

# The natural method and the complex thinking: a possible relationship for school education

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## Abstract

This paper was written with the central objective of showing how two authors – Célestin Freinet and Edgar Morin –, apparently with different trajectories, are approached by the need to build another school, which is not only concerned with transmitting abstract and isolated contents of concrete reality of its students, but that develops an educational process that effectively cares about the human being in all its completeness. To this end, we sought to describe, albeit briefly, some methodological clues for this purpose. In the case of Célestin Freinet, there is the natural method used by him in his pedagogical action; in Edgar Morin, we have the notions of complexity and transdisciplinarity. There is still the world of ideas and knowledge in both. From this description, the following approximation between the two authors' thinking can be evidenced: there is a school that devitalizes, that compartmentalizes knowledge, empties the contents of what has meaning for students, is more concerned with coping with the curriculum than with the formation of the human person, being necessary, therefore, to look for ways to form a social being integrated to his/her particular group and to the world in general. In the end, it is hoped that this approach will help in the search for different views from what is put in school education, valuing thought and emotion, knowledge and action, the future and the present, in short, human complexity.

## Keywords

Complexity – School – Freinet – Morin.

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## Introduction

*Only another way of acting and thinking can lead us to live another education that is no longer the monopoly of the school institution and its teachers, but a permanent activity, assumed by all members of each community and associated with all the dimensions of the daily life of its member.*

(HARPER; CECCON; OLIVEIRA; OLIVEIRA, 1987, p. 117).

The concept of education, in modern societies, is inextricably linked to that of school and the role that is destined for this institution: to accomplish, together with the new generations, what society wants to be the ideal formation. But the modern school has also been developing other functions, in particular those of acting as a mechanism for controlling social conflicts and promoting a process of cultural homogenization, due to the strong influence exerted by the spirit of capitalism and its consequences – bureaucratization of social life, developmentalism ideology and upward mobility, general technification of existence, etc. –, and for the depersonalization effected by the excess of rationalization present in the relationships between individuals and groups.

Much of the literature on school education is lavish in showing that, in industrial societies (or intended to be), the school's objective has been to train individuals for the labor market, disregarding that it is the student who should be considered the end of the process, and not the means to obtain anything.

In contrast to this domination, thinkers and educators have been constantly looking for other theories and pedagogical practices that can recognize and consider the rich social polyphony; the differentiated social and individual cultures, which allow constant exchanges, brought about by different perceptions of the world; the harmonic and/or conflictual relationships that are established between the components of the school, especially between teachers and students; the prior knowledge that students bring from their daily lives (excellent subject to be worked by teachers!), together with the knowledge derived from scientific development. All of this in constant interaction in the school routine, forming a complex whole, potentially resulting in an educational process far beyond that specific function of transmitting the previously selected contents, considered the most important for students.

It is about another conception of school education, which takes these issues into account, is discussed in this paper. To this end, we will make use of proposals for organizing the school curriculum and teaching practices based on two French thinkers, Célestin Freinet and Edgar Morin, who have had an important influence on reflections on education and, specifically, on the role of the school institution, trying to show how their ideals come together in order to find healthy ways out of contemporary school. From Célestin Freinet, we start from his natural method as a cornerstone for the elaboration of a perspective based on the intrinsic interest of learning, vigorously undermined by school education. From Edgar Morin, we take the notion of complexity and, in relation to teaching, the notions of inter and transdisciplinarity, so absent in contemporary, disciplinary and content-based schools. In the sequence, we seek to intertwine their ideas with the objective of revealing concepts of education and human being fundamental to contemporary society.

After all, each of them, in their own way and according to their theoretical beliefs, tried to build a new idea of human being, which is a being that is made along one's way and not as a final and finished product.

