WNIMTR

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WE NEED ILLUSIONS MORE THAN REALITY

Theoretical and practical basics

Joint report of project result 1

We will try in these few lines to summarize the reasons, the methodology but above all the theoretical bases on which we have developed the project for which we will work. I find it very important and interesting to probe the possibilities that open up to the learning and structuring of personal thought by acting on the development and "training" of the innate abilities of the human mind, and therefore I think it is good to start from EMOTIONS. The so-called primary emotions are those shared by the human being and by most of the animals whose behaviors can be detected. There is a gap between the opinions of researchers: some divide them into 5 fundamentals, others into 6, some into 8, divided into 4 groups. As far as our work is concerned, we will take for granted the definition that establishes that there are 6 emotions FONDAMENTALI.Ma first [1]we need to provide two explanations: why talk about emotions and why highlight the word FUNDAMENTAL. It is evident that in archaic cultural transmission, where culture means the set of basic notions, collectively shared and indispensable to the subsistence of the ethnic group, the ORAL transmission was the primary component. Tales, myths and fabulation, as well as spectacularization through Divine Bricconi, Wizards and Fools, was the best means of transferring information and a winning model of cohesion around the rules essential for survival. But didn't such practices rely on emotions? Well known (and applied) is the rule that by spreading and manipulating fear, the behavior of entire populations is easily conditioned; we want to probe and study how much happiness and what consequences surprise can generate.

The identification and use of the word FUNDAMENTALS we need to be able to move away from what for psychology are drives we say "animals" and find instead of others. Those mediated by the intellect. This is for the simple fact that, in our analysis and research in the field, we will have the task of discovering more nuanced, complex and articulated emotions in order to determine how emotions turn into feelings and, above all, help to focus events and fix them in memory.

To do all this, the first step is to identify how to acquire data. In a culture that is rapidly moving from a written, graphic, solitary transmission but that left an important margin for reflection, to a new model based above all on images, pressing and increasingly solitary (albeit well disguised as "collective") what we need to know is how illusion acts on minds without superstructures.
From his important experience with children Stefano Arditi noticed a drastic change in their

[1] 5 emotions: Joy, Sadness, Fear, Anger, Disgust.
6 Emotions: Joy, Sadness, Fear, Anger, Disgust, Surprise.
8 Emotions: Joy/Sadness, Fear/Anger, Disgust/Acceptance, Surprise/Waiting.

attitude that does not allow us to use them as a champion. They have lost or are losing the pleasure of listening, dreaming, reverie. They reduce their experiences more and more to what little they know and are absorbed by the imaginary only in rare cases. I don't know how much Harry Potter would have had the same grip today than it did 25 years ago.

So we will start our research trying to understand what effects the illusion creates on down, autistic or / and minds that have suffered great psychological stress. We will propose them to participate in experiments where the rules they know will be disrupted. Where through illusion, they will live a magical experience. We are interested in knowing what their immediate reactions are (for this reason it will be essential to explicitly resume the experiments focusing attention on facial and corporal expressions) as well as interviewing the participants and subsequently knowing their emotions and (very important) memories. In this regard, I will send you a series of possible situations (and materials to be procured) in order to organize experiments, filming and interviews. I hope that this will clarify and access to the first step of our work. I am sure I have not been completely exhaustive with these reflections of mine so feel absolutely free to ask questions.

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Chapter 1 - Why magic? (or rather illusionism)

The history of man is the history of the journey in the search for the understanding of phenomena. We can even assert that the very essence of man lies in the discovery of the world, the secret of natural events and existence itself.

In archaic societies everything that escaped understanding and "rationalization" was delegated, for a decoding, to the world of magicians, sorcerers or shamans; to those who through ascetic practices were able to communicate with impenetrable universes and precluded to most. This gave the various Tricksters a different social power and somehow superior to that of the leaders themselves. A necessary, if not essential, power to complete one's knowledge, seeking an explanation of the mysteries, giving a justification, albeit irrational, to the elusive bizarreness of the world and of life. The weather, famines, illness and even death thus had their interlocutor.

However, I would like to dwell for a moment on the meaning of the word Trickster. Translation, let's say literal in Italian, is cheating, where makeup is synonymous with cheating. Equally in the interpretation of dictionaries, the word suggestion is deciphered with the negative meaning of conditioning, plagiarism. Throughout our research and elaboration we must overturn this interpretation of the two terms by giving them a positive value. Extremely positive. So we will interpret: Trickster as "one who knows different ways to knowledge". Suggestion as the moment in which, suspending rationality, the human being is able to seek and find solutions, triggering a process by which the mind approaches a given situation with new weapons. With an enriched ability to invent and / or find explanations to problems, contaminating what he already knows (through a rational approach to learning) with what his mind elaborates by abstracting itself from this acquired knowledge. But let's go back to a quick analysis of the mysterious world that escaped the knowledge of primitive peoples. In order not to leave room for fear, they tried to complete their consolidated knowledge with explanations that included inaccessible beings and places, thus giving space to the creation of MYTHS. The singular thing also analyzed by psychologists of the caliber of C.G Jung is that this presence of decoding of reality linked to a world inhabited by supernatural beings is present at the same time, albeit with different nuances, in all cultures and in the most remote corners of the world. (Il briccone divino pag 177/201) As if abstraction and recourse to irrational models were an intrinsic requirement of man. Unfortunately, the logic of the

age of enlightenment (and the false certainty of having reached a high level of knowledge of the universe) has distanced Western civilization from any attraction for prodigious and illogical worlds, leaving modern man, to compensate for his cultural gaps, only religions. At this point, in order not to fall into misunderstandings, we also give a unique meaning to the word

