

Casa de Poesía Silva

August 16, 2012

Las Gaviotas or how to ~~write~~ make poetry today

Conference in Casa de la Poesía Silva

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Lecture by Dr. Paolo Lugari, General Director of the Experimental Foundation Center Las Gaviotas in the House of Poetry Silva

[Pedro Alejandro Gomez] Good night. This is the first act of Anti-Babel. I thought it entirely reasonable that Paolo Lugari, who is the author of an experiment that everyone knows, will inaugurate this event talking about the relationship between science and poetry.

There is an inescapable closeness between art and science and at the same time a fierce risk. Dehumanized science, or art ignorant. Neither of them is admissible. I have a vague memory of a fable according to which, there is in three people a dark room. There were three stories about what was inside that room. According to one was a colossal monster whose breath was thundering. According to another it was a column supporting a building that was too dark to see. According to the third, it was an excessive snake. When the light went on it was clear that everyone was right and everyone was wrong. In room were three people and an elephant. One had touched the colossal leg, another had touched the nose of the animal and the third, more distant, had heard breathing. The fable realizes the same story with science

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and art in the dark. Anti-Babel is looking for the light to show the base, the only truth. Welcome. [Applause]

Paolo Lugari- Thanks to the House of Poetry Silva and to you, for attending. Before entering the career of Gaviotas I've allowed to write these opening words that relate to this event.

First I want to express my affectionate gratitude to the House of Poetry Silva this space and time given to me for, not to write but to make poetry. Poiesis In Greek means construction, creation. Within this context I agreed with the poetic mind of Pedro Alejandro Gomez, our host, and dare to make an experimental essay about Gaviotas. I will try inspirations only, no conclusions, because in Gaviotas always say that we are in constant search of temporary truths and happiness, without losing the respect of the world gone and the world to come.

Now I want to start to elaborate on the journey of Gaviotas. And I will not continue to read. Gaviotas is an experience, it is a microcosm born by chance, by chance. It was not a deliberate project. I never wrote a page on him back then. And the circumstances of the birth of the idea were found in the Avenida Chile, where he used to walk with my father, along the Porziuncola and the Modern Gymnasium. We met a very dear friend with a deeply imaginative character, who was excited with the utopias.

He had just returned from a trip across the plains of Meta and Vichada in the Orinoco basin, which at that time was a feat. He was referring to the high

plains. This symbiosis of solitude, wind and horizon, where when one cries only replies the silence. And such was the excitement that this character came to us with my father, instead of heading to the Chocó or the Guajira; we decided to go to Vichada, we decided to go to Vichada, to the unprecedented Colombia where the cartographic information in addition to searching in Colombia had to be supplemented with that coming from Europe and the United States.

Because my father used to explore the unknown, the hidden, and as explorer disliked to settle down anywhere, was an illustrated nomadic, and of those trips, made four, five or six, only in Colombia.

And that's how we went to the end of the year 67, toward the Vichada on a trip that lasted nearly thirty days. We had to cross rivers with improvised of plank rafts, ropes and cans, curiously anywhere in Colombia you can find these, accompanied by beer. But my father was a teetotaler and me too, yet. I just say about the beer as an anecdote of the efficiency of the alcohol market in Colombia.

And with a jeep that had been purchased in the inventories of the Second World War, which we adapted up for this purpose, carrying spare pieces in the toolbox, we come to a place that still had no name, was totally unexplored. And we were there because it was the point of no return. If we had gone further, we could not return for lack of Gasoline. And after analyzing the map, we found, interestingly, that was exactly the center of the

Colombian Orinoco, where the two diagonals crossing. It was the site that we, full of illusion, call "Gaviotas".

I would say the nonlinear transverse thought of Gaviotas, lateral began with his name. Another person would call Experimental Foundation for the wet Equatorial Tropic. And we simply using the difficult art of simplicity, we call "Gaviotas". And by that time the Bach's famous book about Jonathan Livingston Seagull was in vogue, about the bird that flies higher and can live and see from on high, the whole landscape because at the level of the soil is not enough to have a panoramic view.

And when we hang two hammocks in the trees of gallery forest limit, below them, there were two seagulls on the bank of the river, without fear, possibly because they had never lived with one of 45 million species, inhabiting planet, the species Homo sapiens the kind that thinks. They had not suspected it was so predatory and irascible.

This story also helped inspire the name of the Foundation.

