Montessori's teleological approach to education and its implications

El enfoque teleológico de la educación Montessori y sus implicaciones

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Abstract:

Teleology is a fundamental aspect of Montessori education. Understanding its implications helps us appreciate Montessori's deep affinity with Aristotelian thought and how her pedagogy differs from the New Education movement inspired by Jean-Jacques Rousseau. The teleological approach has several implications in education: for example, when it comes to understanding concepts such as *meaningful learning*, *active learning*, *learning stimuli*, and *progress*. To understand the teleological approach in the Montessori method, this article discusses some of its fundamental pillars, such as the *prepared environment*, *control of error*, the *absorbent mind*, *sustained attention*, the *development of personality*, *purposeful repetition*, *perfective activity*, the *joy of learning* and the *rational nature's inclination towards its end*.

According to Montessori, human activity is naturally oriented towards an end and is ordered by reason. The end of education is the child himself since education consists in perfecting the agent, bringing his potential into action. The child's eagerness to develop his personality occurs through the *spontaneous activity* of his absorbent mind and through purposeful repetition, which generates positive habits. The absorbent character of his mind urges him to know, absorbing his surrounding environment. Hence, the prepared environment and control of error are crucial. Perfective activity, performed with the right and strictly necessary amount of stimuli, helps the child find rest in meaningful voluntary activities done without obstacles. The resulting pleasure should not be understood as a mere *experience*; it should rather be seen in relation to a natural activity directed towards its end.

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Resumen:

La teleología es un elemento central de la educación Montessori. Entender las implicaciones del enfoque teleológico en Montessori ayuda a entender sus diferencias con el movimiento de la Educación Nueva, inspirado en Jean-Jacques Rousseau, así como su profunda afinidad con el pensamiento aristotélico. El enfoque teleológico tiene varias implicaciones en la educación, como, por ejemplo, en lo que se refiere a los conceptos de *aprendizaje significativo*, de *aprendizaje activo*, de *estímulos para el aprendizaje* y de *progreso*. Para entender el enfoque teleológico en Montessori, hablaremos de algunos de los pilares fundamentales de esa pedagogía, como, por ejemplo, el *ambiente preparado*, el *control del error*, la *mente absorbente*, la *atención sostenida*, el *desarrollo de la personalidad*, la *repetición con propósito*, la *actividad perfectiva*, el *placer de aprender* y la *inclinación de la naturaleza racional hacia su fin*.

Para Montessori, la actividad humana está naturalmente orientada hacia un fin y ordenada por la razón. El fin de la educación es el niño mismo, ya que esta consiste en perfeccionar al agente, llevando al acto en el niño lo que en él solo está en potencia. El afán del niño por edificar su personalidad ocurre a través de la actividad espontanea de su mente absorbente y de la repetición con propósito, que genera hábitos positivos. El carácter absorbente de la mente del niño le urge a conocer, empapándose de su entorno. De ahí que el ambiente preparado y el control del error resulten cruciales. La actividad perfectiva, realizada con la cantidad justa y necesaria de estímulos, hace que el niño encuentre descanso en los actos voluntarios realizados con sentido y sin trabas. El placer que resulta no se entiende como mera *experiencia*, sino en relación con una actividad natural encaminada hacia su fin.

Descriptores: teleología, pedagogía del error, hábito, placer de aprender, educación Montessori, actividad perfectiva, aprendizaje activo, aprendizaje significativo.

1. Introduction

The concept of *active pedagogy* derives from the New Education movement which developed at the beginning of the 20th century. Numerous references to it can be found in the work of Adolphe Ferrière (1879-1960), one of the leading proponents of this movement. Ferrière contrasted a model of schooling in which students were seated and immobile and were instructed through listening with the model of the active school (*l'École active*), in which the student learned by working (Ferrière, 1922). Dewey, the figurehead of progressive education in the United States, also associated direct instruction with passivity and activity, or *learning by doing* (Dewey & Dewey, 1915, p. 70), with *active learning*: "Education that associates learning with doing will replace the passive educa-

tion of imparting the learning of others" (Dewey & Dewey, 1915, p. 163).

Hence, the importance the *New Schools (Écoles nouvelles)* of the 20th century attributed to open-air activities, working outdoors, in-class experiments, etc. (Ferrière, 1911a, 1911b), as well as the significant role experience and learning by doing acquired in the US progressive school. Some educational practices of the 21st century were also inspired by this, such as for example the flipped classroom, interest learning centres, project-based work, the abolition of school subjects, and cooperative work.

For proponents of the New Education, silence and immobility are usually associated with the passivity typical of the *old* school, while movement, experience, and action are associated with the only true learning. However, while it is true that proponents of the New Education insist on the notion of *action* in contrast to *passive reception*, it is not apparent, as Avanzini notes (1995), that *action* is such a clear concept, especially in the context of learning. Indeed, it is possible to move or repeat a movement mechanically and not with full volition. There can also be a lack of volition in a setting that is undisciplined or features disorganised activity. Furthermore, it is important to ask whether volition fits into ordered and disciplined activity. Are children not able to learn *for themselves* in silence and without moving in a context of direct instruction? Does a child who is being constantly entertained and distracted learn actively? This dichotomy appears to be superficial, as what makes children learn is not mere external movement (which can be mechanical and not be done with full volition), but rather the rational spontaneity with which they move in a particular direction and with a specific end.