CULTURE that we will often use in our research path. Culture: the set of knowledge shared by a given ethnic group in a given historical period, necessary if not indispensable, for the survival and subsistence of the ethnic group itself. Whether they are considered, by an external observer, rational or irrational. So laying the foundations for an interpretation of the motives of our research, where we assert that we need illusions more than reality, we can say that we will try to demonstrate how magic, fascination, abstraction, have an indispensable role for the development of a virtuous model of learning. We will try to lay a solid foundation for the indispensable need for a complete, important and lasting CULTURAL development of the illusion and surprise that derives from it.

Chapter 2 - A Digression: Wonder, Wonder and Immune System.

In recent years, medical research has focused heavily on cytokines. These are proteins (or protein molecules) produced in various ways by the human body, which have an important function in the evolution and functioning of the immune system. They can transform the very cells that produced them, operate directly on neighboring cells or even intervene on the endocrine system by acting positively on many inflammations and infections. They are even decisive in the treatment of some autoimmune diseases such as Multiple Sclerosis.In addition to the countless functions they perform, even at the level of cellular communication and information transport, they have the ability (interferons) to induce human cells to resist viral infections. We can say that the study (and understanding) of the production and regulation of cytokines by the human organism is one of the new frontiers of research in the field of physiology and pathology. As far as we are concerned, we must know that recent studies conducted by important universities (Toronto, Barklay, California) confirm that amazement and wonder induce the production of cytokines which act directly on a positive strengthening and functioning of the immune system as well as on the inflammatory processes of the body. In the presence of positive emotions related to surprise, anti-inflammatory molecules develop and produce that can contribute to important self-healing phenomena. This discovery, constantly evolving and in close correlation with the understanding of how primary emotions act on the organism, gives us a great responsibility. We must bear in mind that human activities, interrelationships, the arts, as well as illusionism, have a function that goes far beyond entertainment. We can be and become, as well as educators, also bearers of well-being.

Chapter 3 - A scientific

Emotions' primary approach stimulate the elementary and instinctive structures of the brain The brain is the most amazing and mysterious organ that exists in the whole universe. Of its composition something is known, but little, while almost nothing is known about its operation. Recent approaches to research have tried to establish its evolution, dividing the brain into three distinct evolutionary stages. A basic or REPTILIAN brain (because reptiles have a conformation that includes only the basic part of the brain) born about 500 million years ago, which underlies the primary instincts: the search for food, mating, the defense of the territory, the choice between attack or retreat, the survival instinct. It is formed by the cerebellum, the brainstem and the basic nuclei. It sends information to the muscles at more than 450 km/h and makes the heart beat as well as allows breathing. It perceives sudden changes in temperature and determines the alternation between wakefulness and sleep. This is the part of the brain considered the most "ancient" that would seem to have remained unchanged since the appearance of man on earth. An indispensable brain that then evolved with the formation and development of other areas that gave rise to the LIMBIC brain. Structures of the brain with which mammals are endowed. It develops about 200 million years ago; the seat of primary emotions allows, for example, to take care of the offspring, to transform sexual attraction into transport to a certain companion, therefore into affection. He feels pain, fear, overcoming the simple stimuli / instincts that are still the first that you feel in front of emotional situations. It controls memory and play, as well as social relationships. It recognizes and generates fundamental emotional reactions. It is formed by the hippocampus, the door of memory, the amygdala that manages emotions, the thalamus that manages the sensations of the various sense organs and the hypothalamus. We could call it EMOTIONAL BRAIN. The part of the brain let's say cognitive was the third to form (about 100 thousand years ago) and is the one that analyzes problems and solves them. It is the fundamental seat of reasoning and memory as well as language, decisions and self-control. This is the COGNITIVE BRAIN, the NEOCORTEX (folded in on itself, if it were extended it would measure 2sqm) and its functioning, as the results it manages to obtain regarding the production of solutions, thoughts and creations, depends on its model of culture and how much history it has accumulated (for the interpretation of the term CULTURE refer to what has already been expressed in chapter 1). Neosurgical studies have established that brain development in children,

from birth to maturity, follows exactly this development. As far as emotions are concerned, the brain works like this: the amygdala is the center of perception and processing of emotions. When we feel anger it is from there

that our reactions and alterations start, so when we feel surprise it is in that area of the cortex that we decide whether to be happy or, on the contrary, consider it a displeasure. The emotions felt by this part of the brain are strongly transmitted to the hippocampus, with which it is strongly linked, to be fixed in the areas of memory. In this way, the experience that dopamine has reported is fixed in the memory. Man memorizes better everything that excites him. (Giulio Maira – The brain is bigger than the sky. Pag. 62)

It is our belief that the stimulation, through the use of illusionism in the pedagogy of teaching, of the emotional centers that underlie the emotion of surprise, also strongly stimulates the memory centers, that therefore the exercise in wonder has a strong repercussion on cognitive development.

