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FINDIND OUT GEOGRAPHIC PATHWAYS: REFLECTIONS IN MAKING GEOGRAPHY

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Abstract: The article aims to share the learning paths and understanding of the foundations of Geography and its interfaces and possibilities, as well as its strength in contributing to the social formation of students and educators. Based on educational experience, it brings to light reflections on doing Geography with the discussion based on geographic experiences based on working as an education professional, as a teacher.
Keywords: Geography. Geographic Complexity. Teaching. World.

INTRODUCTION

The use of the word tracks seemed appropriate to start and indicate the direction of our conversation. Tracks form a bundle of trails or routes in a specific direction, not necessarily to a specific point, which means that they may or may not be signposted, implying the recognition of having a direction. We will return to this approach at the end of this reflection.

Generally, when we begin with the phrase: "Geography is...", we evoke broad concepts and statements, from the simplest to the most complex, as there are countless possibilities in these paths, where geography was produced, produced and at the same time projected as science. The link between its different temporal and spatial senses. Certainly, all of these contents are foundational and formative for the teacher with which he establishes and weaves his understandings and meanings with the reality with which he will weave his teaching.

But as this content is vast and we only border the shores of our small islands of knowledge the vastness of the ocean of our ignorance, we need to be aware of the risks and limits of projecting our islands on imprecise deductions or inductions. Geography contains and is contained in a range of knowledge, making it impossible to dissociate it from the understanding of the Earth-life system itself, a fact that requires notions of important interfaces. Every time there are words that gain strength as a human project, words like civilization and development have created remarkable movements in the world, and now, as never before, the Earth or Gaia, ecology and its paradoxical sustainability are evoked as mantras for facing the future. We have reached the point where "ecology drives us crazy" (LATOUR, 2020. p.31), as this reverie is due to the countless imbalances caused by the profound artificialization of the planet and the fact that we want to sustain the unsustainable way of life under the dictates of an unbridled capitalism.

What once seemed to be a future announced in warnings since the 1960s, is now the nightmare of the present at the gates of Dante's hell of "climate change". We are facing a mutant nature that modernity seemed to tame, and now has become enraged, making it "hostile" (sic). Do we need to save the Earth? Obviously not. We are the ones who need to be saved from ourselves. Today marks our encounter with the deep entropy of environmental systems, which was previously possible to be camouflaged. Perhaps what drives us crazy is knowing that it is no longer possible to hide how we are marking our passage in Earth's geohistory. In a sense of hope for human development, we bring to the surface our feeling that we belong to the Earth, we are on the Earth and it is the Earth that feeds us, clothes us and recreates life and death in a single continuous cycle. In the emerging, apparently metaphysical sense, which brings us the fabric of life and its textures and transformations. Therefore, we believe that a more accurate understanding of knowledge and its relationships is an important basis for transformation, where geography can also contribute.

UNRAVELING GEOGRAPHIC COMPLEXITY

At this juncture, Geography offers us the tools to interpret and read different spellings of the Earth, that is, to understand how the most different manifestations of physical and biotic processes formed it, shaping and producing the environment, our territory, where the human race shaped itself and at the same time, how he changed it in a kind of adaptive and transformative co-evolution[3]. At the center of the dialogue, Geography is inserted as an ecosystem that is part of a biosphere of knowledge, a fact that we seek to elucidate in Figure 1.

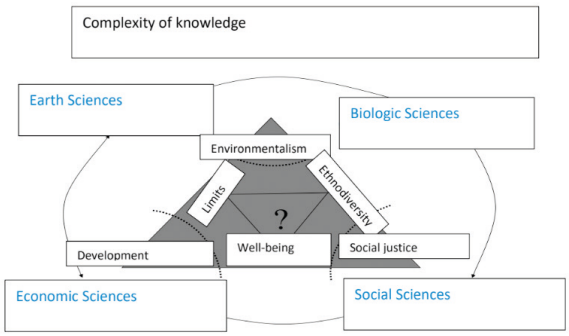

Figure 1 - Geography and the complexity of knowledge

Source: Prepared by the authors.