Montessori's ideas break with the framework of the New Education (L'Ecuyer, 2020) because her pedagogy of spontaneous movement has a particularly teleological focus. The activities her pedagogy proposes are designed in advance, the materials control error, and they develop the child's capacity for self-inhibition. Repetition is perfective and is directed towards a specific end that gives the learning meaning. This *perfective activity* helps construct the child's personality. For Montessori, it is not enough to react to a pupil's psychological need. Instead there must be an intelligent purpose, a previously defined systematic plan in accordance with the child's nature.

In this article, we will explain why teleology is a central differentiator between Montessori education and the New Education movement inspired by Rousseau. We will also consider some affinities between Montessorian and Aristotelian thought. Consequently, this article is arranged around the following themes:

1. Teleology in Montessori education.
2. Meaningful learning.
3. Purposeful activity: A prepared environment and the pedagogy of error.
4. The absorbent mind and development of the personality.

5. Purposeful repetition and perfective activity.

6. Pleasure and the rational nature's inclination towards its end.

7. Simplicity: The right and strictly necessary amount of stimuli.

8. The teleological focus on progress in Montessori.

2. Teleology in Montessori education

Montessori often refers in her writings to the notions of nature and *Horme (impulse)* in relation to an end. In her opinion, human activity is naturally directed towards an end ordered by reason. The end of education is not external to the child and does not depend on the teacher. Nor does it originate arbitrarily or capriciously from the child; instead it is embedded in his inner nature. We could even say that, for Montessori, education's end is the child himself, as it involves perfecting the agent, taking what is only potential in the child and actualising it. One author has noted the similarity between this line of thinking and Aristotelian teleology:

> Montessori frequently says the business of a child is to become a man. As the principle of act is paramount in Aristotle, the principle of movement is also paramount in Montessori; movement is the child's way of becoming what he is becoming. To thwart a child's movement is to thwart his *entelechy*. (Stoops, 1987, p. 3)

The teleological concept of nature is fundamental in Aristotelian science and philosophy: "Further, the actuality [*entelecheia*] of whatever is potential is identical with its formulable essence. It is manifest that the soul is also the final cause of its body. For Nature, like mind, always does whatever it does for the sake of something, which something is its end" (Aristotle, 1931, II, 4, 415b14-15).

In her writings, Montessori reiterates Aristotle's concept of *entelechy* and, drawing on Percy Nunn (then president of London's Aristotelian Society), calls it the *hormic process*. She defines the process as a *vital force* which drives the child to act, consciously or unconsciously, towards its end: "As the being develops, it perfects itself and overcomes every obstacle that it finds on its way. A vital force is active in the individual and leads it towards its own evolution. This force has been called Horme" (Montessori, 1949, p. 121).

This description of *Horme*, *entelechy*, and the *hormic process* has close relationships with some theses present in various vitalist theories. Examples include Bergson's *élan vital* (vital impulse) (2013) or Hans Driesch's *entelechy* (1908). In contrast with the classical notion of inclination that is oriented to an end, in vitalist proposals the modern notion of force, where that orientation is not so clear, is more present. This force is different from the ones studied by physics, which act externally on bodies, as it animates beings from within. Although Montessori is immersed in this cultural environment, her notion of *Horme* explicitly refers to the forces of na-

ture, purpose, and perfection, which relate her theses to those of Aristotle.

Teleology helps us understand what Montessori means by *perfection of movement*. For her, the perfection of animals' movement is given by nature (Montessori, 1949, p. 205). This idea is in line with what Aristotle said about animals in *On the Soul*: "To that something [the end] corresponds in the case of animals the soul and in this it follows the order of nature" (Aristotle, 1931, II, 4, 415b16-17).

Movement distinguishes animate beings from inanimate ones. In animals, this movement is not random; it is shaped by nature.

> Movement is what distinguishes life from inanimate things. Life, however, does not move in a haphazard fashion; it moves with a purpose and according to laws. […] Nature gives a useful purpose to each living being. Each individual has its own characteristic movements with its own fixed purpose. The creation of the world is a harmonious co-ordination of all these activities with a set purpose. (Montessori, 1949, p. 208)

In humans, Aristotle affirms that this movement is guided by reason (Aristotle, 1952a). For Montessori, the *absorbent mind* found in children is also based on desire, the inner force that drives them to acquire knowledge.

The *absorbent mind* in Montessori is similar to the idea with which Aristotle begins his *Metaphysics*: "All men by nature desire to know" (Aristotle, 1908, I, 1, 980a21). This desire to know is intrinsic to human nature. For Aristotle and Montessori alike, knowledge is a vital act, and an activity only makes sense insofar as it is exercised with a view to the ends of one's own nature.