Chapter 4 - Models of teaching and cultural transmission in Italy: Oral, written, through images and new proposalsWe

are witnessing an important and radical change in the use of information. In recent years we have moved quickly from the written word to the moving image. The video took over. The footage took the place of the description. Just look at the instruction booklets of any electronic apparatus. From volumes of 10/20 paragraphs we have arrived at a page exclusively of drawings. The word intuitive, which would seem a beautiful thing, instead underlies the limit, on the part of the user, to use what he has bought, in a single way, the one decided by the manufacturer. There is no autonomy in carrying out operations or analyzing the facts, you simply have to operate according to "prefabricated" schemes and in some way, simplified. While it seems to be useful, this simplification, for trivial and everyday things (use of a microwave, assembly of a small piece of furniture) we do not know where this new learning method in use will lead, more and more, even in the school where we are sliding towards this modus operandi. The children use tablets, in the classrooms there are the LIM that would seem to be evolutions of the old books and chalks but I would like to point out what changes in the learning process. The virtual mastery of all the information, the possibility of always having access to it and, above all, the possibility of archiving it with the "copy / paste", has made us abandon an old procedure that was to take notes. Things were read and were immediately reworked to be noted. The synthesis that was drawn from it was personal and in some way reflected one's own way of thinking, so it easily adapted and connected to one's own knowledge. It was a way of bringing concepts back to a synthetic, useful and easily memorable form. The banal illusion of always having available any information needed, means that these memorization processes are, moreover, abandoned. Even earlier, in oral transmission, fantasy and imagination had the important function (and ability) to record what was learned by creating personal paths and images in the mind. Now the image has taken the place of the imagination of which there no longer seems to be a need. The video is exhaustive, the audio that accompanies it completes it. Our mind no longer has to create, but only enjoy (and memorize?). This, in our opinion, will be the real and great problem of future generations if we do not help the rebirth of a cognitive process that asks our mind to elaborate strategies, connections, solutions. To have doubts and to look for answers; in this way we will have lost what Tiziano Tersani calls "the

antennas. Those that allowed a sailor to perceive the ripple of the waves in the distance, to read the flight of birds, to interpret the breath of the wind". (A fortune teller told me – T. Tersani) How can we avoid this impoverishment, this atrophy? (let me say, being 40 years that I work with children, that in the last 10 years we have witnessed a precipitate situation) We can do this with illusionism and, above all, with the wonder that is created when we witness a magical effect. When a mind is moved, because the knowledge it has of a certain phenomenon is overturned, the conditions are created in the mind itself for a question without apparent answers. How does a thing fly if I know perfectly well that this is not possible? So thought, elaborated and discarded its knowledge, triggers a search mechanism also (and this is very interesting) through abstractions, inconsistencies, senseless situations sometimes impossible, in search of a solution that justifies the event to which it witnessed. We believe that this seemingly irrational part has a key function in the development of creative and innovative skills.

*There is a moment, called **default mode network**, when the human brain is in a very particular, dare I say special, condition. "To this modality we attribute the moments in which we wander with the mind, moments in which, unconsciously, we relate to each other knowledge accumulated in the past and in which we perceive a capacity for deep understanding of reality." Wandering with the mind is an inexhaustible source of creativity, the spark for innovation that leads to a growth of knowledge and brilliant creations. (...) In practice, we daydream, we let the mind wander in time and space, without an apparent purpose, something that for a long time was considered absolutely meaningless, but which today is believed to have a lot to do with creativity. For Seneca, only when there are the conditions and time to reflect, triggers the opportunity to attend oneself, to find precious insights, unexpected solutions. Only under these conditions does the brain activate the imagination and find the opportunity to reflect and create. Creativity is the ability to intuit the new and to solve complex problems, to organize knowledge around an unprecedented vision; it is the ability to create and invent images and to realize them. Where there is creation, something that was not there before enters our world and transforms it, changing the perception and meaning of life. (...) Creativity, unlike other cognitive functions, is at its highest in childhood and is lost as you grow. Yet creativity, in life, in work, in social relationships is considered one of the most important cognitive functions, at the base of intelligence as it is defined today, that is, the ability to solve new problems. According to the World Economic Forum, creativity will be a crucial skill for tomorrow's world of work. (Giulio Maira Op.cit.)*