In a schematic and particular way, in Figure 1, we can visualize the four major axes where the different areas of knowledge of Earth Sciences, Economic Sciences, Biological Sciences and Social Sciences are organized, each of them with their multiple sub-areas, which were not inserted into the schema. The larger arrows intercommunicate the major structuring axes of knowledge. The larger triangle itself is a representation of knowledge, of which we barely touch its edges. Already at the vertices of this, there is a representation of the major themes in which the contents and concerns of these major areas converge, for example, between Earth and biological sciences that largely converge to understand, explain and organize the structures where and how the activity occurs. life. In this interdisciplinary approach, environmentalism is evoked as the understanding of places of life, biotopes and life systems, geobiocenoses and their essential character to human development. In the other vertices we observe social justice and development as keynotes of social and economic sciences respectively. In the center of the larger equilateral triangle, there is another triangle and this one is inverted, with three words at each vertex: limits, well-being and ethnodiversity, which could also be better translated as socio-ethnobiodiversity, which represent the set of human challenges in Planet. The challenges between satisfying human needs and limits, the understanding that well-being would be the ultimate end, but that it can only be achieved with deep respect for the multiple forms that cultures have created and that means merging what each of them brings better. There is something much more complex in this discussion that concerns how we do science, especially in strengthening the military-industrial complex and its operational arms in all fields of knowledge, but it is another task.

The model of production and consumption in which we are moving has inverted the logic of broad well-being for humanity and is based on the progressive conversion of environmental heritage into resources that are increasingly concentrated in the hands of very few, generating poverty and environmental misery. widely 'distributed'.

Socio-ethnobiodiversities are the result of thousands of years of human co-evolution with their spaces and must be enjoyed by current and future generations, but this is at serious risk given the choices we have adopted and the environmental disruptions known to have been caused so far. The question mark in the center represents the doubt about our capacity for collaborative convergence

between science and knowledge for another contract between the Earth and the World, without which the utopia of the future ceases.

Besides understanding shaping and change as processes mediated by work and its constraints and by the transformation of what we call nature or the environment and that there is no single way to change or shape the Earth. In this sense, the different sapiens created their Worlds, producing their gods and paradigms to justify the form/content of being in the world. These worlds, previously distant due to their partial isolation, collided and in these multiple clashes of worlds, the Earth continues to move forward with its biogeochemical and physiochemical processes, which also have dynamics not governed by humans. Thus, the march of what we call the world gained contours in which the artifice of techniques and sciences accelerated paths with a profound and growing artificialization of the planet, accelerated by the expanded process of globalization, that is, the intense calls for informational revolutions expanded even further control of and over the artificialization process.

All these culturally mediated and created relationships, in which different values and social relationships with each other and with their environment were established in the ways of seeing, conducting and socially and physically reproducing life and thus, invoking La Blache, the genre of life, in the contemporary context. The clash of different worldviews reaffirms the victory, we would like to believe partial, of a competitive and egocentric anthropocentrism over an organic and collaborative vision. Perhaps this is where the distinction that Latour (2020) makes between Humans and Terrans fits. This way, we can say that we are not one World, but many worlds in the sense of worldviews, which even with the atrocious globalization, resist and persist in different and unequal territories trying to reproduce another form of relationship and why not say globalization.

Returning to the issue of tools, we must also remember that they in themselves are not sufficient to read Earth-World spellings. For a geographical reading, we are required to develop a certain literacy, a literacy in this type of spelling analysis, where social and natural processes and their connections converge in an inseparable web of relationships. Such reading is not an easy task, but it is necessary and requires a broader perspective.