3. Meaningful learning

One accepted expression today in the field of education is *meaningful learning*. The *meaning* of learning refers to the need for a *reason why* in students' educational actions. But what can the *reason why* of the educational action involve if the learner is fundamentally passive? And what does the *meaning* of learning comprise for the New Education if an activity does not necessarily have to be directed towards an end?

According to a more behaviourist view of the learner, the meaning pupils give to what they learn is of little or no importance. The reward students receive is what determines their behaviour. The teacher might have the end in mind, but individual students do not share it or internalise it because they are not given the opportunity to be the protagonists of their learning. The learner is passive and does not actively process the information received. There is no meaning, but merely the accumulation of disconnected pieces of information; repetition is meaningless and mechanical (L'Ecuyer, 2014).

In *The Roots of Romanticism* (Berlin, 1999), Isaiah Berlin, a historian of ideas who was a professor at the University of Oxford, explains that Romanticism inspired by Rousseau is characterised by a trace of a sort of nostalgia caused by being unable to attain one's end, simply because

this end does not exist, or it is not known whether it exists (Berlin, 1999). For Rousseau, who inspired the New Education, meaning fundamentally depends on what is *felt*. There is no objective end in the world or in human activity.

Berlin explains that, for Romanticism, there are no natural ends that direct our actions and no set of facts to which we must submit ourselves. According to him, this is because of two characteristics of Romanticism: the will is indomitable and there is no structure of things.

> [For Romaticism] not knowledge of values, but their creation, is what men achieve. You create values, you create goals, you create ends, and in the end you create your own vision of the universe. ... There is no copying, there is no adaptation, there is no learning of the rules, there is no external check, there is no structure which you understand and adapt yourself to before you can proceed. (Berlin, 1999, p. 119)

The concept of the *indomitable will* has little common ground with the importance Montessori places on inner discipline. And it is no surprise that the questions of discipline and effort are two of the main points of divergence between Montessori and the New Education movement. This concept is also at odds with the importance Montessori attributes to intelligence, which can know reality before it orders movement and the will. For Montessori, we cannot desire what we do not know.

> [F]rom birth itself the most important side of life in man is the psychic life, not movement, because movements must be created following the guide and dictates of the psychic life.
>
> This also shows the greatest difference there is between men and the animals. Animals merely have to obey the instincts of their behaviour. Their psychic life is limited to that. In man there is another fact: the creation of human intelligence. (Montessori, 1949, pp. 111-113).

For Romanticism, Berlin says, "there is no pattern to which you must adapt yourself. There is only, if not the flow, the endless self-creativity of the universe" (Berlin, 1999, p. 119). Therefore, meaning fundamentally depends on the subject and on what he or she *feels*. Ferrière described the *New Schools (les Écoles nouvelles)* as places where the child's moral judgement "springs forth not from his reason but from his feelings" (Ferrière, 1911a, p. 620), a clear idea in Rousseau, who said that "our true masters are experience and sentiment" (Rousseau, 2010, p. 325).

Consequently, for the New Education, learning is built on the foundation of what is relevant for each individual. Structure and organisation are seen as being unnecessary, or even an obstacle to the child's productive imagination and creative freedom. For this reason, activities should not be planned with a specific end in view.

4. An activity with purpose: A prepared environment and the pedagogy of error

What makes learning *meaningful* in Montessori education?

On the one hand, Montessori distances herself from the mechanistic vision of education that proposes merely external discipline based on immobility, which lacks an end for the child:

> To-day we hold the pupils in school, restricted by those instruments so degrading to body and spirit, the desk–and material prizes and punishments. Our aim in all this is to reduce them to the discipline of immobility and silence,—to lead them,—where? Far too often toward no definite end. (Montessori, 1912, p. 26)

On the other hand, the internal and active discipline she proposes has teleological implications, as she explains in one of the two articles she wrote for *Pour l'Ère nouvelle*:

> The child likes to move because nature obliges him to move; preventing this movement impedes his development and makes his mission of growing in a healthy way difficult. Our duty is not to prevent this movement, but to guide the natural development of the voluntary movement towards movements that have a goal. … Obeying laws is not just a duty but also a vital necessity. … [I]n place of external discipline—the only form traditional schools know how to use, the starting point without which they would not know how to teach anything—ours is an inner, natural discipline, the consequence and end point of teaching. (Montessori, 1927, pp. 111-112)

One of the central features of the Montessori method is that the children themselves do not choose the ends of the activities they perform. And in preschool, they do not even choose the means for achieving these ends, as the material is designed in advance. Montessori emphasises the importance of what she calls the *prepared environment*. This must be designed in accordance with the child's nature which bears the imprint of his ends within itself. Specifically, Montessori education arrives at this design on the basis of the observation of children's *sensitive periods*, periods when nature predisposes children to learn particular things such as, for example, movement, language, order, etc. According to Montessori, *spontaneous activity* arises from children's irresistible desire to learn which corresponds to each of these sensitive periods. The teacher's role can only be understood within this logic, and Montessori summarises this mission in this phrase: "Hence he only is good who helps creation to achieve its ends" (Montessori, 1917, p. 304). Therefore, all Montessori material, as well as the teacher's actions, is aimed, through *control of error*, at a previously established end: "To make the process one of self-education, it is not enough that the stimulus should call forth activity, it must also direct it. The child should not only persist for a long time in an exercise; he must persist without making mistakes" (Montessori, 1917, p. 75).

