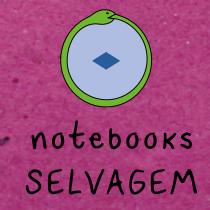
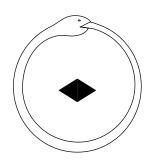
UTOPIA AND DYSTOPIA: A CONVERSATION AT FLIP 2021 Antonio Nobre





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Antonio Nobre

This notebook is a transcription of Antonio Nobre's speech at the *Table 10: Utopia and dystopia*, as part of 19th edition of Flip's (Brazil International Literature Festival of Paraty) main program. The text is an excerpt from the conversation between Nobre and Margaret Atwood, hosted by Anabela Mota Ribeiro, broadcasted on December 1st, 2021 via Flip's official YouTube channel.

Consciousness

Plants have existed for a long time, billions of years, since Earth's formation. We would not have oxygen to breathe if it were not for them. The fact that plants have such power, and because they act in an invisible manner, takes them out of our consciousness, so we need artists and poets to bring these spectacular beings back into it.

Espada de São Jorge¹ ["Sword of Saint George"] is a spectacular example of this ability to do this mediation and I would bring yet another one, which is the inspiration of the spirits of the forest. All native peoples, from the Amazon and beyond – the native peoples around the world, like in Canada where there are the Inuits and many others on other continents, with the exception of Europe, which has already lost its native peoples – have this connection with nature via spirituality. The native peoples comprehend something that is far beyond the sum of atoms and

^{1.} Espada de São Jorge (or, in English, "Sword of Saint George") is the popular name of Sansevieria trifasciata in Brazilian Portuguese. Due to its bladelike shape, the plant is commonly associated with Ogun, the Orisha of war (usually associated with Saint George) and is used as a protective charm against evil or bewitchment. Here Nobre makes reference to the work of Brazilian artist Yuli Anastassakis, which consists on an embroidery of the plant with the phrase "protection from dark times". The artwork was extended as a backdrop by the mediator Anabela Mota Ribeiro.

molecules. Although science can very properly map and border, write, count, analyze, reduce, in the process it loses the comprehension of the emergent property of life that spirits have taught ancestral peoples since time immemorial. The loss of connection of this wholeness, of the articulation of life for our benefit, for the benefit of life itself – therefore ours – is the origin of what I understand by dystopia.

Plants are powerful examples of a beneficial activity made in a silent, egoless way, because when a tree is functioning, it is releasing oxygen, removing carbon dioxide, releasing wonderful aromas into the air that bring joy to our souls, it is spreading flowers, attracting bees, birds, it is producing wood, it is doing all these services in an abundant and free way and it offers it to all the other beings that depend on them to exist in the "Gaia's film"², as Bruno Latour calls it, this very thin layer that surrounds the Earth and that allows us to breathe and wake up every day in the morning seeing the sunrise and sleep with the wonderful sunsets. These are spectacles apart, they are the kaleidoscope. Life, the day, goes on like a kaleidoscope. There is no day like the other, there are no species alike. Art itself, in my understanding, is a manifestation of this wonderful kaleidoscope of life that enriches us.

Plants can only be protected today, in this dystopia we live in, on a planetary scale, through consciousness. Consciousness is the only way of understanding something that was or is unknown to most people. I always say, what the eyes do not see the heart cannot feel. So all the underlying processes of life that make it possible for us to inhabit this planet, which is unique, no other planet is known with this capacity, are carried out by plants and all microorganisms and animals and everything that is alive. The awareness of this can reach people, as happened recently with an American billionaire who mounted a rocket, went into space and looked at the Earth from the outside. This is what happens to astronauts, which is an instantaneous cognitive shift in awareness, it is called the overview effect. An instant consciousness of what it means

^{2.} Latour recognizes Gaia as "not a globe at all but a thin biofilm, a surface, a pellicle, no more than a few kilometers thick". Learn more in the article "Extending the Domain of Freedom, or Why Gaia Is So Hard to Understand" by Bruno Latour and Timothy M. Lenton. Available at: http://www.bruno-latour.fr/sites/default/files/157-CRITICAL-INQUIRY-GAIA-FREEDOM.pdf

to be on this planet. This consciousness is the only way, it is the "Sword of Saint George", in the sense that you go back and you kill the dragon, you kill dystopia. That is what needs to be done now in relation to climate change. In the Amazon we still have a huge amount of utopia, the utopia of life. And in Paraty we also had it, now there is only 4% left of the Mata Atlântica [Brazilian Atlantic Forest]. Dystopia is eating it up and coming closer. When we look at the Earth from the outside, as suggested by Socrates over two thousand years ago, if we can go out and look at the world from the outside, contemplate the Earth from the outside, we recognize the greatness of the world. Consciousness is the only way to protect us from dystopia, in my understanding.