EXPERIENCES IN GEOGRAPHIES: WEAVING GEOGRAPHIC TRAILS

Our concern assumes a rhetorical question: with what instruments and content are we teaching Geography? How do we work with this situating, this referencing of the worlds and the Earth with children in such a complex relational space in which we live? We visited this "learning with Gaia" in a different space!

And then, stimulated by some ideas from Morin (2001), and seeking an orientation in the South or West in the compass of the globalized world, we thought of strategies on how to teach the human condition in its cosmic dimension as an essential step. In the process, some questions arise: i) How to teach our species status as terrestrials? ii) How to teach the human condition as Homo Sapiens and at the same time Homo Demens transforming the environment, this environment, as a totality? iii) How to teach an earthly identity and how do we mediate this with our values and attitudes? iv) How on the same scale evoked for life: species, population, community, ecosystems, biomes and biosphere, can we think of a non-homogeneous society possessing otherness? v) How must our practice in teacher training exercise such praxis that meet the demands of society and go beyond globalizing everyday life by navigating other possibilities?

Such questions are reflections posed since the beginning of professional activity in elementary and high school education, in doing and being teachers and experimentalists in Geography and Sciences. Over time in these trajectories, the need to find paths, ideas and ideas that can guide our transformation as educators and teachers persists.

The preamble of the search can be translated, like a compass pointed to the South, into an enchantment in/with the Earth and the worlds, in which we corroborate the argument of Lama Padma Samten (2023) when he tells us about the need to seek the wonder at perception beyond the gross bubbles of reality, bubbles restricted to the narrowest senses of smell, taste, sight and hearing. Such bubbles of reality are like covers that prevent the perception of more subtle aspects of life and its forms. The teaching-learning process cannot be conceived only with literacy, but also needs to stimulate self-knowledge. Teaching Geography goes beyond teaching just a spelling of the earth, it goes beyond understanding Geo-Earth/graphy= writing, description. Teaching Geography is teaching an understanding that we evoke from Earth/World that unites two of the dimensions brought by Morin (2000), namely: i) Teaching earthly identity; and ii) Teaching the human condition.

Thus, we have as a particular and, therefore, identity definition of Geography as a science of understanding Earth/World which helps human beings develop identity and belonging, which helps them understand why the world is diverse and the Earth is unique. In such a way that we can create wonder in life, establishing the necessary strength to face ideas and processes that converge in the opposite and destructive direction, placing us more consciously in facing uncertainties in a more collective way.

With these premises, we would need to teach the various geographic themes: climatology, geomorphology, biogeography, hydrography, cosmology, globalization, economy, environment, pedology and many other so-called geographic topics based on their causal links, something unusual. Aware that such questions come into profound conflict with what Geography has become or what we have allowed it to become at school, at BNCC, or in the contrived contents of teaching materials pushed by consultancies into schools. It's not just more time, with more classes or better graphic quality materials, it's also about improving our understanding of the connections between these many themes and subjects.

Part of our training is heavily based on learning boxes with thematic contents that lose meaning without their connections. This is how we also reproduce school and behaviors. There is no self-help book or coaching to produce the formula or magical alchemy, as there is a cycle that you don't want to break between creator and creature. The school that is there, inserted as a reproducer and at the same time producer of the social mirror, at the moment we do not want to delve into this issue, but it is good to remember that what exists, exists with us and them and not just because of "them".

BRIEF EXPERIENCE AND EXPERIMENT OF TEACHING

We worked at Escola Básica Francisco Altamir Wagner, in a rural location called Fundo Canos, in Rio do Sul-SC, from 1989-92 as a teacher and teacher of the current Elementary School with the subjects Geography and Science. At the school there was a space for a vegetable garden and it bordered a river and a still preserved area of the Atlantic Forest, so we carried out a project to produce seedlings from the Atlantic Forest using bags of milk collected in the neighborhood brought by

