

# A THEATRICAL VIEW OF A CONCEPT

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## 1. SCENERY

### 1.1 THE SETTING

One, if not the main objective, of the AA Leadership Program is to create a network of students from different countries engaged in leadership processes. However, the concept of a network involves an ongoing communication and a continued line of work between its members, not only through space but also through time. This is why we feel that the ideas presented by last year's Colombian group on leadership are a good and solid starting point for the development of our own work. We believe that as we trail along the lines of this document, the connections to last year's work will become clearer. Let us begin, however, with a brief statement of last year's leadership concept.

Last year's ideas showed leadership as a communitary process, where leaders are moved by the consciousness of the needs of their context to react and change their reality. Here we find the very same elements that will lead our own reflection on this year's themes. For one part, the concept of leadership as a process and not as the messianic incarnation of a number of abstract qualities in a person, implies a systemic, more complex, approach to this issue. We will try to apply this new perspective to this year's objects of study. Furthermore, leaders, as well as other agents, are nothing more than one of multiple variables or relational focuses<sup>1</sup> in this leadership system<sup>2</sup>: they share their place with others entities besides human beings in that environment. Nevertheless, agents are not as other relational focuses: they are capable of knowing that they are part of a system -this is the key to their conscience- and they can be held responsible for their actions; these two specific differences show that human beings are the only agents in the system, strictly speaking. These agents are always part of a context -or subsystem- and as so their actions should always be contextual -referred to their own context-; therefore agents should always read and listen to the needs that its own context places, and do their best to offer practical and original solutions more than apply exogenous ideas that could have a negative effect in other contexts that are not their own<sup>3</sup>.

This year's ideas are based on all that was implied rather than said in last year's leadership concept and will be explained along this document. Nevertheless, before that, it is only fair for you to know the way

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<sup>1</sup>Relational focuses are points in the system where relations converge and where relations are generated.

Therefore they can also be seen or treated or designated as variables.

<sup>2</sup>Leadership is a relational focus in a social system, but can itself be seen as a complex subsystem.

<sup>3</sup>This will become particularly important once we discuss relations between civil society and citizenship.

It will also serve as the connecting point to apply this ideas in Colombia.

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things were done.

## 1. 2. PUTTING IT TOGETHER

We followed two different lines of work: one individual and one collective. The individual line of work was done by each of the team members on its “own” topic, and on the research results of the other members. The collective line of work was done by setting up a schedule of three-hour weekly meetings - which eventually became two per week-, where each topic was presented and discussed. For each meeting, a protocol was lifted and then mailed to all the team members, so that everyone had the same available information and the group could have a written memory of its proceedings. Throughout the whole process information technology was a key tool for research and for communications.

We proceeded in sort of a crescendo spiraled movement: we realized that the environment was the key concept and from there we began to establish the main relations between all them, moving out- and upwards to the “next” one, always expanding our reflection to contemplate and accommodate the other concepts. This movement is the same that we intend to show when we present the result of our reflection in the first act, and it is different from the image -that of a network- that we will use to present this results in the second act and which we will use to explain Colombia's particularities.

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## 1.3. THE NEED OF A NEW APPROACH

As we moved along our research, we began to experiment the need for a change of perspective from the traditional concepts of environment, civil society and citizenship, sustainable development, education, and science and technology. Some of the reasons that turned us in this direction are:

- The need of a more comprehensive approach that can embrace different and even conflicting ideas.
- The need of a more flexible approach that can be used in different levels and contexts of reflection, which allows us to read particular realities -worlds- including our own, and relate them.
- The need of a more complex, integral, systemic, approach that can explain reality because its built like it.
- The need of a non-anthropocentric image of reality, that leads to a more sensible conception of the position of humankind in the world.
- The need of an approach that also expresses the aesthetic and tragic openness of humanity.

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## 2. FIRST ACT

Let us become biologists.