This focus contrasts radically with the vision of some pedagogues who believe that pupils should choose their own educational ends and who criticise the Montessori method for not allowing this: "[In the Montessori Method,] there is no freedom allowed the child to create. He is free to choose which apparatus he will use, but never to choose his own ends, never to bend a material to his own plans" (Dewey & Dewey, 1915, pp. 157-158).

For Dewey, experience or activity is, in itself, what inspires learning in the student, independently of the end of the activity. Hence his idea of what is now known as *learning by doing* (Dewey & Dewey, 1915, p. 70).

Although Montessori advocated learning through spontaneous activity (which emerges in each sensitive period), for her it is not enough for material to encourage activity without a purpose. Hence she even criticises the New Education, describing it as a revolution that aspires to "disorder and ignorance" (Montessori, 2007b, p. 10).

Montessori defends spontaneous activity, but for reasons that the supporters of active pedagogy do not hold. The spontaneity she defends is not that of the Romantics; it is the spontaneity of a rational nature that acts freely, directed towards an end provided by nature.

Accordingly, the pedagogy of error in Montessori sets a limit on pedagogical activism whose end is movement and experience *per se*. For Montessori, activity must lead the child to a specific end which is found *in the child's nature*, not in the activity or the material.

Montessori's pedagogy of error has teleological implications, because it is closely related to the ends of education. Error is the essential friend that makes it possible to advance along the path of truth and of perfective activity, through *repetition*.

> Let us consider error itself. It is necessary to admit that we all make errors; it is a reality of life, so that admission in itself is a great step in our progress. If we are to walk on the path of truth and reality, we must admit that we all make mistakes or else we should be perfect. … If we set out on the path towards perfection, we must look carefully at error, because perfection will come by correcting it. (Montessori, 1949, p. 266).

5. The absorbent mind and development of the personality

Children's absorbent minds enable them to take ownership of what they find in their surroundings. When a child knows, he *is* in some way what he knows, because he has internalised it and his mind has made him absorb his environment:

> The new-born child is endowed with an urge, an impulse to face the environment and to absorb it. We might say that he is born with the psychology of conquest of the world. He absorbs it into himself and in absorbing it, he forms his psychic body. (Montessori, 1949, p. 123)

In this act of possession, the subject is the end of the knowledge as, by knowing, the person perfects *himself*: "The pianist must, therefore, *act for himself,* and the more his natural tendencies lead him to persist in these exercises the greater will be his success" (Montessori, 1912, p. 175).

For Montessori, as Standing notes, the adult's work has an external end: "To build a bridge, till a field or formulate a code of laws. It aims at building up and transforming his environment; it is a work of conscious effort, directed to the production of an external result — in short, to

help in building up a civilization" (Standing, 1966, p. 10).

In contrast, the child's work is totally different. As Montessori's biographer explains: "For him there does not exist this same clear consciousness of an external end to be achieved. The real aim of a child's activity is something deeper, more vital, occult — something which springs from the unconscious depths of the child's personality" (Standing, 1966, p. 10).

> Let us suppose for example that a child wishes to clean an object; he will rub it for far longer than is necessary to make it clean. And so we often see a three-year-old repeat the same exercise 40 times. […] The adult, unlike the child, is driven by external motivations that follow the law of the least effort in the shortest time. For the adult, competition and emulation are stimulants. This is not the case for the child. For the child, work is the continuation and reproduction of the act that makes him grow and become an adult. (Montessori, 1929, p. 222).

The child is his own masterpiece, Montessori explained in 1936 in an article published in the *Revista de Pedagogía*: "[The child must] construct for and of himself the most noble and beautiful edifice among all of the works of nature: the adult human" (Montessori, 1936, p. 241).

The child works to construct his own personality: "The child's work with respect to the needs of his growth, is an exercise that fashions his own personality" (Montessori, 2007a, p. 43). Children do not feel happy because they have achieved milestones external to themselves, but because they have perfected themselves in accordance with what their nature demands. Therefore, one of the most important principles for Montessori education is that the adult should never do for a child what the child is capable of doing for himself. To do so would be to override the child. From this derive the ideas of *autonomy*, *independence*, and *self-education*, which should not be confused with arbitrariness, indeterminacy, and profligacy. Understanding these concepts from the perspective of an arbitrary construction would be a superficial interpretation that does not consider teleology in Montessori.

Therefore, Montessori explains that education cannot be reduced to a search for methods — a trend that had been growing since Comenius — that have the goal of transmitting certain pieces of knowledge, but must help to perfect people: "Education does not consist in seeking out new methods with a view to a dry transfer of knowledge; it must set out to aid in the development of the man" (Montessori, 1948a, p. 153).