Despite the differences in academic background and functions exercised – Freinet as a schoolteacher and Morin, a trained sociologist, with studies and research in the fields of philosophy, anthropology and, especially, epistemology – both walk on a common paradigmatic ground, also shared by many educators of the twentieth century, which can be remembered, among others, Rudolph Steiner, Carl Rogers, Anton Makarenko, Francisco Ferrer Guardia, Maria Montessori, Alexander Sutherland Neill, José Pacheco and, in Brazil, Anísio Teixeira, Rubem Alves and Paulo Freire. In fact, we take the term paradigmatic soil from the notion of paradigm by Thomas Kuhn (1982), which explains that it is an absolute structure of assumptions that underpins a scientific community, indicating the constellation of beliefs (methodological and theoretical), values, techniques etc., shared by members of that community. Therefore, to share a paradigmatic soil is to commit to the same rules and standards for scientific practice.

Edgar Morin goes further. For him (2002), the paradigm is inscribed in the individual, influenced not only by the scientific field, but by his culture, in order to organize, with a high degree of radicality, the ways of thinking, feeling and acting in an era. Although unconscious, the paradigm irrigates conscious thinking, playing an underground and sovereign role in the doctrines, theories and ideologies of an era, while being regenerated by them, showing itself by the results that feed it.

A paradigm goes into crisis when the great interpretive systems it feeds lose the ability to explain an increasingly complex, heterogeneous and plural reality. Explicit, conscious assumptions slide into the unconscious, to the level of the implicit, becoming an obstacle to dialogue and understanding of scientific phenomena and social facts. But this change does not happen abruptly, it is very slow, sometimes it takes centuries before asserting itself.

In education, the still dominant paradigm is that of technical rationality with the consequences for the school described at the beginning of this paper. However, it has failed to respond adequately to the understanding of reality, because initially explicit and conscious assumptions are sliding into the unconscious, to the level of the implicit, becoming an obstacle to dialogue and understanding of social and cultural phenomena, which, previously disregarded or ignored, they begin to be present more and more intensely, putting into question the belief in the stability and harmony of groups and societies.

One of these consequences is the perception that, if it is not possible to reduce individuals to macro-structural, neither can they be diluted in the group. Although Crespi (1983) explain that an individual finds at birth a mediation symbolic system already determined, which will take him/her to establish a relationship with the self, with the Other, with the world, and that is the concrete structure from one's existential situation, in these relationships, creativity and inventiveness will be constant and inexorable, in a process of infinite disorganization and reorganization not only of his/hers living conditions, but also, consequently, of society and, ultimately, of humanity.

Another characteristic of a possible paradigm shift, which has to do with the content developed in this article, is the perception that the school, arid in principle, can be re-enchanted through practices, that aim to show and illustrate the multifaceted destiny of the human being: as a human species and as an individual, social and historical being, all intertwined and inseparable. Also, it cannot disregard the fact that human action is not only rational in its means and ends, but it is also guided by affections, emotions, creativity and even by acts that seem to have no meaning. And it is through the educational process that students are allowed to encounter the best of themselves, with the closest to their completion. Therefore, more than just adapting it to the outside world, schooling is (at least it should be) the means of realizing one's potentialities, finding ways to be oneself, to enjoy one's own being and the world around him/her. And it seems that this is the basic belief of these two authors.

In the end, it is expected that this approximation between the principles of Freinet's natural method, revealed by his empiricism as a primary school teacher, and the assumptions of Morin's complexity, forged in the deep reflection about a tangled order/disorder of chaos mundane, come to collaborate with the construction of new and deeper views, values and fundamentals of school education.

### **Célestin Freinet and the natural method: the school education upside-down**

*[...] the bell was heard; there was an immediate emptiness in our being. Life stopped there, school started: a new world, totally different from the one we lived in, with other rules, other obligations, other interests, or, more seriously, with a sometimes dramatic absence of interest.*

(FREINET, 1975, p. 63).

