



Natural
Environment
Research Council



HAY
FESTIVAL

Spiral



May 8, 2049

Dear Aurora,

I don't know if you still check this old messaging system. I hope so, because I can't think of any other way to communicate with you. I even sent one of my trusted men to find you, but he never came back. Did he perish on the voyage? Was he captured by your already famous Action Board? I don't want to know anymore.

This is not an official message. I don't speak for the Reservation. That's why I've been trying to establish contact through non-regular channels all these months.

Forgive my choppy style. I don't even know how to start, or how to address you. I know that the intimacy that brought us together for the first ten years of our lives could empower me to use a closer tone, but I am also aware of the extent to which we speak a different language. Indeed, I don't know if all your grunts of resentment, of ideology, can be considered a language. At what point did you stray to the point of adopting that system of wild slogans? This is a question I regularly ask myself with a thick pain in my chest. Here in the Reserve they treat you as a bandit, an outlaw, a terrorist. I lower my head in shame when they talk about you and try not to let my superiors see how much the mere mention of your name disturbs me.

Fortunately, everyone here is more concerned about work and production for the full development of the park's activities. At this rate, I estimate that in less than a year we will have doubled the number of visitors, as well as consolidated the expansion of the Reserve by almost two thousand hectares, all without interrupting the extraction of emeralds (and we continue exploring in search of new deposits of coltan and plutonium, after exhausting those found upstream).

I still don't understand what's wrong with what we do, why it's so aberrant to you and your band of dirty people that progress, wealth production and employment can go hand in hand with environmental conservation. Our activities are 100% hygienic and respectful, meet all technical standards and are also highly lucrative. What do you have against money well earned?

Last week we released a dozen blue-billed curassows on the park grounds, all of them manufactured in the laboratories of our local facilities, that is, right here in the Reserve. Although, as you may already know, rather than making them, the genetic imprinters sculpt our animals in a matter of minutes and there is no need to wait for them to hatch from an egg, with all the risks that entails, but rather they are produced as mature, sterile individuals with a three-year shelf life. We have made unmentionable efforts to master our techniques

and currently manage to produce more than eighteen species of birds, twenty-three of reptiles, twelve of amphibians and seven of mammals, including jaguars - the latter are elusive but the genes that condition mating and aggression have been modified to prevent our clients from suffering any attack. It is truly wonderful to observe the process of imprinting, the almost miraculous emergence of each individual and their sweet awakening. Ah, because another thing we try to avoid here is that the birth comes with all that primitive din, you know, the unhinged crying, the painful perplexity of being born. None of our animals suffer the traumatic experience of being torn from their mother's womb. They all come into this world in a dream-like state, with their eyes closed and a gentle expression of placidity, in harmony with the whole cosmos. Then we give them an injection and little by little they wake up, like happy children. Then we proceed to the phase of liberation of the individual.

The clients are thrilled to come to the park, to go deep into the bush and, thanks to the skill and patience of our guides, to meet some of those creatures. And it is those gestures of surprise, astonishment and secret reverence to the animals that we sell here for a very reasonable price. Do you remember when, as children, we used to walk through the forest together? Do you remember our games? Do you remember how we would tremor with emotion every time we managed to see a toucan, a chameleon, a family of monkeys? No matter how many times we repeated our walks, it didn't matter that we had already seen another specimen of the same species, each encounter was unique, each encounter seemed like the first.

The Serranía de las Quinchas is our home. Here we were born, here we grew up together, children and grandchildren of displaced people, my parents and grandparents came from what used to be called Antioquia; yours, from what used to be called Santander. And here we learned to look, to walk, to smell the world. You and I, children and grandchildren of survivors, of people who fought, opened trails, and were enterprising, came to this privileged place, full of wonders, where we would cultivate our taste for natural beauty, where we became life partners, where this bond was forged that, at least for me, will never be broken. So, how can you think that I would want to destroy the mountain range? How can you even consider that I could align myself with some predatory enterprise of the environment?