As them we find ourselves with the task of studying an ecosystem, let us say a pond. What is the first thing we do as observers? Since we are ourselves limited beings, we must limit the space and time of our observations, as well as the objects and the relations between them; we must be conscious of this methodological choice in order to extract valid scientific conclusions. Nevertheless, we must also be conscious that though we are only observing, we are also affecting the environment we are observing: we cannot stop being part of the environment, even if we are “only observing”; a good scientist should be conscious of this fact to “filter” the changes he himself sets on. We are now ready to explain the pond as an ecosystem.

We find many variables of different nature -fish, algae, mud, temperature, birds, seeds, insects, plankton, air, water, etc- that relate to each other. We then establish those relationships, which are not all of the same nature: some are food-chain relationships, others are sexual, others are chemical, others are physiological, others are conceptual, etc., and not all are given at the same level: some are internal to some of those variables -the “breathing” of a fish-as-a-system-, some are between similar objects -a bird eating a fish-, some are even between this ecosystem and another -the filtering of underground water from a nearby city-, and some are between concepts -temperature and algae reproduction-. All this makes the ecosystem a very complex system that, however, is in equilibrium. This equilibrium is harmonic as a whole and includes conflict as a dynamizing element: sunlight raises water temperature, affecting the fish's reproduction; birds eat fish; birds and fish fight with other birds and fish for females; the underground water can be polluted; etc. However, the ecosystem remains in equilibrium, even if it changes as a whole.

Now, let us take a step back and observe our observer. He realizes that as he stands in the pond, he modifies it: as he walks into the pond, his rubber boots lift particles, which could make new food sources available to different organisms. What does this say about human beings? Are they not part of an ecosystem in equilibrium? Agents can and should realize that they are themselves part of an ecosystem, an anthropic ecosystem, an ecosystem which variables and relations are not *only* like the ones we already described for our pond, but include objects and relations *specifically* set on by variables like our observer. Of course that, being a biologist, he partially understands this: he knows that whatever he does will affect his ecosystem, his environment -if he flushes the toilet, he will probably be polluting a pond somewhere, even *his* pond-. But he might also not be aware that what he considers his ecosystem is far more complex: being a human being is being a variable of an anthropic ecosystem, an ecosystem which is none other than reality itself.

This anthropic environment is a relational system of multiple elements. Some of these elements are relational focuses and some are relations. Relational focuses are points in the system where relations converge and where relations are generated. Like the variables from our pond-as-ecosystem, relational focuses can be of different nature: trees, buildings, Marxism, streets, projects, meetings, dogs, people,

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etc. Relations are established between relational focuses and can, like those of our pond-as-ecosystem, be of different levels and between relational focuses of different nature: love, photosynthesis, friction, truth, etc. Nevertheless, relations can also, under a different perspective, appear as relational focuses: love can turn from a relation to a relational focus if we change our perspective and turn it into an object of study. Thus is the environment conceived: as a network.

As we experience everyday, people relate to each other and to other relational focuses, which means that human beings are themselves relational focuses, not only individually but collectively and even as the concept of “mankind”. Nevertheless, as we mentioned on the scenery, we have a sort of “plus” towards the other relational focuses: our consciousness and our responsibility. Our consciousness is the ability we have to realize, to know, how we are part of the environment and that everything we do affects it. But also that we are not the center of the environment, and that the system will go on with or without us: the environment's equilibrium is not determined *only* by our actions, but also on many and even unknown relational focuses and relations; the equilibrium does not imply any of its relational focuses and relations, not even mankind: the environment will find a new equilibrium, but it just might not be suited for us, it might not be an anthropic environment. This reallocation of the place and role of humanity in the environment from a central, messianic, archimedic point to a more sensible, limited, and tragic point is what we call anthropoperiferism.