WI-FI SIGNAL FROM THE HEART

I think this perspective [of love, collaboration, harmony] is difficult to talk about to many scientists. I have issued a plea to my colleagues, that this is a path that we need to take to redirect the five-century orientation guidelines that made us divorce from the holistic world. As a scientist, I can study and observe the core of the sun and know how it was calculated, how the four million tons of nitrogen turns into energy and an absurd amount of helium, and that this process is called nuclear fusion. It is a physical process that has a mystery in it, it is an enigma, in reality. Where does this power come from? It comes from the nucleus of the component elements of the air, but it is something that still needs a more expanding explanation. Nevertheless, we do not need to go there in the center of the sun, we can not even go there, we can only go with ideas and calculations. But instead we can embrace a person we love and feel in the closeness of our chest the Wi-Fi signal from our hearts. An instant communication which "bypasses" the cold intellectual analysis. The cold intellective analysis is detached from the body itself. When our intellect is very active, we forget to go to the bathroom, forget to eat, forget to sleep, and this is an aberration in natural terms. It is a total aberration, because the body is a mother. The body sustains all the intellectual activity of the brain. And forgetting the body is no different from

forgetting Gaia, forgetting the world, forgetting the flowers as Margaret [Atwood]³ was saying, not seeing the flowers, passing straight through, being too busy, with no time for small things, not even for the children.

I have made this speech with a scientific bias, because science presents itself to humanity as an endeavor that seeks the truth. And the truth cannot be restricted to the method, it cannot be restricted to dogmas, whether scientific or not. So when I talk about love, I am talking about this energy fusion that we can go back to throughout the history of humanity. Back there in the French Revolution, you had the motto "Liberté, Egalité, Fraternité" [Liberty, Equality, Fraternity]. Liberté led to liberalism, égalité produced socialism, communism, and fraternité has not yet arrived. It is coming because now with the multiple organ failure in Gaia's body, we may not run out of oxygen to breathe, but many other things are going to get worse before that happens. In Canada, for example, this last summer reached over fifty degrees Celsius. It is something that few people have the perception of, but scientists do. You can find scientists with psychic disorders. Scientists who work studying climate change face mental health problems, many of them seek treatment because humanity does not believe them. Humanity does not listen, or at least it has not listened until now, it does not realize the seriousness of it. It is like the dystopia has become a matrix because it has become invisible. As in the Hollywood trilogy, the reality that threatens us and that will take away not only oxygen, but water and comfort, is invisible, because people continue to believe that everything is fine, that there is no problem at all, so they have lost that connection. If you had the fraternité, if you could hold a tree, if you would lay down on the ground and embrace Gaia, as Ailton Krenak suggests in a wonderful poetic piece, you would lay down on the earth, on the grass, on the soil of the forest and embrace yourself with Gaia. And its energies would bring us this reconnection that we have lost through this aberration of disconnection that, in my understanding, is human.

^{3.} Nobre makes reference to Margaret Atwood's reflection on the forgetfulness of us, humans, in relation to the importance of plants and flowers for our survival: they are living beings that guarantee the production of oxygen and, therefore, our breathing.

I study nature, and when I look at organisms in nature, I see perfection. Not that organisms are perfect, but the connections these organisms make are in accordance with laws of nature, and the presence of this element of *fraternité* in the regulations of nature is very strong. Collaboration is totally omnipresent in nature. If you take a cell of your body, or from a plant or a fungus, that is a eukaryotic cell, which is complex and it has inside itself many organelles, a complete industrial and biochemical park, and if you look at it, how was this formed? Endosymbiosis, as Lynn Margulis explained. It is a process of ultimate fusion and union, so that is why love is important. Love should not be considered an oversentimental topic, we should not have a hard time talking about it, especially as scientists. Because love is a powerful rescue force. And every person who loves, loving your pet or another human being, loving your people or loving being alive and also being on Earth, should be able to talk about it without any embarrassment, it actually should be quite the opposite of a problem or a topic that should be avoided.