Then back to Bogota. Again a journey full of obstacles, full of difficulties, but that produced us satisfactions, we enjoyed it. So when I had the opportunity to give a lecture at the University of Colorado, four years ago, I entitled my talk "Gaviotas, the beauty of the extreme difficulty." I have never found beauty it easy. To Gaviotas beauty is the synonym of difficulty. It is part of the grace of our walk in the far eastern Colombia, on the eastern plains.

And it was such an impact that gave me that landscape that I said, I have to return to this site, but not only as a companion of the explorer, who was just passing by, but for settle down in productive harmony with the environment. And then I worked with Mauricio Obregon, Bob Panero and Herman Kahn in the draft canal of Chocó. It was very well paid and most of the salary was brought to the Founding of the Gaviotas, which allowed us to make some projects.

The first thing we did was to create a post of basic, minimum health that attends to indigenous communities who lived six or seven hours of Gaviotas and were therefore; theoretically, our neighbors, and they were so far away. We started to apply our knowledge, our culture of the Andean slopes of mountains mentality, to solve problems involving building a house and do some other things. And they were obviously not appropriate. We had to suffer, with a number of my friends disciplined as workforce but undisciplined mentally; hard workers and great capacity for creativity, a process of unlearning until we got to the creation and development of a technology for low equatorial tropics, it is constantly evolving.

The first thing was obtaining conditions for water for human consumption . And the water was ten meters deep, which is more or less the water table of Gaviotas. After 30 or more tests among others, it was developed a windmill of double effect for water extraction it does not require vane for orientation. It was partly solved the food by making a subsistence hunting. We hunted and fished what we needed to eat and we harvested some delicious berries,

plus a few non-perishable things we brought from Puerto Lopez. And then, gradually, we went advancing, I do not like to say we were civilizing... because it has concepts that are not the most suitable. We continue occupying in productive harmony this microcosm, this space this side of the Orinoco, which Jules Verne had referred in his extraordinary novel The superb Orinoco. This novel was much discussed and widespread in his time mostly in Europe because it was not in libraries of Latin America. Gradually, we built several bioclimatic buildings where air conditioning is achieved by design and not by plug. That is, start thinking. When you plug a brain does not think. We achieve a settlement of about 200 inhabitants.

At first we had a little financial support from the United Nations Development Programme and some donations from my family and myself, until fortunately, very soon, we were able to generate our own resources and lay the foundation for economic self-sufficiency in a sustainable manner.

What we did for achieving this economic sustainability? It was, oddly enough, putting at the service of the city, something that was very useful to the cities, a technology originated in the periphery, the other way around to what always gets used, technologies and scientific and technical progress coming from the center to the periphery, here was from the periphery to the center. That produced the greatest resources to Gaviotas was the technology of solar heating of water, which is not our invention. What we did was adapt, optimize, streamline, and tropicalize the technology and putting it to the mass service at the time in Medellin and Bogota. With the obsessive, stubborn of Mario Calderon Rivera, the great humanist by then a member of

the Board of Banco Central Hipotecario and later president of the same. Now, he is writing a book about Gaviotas called "Renaissance in the tropics".

This technology can compete economically with electric kilowatt. But today it is difficult to compete economically with natural gas. And so, it has lowered its massive use. Because we are standing opposite of *homos economicus* not of *homos ecologicus*. After that, we extended this solar technology to the point that reached Ciudad Tunal which was the installation of hot water for the world's largest solar power, concentrated in the same citadel. Also we began massively through *Caja Agraria* stores selling windmills of double effect for water extraction which expanded by thousands, throughout the Colombian geography. Then we continue with the ram pump, very poetic names by the way, with the sleeve pump with see-saw for pumping water in schools, hydraulic micro turbines for electricity generation and a number of made mental solutions actually for that area and for the tropics in general. To the extent that through the United Nations were exported to various countries in Africa and Latin America.

But we were always thinking about how we might be increasingly sustainable. Because the only idea we had and still have is we will not do anything that is not sustainable, and represents a great income for Gaviotas. Never! Although he had many offers in this regard. Back then in walks through the fortunately unpaved streets, of Gaviotas, with Hernando Mejia Salazar, Mauricio Obregon, Luis Caicedo Caro, Joaquin Vallejo, Sven Zethelius,

among others. In those conversations without frames ... defined ... As there was no formality, one could think. As there were no compulsory rules, we could be like kids throwing ideas, as in ancient Greece.