Montessori is aware that the perfective activity the child performs does not always have meaning for the productive and utilitarian mindset of the adult:

> [T]he adult judges them by his own measure: he thinks that the child's wish is to obtain some tangible object, and lovingly helps him to do this: whereas the child as a rule has for his unconscious desire, his own self-development. Hence, he despises everything already attained, and yearns for that which is still to be sought for. … He prefers the act of washing himself to the satisfaction of being clean: he prefers

> to make a little house for himself, rather than merely to own it. His own self-development is his true and almost his only pleasure. (Montessori, 1912, p. 356).

The author continues, using the example of a child who repeatedly goes up and down the stairs:

> Another effort is to climb staircases; for us to climb up a difficult staircase is an aim, but not for the child. Having accomplished the climbing, he is not satisfied, he must come back to the starting point to complete the cycle and this too they repeat many times. The wooden or concrete slides we see in children's playgrounds offer opportunities for these activities; it is not the coming down that is important, it is the joy of going up, the joy of effort. (Montessori, 1949, p. 227).

What drives the child to repeat the exercise, what leads to his personal *progress*, is the pursuit of perfection (for example, perfecting the senses by being able to distinguish between two different sizes, colours, or sounds, or perfecting cognitive or spiritual faculties, like the ability to concentrate for long periods of time or appreciate harmony and beauty). The concept of *self-education* can only be understood in this framework. The end of education is, therefore, the *development of the personality* of the child in accordance with his own ends. Ultimately, the end of this repetitive exercise is *perfective activity in the exercise itself*.

6. Purposeful repetition and perfective activity

For Montessori, habit is part of education in freedom[1]; perfection in human beings is acquired through voluntary habit:

> In man this mechanism is not pre-established before birth and so it must be created, achieved through practical experiences on the environment. [The] co-ordination [of movement] is not given, it has to be created and achieved by the psyche. In other words the child creates his own movements and, having done so, perfects them. … It is really marvellous that man's movements are not limited and fixed, but that he can control them. (Montessori, 1949, p. 152.)

What predisposes children to habit is their mysterious proclivity for repetition without tiring. As a result, it is only a matter of giving a direction and the means to detect and correct the error in this repetitive endeavour, through material that has an *intelligent purpose*. In this context, we can better understand how Montessori's defence of *rational spontaneity* differs from the activism proposed by the New Education, which is inspired by the spontaneity of Romanticism. Instead, her idea is more in line with Aristotle's idea of voluntary habits acquired through right rule and directed towards one's own good.

> With regard to the virtues in *general* we have stated their genus in outline, viz. that they are means and that they are states of character, and that they tend, and by their own nature, to the doing of the acts by which they are produced, and that they are in our power and voluntary, and act as the right rule prescribes. (Aristotle, 1999, III, 5, 1114b25-29).

For Aristotle, we are masters of our actions, and our actions make us ourselves:

> Now not to know that it is from the exercise of activities on particular objects

> that states of character are produced is the mark of a thoroughly senseless person. Again, it is irrational to suppose that a man who acts unjustly does not wish to be unjust or a man who acts self-indulgently to be self-indulgent. But if *without* being ignorant a man does the things which will make him unjust, he will be unjust voluntarily. Yet it does not follow that if he wishes he will cease to be unjust and will be just. For neither does the man who is ill become well on those terms. (Aristotle, 1999, III, 5, 1114a9-15).
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> [T]he virtues are voluntary (for we are ourselves somehow partly responsible for our states of character, and it is by being persons of a certain kind that we assume the end to be so and so). (Aristotle, 1999, III, 5, 1114b21-24).
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> But actions and states of character are not voluntary in the same way; for we are masters of our actions from the beginning right to the end, if we know the particular facts, but though we control the beginning of our states of character the gradual progress is not obvious any more than it is in illnesses. (Aristotle, 1999, III, 5, 1114b29-1115a2).

The idea running through the *Nicomachean Ethics* (Aristotle, 1952a) that our character is the result of our behaviour, of our repeated and voluntary actions guided by reason, is clearly present in Montessori's writings. The child forms himself as he chooses his habits through repeated movement. Hence Montessori's idea of *self-education* in which *the child constructs himself*. The idea of *self-education* should be understood as the child building up his personality from a teleological conception, not a constructivist one. Once a habit has been consolidated in a beneficial way, we are freer to choose good and we become capable of higher goods.

In *Spontaneous activity in education*, Montessori makes it clear that she does not view liberty in the same way as some of the Romantic educationalists who preceded her.

> It was perhaps this error which caused a famous Italian pedagogist to say to me: "Liberty a new thing? Pray read Comenius — you will find that it was already discussed in his times". I replied: "Yes, many talk of it, but the liberty I mean is a form of liberty actually realized". He seemed not to understand the difference. I ought to have asked: "Do you not believe that there is any difference between he who talks of millions and he who possesses them?" (Montessori, 1917, p. 265).