This consciousness leaves us with a more clear sense of our responsibility because we know where we stand: what we can and what we cannot do. However, it does not tell us what we *should* or should not do, since we have understood that we are not necessary and therefore could deny all responsibility towards it. This is where the tragedy of human existence in the environment opens up: we *should* probably decide our future as a sustainable one, but we don't *need* to because sooner or later we won't be a part of it, not even of this environment, not even as mankind, and it *might* be that despite all our efforts, the environment reaches a non-anthropic equilibrium. Our responsibility, then, is grounded on a radical decision, and not on the “nature of things”: it is the supreme act of human freedom. This act can only be executed by some of the relational focuses of the environment: agents.

Agents are human beings and any of their collective expressions as well: family, community, society, etc. These collective expressions -or institutions if they are permanent- are not given, but shaped by the dynamic of the environment. Today's society is more a civil society, and today's citizenship is not what it was. Today's society involves more relational focuses than before and is, therefore, more complex: modernity, multiculturalism, consume, globalization, among others. A civil society is a delicate system of differences, not only of ethnic and historic origin, but also of individual identity processes. It is also a proactive body, conscious of its historic role, of what it *can* do if not always of what it *should* do. It assumes a critical attitude towards the environment, towards the other relational focuses and its relations, but also towards itself; to do this, it has to accomplish its own education and warrant a free flow of information. This reflection upon itself reveals not only formal citizens, but also children, teenagers, and outcasts. However, these are also citizens, because today's citizenship rests not only on the formal recognition that the State bestows, but more on the processes of identity that are taking place in the civil

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society. This implies, in turn, that a civil society is no longer restraint to geographical borders or national States: a civil society is a community of critical argumentation, of identities that cross time and space, today's citizens are citizens of the world and not only of a nation, simultaneously being citizens of local civil societies. These agents have to make the decision about our future. These agents have to ask themselves the question of a sustainable development.

Whenever an agent thinks about satisfying its needs, relations among relational focuses arise, making them react -trying to maintain their ecosystem's equilibrium-. When agents question their needs -personal, esteem, social, security, physiologic- they begin to have a conscience about what they mean to other relational focuses and what links or relations are developed between them: they might also ask themselves how they are going to improve their quality of life<sup>4</sup> without affecting too much their future generations. Since each need can be related to different relational focuses, even in somewhat chaotic engagements, the system grows stronger.

Sustainable development is not a new word or idea, what is new is the context in which it develops. It tries to make agents take a step forward, propose solutions, and try to negatively affect the least their ecosystem, even though what they can do is not needed as much as they think. Sustainable development is then one of the relations that is more applied in our society than in nature itself to relate to other system's focuses. This society could generate agents who can act responsibly, unroll their conscience and analyze their own perspectives; this supposes educated beings: people who can make even more dynamic the system -think, analyze, improve, make decisions, etc.-.

Our responsibility as agents in the system is to analyze its own complexity and try to live within it. That is why we need educational institutions. Institutions that can maintain a critical position about their environment, institutions that can shape a citizen even more -fortifying its actions-. H. E. I.s are capable of becoming one of the spaces; subject to the changes and modifications that time brings, to make technology one of many universal joints in the environment. When an educational institution modifies the behavior and thoughts of humans, the presence of science and technology is simpler to accept, especially if science and technology is an educational product of our own environment.

Science and technology are thus relational focuses because with them we try to explain the system's phenomena objectively -which does not exclude subjectivity- and actively modify it, taking into account the different needs of the context. When we focus in these relational focuses, the way in which the system operates with its variables becomes more clear; and the relations between all the other relational focuses with science and technology could be seen as an answer to the problems or needs that the system presents. The needs that are satisfied by science and technology obey to special circumstances -space, time, culture, economy, etc.- that change as time goes by, as therefore do science and technology themselves.

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<sup>4</sup>This notion of quality of life surpasses that of traditional economic approaches, since it covers the satisfaction of other kind of needs. It also implies the reexamination of notions such as benefit and comfort from the point of view of an agent conscious of its role in an equilibrated ecosystem.