As in classical Greece, where things were basically giving through the conversation without limits: We were not based on the thesis and antithesis to reach the synthesis, while our dialogue and conversation took us, without fragmenting knowledge that is how it behaves Gaviotas. So I say that if Gaviotas walked and there was a communal dining room where we were sitting talking at the same level disciplined and undisciplined in different areas, where converged the knowledge and connections to the complexity were made, we could not do the synthesis of the social, economic and environmental we did, that we have achieved in this microcosm of the Orinoco. Is this the time to pay tribute to Professor Edgar Morin, a master of complexity here represented by Judge Marco A. Velilla.

I think that is fundamental. I've never written a single memorandum inward Gaviotas. All comes from conversations. The only written part is the financial and accounting side, which is very orthodox.

It was, then, how we did this approach, by that time was unprecedented and still remains, on the atmospheric chemistry conservation architecture. When we look at basic studies can recognize that the atmosphere is composed of 99% nitrogen and oxygen, more exactly 78% nitrogen 21% oxygen and 1% argon and other rare gases. This 99% of the pattern and atmospheric

composition depends on the vegetal infrastructure of the Earth, in addition of oceanic phytoplankton.

At this time, according to satellite studies easy to interpret, the landmass still retains 33% of all kinds of vegetation, along with phytoplankton in the seas. This is what keeps the atmospheric composition of nitrogen and oxygen. Now making future events possible (possible future) thinking in the necessary connections, we wonder, what if this vegetal infrastructure, if this biomass, instead of 33% reaches 20%. What will happen? The nitrogen may not be 78% but a 65%. And oxygen would no longer be 21% but 15 %or 14%. Which would lead to that life which began 4,000 million years ago, continue to exist, but not human life, which is a recent being, appeared in the history of life on earth. I think in this case, human life would cease to be viable. Obviously it is a hypothesis. In Gaviotas we are in constant search of temporary truths, but we are getting closer to this scenario.

By that time we reached the conclusion that to keep atmospheric conditions nothing is more important than planting a tree, these living sculptures that defy gravity by growing up, whom gravity do not stop them. We started talking about what kind of tree would be this? If everyone said that these plains are an example of dryness. And I remember that in Villavicencio forums I held: May be a desert of water ... because we had not realized that water was 10 meters deep, what we do have is desert fertility, if we look conventionally. But the only dangerous desert, almost definitive, is the desert

of imagination. And we said, a phrase that says: these are poor soils for poor brains.

Finally, who gives the rating to a resource, is not the resource itself. That is, when Colonel Drake discovered oil in Titusville, in the State of Pennsylvania, who was not more than 20 meters deep, and still is so in some parts of the Arab countries, oil never said, for better or worse, that is another discussion: "I am a resource." It was the human brain who told him: "You are a resource." Finally, true wealth is in the imagination of the people inhabiting the territory, the mental installed capacity. That is a very important consideration.

Then we wondered: is viable modify these soils, according to the texts of agriculture, which have nothing about tropical agronomy, those translated texts from countries with four seasons, mostly? The great challenge facing science and technology in Colombia is to tropicalize their thinking. In Gaviotas we think in tropical way how he recognized Richard Evans Schultes ... professor of botany at Harvard University close to Gaviotas, when he was referring to our work.

And by that time, the person who used to take me to Gaviotas, as it had an airport ... what means four metal triangles and two vanes to indicate wind direction, and combat the ants ... was Mauricio Obregon, engineer, navigator, historian and Vice Council of Harvard alumni. And Mauricio also at that time was doing a trip, repeating the voyages of Christopher Columbus came to the

point that initiated a debate with National Geographic about a certain route of Columbus.

And in one of those trips in a single-engine, we flew over the jungle of common Mosquitia to Honduras and Nicaragua and I sighted spots of pines, that caught my attention, I told Maurice I wanted to stay there two or three days and then, pick me up. What actually I did with a backpack on his shoulder, accompanied by two guides. We brought those seeds to Gaviotas, and six months later they were unsuccessful, dried. That is, the transplant did not work despite being a tropical species of warm climate.

A month later, Mauritius, for reasons of his historical studies he repeated the trip. I was with him, not as a co-pilot, but only as a calligrapher. And I said I wanted to stay in that place for at least two weeks, and began to tour the jungle, with rented mules and two guides. Because the forest is penetrable, they are not as dense as people think. They look very dense from the upper canopy but not in his lower part. And I ran into tropical pines obviously, 30% of the pine trees are tropical; you think they're all from the Nordic countries the template-zone. Those pines were more vigorous than others and had at the base fruiting bodies of mushrooms.

