# TRAMA DE 'FLORESCERES' NO ENSINO DA CIÊNCIA. PERCURSOS ORIENTADOS POR ENTRELAÇOS DE AMOROSIDADE, CONFIANÇA E ALEGRIA, EM PROCESSOS AUTOPOIÉTICOS DE ENSINO E PRODUÇÃO DA CIÊNCIA

TRAMA DE 'FLORECERES' EN LA ENSEÑANZA DE LA CIENCIA. CAMINOS ORIENTADOS POR ENTRELAZOS DE AMOROSIDAD, CONFIANZA Y ALEGRÍA EN PROCESSOS AUTOPOIÉTICOS DE ENSEÑANZA Y PRODUCCIÓN DE LA CIENCIA

WEFT OF 'FLORESCERES' ON SCIENCE TEACHING. ROUTES GUIDED BY INTERLACE OF AMOROUSNESS, TRUST AND JOY, IN AUTOPOIETIC PROCESSES OF TEACHING AND PRODUCTION OF SCIENCE

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**RESUMO**: O texto tem caráter ensaístico, como resultado de 30 anos de docência, pesquisa e consultoria e supervisão de textos, ligados à produção da Ciência, em diversas áreas. Trama de 'floresceres', no ensino da Ciência, propõe apresentar sinalizadores encontrados nos percursos de ensino, orientados pelos pressupostos de amorosidade, confiança e alegria, em processos autopoiéticos, envolvendo estudantes de graduação, especialização, mestrado e doutorado em várias áreas, especial e diretamente, no trabalho desenvolvido em seis universidades brasileiras, com parcerias com pesquisadores de, pelo menos, oito países. O referencial teórico é transdisciplinar, marcado fortemente pela Esquizoanálise de Félix Guattari e Gilles Deleuze, bem como por pressupostos epistemológicos de mutação da Ciência Contemporânea, sinalizados por autores como Fritjof Capra, Roberto Crema, Boaventura de Souza Santos, Deepak Chopra, Amit Goswmani, Marcelo Gleiser, entre outros. Em Educação, destaca-se o pensamento de Paulo Freire, Francisco Varela e Humberto Maturana, sempre em associação aos pressupostos esquizoanalíticos, especialmente referente às máquinas autopoiéticas de produção de subjetividade. Em termos metodológicos, o texto tem orientação da estratégia autoral denominada Cartografia dos Saberes, em combinação com as Matrizes Rizomáticas, buscando a combinação entre as quatro trilhas de investigação: Saberes Pessoais, Saberes Teóricos, Usina de Produção e Dimensão Intuitiva da Pesquisa, com o alinhamento matricial dos fluxos narrativos, possíveis de serem apreendidos apenas em rizomas reflexivos.

**PALAVRAS-CHAVE**: Ciência. Ensino. Cartografia dos saberes. Matrizes rizomáticas. Amorcomtur. Amorosidade.

**RESUMEN**: El texto tiene carácter ensayístico, como resultado de 30 años de docencia, investigación y consultoría y supervisión de textos, relacionados a la producción de la Ciencia,

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en diversas áreas. Trama de 'floreceres', en la enseñanza de la Ciencia, propone presentar señalizadores encontrados en los caminos para la enseñanza, orientados por los supuestos de amorisidad, confianza y alegría, en procesos autopoiéticos, involucrando estudiantes de grado, especialización, maestría y doctorado en varias áreas, especial y directamente, en el trabajo desarrollado en seis universidades brasileñas, en colaboración con investigadores de por lo menos ocho países. El referencial teórico es trasdisciplinar, marcado fuertemente por la Esquizoanalisis de Félix Guattari y Gilles Deleuze, así como por supuestos epistemológicos de mutación de la Ciencia Contemporánea, señalados por autores como Fritjof Capra, Marcelo Gleiser, entre otros. En Educación, se destaca el pensamiento de Paulo Freire, Francisco Varela y Humberto Maturana, siempre en asociación a los supuestos esquizoanaliticos, especialmente referente a las máquinas autopoiéticas de producción de subjetividad. En términos metodológicos, el texto tiene orientación de la estrategia autoral nombrada Cartografía de los Saberes, en combinación con las Matrices Rizomáticas, buscando la combinación entre las cuatro trillas de investigación: Saberes Personales, Saberes Teóricos, Usina de Producción y Dimensión Intuitiva de la Investigación, con el alineamiento matriarcal de los flujos narrativos, posibles de ser aprehendidos solo en rizomas reflexivos.

PALABRAS CLAVE: Ciencia. Enseñanza. Cartografía de los Saberes. Matrices Rizomáticas. Amorcomtur. Amorosidad.

**ABSTRACT**: The text has an essayistic character, as a result of 30 years of teaching, research, consulting and supervision of texts linked to the science production, in several areas. The weft of 'floresceres'<sup>2</sup>, on Science teaching, proposes to present signs found in the teaching pathways, guided by assumptions of amorousness, trust and joy, on autopoietic process, involving undergraduate, specialization, master's degree and doctorate degree student of many areas, specially and directly, in the work developed on six Brazilian universities, with partnerships with researchers of, at least, eight countries. The theoretical referential is transdisciplinary, strongly marked by Schizoanalysis of Félix Guattari and Gilles Deleuze, as well as by epistemological assumptions of contemporary science mutation, signaled by authors as Fritjof Capra, Roberto Crema, Boaventura de Souza Santos, Deepak Chopra, Amit Goswmani, Marcelo Gleiser and others. On education, stands out the thought of Paulo Freire, Francisco Varela and Humberto Maturana, always in association to the schizoanalytical assumptions, especially regarding the autopoietic machines of subjectivity production. In methodological terms, the text has a guiding of authorial strategy named as Knowledge Cartography, in combination with Rhizomatic Matrices, seeking the combination between four investigation paths: Personal Knowledge, Theorical Knowledge, Plant of Production and Intuitive Dimension of the Research, with the matrix alignment of narrative flows, possible to be apprehended only in reflective rhizomes.