Another fact against learning through video is that the images flow, faster and faster (we have gone from sequence plans and editing cuts with decidedly long times to a convulsive succession of frame changes, to the limits of the frenetic). This dramatically affects attention spans. We must make a huge effort to teach reflection, cognitive patience, boredom that triggers conjecture, that recovers and mixes knowledge acquired but, at times, already archived (and that is often lost). Memory is a strange mechanism, still obscure, but what we know and of which we are certain is that long-term memory is stimulated by reflection, curiosity and abstraction that are the indispensable ingredients to give rise to the occasion of invention and innovation.
Maryanne Wolf, a neuroscientist specializing in psycholinguistics, has recently focused on the concept of "cognitive patience", that is, the need to teach the new generations not to live on pre-established concepts, but to make their own opinion, without being in a hurry. To remain deliberately in the "limbo" of non-knowledge (very different from the concept "blessed ignorance" so praised by our grandparents) acquiring, also and above all, through reflection and sedimentation of knowledge, CULTURE, without simplifying but expanding their visions. This implies the stimulation and, if I may use the term, the cultivation of curiosity.
Cognitive patience is not a simple exercise that implies the frustration of not being able to give immediate answers to the demands of the world, something that instead seems to be required more and more often: we must be fast, always performing, always ready to answer. In a historical moment in which the stories of Instragam of 15 seconds are the masters it seems that this ability is being lost. (Chiara Perotti, Psychologist Psychotherapist)

Is there a clear connection with the use of illusionism and magic in learning processes?

Chapter 5 – State of the art in Romania

In this part of the research, we focused on how magic and illusions can help us to teach children through stories. We decided to organize magic puppet shows, as well as an open-air shadow theatre day to observe the children and their reaction to this type of teaching.

Puppet shows

After discussing with professionals, our team decided to implement workshops which will use emotions such as surprise to generate curiosity in the children. We decided to integrate acts of illusionism and magic in our regular puppet shows and theatre workshops with the kids, to check if retention will be higher.

Every 2 weeks, children at CONIL had to participate in these workshops where they were told a story through theatre, using illusions. At these lessons, children also had the chance to interact with the puppets and ask questions, making it even more interesting for them.

The following video presents how magic and puppet shows can be combined.

https://www.youtube.com/embed/yj30X5XBNf4?feature=oembed

The idea is that the children see the puppets and relate to them. This also gives them an opportunity to do improv, which has been knowing to help children tap into their creativity and learn how to master it from a young age. Furthermore, the puppet show gave the children an opportunity to converse with the puppets, and we saw a high increase in their desire to understand the story and focus on exploring the topics discussed in each of the plays.

We discovered that magic puppet shows could be a great way of teaching basic nature principles such as the water circuit in nature (by using illusions to evaporate water, freeze it, etc). This was proved to be a better way of teaching the children because of how they related to the characters in the story and because the mystery of the illusion sparked their interest.

Shadow theatre

Shadow theatre is an act meant to help the storyteller emphasize their story using shadows. It is an ancient form of storytelling which has recently reemerged as a modern teaching method. At CONIL, we have done shadow plays in the past, but never with the purpose of analyzing children's behavior. Our inspiration has been our long-time collaborator – Leon Magdan – famous in Romania for his shadow plays.

https://www.youtube.com/embed/s4yxgrI2nU8?start=105&feature=oembed

Not surprisingly, shadow theatre has helped improve focus in children and has helped us understand how much more emotional impact this type of interactive teaching can have. With shadow play, the stories usually need some sort of accompanying text to support the storyline, which also made the message stronger.

Observations

Our conclusions are as follow

1. Children are more easily impressed by illusions.
2. Children are more likely to retain information sent during lessons if it is presented in a way they can relate to.
3. Mystery will spark the interest of children and will make them want to learn more.

Chapter 6 – State of Art in Poland

Magic and illusion – a few words

The terms “magic” and “illusion” are very often used synonymously in colloquial language. However, the analysis of dictionary definitions shows a significant conceptual difference between these two words. According to the Dictionary of the Polish Language, the word “magic” has three meanings[2]:

a) “overall beliefs and practices based on the belief in the existence of supernatural powers, which can be mastered and called upon by means of spells, rituals, and witchcraft”,
b) “„extraordinary force of impact”,
c) “compelling charm of some places or people”.

The first of the quoted meanings strictly refers to the conceptual meaning, i.e. reflecting the feature of a given occurrence, the dimension of knowledge about it.

The other two meanings have a metaphorical and even hyperbolic dimension and are used in statements that strongly emphasize the emotional dimension of a described occurrence, situation, person; for example, a “magic place” is a place that evokes positive feelings, associations. “The Magic of Christmas” is a term for a whole range of emotions that appear in connection with the celebration of Christmas. “Magic Eyes” is a phrase frequently used to express admiration for the beauty of the eyes, usually female eyes, highlighted by selecting makeup. Examples of metaphorical and hyperbolic uses of the word “magic” are endless.

From the point of view of these considerations, the most important for us is the first meaning of the word magic, which directs us to a non-real dimension. In the area of occurrences whose failure to fit in with understandable mechanisms or the range of their knowledge causes the recipient–observer to try to explain them with something beyond rational, assigning their occurrence to activities of undefined forces.