Célestin Freinet (1896-1966) was a French teacher who was born and lived his childhood in the region of Provence, in the south of France, and studied at the Escola Normal of Nice. This leads us to infer that he studied the main pedagogical currents of the West, in texts such as Greek Paideia, the scholasticism of the middle ages (trivium and quadrivium), Didactica Magna by Comenius and, above all, Emílio by Rousseau. It also probably did not pass unscathed to the new currents of thought of the time, especially the socialist and anarchist ones, and those that proposed another perception of the human being, integral in physical, psychic, social and mental constitution, which announced some paradigmatic changes.

Freinet has always been linked to the teaching of children in his country, but as he was not satisfied with the methods practiced at school, he wanted to create a more free and democratic system of education. Such methods, still supported by a classical paradigmatic soil, were developed based on a reductive, simplifying, closed logic which did not allow the development of a creative posture, encouraging the child's discovery, interest and pleasure. In pursuit of these goals, he sought to develop a child-centered

methodology not as an isolated individual, but as part of one's social group, resulting in a school base on action which would be an active element of social change.

In writing his first book on the natural method, Freinet (1977a) identified that the traditional school based on transmission of previously selected knowledge, supposedly important for the youngest, ends up devitalizing the natural taste for learning. Under penalty of sanction (physical, mental, psychological, freedom, etc.), it makes it mandatory the systematic study of things, whether they are interesting, relevant, important or not (most of the time, not). He then realized "the school is opposed to experience openness" (FREINET, 1977a, p. 70), recognizing that even after many years of attending school benches, several people manage to decipher the codes of the school but don't actually understand what they are reading. According to the author, this results from a complete lack of common sense in educational practices, which are carried out by the mechanical method of teaching, instead of the natural.

The natural method, Freinet realized (1977a), is what allows a child to learn to speak and walk, for example. There is no imposition of structural rules, there are no hours of lessons taken in front of a blackboard, suggesting the right ways to speak or walk, imposing the same pace on everyone; on the contrary, each person develops these skills in their own time. But, explains the author, if the development of these skills were included as a school subject, it would be believed that all the children would crawl forever if there were no adult/teacher intervention and forced them to walk properly. Likewise, children would remain babbling, if there was no constraint through correct methods of systematic repetition, until the acquisition of adequate speech.

However, walking and talking are not exactly school content, so it is allowed to develop naturally. Writing, on the other hand, is practically forced from the first days of school, with the presentation of valid movements, repeated to exhaustion. In addition to training in dexterity, rules of grammar and syntax are imposed, such as verbal conjugation, for example. All this even before any attempt at writing, after all humanity already knows how to write, so the school would be the place, or the means, or the most appropriate institution to develop this capacity. However, the school, as opposed to experience openness, prevents the child from risking doodling before any formal training under the penalty, perhaps, of allowing him/her to be proud of his/her own creation – as in Freinet's account (1977a, p. 79) about a child free to experience his own power (of being): "[...] and what a charm on the day when, dipping his fingers in the ink, he produces, just by the magic of his gestures, great stains that they look like trees, men or monsters alive, mobile and transformable!".

These findings about the enchantment of learning there lead the author to several criticisms of the classic schooling, named by Freinet (1977b) as a mechanical and devitalized teaching method. First, he considers this way of teaching as a "mere pedagogy of acquisition" (FREINET, 1977b, p. 14, emphasis added) and/or a "simple performance pedagogy" (FREINET, 1977b, p. 15, emphasis added). Acquisition and performance as focus tend to undermine the taste for life, which becomes mechanical, sterile and practically meaningless. The school of acquisition and performance does not prepare for life, but,

on the contrary, it makes it bland, inhibiting the joy of experiencing the legitimate work chosen by interest and aspirations.

Therefore, Freinet's proposal child-centered and it is based on some principles, especially on the sense of responsibility and cooperation, the condition to reflect on and make one's own choices, the development of communication and creativity and, mainly, autonomy. For that, he uses in his pedagogical action, techniques or learning processes such as free drawing, free writing, walking lessons, inter-school correspondence, school paper, the book of life (daily and collective), children's dictionary etc., with the aim of promoting the development of natural methods of language (drawing, writing, grammar), mathematics, natural sciences and social sciences.