**KEYWORDS**: Science. Teaching. Knowledge Cartography. Rhizomatic Matrices. Amorcomtur. Amorousness.

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<sup>&</sup>lt;sup>2</sup> Floresceres is translated as flourish, bloom, blossom. The word will be kept in its Portuguese write as a resource of uniqueness used by the author.

#### First interlaces of the plot

This text stems from the intention to share reflections, resulting from processes experienced in interactions with researchers in learning and investigative paths, at various levels. Due to the schizoanalytic and chaosmotic characteristics of my work, in these 30 years of teaching, what I have to write is the result of these processes, in a mixture of epistemologicaltheoretical reflections and experience report Amorcomtur!, Study Group on Communication, Tourism, Lovingness and Autopoiesis , from the University of Caxias do Sul, with the proposition of the methodological strategy Cartography of Knowledge and Rhizomatic Matrices, for teaching research. The proposition 'weft of floresceres' associated with Education is inspired by work developed at the Federal University of Amazonas, as a senior visiting researcher, collaborating professor in the Postgraduate Program in Communication Sciences, Collaborating Professor in the Postgraduate Program in Amazonian Society and Culture, postdoctoral study in Amazonian Society and Culture, speaker on several occasions, consultant in projects of the Dean of Research and Graduate Studies, focused on the discussion of amorousness, with meetings held with managers from all areas of the institution. In that time, in interaction with the Amazon, I understood the knowledge of the forest, of floresceres, that already had in me, in the feeling, in the power of being forest, capable of surviving the weather and being obstinate in blooms, in every corner, every day.

Over these 30 years of experiences, reflections and studies on the teaching of research, it was possible to perceive that the intertwining of the assumptions of amorousness, trust and joy is decisive for the production of Science, which means autopoiesis for the researcher and the investigated field. In this sense, the forest and flowering metaphor helps to understand that Science needs to be sown, nourished, has time to mature and sprout and only flourishes with the power of life activated. Therefore, amorousness, as an ethics of care, combined with trust in oneself and in the other, are crucial aspects, without which no mechanical machinery, no technological apparatus or sophisticated laboratory will give rise to knowledge.

The Forest, as an epistemological assumption and existential and theoretical metaphor, is one of my great marks and orientations. Forest is weft and process, constant activation of process. It would be better to say that the forest, in this sense, is always a verb, to flourish. For this reason, it is important, in this text, to get involved in the intricacies of the process of constitution of this forest, or of this weft of floresceres, to which I refer.

The methodological strategy for the production of the text and of my investigations - as investment actions in certain directions - is the Cartography of Knowledge. I created this

strategy with the initial intention of helping beginning researchers who, very often, feel lost and don't know where or how to start. Gradually, I realized that all of us, regardless of the stage of scientific maturity that we are at, at certain times, feel lost and, more than that, I understood that this is not a problem or a deficiency or lack of capacity of the researcher. On the contrary, I have said that, in research and in life, getting lost is also a path, especially a path for new discoveries, for the agency of new paths, with more creativity and with the more intense activation of life power. Trying to get back on the supposed path, we manage escape lines (in the schizoanalytic sense, vicinal paths that escape from the hard - addicted lines) and produce a new road, usually with several blooms.

In summary, the Cartography of Knowledge is a strategy to approach the studied phenomenon, which is guided by four main tracks, managed simultaneously and that are intertwining: Knowledge Personnel, Theoretical Knowledge, Production Plant and Intuitive Research Dimension. The agency of the production of Cartography is done with the understanding that it is a kind of mutant mapping, produced with approximations and investigative actions. Suely Rolnik (1989), one of the authors who inspire this proposition, presents in her book Sentimental Cartography, the Cartographer's Manual, as a sensitive methodological basis for the production of her research on female subjectivity. In this text, she states that cartography is a kind of map that is made following the changes in the landscape. Like this. We can think that, when we are going to do a research, we need to start by mapping the resources we have, what we already know, what we want, what we feel in relation to the object of study, but, when thinking about it, we can remember that map is the delimitation of a fixed territory, establishes the limits and gives them visuality, while cartography, as a concept of Geography, is written based on the changes of the geographical maps, it already has, in itself, the procedural character, in the sense of understanding the mutations, the transformations between a 'geographic map', a map and another.