The word “illusion”, as defined in the Dictionary of the Polish Language, also has three meanings[3]:

[2] https://sjp.pwn.pl/slowniki/magia.html ; (dostęp: 11.2021).
[3] https://sjp.pwn.pl/slowniki/iluzja.html ; (dostęp: 11.2021).

a) “an impression that you can see something that in fact is not there,”
b) “a belief in something or someone, or a belief about something that is non-compliant with reality,”
c) “a deformed vision or misinterpretation of something when influenced by strong emotions.”

The quoted meanings of the word ‘’illusion’’ relate to the realm of the senses. They focus on a discrepancy between reality and its reception by the senses. Synonyms of the word “illusion” include words like: ‘delusion’, ‘mirage’, ‘vision’, ‘hallucination’. These expressions directly indicate the incorrect perception of a given occurrence or situation by the human senses, which is simultaneously inconsistent with the actual state.

A brief analysis of the meanings of these two words – “magic” and “illusion”, shows that they refer to completely different cognitive areas. Why is it, then, that in common consciousness they appear next to each other and are used interchangeably, often as synonyms? As can be seen from the cited definitions, this assumption is semantically incorrect.

Perhaps the answer to this question is very prosaic. Magic, understood as a belief in supernatural powers, forces beyond the natural and physical, is an illusion, an illusion that has no basis in reality. Every occurrence and object that takes place in nature can be described by forces described in scientific laws – in physics, mathematics, chemistry, biology, and other sciences. This means that supernatural powers do not exist, neither do witchcraft nor spells. However, the ones that function are the laws of physics, aerodynamics and biochemistry. But in order to understand the real essence of a given occurrence, it is necessary to know these dependencies of natural sciences. Perhaps subconsciously, by combining the two words magic and illusion into a pair, as humanity, we assigned a meaningful expression to this truth. There are no supernatural, magical occurrences or phenomena. They are an illusion of the senses, resulting from a lack of consciousness and knowledge about the mechanism of a natural process which is incomprehensible, and for that reason understood as magical.

The conclusion of the considerations named above comes down to the statement that KNOWLEDGE is the key that closes the world of magic and dispels any illusions in the recipient about the surrounding occurrences.

However, at this point comes the question: why are magic and a magical perception of the world so popular and deeply rooted in the human consciousness all over the globe?

A cursory glance at the history of humanity shows that magic, understood as “belief in supernatural powers,” is much older than science. And that actually is the answer to the questio n. The magic of the world appeared to be filling a gap, which was the lack of scientific knowledge about the world and its processes.

The practice of giving a magical dimension to natural occurrences appeared at the beginning of human history. The best example of this was the deification of the powers of nature, giving them divine features and worshiping them. The main example of this mechanism is lightning – a phenomenon of one of the elements of nature, an atmospheric discharge that is equivalent to electromagnetic reaction. Among primitive humans, it caused fear and fright. As it was an occurrence incomprehensible to humans (they lacked the knowledge that would explain the essence of it), it started to be considered a magical element, an effect of the action of some unknown supernatural forces.

Beginning with the example of lightning, it is easier for us to understand the genesis of the divinity of the elements. Looking at pantheons from various cultures, in the main places we find divinities identified with the forces of nature, according to the believers, who control the elements. In almost every culture, various divinities were led by a god who controlled lightning, which means the destructive element of fire – and so, for example, it was the Greek Zeus, Latin Jupiter, Norse Thor, Slavic Perun, or Hindu Indra. Nature, its elements, the control over them and the attempts to tame them, are at the core of all primitive religions. The bond between the world of ordinary people and the magical world of gods consisted of the priests, who performed cultic rituals in a mysterious atmosphere. It is these people who are considered to be the first illusionists. Priests and shamans in order to convince the followers about the truth of their calling, their possession of magic skills and the effectiveness of contacts with external forces, used various types of tricks, such as using their knowledge of nature, acquired either during learning or during the observation of the natural environment. A frequent example of such a trick, through which ancient priests ruled the minds of subjected people, was the solar eclipse. Thanks to astronomical observations, the priests were able to calculate the time of an eclipse and use that day to organize a public performance, during which the eclipse was presented as the wrath of gods and them turning away

from the ungodly. The occurrence of an eclipse was used to spread fear and panic, in order for the priests to save humanity because it was supposedly thanks to their prayers and the power to influence the divinities that they quelled their anger and restored the sun to the earth. This is a typical example of the use of the advantage of knowledge to gain and maintain power over those who don't have it and at the same time building a magical image of the world, one that is dependent on so-called supernatural forces.