It is quite another thing to give in to your idealism, your rebelliousness and your feminine whim. Did you think it would be possible to stop the mining, drug and logging companies? How could you be so naive? Did you think that by opposing everyone you would manage to preserve the mountain range better? You know well that

you were wrong and you only persist in your subversive efforts out of pure stubbornness...

Forgive me if I get carried away. This message is actually a desperate attempt to make you see reason, to offer you a chance - perhaps the last - to get your act together.

You've probably heard by now that the government has granted full powers to the Reserve to expand activities - both extractive and ecological - and I'm afraid that this expansion will not take long to reach the limits of your territory, that tiny piece of obsolete jungle that you are determined to take care of together with that gang of tramps.

To add to the misfortune of your resistance, the government has declared that all those portions of jungle that are not under the control of the Reserve are immediately declared "drug trafficking zones". And because of this, they are susceptible to what is officially known as UMA (Urgent Military Action).

The Reserve spares no effort to enforce the rights granted by the government, you know that too. We are famous throughout the region for our operations, which combine the participation of public and private agents, deploying on the ground the various capabilities of self-defense, combat, incursion, eradication and vertical

or horizontal relocation of people. The Reserve has decades of experience in this kind of deployments and I am telling you this so that you can get an idea of the dimensions of the enemy you are facing, in case you are still dreaming of a chimerical military victory. We are much, much bigger and more powerful than you can imagine. We will eventually enter your territory, whether you like it or not. So why don't you give yourself up voluntarily? Why don't you order your subordinates to lay down their arms rather than submit to a death that is not only certain, but surely shameful and humiliating? If that were to happen, I could use my prestige and authority to get my superiors to give you certain benefits. What's more, I have already tried the matter with some of them and even with some members of the government. If we speed up this procedure - because it is a procedure, after all - you would be granted a pardon and the Reserve would be willing to employ you as a guide. No doubt the compassion of these people seems infinite. And besides, we are all fed up with tragic outcomes and endless spirals of violence, don't you think?

I hope you receive this message and I hope you respond as soon as possible to give me some good news.

Castaña



May 10, 2049

Dear Castaño,

I greet you from the bottom of my heart, honestly, in the name of that friendship you mention in your message, in the name of the games we played in the woods when we were children, games which, now that I think about it, had nothing to do with the banal entertainment of those you call your "customers", people who have eyes but cannot see, who have ears but cannot hear, who do not know what to do with their tongues because they cannot even taste water anymore; those who go to your dead park to pretend to surprise themselves by meeting one of your little puppets. Really, who do you think you're fooling with your corporate speech? I have read your message several times and I notice that you no longer perceive the limit between your individual drives and the Reserve's advertising. And that, old friend, makes you somewhat of a robot. For a moment I suspected that the message had been written using one of those artificial intelligence applications, but I ended up rejecting the idea for a reason that fills me with terror: only a human being, a person whose soul has been stolen, can talk like that, with that mixture of hypocrisy and cynicism, between badly contained hate and the secret will to extinguish. All this said with the greatest of affection, of course. But let me return for a moment to the games of our childhood, dear friend, because in those games, precisely, our love and our discord are encoded, since it is evident that you have forgotten what it means to see an animal in the forest, you have forgotten it or you pretend to have forgotten it, it doesn't matter, you could no longer, even if you wanted to, see an animal. Even if you found it in the middle of the night, forest within, you could no longer see it. Seeing an animal has nothing to do with that prefabricated encounter, within an environment modelled a priori, the work of an ecological engineering subordinated to spectacle, in that false reforested forest with no other criteria than ornamentation. You know perfectly well that your park is nothing more than the setting for a melancholy video game, your trees are just props. No encounter with any animal could take place there.