Suely Rolnik brought the concept to psychosocial processes, I have associated it with many phenomena and processes from different areas, in the transdisciplinary perspective in which I have been working, as a research professor in the areas of Communication, Tourism, Education, Psychology, Amazonian Society and Culture, Social Work, Medicine, at the following Brazilian universities: University of Taubaté (Taubaté/SP), Lutheran University of Brasil (Canoas/RS), University of Vale do Rio dos Sinos (São Leopoldo/RS), Federal University of Rio Grande do Sul (Porto Alegre/RS), Federal University of Amazonas (Manaus/AM) and University of Caxias do Sul (Caxias do Sul/RS), directly, not to mention sporadic work with lectures, workshops, panels, extension courses, in so many others. I have

also been applying the Cartography of Knowledge, in the supervision of professional research texts in practically all areas of Knowledge, from Philosophy to Mathematics, going through Medicine, Agribusiness, Geography, Urbanism, Social Work, History, Education, Psychology, Communication, Tourism, Marketing, Administration, Law, Engineering, Executive Secretariat, among others, in professional technical work that I do at the company Pazza Comunicazione, from Porto Alegre.

In line with the Cartography of Knowledge, the narrative strategy of this text follows the indicated trails, offering the reader signs of the paths, from the personal path of the researcher-author, through the encounter with the knowledge of others, on the Theoretical Knowledge Trail, followed of the Plant of Production Trail, with an account of some processes in the history of Amorcomtur, all traversed by the Trail of the Intuitive Dimension of Research, the expression of the power of invisible, unspeakable, intense and potentiating flows of Science production and teaching-learning relationships.

#### **Weft of floresceres – Personal Knowledges**

At first, it may seem strange for a scientist to talk about her production and her teaching craft, using the expression 'weft of floresceres'. For some people, unsuspecting, this may sound childish, naive. Alert: it is not an expression used at random, without reflection, without deep conviction. It is not just any expression, used only by the poetics of its construction. On the contrary, it is used by the poetics of its construction, but not 'just', but yes, 'above all' for the poetic potency of its construction - poiesis, production, the driven power of various blossoms. Its construction, as an epistemological-theoretical assumption, comes from a long time, in the inscription in the life of a child, who grew up in the interior of São Paulo 'making flowers', in a family flower factory, which was installed in a small town, in old building of the only local cinema, which had closed. The factory involved the direct work of more than 40 families, in the production of leaves and flowers, of the most different types, of fabrics, which were then gathered in bouquets, arrangements, boxed and sent to various parts of the country and the world. It was the Santa Rita Flower Factory, in the municipality of Guarantã, São Paulo, owned by her family, who, years later, would be a writer, journalist, researcher, teacher, scientist, committed to making more and more students in love with the production of knowledge, Science.

The idea of producing artificial flowers to sell came from a dream of my mother, with my nonno (grandfather, in Italian), who had died a long time ago. From the memory of that dream, production started and a process of flourishing of activity started in the family, which later expanded to many other families and was responsible for the support of many people. The flag here is the intuitive dimension, capable of helping us to solve problems, in research and in life. There are invisible beacons, which spring from subconscious levels, when faced with existential and investigative problems. The fact that we dedicate ourselves to being involved with the situation intensely and affectionately makes the universe around us move around solutions. Thus, it is very common for them, the solutions, to spring from fragments of everyday life, from unexpected places, sometimes when we sleep or we are apparently disconnected with the core of the problem. Following the dream is also a metaphor, at the same time as a commanding voice for the practice of flourishing in Science. It has been like that, for me, also in research and in the teaching practices of flowering in Science. The Scientist is a guy who dreams and make the dream happen!

Sunny morning in the small Guarantã, interior of São Paulo, region of Bauru. The side doors of the old cinema building opened and the employees began to arrive, to resume their places in the production of flowers. Some went to the presses and soon turned on the fire, to start pressing the petals, which left there with marked friezes, which would give the beauty of the flower, later, in the composition of the arrangement. Others made the cores, or glued the leaves to the little sticks that would allow them to be added to the flower arrangements. Some stuck the flowers on their cores and hung them on clotheslines. Gradually, the clotheslines were filling up, vases were also becoming full of branches produced carefully with the joining of flowers, flowers and buds. The environment was colorful. The production was cheerful, especially because it always had, as a brand, the accompaniment of a soundtrack carefully chosen by the factory's owner, an Italian woman living in Brazil since she was a child, who learned to like samba and popular music. It itself emanated potent energy of production, of more and more blossoms, because there she was whole, authentic, vibrant, lovingly poured, in the strong feature of this characteristic in the Italians (Research Journal Fragment, Personal Knowledge Trail).<sup>3</sup>

I think I learned to be a teacher with her, Rita Cardinale, with that vibrant energy, that mobilizes souls, to produce flowers, with art, with technique, with the existing resources, with

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<sup>&</sup>lt;sup>3</sup> Manhã de sol na pequena Guarantã, interior de São Paulo, região de Bauru. As portas laterais do antigo prédio do cinema se abriam e começavam a chegar os funcionários, para retomar seus lugares na produção de flores. Uns iam para as prensas e logo ligavam o fogo, para começar a prensar as pétalas, que dali saiam com frisos marcados, que dariam as belezas da flor, mais tarde, na composição do arranjo. Outros faziam os miolos, ou colavam as folhas nos cabinhos que iriam permitir que elas fossem juntadas aos arranjos de flores. Alguns colavam as flores nos miolos e as penduravam em varais. Aos poucos, os varais iam se enchendo, vasos iam ficando também plenos de galhos produzidos cuidadosamente com a junção de flores, flores e brotos. O ambiente era colorido. A produção era alegre, até porque tinha sempre, como marca, o acompanhamento de trilha sonora cuidadosamente escolhida pela dona da fábrica, uma italiana radicada no Brasil desde criança, que aprendeu a gostar de samba e música popular. Ela mesma emanava energia potente de produção, de mais e mais florescimentos, porque ali estava inteira, autêntica, vibrante, amorosamente derramada, no traço forte dessa característica nos italianos. (Fragmento de Diário de Pesquisa, Trilha Saberes Pessoais)