The first historically mentioned illusionist, who used the art of illusion for entertainment purposes, is considered to be the Egyptian Dedi, mentioned in sources from around. 2 700 BC. According to these notes, Dedi presented to the Pharaoh the trick of cutting off the head of an animal (goose, pelican, ox), and then reattaching it to the rest of the body, after which the animal was alive and well (doesn't this remind us of that popular trick of cutting a human into two parts?). The later popularity of different types of magicians, wizards, clairvoyants and alchemists was comparable to that of modern celebrities, regardless of the state. People who practiced "magic", claiming to know the secrets of the world, control the elements, have the ability to turn base metal into gold, or have cures for all diseases, were very eagerly hosted at the royal and noble courts. On the other hand, taverns and streets were full of different types of wandering jugglers and swindlers, who fooled people with various tricks to gain profit. The great popularity of both magicians and illusionists was due to one simple reason. People were (and in some sense still are) hungry for an explanation of surrounding occurrences that are beyond the scope of their knowledge. This, however, comes from insecurity. The unknown and incomprehensible causes fear and fright. Human psychology is constructed in a way that makes the human strive to achieve a state of safety and to eliminate threats. Therefore, if something is incomprehensible – e.g., the formation of lightning, people attempt to explained it in every possible way – e.g., divine intervention, supernatural forces, or simply magic. This mechanism was used by illusionists of various types – from the likes of divinity priests to street performers. Illusion and deception of the senses of people who lacked elementary knowledge on a given topic gave a false sense of security of the possibility to control the elements of nature, time, or death, e.g., spiritualist sessions and the possibility of calling up spirits. In some sense, an illusion and the way it referred to magic, indicated a so-called short cut, which means it gave hope of achieving something without putting in much effort, work or dedication (e.g. getting rich without the need to work thanks to a philosopher's stone changing common metals into precious metals; acquiring knowledge without

learning thanks to magic spells; the ability of a machine to constantly work, without the necessity to draw energy from the outside, the so-called perpetual motion machine; fast recovery from multiple diseases thanks to "miraculous" elixirs – these are just a few of the examples illustrating the striving towards a goal through the use of non-natural forces). Simultaneously, apart from the negative dimension of illusion, which is undeniably the case when it comes to the deception of human senses, the activity of illusionists also had a positive dimension. Paradoxically, it was the illusionists, magicians, and different types of magic experimenters who contributed to the development of science. Striving towards the improvement of their practice and the development of new tricks, they searched for new technical and construction solutions, which were precursors of inventions and technical solutions that are frequently used today[4].

As humanity, our culture shows how deep we are rooted in the world of magic and, in some sense, we desire it. All across the world, the culture and its material products (in the form of literary works, paintings, theatrical and musical works) are full of references to magic and to an illusionary, unreal world, filled with unreal beings, places, or objects. It is enough to quote probably the most famous European novel of this sort, which is "The Master and Margarita" by M. Bulgakov, or a more modern series that is popular mainly among young people, the saga about a young pupil of a School of Magic and Wizardry, Harry Potter by J. K. Rowling.

What links magic to education? The influence of emotions in relation to cognitive processes

As mentioned in the first chapter of this study, the magic of the world and the attempt to explain incomprehensible occurrences with the activity of supernatural powers was an effect of a lack of knowledge about them. Humanity, in an attempt to build an emotional sense of security, strived towards the elimination of threats from the surrounding world. During the process of learning the mechanisms and the laws of nature, two pathways have emerged: cognition, which is gaining knowledge and discovering the laws of physics, chemistry, biology, and other sciences, and on the other hand, the belief in supernatural forces that rule the world or its aspects. Both of these pathways have one element in common: EMOTIONS. Emotions are produced in the cognitive process and also at different stages of various life experiences or natural occurrences (e.g. during a

[4] Mecwaldowski J., Jak Pan To Robi?, Wydawnictwo: Łódzki Dom Kultury KKI 1998, s. 6 – 65.

storm). Human emotions are a system of feelings. They are considered a subjective component, which causes physiological stimulation, along with a specific expression and behavioural changes[5].

The curiosity about the world that every person is equipped with leads to willingness to learn and the gaining of knowledge about what surrounds him. The development of humanity has led to the popularization of the education system, which is a systematic form of transferring knowledge onto the next generations of young people in the process of education. The process of education itself is a sequence of conscious and purposeful activities of the teacher and the students[6]. It requires the involvement of both the teacher, as the communicator of the curriculum content as well as the student, who is the recipient of this content. The main goals of the education process come down to four tasks[7]:

1) mastering of the basic scientific knowledge by the students,
2) preparing the student for effective use of the scientific knowledge in practice,
3) the development of cognitive abilities of the student, which include thinking, memory, attention and imagination,
a) shaping the student's motivation, discovering his predispositions and developing his interests.

However, it is necessary to remember that the learning process begins before entering a formal education system. In practice, the learning process begins with the birth of a human being. The moment he begins to get to know the reality that surrounds him is the first step to education.

Cognition, on the other hand, is possible thanks to the functions of the human brain, which develops with age. Emotions are the catalyst in the process of gaining knowledge.

In the literature, we can find various definitions of emotions. In the basic sense, emotions are understood as "a strong feeling (conscious or unconscious) of a positive nature (under the influence of happiness, delight, fulfilment) or of a negative nature (under the influence of anger, disgust, fear). They are broadly defined as complex sets of changes including physiological stimulation, neurochemical processes, cognitive evaluation, the feelings, and behaviours

[5] https://encyklopedia.pwn.pl/haslo/emocja;3897800.html ; (dostęp: 11.2021).
[6] Nowoczesne metodydydaktycznewprocesie kształcenia, praca zbiorowa pod red. dr K. Czekaj-Kotyni, Instytut Nauk Społeczno-Ekonomicznych sp. z o.o., Łódź 2013, s. 11.
[7] Ibid. s. 11.

experienced. They are a response to situations that are considered important to a given person"[8]. Emotions are described with features similar to vectors, known from mathematical sciences, i.e. emotions have:

- a sign (they can be positive or negative),
- intensity (they can be weak or strong),
- content (there is always an object of emotion)[9].