For Freinet, educating is building life together. Therefore, his pedagogy can be considered a liberating practice, since the problems of life and social practice are discussed in groups and cooperatively evaluated for implementation and reorganization of working together.

Freinet (1977b) does not spare praise for the natural method, believing that in it hides an exaltation of the spirit that the human being never experiences, as one is limited to following rules and acquiring knowledge and demonstrating performance. In this way, he believes that the simple impulse to the natural method may be able to positively transform the world, since people will not be turned to selfishness and productivity, but to the interest of being enchanted by their own lives. "Life is an achievement", stated Freinet (1977b, p. 15), "it has become a struggle due to our common mistakes. Only the solidarity effort of good will can open the child to a future according to one's hopes".

Shimizu (1984) had already mapped out basic criticisms of Freinet to the school way that does not respect the experimental attempt. According to this author, the mechanical method deviates from interests and stifles the natural desire to learn. In addition, it oppresses, either through reward and/or punishment, the curiosity, the desire to investigate and to learn the things in life, imposing itself on these allegorical concepts. By submitting the kids (and adults) to the traditional method of teaching, it creates an environment that separates school from life, establishing a vicious circle in which things learnt in school are used only at the school processes, which means to obtain good results in internal or external assessments – such as admission examinations that serve as access to more sterile schooling or tests that evidence supposed teaching quality.

However, it is important to note that the natural method identified by Freinet (1977b) is not contrary to intellectual explanations, rules, concepts and training. All of this must exist in a school setting, but then, and only after, the freedom to experiment, to try, to get it right and to make mistakes by oneself or in a group. First, one simply writes anything, with unrecognizable scribbles that become letters, then one sees words that become phrases, paragraphs, full texts... only then it becomes the opportune occasion for presenting grammatical, orthographic and syntax, revisions and corrections. This period proper to the regulated study was identified by Freinet (1977b, p. 28) as the moment when the experiences became "indelible techniques of life".

Here, then, that Freinet's educational proposal (1977b) through the natural method can be elucidated: one does not start teaching by training skills, by intellectual transmission of rules and concepts, but by the freedom to experiment, establishing an environment



where the input signal is not a symbol of interruption of life, but the beginning of a process of trial and error, of curiosity, of interesting work. When the attempt progresses to a point where it has already been discovered how to do it, then the more structured, organized, regulated work begins. “The process is really infallible”, stated Freinet (1977b, p. 28), “but it presupposes a total turnaround of the educational technique”.

A necessary turnaround, after all, there seems to be a perpetual moto of protests, both on the part of the teachers and the students, regarding the school. In Freinet (1975), we had the register of teachers complaining that students were not interested in the learning offered by the school, presenting very low performance in reading and writing. In the same way, we read about students with troubled faces going to class and screaming with joy when the bell rang, setting them free. Reports and scenarios still often present in school life, as portrayed in a recent interview by Pessoa de Carvalho (2016), in which the author recognizes constant renewal both as a goal and challenge of teaching, as society, therefore the students is in constant transformation.

This makes us think that it might be worth trying to override the natural method over the traditional one. But, redundantly, we return to the stigma that the school is opposed to experience openness, therefore, perpetuating itself.

## **Edgar Morin and the complex thinking: implications for school action**

*The advances in science are linked not only to specializations by disciplines, but also to transgressions of specializations, to the elaboration of general theories and, today, to transdisciplinary regrouping. The low social complexity operates the disjunction between specializations, poly-competence, general competences. The high complexity demands the conjunction of all this.*

(MORIN, 2012, p. 189-190).