Nor do I need to tell you how unsustainable your Reserve is and how false are your claims of combining large-scale mining with conservation work. You know that, across the planet, your business model is being replicated in areas that used to be truly protected by laws and governments and you know full well that these false "reserves" have done nothing to mitigate the total destruction we have been living in for almost a hundred years. They function more like museums full of relics and ruins of what used to be living ecosystems.

So, please, never again compare the farce you sell in your park with our childhood games, where we actually met the animals, where there was really that flash of joy and wonder in front of beings other than ourselves, but whose dark kinship we felt pulsating in our blood. There is something that you may not know, and I would like to tell you in detail, not only as a way of honouring our old friendship, but because I would like you to convey these ideas to your superiors. Look: when you and I were newborn babies, a group of scientists came to the region, scientists from many areas and disciplines, with very varied interests, who were part of a great program dedicated to analysing how these forests recover over time.

It was 2019, 2020 and at that time the whole mountain range had been declared a natural park. But this region has always been restless, as you well know, because although you and I were born in a period of relative tranquility, a period not so much of peace as of preparation for the next war, the truth is that we were always surrounded by the anxiety and fear of our parents, who had lived through the previous war. There was a period of about ten years, more or less, when a tense calm reigned (our years of happy walks in the woods, of course). The fact is, as you will recall, despite the declaration of the natural park, mistrust among the neighbours, pressure from economic interests, and the incompetence of the institutions made any willingness to implement an environmental management plan unworkable. It was in this context that these scientists intervened, trying to work with the communities to move the conservation plans forward, while patiently studying our forests, gradually drawing up a kind of map that would allow them to understand the dynamics of formation and recovery over a very long period of time. Do you remember how they would delimit the forest in small patches of half a hectare, surrounding the area with a rope? Do you remember that we would harass them with questions and they would explain to us that they could know precisely the state of recovery depending on the species of trees that had grown in those patches of land? I do remember, I remember the feeling of happiness in understanding that each of those patches worked like a clock, where you could read the times that the forest took to heal and reestablish itself as a stage for increasingly complex interactions between different species.

Some time later the scientists left, the environmental management plan was never implemented and then came the outbreak of new conflicts. The new old conflicts. The cattle, the coca, the emeralds, the gas pipeline, the oil companies. The new old Colombian wars. The erasures of memory, the forgetfulness imposed by the lords of the land, by the migrations. My family of displaced people, like so many other families

who had settled in the mountains, like your own family, had to take back their few scraps, a couple of dogs, four boxes with some belongings and run away from the region before they killed us all. The entire mountain range was transformed overnight, once again, into a theatre of war.

Well, three years ago, when we decided to return and settle here as a community, in the vicinity of La Cristalina canyon, one of our purposes was to recover the work that those scientists had done. It was not easy. For even though the scientists had worked out a meticulous plan to make the community own all the knowledge they had collected, the warlords burned the local archives. It is impossible for you not to remember the day when the armies, commanded by your own bosses of today, the owners of the reserve, came to set fire to the two houses where the community stored that information, which up to then was available to anyone.

In the end, we had to move heaven and earth until we found the material stored in the digital archives of a university in England. And it is thanks to the recovery of that research that today we can understand how these ecosystems have worked over time and, therefore, how to help the forest to recover in the best way. The research of paleobiologists, for example, their approach to the analysis of the basins, those strange, undulating geological formations that can be seen all over the valley surrounding the Magdalena River, their analysis of the impact of livestock farming on that land, is still very useful today in creating a plan to adapt to the new annual cycles of flooding and drought. The same can be said of the measurements of accumulated carbon in terrestrial strata, the product of fires that took place thousands of years ago. This is very useful data, as it reveals the extent to which the concentration of biomass has changed in the very long history of these ecosystems. And so we know that this is not the first great crisis of the forests of the mountain range. There have been other crises, there have been other catastrophic moments with great extinctions of species, followed by long eras of splendour and biodiversity.