deadlines to be met to deliver orders, with the smoothness of petals, with mechanical gear force<sup>4</sup> to be used to cut, press, crimp, make the inserts and endings, to assemble the rhizomatic branches<sup>5</sup> of flowering, the arrangements delicately organized to communicate and produce a pleasant sensation, by the careful connection of interlacing flowers, flowering, the result of so many works. Any resemblance to academic life and the profession of an educator, florist of science flowering processes, is not a mere coincidence. It can more easily be understood as synchronicity<sup>6</sup> and the activation of morphogenetic fields<sup>7</sup>, universes of powerful energies that make possible the production, the reinvention of subjects, processes, practices, paradigms, with power capable of overcoming any and all types of challenges and difficulties.

In that sense, there was a moment, when I tried to finish the qualification report of my dissertation, in one of the many dawns in which I dedicated myself to Science, in life. The text was stuck. I couldn't finish it, until a 'crossed thought' - so I called it in the very text I wrote - reminded me of other dawns when I dedicated myself to finish ordering flowers, with my family, there, together, obstinate to meet deadlines and do good, in our productions. I understood, then, that I was experiencing a 'fold', schizoanalytically speaking, an unfolding of the same scene (ALMEIDA, 2011). As I said in the text, the dawn of crossed thoughts, I produced flowers, with the joy of a production shared with people I loved and still love today. I was not sure how these flowers would be received by those who found them, later in life. I understood that the same thing happened, then, with my word-flowers, produced in the dark of dawn, with affection, but without certainty about how they would be received. In both processes, I was encouraged by the confidence in becoming, hope, trust in working partnerships, the love that crossed and that pushed me to do more and more... thinking... let's... do it with love, do your part... and then, deliver, surrender. The risk, the leap, the joy, the happiness is in the production itself and in the glimpse of the gaze, of the touch on the affections,

<sup>&</sup>lt;sup>4</sup> Machinic gear is a term that I use, with schizoanalytical basis, meaning reference to the great abstract gears, the great bonds of production of the subject. The machine, here is not only the concrete machine, but mainly the invisible mechanisms that produce the subjects entangled in gears of ways of life and production of themselves. A very interesting text by Guattari (1992), in this sense, is entitled *Chaosmosis Caosmosis*. A New Ethical-Aesthetic Paradigm.

<sup>&</sup>lt;sup>5</sup> The expression here is being used in the sense attributed by Deleuze and Guattari (1995), especially in the book, A Thousand Plateaus n.1. Rhizome is a concept of botany, a kind of root that has an irregular, differentiated, derivative sprout, without the possibility of rigid prediction. There is an irregularity in the sprouting of the rhizome and this is the main data of significance here.

<sup>&</sup>lt;sup>6</sup> The term "synchronicity" was proposed by Carl Gustav Jung, to represent coincidences that would happen not by chance, but with a purpose. The concept was coined at the time of partnership with the physicist Wolfgang Pauli and was made public in a book authored by both of them, published in 1952. In that book, Pauli wrote the article: "The influence of archetypal ideas on Kepler's scientific theories", and Jung published the text: "Synchronicity: a principle of acausal connection" (PESSOA JR, 2007-2011).

<sup>&</sup>lt;sup>7</sup> Theory created by Rupert Sheldrake, an English physiologist, corresponding to invisible structures that extend in space-time and which, according to Sheldrake, shape the shape and behavior of all systems in the material world.

the shiver in the skin, the enchantment by the possibility of meeting blooms, flowers, words, beings, feelings, sayings, all together, intertwined in bodies intensities, which interact in the productions that are worthwhile.

The encounter with the forest. Another inspiration for the epistemological-theoretical assumption of flowering, as I have already mentioned, is my encounter with the Amazon rainforest. I lived a few years, from 1990 to 2010, seeking to improve research teaching processes and, among the mental strategies I developed, was to compare the research production process with a trip, more specifically with a trip in the forest. So, in 2010, I was invited by Professor Doctor Gilson Vieira Monteiro, at the time coordinator of the Post-Graduate Program in Communication Sciences at the Federal University of Amazonas, to talk about the concept of passion-research and about the more open methodology view, sensitive, that I was already proposing. It was a magical moment, for me. On the same trip, I met with the professor and today a great friend Jorge Gonzalez, from Mexico, who also taught a course on Research Methodology - he was already an international exponent on the subject. I, his confess admirer. So, that day, when I saw the auditorium filling up for my lecture, I thought: "My God, what an arrogance, how can I tell these people that doing research is taking a trip through the forest, if I had never come close to forest". At that moment, then, I decided to get off the stage and go to the forest to ask for permission to speak, to ask permission. Later, another teacher and friend, Wilson Nogueira, told me that I did what the Indians recommend, as a celebration and respect, to enter the forest. It is necessary to ask permission, respectfully to the beings of the forest. I did. At the end of my speech, at the exact moment when people applauded, it started to rain, but a torrential rain, Amazonian. Professor Gilson approached me and said that rain was the forest's way of saying that it wanted to germinate the seeds of the 'passion-research' - my concept - that I had taken there. Thrilled, I cried, it rained.