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## 3. SECOND ACT

As we spun our conceptual web, we realized that this ideal network was refracted by the context we tried to explain. Meaning that our model was functional enough to explain this context and, at the same time, show the friction points that are present in some instances of Colombia's complex realities and the limits of our model. Nevertheless, as we look upon this refraction, things will not be as clear or as defined as we would like them to be; it is the nature of refraction to be diffuse. All we can hope for is to present a general view that points out the contrasts between different conflicting regions. We will concentrate in the environment where the relations between education, science and technology, and sustainable development take place; taking education as the main or central relational focus<sup>5</sup>.

First, we have to realize that the environment appears implicitly or explicitly as a conditioner of change for the Higher Learning Institutions -H. L. I.s-: we recognize that they are the product of a unique environment which roots come from medieval times and which tradition has been modified by social, historic, cultural, and geographic contexts. However, we also recognize that they have resisted to the changes of the environment, and continue with their medieval traditions. This would have created a gap or a difference of rhythms between the environment and the H. L. I.s. Nowadays it seems that this gap has reached "critical mass" and has become unsustainable: if they do not start adapting to the environment, like dinosaurs they will become extinct. But the question here is *how* they *should* adapt to the environment, because even though they are conditioned and limited by it, at the same time they are agents, modulators, and can contribute to change and transform it, in the same way that the environment itself moves them to change and adapt. Therefore, we have medieval institutions where the relations between genders are still subject to strict norms of conduct, where research on certain topics is not sponsored, where the private lives of students, professors, and other members of the educational community determine their membership to them. On the other hand, we also have institutions that respond to pressing economic and political circumstances without assuming a critical position before them: they tend to satisfy the demand for qualified professionals in a shorter time<sup>6</sup>, proliferate in non-qualified study programs, and multiply like rabbits. Between these extreme positions, we can find any number of their mixture and even some cases of those positions, when examined as systems, will show some dynamizing relations towards their contextual environment.

This context conditions a non-critical approach towards society's needs, making development unsustainable, since these conditions do not make it possible to achieve the consciousness needed to make the fundamental option of a sustainable development. This means, for one part, that research is done more as an inertial movement of educational institutions, as an empty, senseless requirement, than

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<sup>5</sup> We cannot forget that agents are involved in all this relations, and therefore citizenship in a civil society is contextually implied.

<sup>6</sup> Nowadays, there are discussions taking place in Colombia about how long should it take to educate good engineers.

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their specific way of contributing to the modulation of their environment. This means that science and technology are not being created either to satisfy the particular needs of their context<sup>7</sup> or to change that context and therefore its needs<sup>8</sup>. Instead, technology, more than science, is rather imported from other contexts and applied without any further study. Two main reasons are given in support of these actions: 1) the costs of producing science and technology, and 2) the time it takes.<sup>9</sup> This results in a closed system that reproduces itself in the vacuum of a research culture: since science and technology are not generated, they have to be “imported”, this, in turn, reduces the ability to produce original solutions to contextual problems, which in turn... until the system is deprived of all originality, imagination, and innovation, diminishing its dynamism.

This situation is especially critical when approaching environmental issues, because these issues are unique to a determined environment and so, their solutions should arise from that same environment. In these cases non-contextual technology and scientific explanations can never reach their maximum efficiency, and since the dangers that their use implies will never be clear enough, we will never be sufficiently prepared for them. This is particularly true if we remember the infinite number and complexity of variables involved when intervening in the natural environment.