According to Morin (1992, p. 14), in the book *The epistemological problem of complexity*, the idea of complexity is not reduced to complication but to a problem arising from the difficulty of thinking, “because thinking is a struggle with and against logic, with and against words, with and against concept”. Complex thinking is based, therefore, on the notions of plurality and complexity of physical, biological and anthroposocial systems. It faces uncertainty, inseparability, deductive-identity logic shortcomings, induction limits and identity principle. There is no more ultimate or unique foundation for knowledge, nor sovereign order in a universe where chaos, disorders and eventualities compel us to negotiate with uncertainty. There is no pertinent knowledge about closed objects separated from each other, but the need to contextualize particular knowledge and, if possible, to introduce it into the whole or the global system of which it is a moment or part.

Complex thinking provides a global view of society, in which what is rejected as irrational or non-rational waste considered by classical, rational logic, as disintegrating elements, are also fundamental for systems interaction and reorganization. It also allows to understand the levels of reality emergence without reducing them to elementary levels

and the general laws, and, for the human being, as a complex unit (genetic, cerebral, intellectual, emotional) of *homo sapiens-demens* that it is expressed in their ways of thinking, feeling and acting, according to the symbolic system of meanings, which is a product and also a producer of their culture but is never the only one possible. In this perspective, says Morin (2000a, p. 47) that human beings “must recognize themselves in their common humanity and at the same time recognize the cultural diversity inherent in everything that is human. To know the human is, first of all, to situate them in the universe, and not to separate it from them”.

The complexity also results in the possibility of the existence of conflicts, contradiction, difference, plurality, within social groups and in their relationship with the environment in which they live, and it is expressed through cultural diversity, constituting a complex self-organization, an autopoietic or self-producing system, as opposed to the allopoietic system. In this sense, the objectivity as the first and founding element of the truth and validity of scientific theories is the product of a socio-cultural and historical consensus, not established *a priori*, but incessantly self-produced and reconstructed. Thus, Morin (1997) proposes three principles of complex thinking that are fundamental to what he calls reform of thought and, consequently, of knowledge and education: the dialogical principle, based on the complex association (competing, complementary and antagonistic) of instances that are necessary for the existence, functioning and development of an organized phenomenon; the recursive principle, in which every moment is, at the same time, product and producer, cause and effect; and the holographic principle, in which the part is in the whole and, in a way, the whole is in the part.

As operators of complex thinking, the author proposes to use the dialogical reason (and-or), not binary, which articulates totalities and the *tertium datur*, the third element that classical logic does not include in the relationship; reuniting pairs of opposites (but, also) that the simplifying thinking disjoins; to connect the subject-object pair in a *continuum*; to make mechanistic determinism unviable; to carry out the nature-culture polarization; and to use the communication-elaboration transdisciplinary.

However, contrary to these findings, modern societies have been privileging a productivism and progress ideology, the most important consequence of which is the exaggerated rationalization of existence, expressed by the technobureaucracy that dominates all sectors of social life. According to Edgar Morin (2001), this rationalist view of the world, which has dominated such societies since the 18th century, with the consequent identification between the real, the rational, the calculable and the elimination of disorder, of subjectivity, contributed to this technical reason to become an instrument of power, that is, of domination, and it implanted a rationalizing order, whereby everything that may be disorganizing is configured as demented or criminal – as seen in Michel Foucault’s famous *Discipline and Punish* (2001).

At the micro level, only the thinking and reasoning is monopolizing the proposed actions, disregarding the feelings, the affections, the creative actions, the relations between students and between them and their teachers, in short the irrationalities, being taken into account except to ignore them or to convert them into quantifiable results. Otherwise, they will be ignored, when not eliminated or punished. At the macro level, the mastery of this ideology is expressed by the adaptation of people to norms, social models



and the ideals of productivism and progress. According to Morin (2001), this dominant thought is impoverishing because it is based on a closed reasoning, whose principles are simplification, generalization and disjunction. In other words, it reduces the complex to the simple by separating reality into fragments; it rejects the chance, the disorder, the singular; it separates the subject from the object and this from its environment; it eliminates uncertainty, ambiguity, contradiction and complexity of the real. It ends, therefore, by imposing a project of generalized reduction, both of the individual as well as of society and its institutions.