At another time, while working in the office of the Pro-Rector of Research and Graduate Studies at UFAM, I looked up and was impacted by the image. I spent some time there thinking, feeling, reflecting and, myself, immersed in the fabric of the forest, the fabric of flourishing. At that moment, I started to answer a question that I had been asking myself about what linked me so strongly to the forest, where there was so much intensity in my bond, in my relationship with the forest, that I was always afraid of animals, fear so many things... why did the forest enchant me so much and why did I feel it was part of myself? The photo gave me the answers.

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**Figure 1** – Weft of the Amazon forest

Source: From the author.

The weave of flourishes enchants because the strength is in the intertwines. The same happens in teaching, in Science, in life. I recall here, another text that I wrote and presented at the National Seminar of Postgraduate Studies in Tourism, of ANPTUR, in 2019, entitled "Amar la trama más que el desenlace!". Reflections on the propositions Ecosystemic Plot of Science, Cartography of Knowledge and Rhizomatic Matrices, in Tourism Research (BAPTISTA, 2019).

## Weft of floresceres – Theoretical Knowledges

The image of the forest is a signal for the constitution of the epistemological-theoretical fabric of my studies. The synthesis of the assumptions is in the word 'weft', more especially in the combination 'weft of floresceres'. So, let's go step by step. Express weave interlacing, braiding, entangling threads, flows, *phyluns* that come together and love by combining a knot or several. This idea leads me immediately to the thinking of Ylia Prigogine (2001), when she explains her dissipative structures, helping to understand that the plot itself is not fixed, but procedural, because threads that escape from it, opening up new possibilities.

Trama is also the web of life, in which the connection with systemic thought is easily understood, whose trajectory and assumptions are well presented by Fritjof Capra (1997), in the book The Web of Life. It is, therefore, here a web of ecosystemic life, working with assumptions of Arne Naess's Deep Ecology, also presented by Capra, assumptions that extrapolate the relationship between biotic and abiotic factors, for the composition of a

chaosmotic plot - of chaos, osmosis, in the cosmos - of visible and invisible elements, fields of intense energies too, in which the holo notion takes place, everything and everyone make up the pulsating, mutant living web weave, an autopoietic machine to be taken care of and constantly managed in the educational processes. The notion of chaosmosis is based here on Felix Guattari (1992), in the book *Chaosmosis*. A New Ethical-Aesthetic Paradigm and Edgar Morin (2013), in Science with Consciousness. The holo view also refers to the text by Roberto Crema (1989), Introduction to the Holistic View.

Wefts are the people who come together in loving relationships, in processes guided by the notion of Love, by Humberto Maturana (1998), when he teaches that Love is the recognition of the other as a legitimate other in coexistence. At Amorcomtur!, we have been working on this concept as a kind of mantra, opening it up to understand that the 'other is another', it's not me; it is different, it is another existential universe - and here I am already associating the schizoanalytic view of the existential universes of references, also worked on by Guattari, in the book Chaosmose. Well, the other being another, the other is legitimate, which immediately leads to the understanding that he has the right to be another, which gives him legitimacy to be so, different, diverse, composed of other bundles of meaning and constitution of his universe. Respecting it, in its differences, I invest in coexistence, which concludes the concept, when the author complements it, stating that this recognition of the other as legitimate another is something that occurs 'in coexistence'.

So, the big investment is to live with differences and respectfully intertwine ourselves in the web of life, to make our differences complementary bonds and drivers of more life power and other links, other becoming bonds, that connect us with other beings and in this way we can continue to flow affections, feelings, knowledge. This is done in the daily lives of Amorcomtur Education, in its various manifestations, in conversation circles, our Chaotic Encounters, in classes, in the corridors, in events, in the texts produced. Thus, web-plot-loving subjects intertwine with other subjects, which enhances the weft of floresceres in Education.

Wefts are also the moments and processes of Education. It is necessary to understand here that the presuppositions of procedurality and complexity constitute the movement of the weft of floresceres. The weft is pure movement, a constant flow of entanglements, like the phyluns and branches of a forest, which are also entangled and coupled, in flows of generation of new life. In this process, each moment and subject needs to be taken care of, in its power of convergence and passing node, to remember Prigogine. Flows that converge, that meet and signal becoming of new flows, new passages, new encounters. This means that what is produced in Education is not done in the classroom, only, but in the derivative, dissipative process

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resulting from what happens there and in so many other moments. What is produced in Education is not limited to the classroom or even schools or universities. What is produced in Education spreads rhizomatically throughout the entire ecosystem, changing the lives of most people. That is why, especially, it needs to be so carefully and valued. The world of Education triggers the power of collective transformation, involving subjects and all beings and elements of the ecosystem, from its grandiose manifestations to the tiniest presences in flows, substances and energies.

Well-woven fabrics generate new lives, generate new buds and combinations, generate the flourishing of new blooms, and here redundancy is purposeful.