On a curious note, I can tell you that we have also recovered the research on genetic barcodes, yes, the same ones that you use in the reserve to make your living dead creatures. At that time a lot of leaf samples were collected and then processed in the laboratory for genetic decoding. The results made it possible to identify individual species and to understand how those species fit into the phylogenetic genealogies over entire geological eras, and thus to observe the evolution and development of new species. I confess that I find it beautiful and exciting to see how these transformations tell a very long story about the biodiversity in these forests, a story that, if we can use this information in the best way, we can help to prolong.

To put it in a nutshell: thanks to that old scientific research, we are recovering the forest while we live thanks to the forest, while we learn to use it. Thanks to that recovered data we can appreciate with a millennial perspective the transformations and variations of the forest. Science, in short, provides us with data that complement our daily experience in the forest. The young campesinos of this area now know, as our parents did when they had access to the local archive, that measuring tree growth and leaf properties is important for understanding how photosynthesis and light capture vary and how these local data can be useful at a global level to create models capable of describing and even predicting the dynamics of forests in the face of the drastic changes we are experiencing.

And that is what we are protecting from the depredation of your Reserve: our right to exist here and the right of the forest to continue being a forest, to continue being a living place and not that museum of wax dolls that you intend to set up here. You can come with all your armies and your military apparatus. We are not afraid of them. We are willing to give our lives so that the Quincha mountain range may once again prosper.

P.S.: The man you sent is well. He decided to stay with us voluntarily and all his information about your military tactics has been very useful to us. He sends you his warmest regards.

Aurora





May 11, 2049

Dear friend,

I see that your revolutionary ideas have affected your judgment forever. I consider my duties as a negotiator with your factional cell to be over.

May God have mercy on your bones. The progress of our projects is unstoppable. The wind of history is blowing in our favour. Always. Don't forget that.

Castaña

May 12, 2049


Dear Castaña,

The wind of history does not blow in only one direction. Life does not make its way in a straight line.

This afternoon, as I walked through La Cristalina Canyon, near the steep cave from which the stalactites hang, the cave to which some families of guacharos have returned, I was struck by the ammonite fossils embedded in the rock walls, signs that once the sea covered this entire region for millions and millions of years, during the Cretaceous. Before you begin your military incursion, I'm sending you a paper copy of one of these prehistoric creatures. Take it as a gesture of farewell, of fidelity to the images of our childhood. Its spiral shape seems to allude to the twists and turns of time, to all the spirals of the universe.

Good luck, good fortune.

Aurora



Hay Festival and the UK Natural Environment Research Council (NERC) have joined forces again for Trans.MISSION II, a new global project pairing leading environmental researchers with award-winning storytellers to communicate cutting-edge science to new audiences.

The Colombian strand of the Trans.MISSION II collaboration between Hay Festival and the UK's Natural Environment Research Council (NERC) features Colombian writer and activist Juan Cárdenas and a team of experts led by Dr Naomi Milner. Using the research work as inspiration, Juan has created a piece of creative writing to communicate the socio-ecological systems within Colombia and their response to environmental change.

'Spiral', is a futuristic story created as part of NERC and Hay Festival's Trans.MISSION II project pairing environmental science researchers with award-winning storytellers to communicate cutting-edge science to new audiences. Spiral was prepared or accomplished by Juan Cárdenas in his personal capacity. The opinions expressed in this article are the author's own and do not reflect the view of the Natural Environment Research Council, UK Research and Innovation or the United Kingdom government.

NERC is the UK's main agency for funding and managing research, training and knowledge exchange in the environmental sciences. Our work covers the full range of atmospheric, Earth, biological, terrestrial and aquatic science, from the deep oceans to the upper atmosphere and from the poles to the equator. We coordinate some of the world's most exciting research projects, tackling major environmental issues such as climate change, environmental influences on human health, the genetic make-up of life on Earth, and much more. NERC is part of UK Research & Innovation, a non-departmental public body funded by a grant-in-aid from the UK government.

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