As for the school, such a project ends up imposing a curriculum based on disciplines, causing a fragmentation and disarticulation of knowledge that can lead to disciplinary isolation. In the book *The well-made head*, widespread among school communities, Edgar Morin (2000b, p. 112-113) refers to the consequences of disciplinary as “school subjects are fully justified, since to preserve a field of view that recognizes and conceives the existence of connections and solidarities [...] if they do not hide global realities”. For the author, the organization of the curriculum based on the school subjects, even though it is positive in circumscribing and responding to the diversity of knowledge areas instituted by scientific development in modern times (without which knowledge would be intangible), can also have negative consequences. Among them, the following can be mentioned: being an organizing category within scientific knowledge, it contributes to instituting the division and specialization of knowledge and, as a result, of pedagogical practices which can become fragmented and, worse, decontextualized; it entails the danger of hyperspecialization and the objectification of the studied object, taking the risk of forgetting that the object itself is a part of global knowledge; it promotes isolation from other subjects and from problems that overlap the curriculum and school; and, worse, it develops a proprietary mentality, which forbids incursions considered spurious in its domains, in its share of knowledge.

In that same book, Morin (2000b) presents two different positions, among other possible ones, regarding the development of the school curriculum and the inherent pedagogical practices: interdisciplinarity and transdisciplinarity.

He proposes that, given the current conditions of the school, it is feasible to use interdisciplinarity, with due care, because it can mean both the combination of disciplines without the necessary connection, as the exchange and cooperation between them, an organism, which is wanted. Interdisciplinarity requires the reorganization of the school space, no longer as a formalized institution, almost immobilized by rules and duties, but as a place of teaching and learning that is configured as a space of life, of exchanges, of development, whose pedagogical task is ensuring that interactions between individuals and groups produce knowledge that reacts back to themselves.

But what it is really intended is a transdisciplinary conception of knowledge, since the recognition of complexity requires transdisciplinary communication and elaboration, in which the areas of study and research need to resort to different disciplines and the polycompetence of the researcher and the teacher. Therefore, transdisciplinarity does not consist in dominating disciplines, but at the same time between disciplines, across disciplines and beyond any discipline, and in opening them up to what passes through them.

The application of a transdisciplinary methodology requires, therefore, a complex thought, as it is proposed in this paper, which requires *ipso facto* a change of perspective

on human facts, in other words, another paradigm that allows a richer and more complex analysis of the reality and move towards an anthropological, that is, a mankind's policy involving in-depth organizational and educational changes. The author himself recognizes the difficulty of transdisciplinarity in the current curricular treatment, precisely because it requires another cognitive scheme, which makes it possible to overcome a deterministic and strictly causal view of social life, as explained above.

In summary, in a broader process, it is necessary to seek pedagogical practices that contribute, according to Bruno Duborgel (1992, p. 2), to rebalance, harmonize an imaginative human being, subject of "direct thinking", which he opposes to "indirect thinking" mediated by science, which leads to positive, objective, rational knowledge of the world. Not a teaching with a purely reproductive character, but one that allows creativity and inventiveness. In this sense, Paula Carvalho (1988, p. 180) believes that it is possible to free the educational process from the social logic of domination, hypocomplexity and repression, in order to make it possible the emergence of the complex, the multiform, the polyphony, and individuals an awareness of the real that does not limit its relations with the world by the immediate perception of what is in it.

### **Freinet e Morin: is another school possible?**

*Sciences participate in the construction of tomorrow's society with all its contradictions and uncertainties. They cannot give up hope, they which, in Peter Scott's terms, express in the most direct way that "the world, our world, works incessantly to extend the boundaries of what can be known and what can be a source of value, to transcend what is given, to imagine a new and better world".*

(PRIGOGINE, 1996, p. 98).