## What teaching and what science am I talking about?

There was a time, in my life, when I supervised the text of Lígia Hecker Ferreira's master's dissertation (1998), which studied what she called The Malaise at School. I then provoked her to look for the etymology of the word school, because, by nature and craft, I have an appreciation for words and I think that they are like boxes of meaning puzzles. As we decided to open these boxes, we found gems and marks from the past, which help us to understand the world and the presence of this word among us, even today. Finally, when searching, she found 'in the etymological background of the word school' the idea of rest. Education, school, rest, coping with malaise... we spent a lot of time discussing the relationship between these senses. I proposed to think that the school is a place of 'land', where one goes to land, to freshen up from the turbulence of life, and after that landing, to take other flights. Of course, I understood the marks of a collective process of transformation in Education, which for a time was marked by the encasement of educational processes, the responsibility of tutors, whose activity was carried out in the homes themselves, of those who could afford the access to education. knowledge. Thus, the deterritorialization of the learning universe resulted from a whole process of socioeconomic and political transformations, with the displacement to a 'place' of rest and leisure, the 'school'.

On the path of etymology, it is interesting to observe the relationship between rest, break and leisure, linked to school, which, in contemporary capitalistic logic, is at odds with what children and young people seem to feel and think about school.

It is observed in Latin as *schola*, on the Greek *scholé*, to understand the idea of leisure, recreation or free time, because, since its origins, for the Greeks, learning was related to the idea of entertainment and individual interest,

distancing itself obligations and work (ETMOLOGIA, 2020, authors' highlights).8

The word "**school**" has its origin in ancient Greece, with **SKHOLE**, which evolved to Latin **SCHOLA**. The terms of both languages have the same meaning, "discussion or conference", but they also mean "slack, leisure". This last meaning, in this case, would be an idle time where it was possible to have an interesting and educational conversation (GRAMATICA.NET, 2020, authors' highlights).<sup>9</sup>

Equally curious is the etymology of Education. Let's look at it from two sources:

The word "Educação" (Education), in Portuguese, comes from "Educar", the origin of this, in turn, is from the Latin EDUCARE which is a derivative of EX, which means "outside" or "outside" and DUCERE, which has the meaning to "guide", "instruct", "lead". In other words, in Latin, education had the literal meaning of "guiding out" and it can be understood that it was leading both to the outside world and outside itself (GRAMATICA.NET, 2020, authors' highlights). 10

Education is the nominalized form of the verb educate. Taking advantage of the contribution of Romanelli (1960), we will say that education came from the Latin verb educare. In it, we have the e- and the verb - ducare, ducere. In italics, where Latin came from, ducere is attached to the Indo-European root DUK-, zero degree of the root DEUK, whose primitive meaning was to lead, to lead, to guide. Educare, in Latin, was a verb that had the meaning of creating (a child), nurturing, growing. Etymologically, we could affirm that education, from the verb educate, means "to bring the idea to light" or philosophically to make the child move from potency to act, from virtuality to reality. Possibly, this word entered the language in the 17th century (MARTINS, 2005, p. 32, emphasis added).<sup>11</sup>

I like to think of guiding outward and moving from power to act, as long as it is understood that Education takes place in the weft, in the intertwining of subjects and results

<sup>&</sup>lt;sup>8</sup> Observa-se no latim como *schola*, sobre o grego *scholé*, para entender a ideia de lazer, recreação ou tempo livre, pois, desde suas origens, para os gregos, a aprendizagem esteve relacionada à ideia de entretenimento e interesse individual, distanciando-se das obrigações e do trabalho (ETMOLOGIA, 2020, grifo nosso).

<sup>&</sup>lt;sup>9</sup> A palavra "**escola**" tem sua origem na Grécia antiga, com **SKHOLE**, que foi evoluindo até o Latim **SCHOLA**. Os termos de ambas as línguas tem o mesmo significado, "discussão ou conferência", mas também significavam "folga, ócio". Este último significado, no caso, seria um tempo ocioso onde era possível ter uma conversa interessante e educativa (GRAMATICA.NET, 2020, grifo do autor).

<sup>&</sup>lt;sup>10</sup> A palavra "Educação", em português, vem de "Educar", a origem desta, por sua vez, é do Latim EDUCARE que é uma derivado de EX, que significa "fora" ou "exterior" e DUCERE, que tem o significado de "guiar", "instruir", "conduzir". Ou seja, em latim, educação tinha o significado literal de "guiar para fora" e pode ser entendido que se conduzia tanto para o mundo exterior quanto para fora de si mesmo (GRAMATICA.NET, 2020, grifo do autor).

<sup>&</sup>lt;sup>11</sup> Educação é a forma nominalizada do verbo educar. Aproveitando a contribuição de Romanelli (1960), diremos que educação veio do verbo latim educare. Nele, temos o prevérbio e- e o verbo – ducare,- dúcere. No itálico, donde proveio o latim, dúcere se prende à raiz indo-européia DUK-, grau zero da raiz DEUK,cuja acepção primitiva era levar, conduzir, guiar. Educare, no latim, era um verbo que tinha o sentido de "criar (uma criança), nutrir, fazer crescer. Etimologicamente, poderíamos afirmar que educação, do verbo educar, significa "trazer à luz a idéia" ou filosoficamente **fazer a criança passar da potência ao ato, da virtualidade à realidade**. Possivelmente, este vocábulo deu entrada na língua no século XVII (MARTINS, 2005, p. 32, grifo nosso).

from this intertwining and the relationships of trust and joy that are established in the processes of teaching-learning.