Nevertheless, as we mentioned before, this is not only a problem of resources. It might very well be a cultural problem. Our society has not yet reached a point where it conceives itself as a civil society: it still does not consider itself to own its own destiny; we still expect someone else to solve our problems, we expect others to come up with the solutions so we can then “import” them. This mentality can be clearly seen whenever we hope that the government acts to solve all of our problems, ranging from lack of jobs, to creation of science and technology. This is, perhaps, one of the subjects where H. E. I.s could do more as dynamizers of their environment: work to change that cultural mentality that holds back the system’s dynamic. However, this is no easy task, for those institutions are themselves entrapped by that same mentality. This is why processes as those set on by the reflection of universities upon their own activities –known as “universitology”- can help them regain the critical distance needed to play their dynamizing role in the system. Nevertheless, if it indeed is a cultural problem, the limits of the actions of the H. E. I.s become clear: formal education cannot be responsible for a cultural change, even if it does play a role in

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<sup>7</sup> Of course, this is not always the case, but rather a general tendency. There are always authentic research efforts, like the “Plantar Pressure Distribution under the Foot of normal and Diabetic Subjects in Colombia”, that try to give solutions to contextual problems.

<sup>8</sup> Once more, this is rather a tendency. Projects like “Leaders for Bogotá”, developed by the Pensar Institute, or the one seeking the cleansing of the Bogotá river, show that H. L. I.s can play an important role as dynamizers of their environment

<sup>9</sup> But this objections are only valid in a context that assumes that H. E. I.s should be an assembly line of professionals, context that has been put to question. Furthermore, they can be tackled by an alliance between H. L. I.s and other relational focuses such as industries, enterprises, governments, and N. G. O.s.

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it. It is so, that we have to appeal to other types of education: non-formal, and informal education; and even to simple “formation”. Moreover, this means that H. L. I.s. should be conceived as part as a global educational system, and their tasks and what we expect of them should be measured against the part they play in that system.<sup>10</sup>

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<sup>10</sup> In Colombia, a national education system already has been conceived for elementary and middle education, but higher education remains a loose wheel that does not seem to fit too well in it.

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## 4. THE SHOW MUST GO ON

We hope we have shown a panoramic vision of how our model blossoms in a bountiful array of concrete examples developed in Colombia's context. Now we will like to show you how each of these blossoms carry the whole model within; in order to avoid extremely long explanations we will focus in just one of them: that of the Bogotá River.

One of the biggest problems of pollution in Colombia is the Bogotá River case. The river is one of the most polluted rivers in the world; some people even call it "the open sky sewer". Colombian industry is not the biggest or most developed of the world, but in the past years they have grown economically and technologically. Industries are located generally in the main cities of the country, or near them, close to rivers used for domestic and industrial activities.

The Bogotá River case is only one of the problems that are present in the Colombian context. Metropolitan areas that generate the largest organic unloads to rivers of the country are Bogotá D. C., Soacha, Medellín, Cali and Yumbo, areas considered to be the most important economical areas in Colombia. The Bogotá/Soacha area is the one that produces the most industrial waste, generating a daily amount of 342,43 T/m<sup>3</sup> of BDO -Biochemical Demand of Oxygen-. BDO is an empirical laboratory test designed for determining the quantity of oxygen used in the oxidation process of organic material presented in wastewater.

In our country, domestic effluents, with and without sewer systems, throw near 3,030 millions m<sup>3</sup> of wastes per day into rivers; domestic loads are bigger than the ones thrown by industries. In the same way, the agricultural sector generates approximately four millions of BDO per day, being this quantity seven times that of the industry.

Looking back to the past, we can see that this has been a historic problem. Since Bogotá's foundation, waste solids management has been a big and complicated problem. In fact, during the Colony, the solution applied was a system where wastes were disposed on the streets, waiting for the rain to drive them through channels built in the central axis of the streets; later, these channels drove the waste to the nearest river. In colonial Bogotá, they were driven to San Francisco River, an affluent of the Bogotá River. This habit stills continues.

Near Bogotá river develops one of the biggest industrial and economical activities of the country, unloading 25% of wastewater of all Colombian industries, equivalent to 5110 industries placed near the District Capital. These industries download wastewater without any, or the convenient treatment to the sewer that later pollutes the rivers, generating together with 7.000.000 of Bogotá's citizens, an amount of 900 T of BDO per day. Furthermore, wastewater contains pollutants as mercury, chrome, cadmium, plumb, grease and soaps. Bogotá is a continuously growing city, with more than 350.000 new citizens per year.