the students. There was a vegetable garden at the school and, in part of it, we established a nursery; the material used such as: diggers, shade, shovels, watering cans, etc. part was acquired by the school and the other by a donation from the school community. The project was carried out in stages in which the practice was continuous in a set of actions, among them, obtaining the materials to plant the seedlings and collecting seeds from trees around the school. The substrate for the seeds was made up of materials with different textures, including sandy and clayey fractions, and organic matter, all collected in the area and/or around the school and on the students' rural properties. To monitor the project, activities were recorded in a notebook, like a diary, based on observation of the development of plants in different environmental conditions, such as soil, light, humidity, etc. It is worth mentioning that in the 1990s, access to information was restricted to physical sources and the community's oral knowledge. The question arises regarding this quality of teaching: how did school work without the internet? Amazingly, it was possible (sic). For this practice, the actions were based on multi/transdisciplinarity that involved mathematics applying content such as proportion, ratio, percentage, among others. Sciences applying problem solving with questions: How did plants grow and did they grow more in soil A, B or C? What is the effect of organic matter on the soil? Which species has developed the most with more or less shade, whether ombrophilous or heliophilous. The Portuguese subject discussed writing topics with the elements we produced, such as conservation, erosion, etc. Students asked other questions and researched the scientific names of plants in the school library to catalog them. Other project actions such as lectures with agronomy and health professionals exposing topics relating to environmental issues; A solar clock was also built, we taught how to make a compass with sewing needles and bottle corks, we measured soil erosion with bottle caps and nails, in short, a set of experiences. The culmination of the project occurred with the science fair with the distribution of seedlings to the community, ending with the planting of seedlings at the school and in the neighborhood with prior planning with the municipal government sector.

It is a fact that based on the understanding of belonging, the project was developed based on the students' identity with their territory, given the productive socioeconomic relations between the community and the territory, therefore, themes such as soil protection, planting on contour lines, agroforestry, water protection, etc. were contemplated, breaking the content/empiricist dichotomy. This experience, through which we observe Geography with content and its relationships between themes, leads us to reflect on the individual's involvement with a common thought and when ideas are collectivized, they are grafted onto a collective mind, they gain significance from a greater expression of belonging, identity and importance. A rhetorical question emerges: how can we achieve the individual-society-species connection (Morin, 2001), breaking the bubbles of gross reality for an understanding of subtle reality, transforming us into people who care about something? In this case, our own life, which only exists in/through the coexistence relationships of everything around us. This in particular awakened in us one of the many lessons that Paulo Freire left us, who defines that teaching is done with and not for something. This results in a distinct relationship between content and form.

FOR SOME TRAIL

Thus, we return to what worries us, in search of the answers or questions that prick our restless souls, in these restless and isolated times. Like excited atomic particles, we sometimes slip into others or take trajectories of pure uncertainty in our actions. The many open windows open up fragments of the

world, which in themselves may even be parts of artificial intelligence systems produced in complex digital systems. Much of what we receive or think we are looking for, constitutes a sensory megaload of information, which has no meaning in itself, and by definition nothing has meaning in itself, meanings are attributions, but they profoundly transform the meaning of existence of individuals.

But what relationship does this have with the title given to the text? Networks, computers, smartphones, google, psychodeflation, food, climate change, teaching, education, etc. How does this relate? For example, at the moment we access unrestrainedly, countless machines that put us in a network, we are connecting a system of enormous proportions, which we cannot even imagine, in which its tentacles disorganize territories, reorganizing their functions, forms, governments and societies as well as education and school practice. The world of information has brought other ways of learning to learn, or not! We have the world in our hands, even if access is not democratic, the minimum scientific foundation, the presence of the teacher and their pedagogical practices makes/will make a difference in this world of/for learning: school. Manipulations of media impact such as the distortion market, the consumer consumption market starring YouTubers, bloggers, pseudoscientists and Wikipedias seem to inform and train the student: it is necessary to be attentive!