At the same time, I emphasize that the Science of which I speak, here, in this text, is that which makes peace with common knowledge, with the dimensions of common wisdom, not encastellated. Here, there is a direct reference to the teachings of Boaventura de Sousa Santos, in several texts, but I highlight the speech in A Discourse on Sciences in the transition to a postmodern science. "Postmodern science, when sensocommunizing itself, does not despise the knowledge that produces technology, but understands that, like knowledge, it must be translated into self-knowledge, technological development must be translated into life wisdom" (SANTOS, 1988, p. 70).

It is also about Science in the web of life, in the recombination of the great gears and in the recognition of the powers of the autopoietic machines of production of subjectivity and knowledge, subjective machines and techniques used to understand the world, in the engendering of non-significant incorporeal dimensions, due to the abstract intensities of the desiring and affectation processes (of actions that mobilize the affections) of the subjects (GUATTARI, 1992; GUATTARI; DELEUZE, 1995). The results of scientific productions can be numbers, processes, substances or equipment, but what seems relevant to me is that these processes correspond to the autopoiesis of the subjects and institutions that promote Science, its teaching and production, always in line with values that generate the common good. This considering that its actions have a derivative, dissipative and rhizomatic characteristic, in the sense of spilling sprouts, blooms, in society, in the whole ecosystem, generating transformation, transmutation, which, we hope will be responsible ecosystemically, focused on the common good. Thus, the notion of Science, here, has an enactive and inscriptional character. The enactive character refers to the thought of Francisco Varela (1992), when he proposes the concept of enation, to refer to knowledge. The inscriptional word was coined in my thesis, already related to the process of writing Science, as a process in which the subject inscribes, creates and triggers becoming, other inscribed worlds and in intertwined power of life, other flourishes (BAPTISTA, 2000).

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<sup>&</sup>lt;sup>12</sup> "A ciência pós-moderna, ao sensocomunizar-se, não despreza o conhecimento que produz tecnologia, mas entende que, tal como o conhecimento, se deve traduzir em autoconhecimento, o desenvolvimento tecnológico deve traduzir-se em sabedoria de vida"

## Weft of knowledges - Plant of Production Amorcomtur!

To continue reflecting on the Weft of Floresceres in the Teaching of Science, I now rescue a little bit of Amorcomtur's journey! Study Group on Communication, Tourism, Amorousness and Autopoiesis. In fact, in coherence with the theoretical framework, I realize that the Amorcomtur path is rhizomatic, which makes them, in fact, derivative and dissipative paths of sprouts. The group emerged in 2011, at the University of Caxias do Sul, guided by two major orientations, with the conceptual assumptions that give it its name: amorousness and autopoiesis. Amorousness as an ethics of the relationship, ethics of care, as an intense bond of affection and respect that unites us and which, we believe, like Maturana (1998), forms the basis of the social bond. Autopoiesis as self-production, transposed to the idea of reinventing oneself, in intertwining with other members of the system. The concept of Maturana starts from his studies from Biology, in which he refers to autopoiesis from cellular processes. I understand, however, that it is pertinent to think of autopoiesis for broad complex systems, such as Education, Communication, Politics, Tourism, some of which are addressed by Maturana himself. I highlight, in particular, the fact that the autopoiesis process is only triggered if the cell is in the system, in the middle of the network of recurring actions of cooperation of the internal flows to the system. This seems interesting to me to think about Education and also to understand the autopoietic character of Amorcomtur. The finding is almost obvious: the process of autopoiesis and reinvention is only possible when the members are 'together', in the system, in recurring interactions, pulsating with life.

In this sense, I realize that in the paths taken so far, the **marks of amorousness, confidence and joy have been constant and signaling potency**, in autopoietic processes of teaching and production of Science. Amorcomtur has been constituted as a field of empowered powers, in which trust and joy cross our actions, our relationships, various events, contributing to the agency of singular potentialities and the expansion and mobilization desiring to enlist more and more loving researchers, for the joyful production in the weft of scientific floresceres of Amorcomtur.

Well, of the routes, there is that of the group itself, as a collective, which appears in 2011. In the same year, it was already called to join the National Network of Communication Research Groups, organized by Professor Doutor Ciro Marcondes Filho, as a differential group, to discuss ontology, epistemology and methodology, of what this author was already calling the New Theory of Communication. In 2013, with the association of the group's path to the Graduate Program in Tourism and Hospitality, at the University of Caxias do Sul, Amorcom!

(original name) changed to Amorcomtur!, signaling the interface between the two fields of knowledge. From an isolated initiative of the leading researcher, with a few students, the group started to produce links, bonds with researchers, both at the university itself, but also with other Brazilian universities.

After participating in several national events, already with interstate trips, in 2014, we had the first participation of members of the graduation, in international events, which happened at the II World Congress of Ibero-American Communication, which took place in Braga, Portugal, and at the XI Lusocom, which took place at the University of Vigo (Campus of Pontevedra) Galicia - España. At the time, two members of Amorcomtur, journalism students, Jennifer Bauer Eme and Ronaldo Velho Bueno, presented works. They were the only graduate students at both events.

A landmark moment was also the approval of the AMORCOMTUR" project Portuguese-Brazilian Plant of Knowledges. To discuss intercultural investigative journeys, from the triggering of amorousness and autopoiesis, in conversation circles, as an affectation device for research - UCS-UFAM-UFRN/UC, in UCS-Santander call for proposals, which made possible a new trip for the Europe, this time for integration with the University of Coimbra. On the occasion, we interacted with several researchers in the field of Tourism, such as professors Doctor João Luis Jesus Fernandes, researcher at the Center for the Study of Geography and Spatial Planning (CEGOT), Norberto Pinto dos Santos, Associate Professor with Aggregation at the Department of Geography of Faculty of Letters of the University of Coimbra and Researcher at the Center for Geography and Spatial Planning Studies. Coordinator of the Master's in Tourism. A special highlight for the meeting with Boaventura de Sousa Santos, Full Professor and Director of the Center for Social Studies at the University of Coimbra and Director of the 25th April Documentation Center at the same University.