Célestin Freinet was born in 1896, therefore, at the turn of the century, when conceptions about teaching and school were very rigid, in the time of the *magister dixit*. However, in the opposite direction, he always remained open to all pedagogical experiences, seeking alternative forms of teaching, questioning the traditional method and its syllabus, which he claimed that had nothing to do with children reality and, therefore, it did not bring any stimulus to learning. He believed that one learns only through life experience, so that the school must be alive, active, dynamic, open to the encounter with life, a place where the exercise of thought and creativity is always present and at the service of society. Thus, the work is fundamental, not necessarily the manual work, but the one that includes research, documentation and experimentation.

Edgar Morin, in turn, has been developing his work throughout the twentieth century and the beginning of this century, basically concerned with the development of a new look at human phenomena. According to the author, the human adventure of knowledge consists in interrogating, uninterruptedly, the universe, so that knowledge results in self-knowledge. Although he did not graduate as a school teacher like Freinet, he is also concerned with the concept of school and teaching, which cannot identify knowledge with Knowledge. That is, while knowledge is taught through specialized, operational and precise ideas, but which do not inform about the meaning of life, Knowledge has possibilities to respond to uncertainties, to the complexity of the world.

At school, Freinet reports that he experienced, as a young student, the troubles of a mechanical education, out of context and meaningless with life. Later, when he assumed the role of teacher, he was compelled to look for ways to do it differently. He had come back from the war, thinking that if education were devitalized, it would have nothing to contribute to appease so much hatred among people. He realized that, in school education, there was a lack of fundamental ingredients for the promotion of a more fertile, healthy and collaborative individual and collective life, such as simple common sense, capable of allowing and enabling school attendance to be more significant for children (and, later, for adults).

In a way, it looks like some of the ideas central to Morin about education for humanity, by showing, for example, that the school should be concerned with contextualizing knowledge, inserting it into a larger complex and significant whole. Paradoxically, school education is not guided by common sense, then, rather than the complexity of things, undertake efforts to the allegory of simple, rejecting creativity, subjectivity, uncertainty, disorder. This effort to simplify things resulted in a disciplinary teaching, as if the complexity of the world could be shared and each piece compartmentalized according to its unique characteristics.

More clearly, teaching reductionist created a mathematics, a geography, a history that shut themselves in their selves, that is, they can be studied by themselves and understood as a whole, without being understood as a fundamental part of a broad and complex mundane existence. Hence Morin's proposal to overcome this simplification with interdisciplinary notions (which would not be a radical change of the disciplinary *status quo*, as it helps to understand the possible and/or existing connections among disciplines) and transdisciplinary (this one being a different way of working with school content, far from compartmentalization, but using the connection of what was disjoined by disciplinary simplification).

In Freinet's writings, although the concepts of inter and transdisciplinarity were not mentioned, the techniques that the author employed in teaching children were sufficient to show that he understood the complexity of existence, as there was no compartmentalization of the contents, that is, it didn't start with a math class, moving on to a history class, then science. The teaching was driven precisely by what he saw and that the traditional school refused to allow: the trial and error.

If the school was opposed to experience openness, as Freinet postulated, his school was guided by the very twist that he coined: first the student is free to try to do it, then to do it again, and again, until the attempts become sufficient motivation to keep on improving. This goes for drawing, writing, reading, mathematics, science, or, as Morin idealized, for any contextualized knowledge. Freinet's method for the school work is the embodiment of the most creative and least reproductive teaching for which Edgar Morin longs.

In promoting an experience openness friendly school, Freinet allowed himself to be guided by what he believed – that learning is something natural, and that longing to learn is human –, and he also allowed to put into practice his criticism that the school should not be mechanical, but organic, being a place for life-long learning, including collective life in cooperation.

Morin, in turn, expresses the need that human existence cannot be guided by productivism, technobureaucracy, rationality, therefore being it fundamental that the institution created by and for human education itself should not binder to the invented simplicity. In the educational process, it must recognize what is common in the human being and at the same time what sets it apart from every other species and what are the differences between humans among themselves. In other words, education must be something much broader, more alive and more complex than the routine established by the disciplinary lessons that, for centuries, have become the school's *modus operandi*.