According to the psychological classification, there are six basic types of emotions: fear, anger, sadness, joy, disgust and surprise. They are universal, experienced, and recognized by all people in the world, regardless of the culture they grew up in and in which they were shaped[10]. This classification was proposed by Dr. Paul Ekman, professor of psychology at New York University, based on many years of research conducted on representatives of various social and cultural groups.

Emotions accompany the process of getting to know the world. It can even be stated that cognition begins with emotions. It is curiosity, interest, fascination – in one word, emotions, which are the source of cognition. The questions "why?", "how does it work?", "how is it made?", "where does it come from?", which arise under the influence of the emotions of curiosity, delight and surprise, generate the need to seek answers, that is, to acquire knowledge.

A different mechanism applies to the world of magic. There is a term in psychology called magical thinking. It is assumed that it is based on the ability to generate new ideas. Magical thinking is one of the natural stages of the development of human thinking, estimated at around three to seven years of age. This process is characterized, among others, by children giving the features of people and animals to objects (animism), equipping animals with features typical of humans (anthropomorphism), and searching for causal explanations of all processes in the surrounding world (artificialism). Magical thinking is characterized by the belief that mental processes have the power to influence real objects and events. There is an assumption in magical thinking according to which a thought or its external manifestation (gesture, word) can cause physical and chemical

[8] Rawski M., Prezentacja:Wpływ emocji na zachowanie uczniów i nauczycieli, s. 3-4; https://www.wodnskierniewice.eu/images/pliki/wmo/40/6_wplyw_emocji.pdf; (dostęp: 11.2021).
[9] Ibid. s. 3-4
[10] Ekman P., Emocje ujawnione. Odkryj, co ludzie chcąprzed Tobą zataić i dowiedz się czegoś więcej o sobie,

effects. This mechanism explains the topic of the original understanding of the laws of nature in a magical way, discussed in the first chapter of this study. Magical thinking at the stage of adulthood is characteristic for primitive people (with a primitive view of the world), uneducated people (with a lack of basic science knowledge) and disturbed or sick people. One of the sources of magical thinking is fear or fright, for example in the case of a threat of danger to health or life, that could lead to suffering, loss, etc. In such situations referring to magical processes and activities is aimed at ensuring safety and aid (at this point I will recall the previously mentioned magical practices and rituals to tame the elements). The power of emotions in extreme situations experienced by a person is so great that knowledge and experience are suspended, with the simultaneous emergence of contradictory judgments. It is in those situations that very often non-scientific methods and solutions are used, which affect the imagination, increasing hope and providing apparent safety.

Magical thinking, apart from the dangerous directions it can take, also has a positive impact on human development. The occurrence of this sort of thinking might be conditioned by the remaining features of childhood magical thinking and the authority of significant people in this period. In childhood “magic” truths are learned indiscriminately, in strong emotional relations with the people from whom they were received.

On the other hand, in extreme situations, it acts as a mechanism that reduces anxiety or increases the sense of strength and the ability to influence the surrounding reality. It can be a personality defence mechanism in coping with anxiety-producing situations[11].

Both the emotions that occur when exploring the world, which are the source and driving force behind the search for knowledge, and the magical thinking that triggers creativity, should be included in the education process. Knowledge and imagination are the two wings that raised humanity to the achieved level of development. Thanks to them, even more can be achieved. It is important to make students aware of these unlimited possibilities throughout their education.

[11] Samochowiec A., Samochowiec J., Wojciechowski B., Rola myślenia magicznego w obronie przed lękiem, Psychiatria 2004, tom 1, nr 1, Wydawnictwo Medyczne Via Medica, s. 17 -22.

What is the influence of emotions on the ability to learn?

Searching through online forums and blogs for teachers and pedagogues, we can often come across information and tips for work, in which the need to link up teaching methods with the sphere of students' emotions is articulated in the main place. One such tip, included in an entry entitled:

"Emotions in the learning process: How do emotions affect learning?", stated: "for learning to be effective, not only the mind should be involved in it but also emotions, and the most effective way of acquiring knowledge is by experiencing." Under the influence of positive emotions such as pride, joy, and contentment, our memory, focus and thinking expand. Our brain becomes more creative and it solves the problems it faces with greater ease. Therefore, the atmosphere during learning is extremely important for the achievements of the student and the effectiveness of his work. Learning through play brings better results because what we learn accompanied by emotions (joy, enthusiasm, liveliness) will be permanently remembered in our memory. It has even been proven that the learning process requires the interaction of thoughts and emotions. If the centres in the brain that are responsible for feeling emotions were blocked, it would be impossible to make logical decisions. The teacher is responsible for how students feel during the lesson. The teacher should create conditions that enable the acquisition of knowledge (not serve it up to children "on a plate") and encourage them to search for information. It is important that the teacher asks the children questions during the class, allowing them to present their own thoughts. As a result of this, learning will proceed in the experimental mode, which will activate the appropriate structures in the brain[12].