Rousseau also speaks of the capacity of people to perfect themselves (*perfectibilité*). He states that the only distinction between human and animal resides in this capacity. But he also considers that this ability to perfect oneself is humankind's downfall:

> It would be melancholy, were we forced to admit that this distinctive and almost unlimited faculty is the source of all human misfortunes; that it is this which, in time, draws man out of his original state, in which he would have spent his days insensibly in peace and innocence; that it is this faculty, which, successively producing in different ages his discoveries and his errors, his vices and his virtues, makes him at length a tyrant both over himself and over nature. (Rousseau, 1913, p. 338).

For Rousseau, habit is an obstacle as it binds the human being to a repetition or convention, thus creating needs and dependencies (Rousseau, 2010). For him, freedom is understood as indeterminacy. As Thomas Hobbes said, freedom is the ability to follow as many paths as possible (cited in Spaemann, 1994). Taking one specific path is considered as a route towards losing freedom. Consequently, repetition is an enslavement, a mechanisation that deprives us of freedom.

In *Émile*, Rousseau says that habit (for example, the habit of eating and sleeping at particular times) adds a need that alters nature and will prevent happiness. For him, unhappiness derives from the tension created between needs and desires. This is why Rousseau says that the only habit children should have is that of never contracting habits, doing whatever they wish at any time so that they never become accustomed to acting in one way or another:

> The only habit that a child should be allowed is to contract none. Do not carry him on one arm more than the other; do not accustom him to want to eat, sleep, or be active at the same hours, to be unable to remain alone night or day. Prepare from afar the reign of his freedom and the use of his forces by leaving natural habit to his body, by putting him in the condition always to be master of himself and in all things to do his will, as soon as he has one. (Rousseau, 2010, p. 191).

For Rousseau, habit dresses the child in a second nature that replaces his true one, the primitive one. Rousseau also speaks of nature. However, he understands it as the *primitive condition*, not as the principle of activity and criterion of growth, arguing that it is "only in this original state" that "power and desire" are "in equilibrium and man is not unhappy" (Rousseau, 2010, p. 211). For Rousseau, anything that takes the child out of this primitive state would be *against nature*: "[T]he closer to his natural condition man has stayed, the smaller is the difference between his faculties and his desires, and consequently the less removed he is from being happy" (Rousseau, 2010, p. 211). Rousseau believes that the person is not perfectible; what is innate cannot be improved or augmented.

In contrast, Montessori does not see habits or the imposition of an external structure as an obstacle to liberty[2]. Furthermore, for her, repetition is how ideas are internalised, the personality is constructed, and internal discipline is acquired; it is the secret of perfection (Montessori, 1948b). She sees the child as a fundamentally perfectible being and the measures she proposes to achieve the ends in her conception of nature are aligned with these ends. The teaching material and environment are designed in accordance with an end, not according to the caprice or whim of the child or teacher; there is a model to which we must adapt ourselves, a material that guides learning.

7. Pleasure and the rational nature's inclination towards its end

The word *pleasure* appears over 40 times in a learning context (of reading and writing, identifying and correcting errors,

perfecting habits, etc.) in Montessori's first book (Montessori, 1912).

Montessori also calls it the *joy of effort*, a concept the pedagogues of the New Education were not willing to understand. We should recall that Montessori lamented the fact that Claparède and the movement he represented did not understand that rest and joy are perfectly compatible with learning, *sustained attention*, academic demand, and effort (Montessori, 2007b).

In Montessori, the question of pleasure (the *joy of effort*) derives from teleology and is fully attuned with Aristotelian thought.

Aristotle defines pleasure as *natural activity without impediment*[3]. For the modern vision of the New Education, pleasure is an experience, while in Aristotle, pleasure occurs in relation to a natural activity that achieves its end. Montessori returns to this definition in her writings: "[I]n the normally growing child, its unhindered activity is manifested in what we call 'joy of life'. The child is enthusiastic, always happy" (Montessori, 1949, p. 122).

Ultimately, movements performed with a purpose directed towards their own end perfect the person. Montessori prepares children so that their inclinations are at all times governed by reason by means of inner discipline. Her method is designed on the basis of general and specific ends that adapt to the child with regards to each stage in its development. She proposes that children follow their inclination to enter into the order proposed by the laws of nature (and teaching materials help them to do so), which is not the same thing as saying they have innate goodness. She herself notes this nuance: "Order is not goodness; but perhaps it is the indispensable road to arrive at it" (Montessori, 2007b, p. 32).

The continued references to sensitive periods are indicative of the importance she places on harmonising the educational intervention with what the nature of the child demands, and reflect the teleological focus of a process ordered towards its natural end. In the Montessori method, there is a sequential order that leads to an end, the notion of nature relates to the end and the end relates to the meaning that moves the child. The child is not born in plenitude, but directs himself towards it.