Certainly, both Freinet and Morin elucidate this, be it by the practice of a schoolteacher and by the theory of one who investigated the human being from the perspective of science, psychology, philosophy, anthropology, mysticism, religiosity, in short, from a look that does not reduce to simplify, but that considers that the whole is not the sum of the parts, but the relationship between them.

Therefore, returning to the question posed at the beginning of this section, it is believed, with Freinet and Morin, in another school, which, based on such principles is possible. Certainly not a bureaucratic school, divided into classes and subjects, with obsolete assessment practices, with syllabus previously provided for in manuals and handouts, but which relates the various levels of reality and knowledge, and which provides a complex and global view of society. This is especially important because, although in a singular character, many experiences in this sense – and in their own ways – have been carried out in different places. Including Brazil.

## Final remarks

*Knowledge gives us power. Knowledge and power took us to the Moon and beyond the solar system.*

*But in the service of what project of human being, society and the world do we use the power of science and technology? The answer to that question calls for more than science and technique.*

*It requires a philosophy of being and a spiritual reflection that speaks to us of the Meaning of all the senses and that knows how to organize human coexistence under the inspiration of the most fundamental law of the universe: synergy, the cooperation of all with everyone and cosmic solidarity.*

*More important than knowing is never losing the ability to always learn more.*

(BOFF, 1999, p. 17).

We initiated this paper with some important observations regarding the role of the school, which, ideally, serves the formation of new generations for life in society, but, on a daily basis, focuses on the transmission of disciplinary contents, almost always decontextualized, however listed in the curricular plans. We thought, therefore, that another school would be possible, after all Freinet and Morin show this. Although they did not work together, they probably did not meet either, it is noticeable the convergence of the ideas of both in what they understood as most necessary. Thus, it can be said that each one in his own way and according to his theoretical beliefs tries to build a new idea of human being, which is being done along the way – that is, methodologically – and not as a final and finished product. The human in humanity.

With increasing intensity, intensity, the school is failing to adequately respond to the understanding of reality, disregarding or ignoring aspects of daily life that are increasingly making themselves more present and remarkable, putting into question the belief in the stability and harmony of groups and societies.

One of these consequences is the perception that, if it is not possible to reduce individuals to macro-structural, neither can they be diluted in the group, ignoring the concrete structure of their existential situation, in which creativity and inventiveness will be constant and inexorable, in a process of disorganization and infinite reorganization of their living conditions and, consequently, of society and, at the limit, of humanity.

Another characteristic of a possible paradigm shift, which has to do with the content developed in this paper is the perception that the school, arid in principle, can be re-enchanted through practices that aim to show and illustrate the multifaceted destiny of the human being: as a species and as an individual, social and historical being, all intertwined and inseparable. Without forgetting that human action is not only rational in its means and ends, but it is equally guided by affections, emotions, creativity, even by acts that seem to be meaningless.

And it is through the educational process that a student is allowed to encounter the best of oneself, with the closest to one's completion. Therefore, more than just adapting oneself to the outside world, schooling is (or at least it should be) the means of realizing one's potentialities, educating people to be themselves, to enjoy everyone's own being and the world around them. And it seems that this is the basic belief of these two authors.

In the end, it is expected that this approximation between the principles of the natural method of Célestin Freinet, revealed by his empiricism as a teacher of the basic school, and the assumptions of Edgar Morin's complex thinking, resulting from his studies and research, will collaborate to the construction of new and much deeper views, values and fundamentals of school education.

Especially because, as Morin (2000b, p. 55) outlined, "It is the human unity that brings with it the principles of one's multiple diversities. To understand the human is to understand one's unity in diversity, one's diversity in unity". And the human person is the ultimate reason for education, which should not, as Freinet asserts (2004, p. 13), be just a form of school work, "but a work of life". And this work cannot be reduced, it cannot be simplified, it should not become mechanical.

Another school, therefore, is not only possible, but desirable and necessary.

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