WHERE TO LAND

We will try to understand how connections are inseparable and that totality cannot be found by uniting fragments. We can see the emergence of the first and most general principle of systemic theory that states: "... it is the vision of change from the parts to the whole... essential or systemic properties are properties of the whole that none of the parts possess.

They arise from the Organization's relationships." In this line of uniting ideas, we have a good basis for reflecting on geographic practice, seeking what Rui Moreira (2013) calls the totality of man and half.

The sum, something that goes beyond the addition of parts, is the composite and complex totality of things that we understand and do not understand, if we understand, we begin to give it attention or personal and collective significance. As we understand more about the dynamics of the countless processes that form it, the more meaning we will give it. Like a learning cycle of listening to the infinite (GLEISER and RAVASI, 2018), content that is already within our reach. Society refers to the set of actions created by current human value systems, which implies the use of power and the processes of use of the territory that imply the density of technique used and the processes are the transformations of matter, energy and information – MEI.

As biological, individual and above all social beings, we express the desire to understand where we are immersed. Everything that surrounds us is landscape and we access it through the senses, but here the distinction between space and landscape is important and how we can work with it in terms of a logical set of scalar operations, which would provide a better approximation to reality.

The study of the landscape and its different levels of integration and dynamics gains an important integrative idea when we associate it, according to Milton Santos, with the use of the territory. The instantaneous significance of this maxim leads us to an immediate and simplistic reasoning, that in order to make use of the territory, it is necessary to know and understand its dynamics, in its structural, functional, procedural aspects and its forms at different scales that make up the relationship's society and nature – socio-environmental – that operate in/on the territory.

FINALLY (?)

In a brief passage by Fernando Pessoa with a view to drawing a conclusion, he tells us: "I'm nothing. / I will never be anything. / I can't want to be anything. / Apart from that, I have all the dreams in the world within me."

Thus, if "I can't want to be anything" and at the same time I have the desire to be, how do I (you-he-we-you-they) combine meanings and weave paths of/in our being/being in the world. The nullification that F. Pessoa proposes is not inferiorization, and this is important of being, but rather its implication for something more than being in the world, but providing oneself with its utopian driving force of an existential meaning: open a rhizome of possibilities.

In our collective construction, where does the school fit in? There is certainly a task of continuous learning, learning from Gaia, but to learn and apprehend we will go through the many habitats – areas – of knowledge. Each habitat is treated as a domain or area of knowledge and has often become a niche defended tooth and nail by its holders. Learning with Gaia means traveling through the habitats of knowledge and understanding that there is no separation between them, only transitions – ecotones – between them. The separation is always carried out by a logic that separates the cores of each of the biomes-areas of knowledge, but they are connected as a single body with distinct trajectories and histories.

When we separate nature and society, we believe we can account for two apparent interdependent rationalities in an organic complexity, like the human body itself, this is what we call Gaia. Gaia is not an entity or exteriority, but rather this totality, which for traditional people there is no division. So, always looking for paths, we seek understanding and realize that the so-called spelling of the Earth (geography) is the spelling of the juxtaposition of our senses in the World. This is where the significance lies in our continuous reformatting of thought, and how they can produce a kind of lens that replaces a previous one. New codes and imagination make it possible to see more connections and we advance further in knowledge, a kind of refined acuity. Learning is this continuous internalization of being nothing, but at the same time, a nourishment of a greater inexhaustible construct, because, apart from this, our nihilation in the world makes it possible to have 'all the dreams in the world'.

When we transplant a plant from one pot to another, for example, we cannot mechanically remove it from its soil to another place without mentally visualizing the infinity of micro roots and their organic/inorganic surroundings, which form its life system, so it is, partly, thought. In our eagerness built by excessive obsolescence and the typical anxiety of our time, we spend much of our time demolishing a previous idea, but without putting it back into its meaning of existence, we undo the ties that formed it. New ideas must emerge not as copies or neologisms, but as advances in knowledge. To this end, it is urgent to break the bubbles of reality and absolute truth(s).