Due to this national environmental problem, Bogotá's public administration started an integral program that will take 20 years to recover the middle basin of the river. This strategy is based in a control system of the contaminating sources. The administration is also building the sewer system and expanding the one that already exists.

With the support of DAMA (Administrative Department of the Environment), public administration is now developing an integral strategy to combat and decrease the pollution generated by domestic (90% of the contamination) and industrial (10% of the river's pollution) wastewater downloads. As it has been mentioned before, industries generate less pollution than the domestic sector, but industrial waste is more dangerous for public health.

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# A THEATRICAL VIEW OF A CONCEPT

AA LEADERSHIP PROGRAM CONGRESS OF OCTOBER 2001

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## 4. 1. EXPLANATION OF THE DYNAMIC SYSTEM IN THE BOGOTÁ RIVER CASE

It is important to mention again, what we consider is the environment: a system composed by several or multiple elements, which reaches the equilibrium by dynamic change. We mentioned before that human beings are relational focuses that interact with others, establishing a net of relations. Some years ago, Bogotá's population was in constant relation with other human beings and institutions. Industries for example, affect the environment by polluting the river with wastewater downloads. The affection of the river ecosystem has, in time, influenced human beings and industries. That is why Bogotá's inhabitants have thought about the possibility to adopt sustainable development as a way to relate with the river ecosystem and with the relational focuses that develop in it; not only thinking about the economical and health importance of decontaminating the river, but also thinking about the importance of the river as a historic place, as a place of recreation. We have shown how human beings, as relational focuses, establish relations with other relational focuses as industry, animals and plants. We have also shown how human beings have responsibility for their acts; that is the reason why we differentiate between human beings and other relational focuses, and we qualify them as "agents".

To find a solution to the problem, people turn to science and technology to find the ways and processes to solve it. Education, then, acts as a tool to change the mentality of the agents and gives the connection between human beings and the developed technologies worldwide. Indeed, Colombians have taken French technology to construct the first plant part of their solution program, even though we have enough knowledge to solve it<sup>11</sup>. H. L. I.'s have also taken part in this case being auditors of the solution, by studies done by the Javeriana and the Andes universities.

As we mentioned before, for the wastewater treatment in Bogotá, there's a plan of 20 years (started in 1996) which involves the construction of three treatment plants, placed in the estuaries of Salitre, Fucha and Tunjuelo rivers, Bogotá river's effluents. Studies indicate that the first plant, Salitre, will produce a minimal reduction of pollution. Actually, this is the only plant working. Instead, when the three plants start working, a reduction of 65% for the organic contaminants and of 70% for the total solids disposed in the river is expected.

## 4. 2. A CRITICAL POINT OF VIEW

We do recognize the roll of government as part of the solution to this problem. Nevertheless, we also recognize that civil society should have conscience of their actions, that is of their responsibility, and that they must be part of the solutions and not part of the problem. For example, the leather industry near the Bogotá river basin should think an integral project where they treat water and reuse it.

From here, we could zoom in to the leather-industry-as-a-system, but also zoom out and see it as a subsystem of Colombia's social-economic system.

Now, what will this approach do to the analysis of problems such as:

- Carbon dioxide emissions in the United States.

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<sup>11</sup> In Colombia, this practice is common due to friction between other relational focuses such as the legal system and policies of public administration.

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- Ethnic tensions in Canada.
- Social gaps in Mexico.
- Reduction of hydrological resources in Costa Rica.
- Condition of Puerto Rico as a protectorate.
- Sudden enrichment caused by oil extraction in Venezuela.
- Peru's political instability.
- Public health problems in Brazil.
- Pollution and ozone reduction in Chile.
- Economic crisis in Argentina.