I want to leave a very important message. The human being has utopia and dystopia inside itself. I am taking a poetic license, let's put it this way, to use the two terms in different contexts, but appealing to the goodwill of the listener and the reader, that these are like metaphors. The discovery of the microbiome inside our digestive system, with more than a thousand species depending on the human being and depending on the diet, is an example of this utopia. We have an assemblage of microorganisms that allow us to digest food. A study carried out in the *Mata Atlântica*, which is the biome that surrounds Paraty, found three million species of bacteria on the leaves of the trees. Species, not three million cells, but three million species.

A study done in the Czech Republic showed that in one square meter under the forest soil there were five thousand kilometers of fungal hyphae. Fungi are ecosystem engineers. Bacteria are micro manipulators of atoms and molecules. There is not even a snowflake, a grain of ice or ice crystal, or even a drop of water that is formed in the atmosphere that does not have bacteria inside itself manipulating it. This is actually

the matrix, because we are not aware of any of it. Science is bringing us this consciousness.

I will get to indigenous peoples, because science needed an arsenal of tools and reductionist deployments to be able to take pictures of bacteria, of fungi, and understand that animals are the gardeners of the forest. They are not there preying, they are collaborating, even the ones that prey. They have an incredibly advanced and evolved system of cooperation and this reality comes to us little by little through science, perhaps belatedly when we talk about dystopia. If dystopia prevails, we will lose this living being that is Gaia. Then at some point I listen to a chant brought by these indigenous people, as I once heard from Davi Kopenawa Yanomami. Unlike many indigenous people in Canada, here in the Amazon the absence of European contact lasted longer, so maybe some things like this have been preserved. The chant goes like this: "I wonder if the white human being does not know that, the moment they cut down the forest, it will stop raining? And by the time it stops raining, they will not have anything to drink or to eat?"

This statement is of such mathematical elegance, because they summarized in one sentence what science took twenty years using planes, supercomputers, laboratories, boats, towers, an arsenal, a pandemonium of several tools and thousands of scientists to reach the conclusion the indigenous peoples already had. And they came to that conclusion without having to destroy the forest they have been living in for thousands of years. So, in summary, what indigenous peoples do: they bring a fabled language, a synthesis that has the elegance of the most powerful mathematical equation to explain the phenomena. We depend on them, and not just on those living here. We also depend on the indigenous peoples from Canada and other peoples around the world as well, to make a quick and integrative reading of the holism that we have lost with the reductionist world, without, on the other hand, losing everything that reductionism has brought to us. We would not be doing this virtual edition of Flip if it were not for computers and the internet. So we cannot belittle it as well.

This has been a fantastic circle of union between indigenous peoples and science. Science brings clarification, as we count the number of bacteria, fungi, animals, plants, oxygen, etc., and indigenous peoples make an instant reading of it all. They take a look and say, "look, this is happening here". We need to make this union for the sake of our survival, for the sake of continuity on the planet. If we don't, the ongoing dystopia, this matrix that is not real in the concrete world but is real inside people's minds, as Noam Chomsky teaches us, this matrix will continue to devour us, our society, our culture, our existence. And along with it, it is driving the sixth largest species to extinction.

Making use of what Margaret was saying about biology and people being inspired by nature, I recall a concept of an American biologist, Janine Benyus, who wrote a book in the 1990s called *Biomimicry: Innovation Inspired by Nature*. As Janine teaches, we can see nature as a model to reinvent our technology, to subject it to that beauty, that kindness, that generosity of nature that native peoples so well manage to understand and perceive. And then back to the theme of love, this process can even, maybe, who knows, bring a cure for trauma.

Back in 1992, I was in an Indigenous village in Canada, the Mohawks, and there was a conflict with the Quebec police because they were taking over a sacred area from them. Mohawks came from the United States and from various places to fight against the encroachment of their sacred ground. I was with them for a few days and I remember that they still kept, despite being blue-collar, being workers and already being very far from their origin, a recall, as in our natives of South America, a remembrance that can still be rescued.

Union, as I see it, is the secret for a new utopia that can be born. And it is not a fanciful notion, as the meaning of the word utopia could be. Union has been here for four billion years and we are the result of this utopia. It is a matrix that we are not aware of and yet we are breathing non-stop and our body has been working since the day we were born.

ANTONIO NOBRE

Antonio Nobre is a scientist and activist. His main focus of study is the Amazon. He is a senior researcher at the National Institute for Research in the Amazon (INPA) and Retired Senior Research Scientist at the National Institute for Space Research (INPE). He participated in the Selvagem cycle of studies in 2019.

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