REFERENCES

AB'SABER, Aziz N. **O que é ser geógrafo**. Rio de Janeiro: Record, 2007.

BERTRAND, Claude e BERTRAND, Georges. **Uma geografia transversal e de travessias: o meio ambiente através dos territórios e das temporalidades**. Org. Messias M. Passos. Maringá. Ed. Massoni, 2009.

CAPRA, Fritjof. **A teia da vida: Uma nova compreensão científica dos sistemas vivos.** São Paulo: Cultrix, 2012.

CARVALHO, Maria Inez e Moreira, Ana Paula. **Ampliação da esfera de presença do ser: uma expressão e muitos conceitos para pensar/fazer a formação de professor**. Salvador: Revista Plurais. 2016. https://www.revistas.uneb.br/index.php/plurais/article/view/2301/3321. Acesso em 10 out. 2023.

DANOWSKI, Deborah e CASTRO Eduardo V.de Castro. **Há mundo por vir? Ensaio sobre os medos e os fins**. - Desterro / Florianópolis: Cultura e Barbárie: Instituto Socioambiental, 2014.

GLEISER, Marcelo; RAVASI, Gianfranco. **À escuta do infinito**: estamos mais perto de Deus? Trad. Natan Marinho Júnior. Curitiba: PUCPRESS, 2018.

GONÇALVES, Carlos Walter P.. **Os (des)caminhos do meio ambiente**. São Paulo: Contexto, 1989.

HARAWAY, Donna. Antropoceno, Capitaloceno, Plantationoceno, Chthuluceno: fazendo parentes. In: **ClimaCom Cultura Científica** - pesquisa, jornalismo e arte I Ano 3 - N. 5 / Abril de 2016.

LATOUR, Bruno. **Diante de Gaia: oito conferências sobre a natureza no Antropoceno**. São Paulo/Rio de Janeiro: Ubu Editora/ Ateliê de Humanidades Editorial, 2020.

LEFF, Enrique. **Saber ambiental: sustentabilidade, racionalidade, complexidade e poder**. Petrópolis, RJ: Vozes, 2001.

LOVELOCK, James. **Gaia**, Oxford University Press, Nova York, 1979.

MOREIRA, Ruy. **Pensar e ser em Geografia**. Editora Contexto: Rio de Janeiro, 2013.

MOREIRA, Ruy. **Para onde vai o pensamento geográfico**. Editora Contexto: Rio de Janeiro, 2006.

MORIN, EDGARD. **Os sete saberes necessários à educação do futuro.** Tradução de Catarina Eleonora F. da Silva e Jeanne Sawaya 8ª. ed. Revisão técnica de Edgard de Assis Carvalho. São Paulo: Cortez; Brasília, DF: UNESCO, 2000.

NODARI, Alexandre. **Antropofagia. Único sistema capaz de resistir quando acabar no mundo a tinta de escrever**. In: **UFPR/ species**. https://www.academia.edu/17573406/_Antropofagia_%C3%9Anico_sistema_capaz_de_resistir_quando_acabar_no_mundo_a_tinta_de_escrever. 2015. Acesso em 12/06/2023.

SANTOS, Milton. **A natureza do espaço**. São Paulo. Ed HUCITEC, 1996.

SANTOS, Milton. **Técnica Espaço Tempo: globalização e meio técnico-científico informacional**. São Paulo: Hucitec. 1994.

SERPA, Angelo. **Por uma Geografia dos espaços vividos: Geografia e Fenomenologia.** São Paulo: Editora Contexto. 2019.

TOMASONI, Marco Antonio e TOMASONI, Sônia Marise R. P. Ecologia, Ética e Ambientalismo: prefácio de suas ambiguidades. In **Educação e Contemporaneidade. Revista da FAEEBA**. V11. Nº 18 jul/dez. 2002.