Then I brought back not only cones where I got the seed but also some of these fungi that were later identified as tinctorius *Pisolithus*. I made a mycological broth with these fungi, proceeded to plant the Caribbean pine seedlings in the nursery and then I watered them with this broth, and, what a

surprise! Around eight months later had formed a mycorrhizal that is a symbiosis of fungus with the root, which gave to this forest a great force and something really splendid. Neither academia and non-academic world had predicted a chance of success. Everyone pointed saying: "What you are doing is something bizarre, something that is not going to bear fruit." But after several years this forest proved the opposite. There was nobility on the part of those critics that acknowledged later the success of Gaviotas forest.

To extend the forest we reached an agreement with the Inter-American Development Bank resources administered by Japan Special Fund, it intended to capture carbon dioxide. At that time was already in vogue the greenhouse effect, which for us is a reductionist conception compared to what I said earlier, when the whole atmosphere is affected and not just a part of it for the growth of the emissions of dioxide carbon which would lead to an increase of the global warming, because if the Earth were not hot we would not be here, talking. The trouble is that from now on is increased 2 0C because this will produce disastrous effects, but not fatal, as if they would destroy the green skin of the earth, affecting the composition of the current atmosphere.

But -because commitment was not a donation but a contract- was that we would absorb the carbon dioxide. Then this was the problem that arises "Well, how could we obtain for Gaviotas a sustainable income without knocking down a single tree, outside the thinning and pruning, that you always make in the woods. Then, in the community room of Gaviotas in our agora where everyone has the right to dissent and who does not think like a

child, is not the most appreciated. Over there we say, if we all agree, what for we meet? We do not accept fighting, verbal violence, but the controversy is necessary, the dispute is essential to generate creativity and therefore prosperity. Sometimes we think we are inventing but what we really do is discovering, uncover, unveil. Then we ran the veil: Let's use the oleoresin, the tears of these pines for producing what we later learned was called Rosin and Turpentine.

We thought we had discovered something, but in our library research found that with it would have waterproofed Noah's Ark. That is, it was something ancient. Even there was an ancient Ionian city called Colofon.

We continue working in this line always connected with the Gaviotas goal, and not satisfied with produce rosin and turpentine, which today is the largest sustainable income of Gaviotas, we had the experience of building the first production plant biodiesel from crude palm oil.

We wonder why this oleoresin that is the equivalent of sweat of these tropical pines cannot produce a biofuel, if everyone tells us that this is the forest easier of catching fire of Colombia. Why has thousands of bags of oleoresin hanging from the trunks, they are flammable? Why not use them to move our tractors and power plants, in order to strengthen the circulatory system of Gaviotas, using solar energy accumulated in the trees.

After many trial and errors we managed to produce for the first time in the world, biodiesel and bio gasoline at industrial level based on this tropical pine oleoresin, without modifying the engines we changed the paradigm. This is to

make poetry, we are creating as the Greeks say, it is the poiesis. Currently all tractors and power plants Gaviotas, are moving with this kind of biodiesel, is an act of rupture, from the contradiction, without the pressure of conventional minds. Keeping in mind that the laboratories do not serve to generate new ideas, but to analyze and test the proceeds we are further mixing it with oil used. This fuel is being delivered in a very positive way by the Wok restaurant ... Here's Benjamin Villegas , representative of that company ... Because there is nothing more serious, than this type of vegetable oils and minerals eventually ending up in the Bogota River 500 kilometers of Gaviotas creating very thin films that weaken your oxygen capacity. But it could also be done without mixing. Therefore we as Wok, we also contribute to the decontamination of the river.

This shows that the periphery can also subsidize environmentally. Similarly it is performing technology transfer of solar energy for water heating, applied in thousands of homes. We have recently achieved with the ingenious people of Gaviotas, some of them are here, producing a natural, biological insecticide based on turpentine. In fact in Gaviotas does not apply fungicides or pesticides. Very early we did it wrongly. We also make physical traps. Turning to biofuels, we proposed by that time, to the government, 400 biofuel plants, biofuels Gaviotas type be established; and not three or four large-scale plants, so that economic and social benefits could strengthen decentralization. And if we were to use palm, tropical pines, any other species should be mixed with forest trees and food species in small and medium towns. It should be as biodiverse as the current forest of Gaviotas

that has 200 different species. If you make a census they are almost the same as in the Amazon. The gallery forests are some degraded manifestations of the Amazon. And this converts it in thesis, this hypothesis that those spaces of the far eastern Colombia were formerly part of the Amazon forest.