The classical conception of pleasure understood as *natural activity without impediment* means that people have a natural rational inclination towards ends that are suited to their natures. Indeed, Thomas Aquinas, an interpretor of Aristotle and an author Montessori frequently references (Montessori, 2016, p. 369), defines the eternal law as a natural inclination of each being towards its own good, and natural law as an expression of this law in rational beings. It is the light of the intellect by which they recognise for themselves what is right for them: "[F]rom it [the eternal law] being imprinted on them, all things derive their respective inclinations to their proper acts and ends" (Aquinas, 1920, I-II, q. 91, a. 2, co).

For Aquinas, "Every agent, of necessity, acts for an end" (Aquinas, 1920, Ia-IIae,

q. 1, a. 2, co) (without this implying that the end must be fully predetermined), as "the object of the will is good and the end in general" (Aquinas, 1920, Ia, q. 82, a. 4, co) and it is necessary for the person to guide his inclinations in accordance with reason.

Montessori is impressed by the inclination of the child's rational nature towards its own good. She believes that the child has in its nature an innate capacity to recognise what is good, true, and beautiful. People, she explains, are drawn towards what is rational. Her proposal is in accord with Aristotle's concept of *right rule* [*orthos logos*] (Aristotle, 1999, II, 1, 1103b33) and Aquinas's concept of *synderesis* (Aquinas, 1920, Ia, q. 79, a. 12). In fact, in this inclination, Montessori finds an explanation for the mystery of *reduced fatigue* and *sustained attention* that she refers to in all of her works. People find rest in the intelligent voluntary acts they perform that have meaning. When performing them, they tire less and are unaware of the effort the tasks involve, or this effort is more bearable because their attention is focussed and they are immersed in what they are doing. In contrast, when they act in disorder or without inner discipline, they tire more easily.

> [S]ince man is meant to be an intelligent creature, the more intelligent his acts are the more he finds repose in them. When a child acts only in a disorderly, disconnected manner, his nervous force is under a great strain; while on the other hand his nervous energy is positively increased and multiplied by intelligent actions which give him real satisfaction, and a feeling of pride that he has overcome himself, that he finds himself in a world beyond the frontiers formerly set up as insurmountable, surrounded by the silent respect of the one who has guided him without making his presence felt. (Montessori, 1912, p. 354).

The idea of finding pleasure in an activity ordered towards its end is also found in Aristotle.

> This may be seen, too, from the fact that each of the pleasures is bound up with the activity it completes. For an activity is intensified by its proper pleasure, since each class of things is better judged of and brought to precision by those who engage in the activity with pleasure; e.g. it is those who enjoy geometrical thinking that become geometers and grasp the various propositions better, and, similarly, those who are fond of music or of building, and so on, make progress in their proper function by enjoying it; so the pleasures intensify the activities, and what intensifies a thing is proper to it, but things different in kind have properties different in kind. (Aristotle, 1999, X, 5, 1175a30-b1).

Montessori rejects the idea of play as passive diversion: "We speak, it is true, of games in education, but it must be made clear that we understand by this term a free activity, ordered to a definite end; not disorderly noise, which distracts the attention" (Montessori, 1912, p. 180). For her, a child who can work without interruption and with full attention (and therefore can experience joy when doing it since pleasure is defined as *a natural activity without impediment)* is a *normalised* child. *Normalised* children are capable of overcoming what she calls *false fatigue* because when their persistent work becomes a habit, they become inclined to work with patience, per-

severance, discipline, order: "When work has become a habit, the intellectual level rises rapidly, and organized order causes good conduct to become a habit. Children then work with order, perseverance, and discipline, persistently and naturally" (Montessori, 1917, pp. 108-109).

8. Simplicity: The right and strictly necessary amount of stimuli

In the Montessori method, the environment must be beautiful, real, and simple. External stimuli must be the right and strictly necessary ones for two reasons. Firstly, excessive stimuli are obstacles to the perfective process which leads to the construction of the personality. They replace the child as the agent of the process. Secondly, sensitive periods are what guide the choice of what is or is not necessary. Accordingly, frenetic activities or stimuli may be counterproductive because they overwhelm the spontaneous movement guided by the sensitive periods; they lead students to distraction instead of concentration and they cause a reduction in internal activity. Stimuli that are not in harmony with the child's inner order are *obstacles* that impede the child's interest, concentration, and spontaneous activity. Therefore, this chaotic environment cannot inspire *pleasure in learning* in the Aristotelian sense, because it would blunt and saturate the senses. Consequently, far from facilitating truly active learning, it would impede it.

For Montessori, overabundance is an obstacle for education because it "debilitates and retards progress" (Montessori, 1917, p. 79).

9. The teleological focus on progress in Montessori

For Montessori, *progress* is synonymous with the child's perfective action; it is not a task that is external to it. This is another feature that differentiates Montessori from Romanticism. Indeed, she explicitly distances herself from the culture of social militancy that derives from Rousseau:

> It is true that some pedagogues, led by Rousseau, have given voice to impracticable principles and vague aspirations for the liberty of the child, but the true concept of liberty is practically unknown to educators. They often have the same concept of liberty which animates a people in the hour of rebellion from slavery, or perhaps, the conception of social liberty, which although it is a more elevated idea is still invariably restricted. 'Social liberty' signifies always one more round of Jacob's ladder. In other words it signifies a partial liberation, the liberation of a country, of a class, or of thought. (Montessori, 1912, p. 15).