I would also like to highlight, with the Federal University of Amazonas, which started in 2015, the Project, at the post-doctoral level, in the Post-Graduate Program in Amazonian Society and Culture, entitled Chaosmotic Interlaces with Amazonian Knowledge: Traveling the Inscriptional Trails of the 'Science in Movement', in the Society and Culture of the Amazon.

At the University of Caxias do Sul, the other projects developed: TRAMA AMORCOMTUR! Complex communicational and subjective processes that enhance tourism, considered on the basis of amorousness and autopoiesis (2016-2018); TOURISTIC-COMMUNICATIONAL-SUBJECTIVE ECOSYSTEMS: Theoretical-methodological signals, in the study of tourist-communicational-subjective ecosystems, considered from their ecosystemic, chaosmotic and autopoietic characteristics (2018-present); and 'Com-versar'

Amorcomtur - Places and Subjects! Sensitive transversal narratives, involving subjects in processes of deterritorialization - Brazil, Spain, Portugal, Italy, Mexico, Colombia, Egypt, Saudi Arabia and India.

With postgraduate students, Amorcomtur researchers, Science productions flourished with the following approaches, which in turn sprang up in several articles for publication in journals and presentation at national and international events. I highlight here the master productions, from which so many others flourished:

**Table 1 - Matrix Productions** 

Author	Title	Type	Year
Renan de Lima da Silva	Em ondas com o turismo: o olhar da comunidade sobre o turismo nas praias do farol de Santa Marta.	Dissertation	2015
Charlene Brum Del Puerto	Turismo em cemitérios. um estudo sobre o cemitério como patrimônio e atrativo turístico, considerando a ambivalência morte e vida das necrópoles.	Dissertation	2016
Carlos Leoni	Jammo in Cantina? C que sabe! a italianidade na gastronomia paulistana: marcas de hospitalidade e amorosidade.	Dissertation	2017
Renato Dos Santos Lima	Turismo, hospitalidade e amorosidade: os sujeitos-devotos do círio de nossa senhora de nazaré em belém do Pará.	Dissertation	2017
Natalia Biazus	Turismo, comunicação e a perspectiva trama. sinalizadores- síntese do festival brasileiro de música de rua e suas relações com o turismo em Caxias do Sul.	Dissertation	2017
Newton Fernandes de Ávila	Dança circular: um corpo que se expressa e acolhe	Dissertation	2017
Adriano Silva Rodrigues	Aturá: trançado de saberes amazônicos. estudo de caso da rádio Tribos do Norte.	Dissertation	2017
Vanilson Pereira Silveira	Garibaldi: destino cinematográfico! um estudo sobre a relação entre cinema e turismo no município de Garibaldi/RS.	Dissertation	2018
Camila Carvalho de Melo	Caminhada noturna do turismo tramas subjetivas e comunicacionais no processo de desterritorialização.	Dissertation	2018
Mara Regina Thomazi	Hostel: território de hospedagem marcado pela trama turístico-comunicacional.	Dissertation	2019
Helena Charko Ribeiro	Turismo e saúde. sinalizadores turísticos de Porto Alegre, relatados pelos usuários do Sistema Único de Saúde (Sus) seus acompanhantes, em processos de deslocamento.	Doctorate	2019

Source: devised by the author.

#### **Final considerations**

The approach here entitled "Weft of 'Floresceres' in Science Education. Paths guided by intertwines of amorousness, trust and joy, in autopoietic processes of teaching and production of Science" corresponded to a scientific narrative, in coherence with the Knowledge Cartography Trails: Personal Knowledge, Theoretical Knowledge, Production Plant and Intuitive Dimension of Research. The latter is transversal, with approximations and actions that permeate the weft, based on a listening disposition that is sensitive to all intervening factors. In this way of producing Science, synchronicities are always 'heard' as flags. Each of the

productions presented at the Production Plant had its route directed, also by insinuating clues and subtle expressions or unexpected events along the way.

Perhaps we can think that Camila Carvalho de Melo's work is emblematic, in this sense, when she addresses the Night Trail of Criúva, for having helped us to reflect so much to the fact that the production of Science, in Amorcomtur, starts from the assumption, yes of a trip in the forest, but recognizes the nocturnal character of that trip. The researcher walks holding a 'rope'. She then 'wakes up' to a journey that takes place at each step, on a path built by her previous experiences and knowledge, which took her there, by hers theoretical knowledge, which guides her along the way, and by the same experience, the route, which tells you how to move forward. In this process, trust (which guarantees, trust, walking), joy (as a power to act) and amorousness (as recognition of oneself and the other, as legitimate, in living together) are fundamental factors, so that the researcher feels motivated to the next step, and then to the next and the other. To take the risk to move forward, without certainty, but with the intuition of a becoming glimmer, that at some point, the journey will make sense, just as fear, trembling, emotion, doubt, questioning will make sense all, including (and perhaps mainly) existential ones.

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