In addition to working in this forest with biological fertilizers, ie with mycorrhiza, we work all part of the architectural integration ... how we could do with a criterion of optimization, because maximization ends in destruction. We made a series of constructions, installations, where finally (- what did not happen the first time), the external part not exceed 10%, expressed mainly in some cement with our bricks and tiles for the roofs because palm roofs unfortunately does not last more than five years and attract the problem of Chagas disease, because it is the nest of the vector of this disease.

Speaking of another aspect and then having matured a number of ideas ... In Gaviotas we say that maturity involves making dreams come true... we attended a forum on the future of Bogota coordinated by our friend Jose Salgar, El Espectador, who wrote the column "The man in the street". At that forum were representatives of the national government, the district, from academia, from developers and Gaviotas. I was one of the main presenters. And I said, you could not replicate or copy Gaviotas... No! Gaviotas is a project to inspire, is a system of thought, but not to copy because every circumstance is different. I made an approach that was not only applauded

but cheered. Before the forum had had extensive discussions with leaders of several neighborhoods of the capital who were willing to do it.

The approach was, "deliver to Gaviotas a neighborhood of 20,000 residents of Bogota. Repeal planning laws applicable to that neighborhood. Repeal the educational schemes ... Everything but not the judicial system. Because we work with full freedom in order to rebuild a community, to transform it into a model of urban sustainability, inspired by the experience and thinking of Gaviotas. On the other hand it was proposed leaving another district under the current conditions for observing him. When we were about to sign the agreement they suddenly repented, what they had approved by the emotion that produced our approach. But with this Colombian Santanderism, which is much stronger than the creativity, the project finally sank.

And we proposed that around 10 years later an international organization would make a comparative evaluation. That was it. Now we have a challenge but we do not know if we will accept it, for we do not have hearts adapted to the heights of the Himalayas where the kingdom of Bhutan is located. We were visited by his minister of agriculture and forests accompanied by Gunter Pauli, a month ago ... based in their forests composed by four species of pine large diameter they want us to implement the development of biofuels from the oleoresin, i.e. the sweat of his pines, to replace the import of hundred million dollars of oil. It would harvest their forests, not its felling, for energy purposes.

But the most crucial was missing, when I spoke about biodiesel is that, biodiesel is not the most important for Gaviotas. The important thing is that But the most crucial thing was missing, when I spoke about biodiesel is that, biodiesel is not the most important thing for Gaviotas. The important thing is that it is a pretext to recover the skin of the earth because we have to plant trees to produce. It is a guarantee of dynamic vegetal infrastructure that needs our atmosphere in around 50, 80 or 100 years, when the world will exceed ten million inhabitants, for maintaining the current chemical composition of the atmosphere, that failure to do so would be much more serious for the existence of humanity than global warming produced by the greenhouse effect. That is really the implicit strategy on the need to restore the skin of the earth, or as Mario Calderon Rivera says in his book, combat baldness of the planet.

Pedro told me not to extend me more than 40 or 50 minutes maximum. In his office, besides the hourglass of Gaviotas, I saw two hourglasses, when someone is sitting, opposite to him he says: "We can speak up until the hourglass tells us".

Talking about Gaviotas would be very extensive. I just do what I want, that is to motivate you, is to produce commitment. Hopefully the House of Poetry Silva will coordinate a trip to Gaviotas. This undisciplined mind will explain these ideas in the field itself and therefore show that it is possible to go from utopia to topia, sometimes you do not believe. Fortunately the book Renaissance in the Tropic of Mario Calderon Rivera, it has 150 photographs

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of support to give credibility to what he says in his 300 pages. That was something he did even in a premeditated way.

And whenever I finish my interventions, very messy in appearance but in the background very ordered... it is the order of the mess! It's what I call the chaos in the deepest sense of the term, which is to see the unity in diversity - university, making connections, That was what I wanted to try with your presence. And obviously I omitted many things. Finally I want to say that what really moves Gaviotas, is the enthusiasm, by it intelligence becomes sensitive. That is, without enthusiasm is almost impossible to do anything. And with enthusiasm is almost possible to do it all ... almost possible to do everything! I usually finish my speeches saying: **Do not forget that maturity is to realize the dreams and who does not dream is because is asleep.**

Thank you very much. [Applause]