Therefore, the progress Montessori speaks of cannot be confused with that proposed by the project of modernity. For Montessori, the concept of progress is more akin to classical philosophy's conception of it because it is linked to the individual's perfective activity, and not to the realisation of social targets extrinsic to the person that characterises the dominant culture of modernity (Martin, 2006).

In fact, Montessori warns that seeing education as a constant search for solutions to problems is a utilitarian temptation that can lead us to take the wrong paths (Montessori, 1912). One of the false

paths to which Montessori refers when she rejects the problem-solving focus as an end in itself is the one that involves losing sight of the true ends of education. *The child develops according to his own ends through perfective activity*. For Montessori, the goal of education is the person and the masterpiece of education is the child himself.

The method must be directed to this end, which is found in the child's growing nature. For Montessori, the sensitive periods are the manual or route map that nature offers us to understand which environment education must provide at each moment to harmonise ends and means with the spontaneous activity that the child orders to his own development and learning.

The end is the intelligent purpose that motivates the child. Freedom and the concept of *self-education* in Montessori can only be understood in these terms.

> The child who is "free to move about", and who perfects himself by so doing, is he who has an "intelligent object" in his movements; the child who is free to develop his inner personality, who perseveres in a task for a considerable time, and organizes himself upon such a fundamental phenomenon, is sustained and guided by an intelligent purpose. (Montessori, 1917, p. 195).

Ultimately, progress in Montessori begins with the silent improvement of each person from infancy, not in the noisy and chaotic social changes carried out by revolutionary adults.

10. Conclusion

Teleology is a central element in Montessori education. Understanding the implications of the teleological focus in Montessori helps us understand why she was at variance with the New Education movement, inspired by Jean-Jacques Rousseau, as well as her deep affinity with Aristotelian thought.

For Montessori, human activity is naturally directed towards an end and ordered by reason. The end of education is the child himself, as it involves perfecting the agent, taking what is only potential in the child and actualising it. The child's endeavour to construct his personality sometimes happens through the spontaneous activity of his absorbent mind and through repetition with a purpose, which creates positive habits, that it to say, true learning. The absorbent nature of the child's mind drives him to know, assimilating his environment. Hence, a prepared environment and control of error are crucial.

The activity Montessori proposes is internal and self-perfective, not merely external. This is how progress is understood in Montessori education. This vision is similar to that of the classical philosophers, for whom knowing is an internal or, in other words, immanent activity, which transforms and perfects the person who exercises it. Spontaneous activity in Montessori is not necessarily visible. Spontaneous movement can, for example, include: mental exercises the child performs when looking at a set of letters, silent observation when the teacher presents something, or the concentration of a child who realises

that the pieces of a certain material do not fit together and so tries again and again. Silence, immobility, and concentration here are signs of inner discipline. Without it, the child will not overcome *false fatigue* and learning will not be possible. Ultimately, for Montessori, it is not only possible to understand what is discovered but we can also understand what is received (through direct instruction or from the prepared environment, for example). We also discover what we are taught if we understand it.

The Montessori approach is especially relevant in the 21st century as active methodologies often insist on activity that is extrinsic to the pupil but does not necessarily insist on the pupil's internal dimension, which according to Aristotle is what contains the end (Aristotle, 1908, IX, 6, 1048b18-36). And this is especially so in a context in which attention is ever scarcer thanks to an environment that is progressively being invaded by the digital world and an overabundance of artificial and rapid stimuli. This context, paradoxically, encourages passivity instead of internal activity.

External stimuli must be the right and strictly necessary ones for two reasons. Firstly, excessive stimuli are obstacles to the perfective process which leads to the construction of the personality. They replace the child as the agent of the process. Secondly, sensitive periods are what guide the choice of what is or is not necessary. Accordingly, frenetic activities or stimuli may be counterproductive for learning because they overwhelm the spontaneous movement guided by sensitive periods; they would drive the student to distraction instead of concentration.

In contrast, perfective activity, done with the right and strictly necessary amount of stimuli, means that the child finds rest in the voluntary activities performed with meaning and without obstacles. The resulting pleasure is not understood as mere *experience*, but in relation to a natural activity directed towards its end.

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Notes

[1] This is a classic thesis developed by Thomas Aquinas and, in our time, by Leonardo Polo (Murillo, 1996; Polo, 2016).

[2] The notion of *acquired habit* that Rousseau presupposes is very different from that of Aristotle, since for Aristotle, only negative habits constrain nature while positive ones, which are acquired through meaningful actions, expand nature's possibilities and perfect it (Bernacer & Murillo, 2014).

[3] Pleasure is the "activity of the natural state" and is "unimpeded" (Aristotle, 1999, VII, 12, 1153 a 13-15).

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