hanging antics sticks. lights pole dancing candy balloons hanging toy lantern pole above his living tree swing. floating light pole lantern hanging rope hanging up hanging spider hanging</p>



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- Flusser, Vilém (2007). Forma e material. In Flusser, Vilém. *O mundo codificado: por uma filosofia do design e da comunicação*. Org. Rafael Cardoso. São Paulo: Cosac Naify. 22-32.
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- Xu, X., Wang, Z., Zhang, G., Wang, K., & Shi, H. (2023). Versatile diffusion: Text, images and variations all in one diffusion model. In *Proceedings of the IEEE/CVF International Conference on Computer Vision*. 7754-7765.
<https://huggingface.co/spaces/shi-labs/Versatile-Diffusion>