The conclusion resulting from this statement indicates: the need for a holistic approach to the student; taking into account all dimensions of his personality during the process of education, treating him as a physical, mental and spiritual unity; taking care of each of these three spheres in the education process. Such an approach requires a lot from the teacher – primarily, the knowledge of biological processes occurring in the human body and the ability to translate this knowledge into the teaching process, with particular emphasis on the emotions that are turned on and released in this process. As the author of the quoted entry noted, the teaching process could

[12] https://earlystage.pl/blog/2021/05/06/emocje-w-procesie-uczenia-sie-ja-emocje-wplywaja-na-nauke/ ; (dostęp: 11.2021).

not possibly be detached from the emotional sphere. All participants of the process, from pedagogues, teachers to parents, guardians and students, should be made aware of this key dependence. This is probably one of the most important tasks facing the people who create the education system at all its levels and in all its aspects.

The role and importance of emotions in the cognitive process is nowadays more and more often emphasized to the parents who are the first teachers and guides of their children around the world. "Emotions help us learn throughout life" – this sentence was found on one of the blogs for parents, in an entry entitled "Emotions in learning – how to effectively teach children and more," it states the essence of defining the influence of emotions on cognitive processes. Later in his article, its author quotes the thought of a German neurobiologist, Dr. Gerald Hüther, who names emotions "The best fertilizer for the neural network" emphasizing that what a child learns in a state of the highest excitement or delight will be permanently stored in his memory. It is this state of emotional stimulation that he calls the "neurotransmitter shower." Why is this happening? The answer to this question is provided by knowledge in the field of neurobiology, which is given in a very accessible (although of course shortened) way by the author of the quoted blog: “The amygdala, which is responsible for emotions in our brain, is inseparably linked with the hippocampus, which is responsible for memory. Therefore, the more one centre is stimulated, the better the other works. The more emotions, the better the memory. On the other hand, emotions are generated by experiences on which the neural connections in the brain depend.” This very simply presented dependence illustrates the process of knowledge absorption by the human brain. Dr. Hüther, cited earlier, also explains in a clear and very specific way the mechanism that governs children's knowledge acquisition in relation to emotions: “every normal child is interested in the world around them and each is happy to find someone who wants to explain this world to him. But the desire to explore the world quickly disappears when someone tells the child: You have to!” This statement is the essence of what the approach to the education process should be. Science will not be effective if it is oppressive. Compulsion simply kills the will to develop and curiosity, and thus the ability to acquire knowledge. This is because it evokes negative emotions related to fear and anxiety, which in turn are the source of the body's reactions involving blocking, avoiding, withdrawing and running away. Such feelings should not accompany the student in the cognitive process, because they limit and block their possibilities, and as Dr. Hüther emphasizes: “each child is different and unique, and each has a potential that we do not even suspect. For the

potential to develop, a child needs role models, a sense of belonging and security, and to constantly face new challenges. Anything that happens as a result of pressure, stress or fear has a negative impact on his development."

Beginning from the quoted observation, the author of the blog puts forward his own thesis that "a joyful brain remembers better". Later in the article, he suggests that positive emotions should be evoked in every activity with a child. It is good to play with a child because by nature children are joyful, happy and curious about the world. He also asks a question: "how is it possible that a child who is born so curious about the world suddenly becomes an apathetic student who hates any form of learning?" He immediately answers this question, pointing to the so-called sins of the adults – teachers, pedagogues and guardians – committed in the process of educating children and young people, including primarily: coercion, boredom and the lack of purpose of the task[13]. As is quite easy to guess, based on the considerations so far, the cause of educational failures are negative emotions that appear in the education process.

After analysing the thoughts and statements quoted above, a question arises. Why are emotions so important in the cognitive process – not only of children and teenagers but people in general?

The first answer to this question relates to the purely biological sphere, which has already been mentioned in this study. The brain is responsible for the direct connection between emotions and cognition. The amygdala found inside the brain, the centre which controls emotions, is strongly connected to the hippocampus, the sphere responsible for memory. When both of these centres are functioning properly, it is possible to learn new things effectively and efficiently. So when emotions are felt, the amygdala is stimulated. Stimulation of this site causes greater stimulation of the hippocampus. That is why the brain remembers much more when emotions are involved in addition to facts on their own[14].

Due to the fact that emotions influence cognitive processes, which results from the construction of the human brain, emotions can have different functions in these processes. The most frequently mentioned are[15]:

[13] https://www.madrybobas.pl/2018/07/emocje-w-nauce-czyli-jak-efektywnie.html ; (dostęp: 11.2021)
[14] Rawski M. op.cit, s. 18..
[15] Lubina E. Rola emocji wprocesie kształcenia na odległość, E-mentor, nr 3 (10)/2005, http://www.e-mentor.edu.pl/artykul/index/numer/10/id/161; (dostęp: 11.2021).

- orientation function – emotions provide information about objects,
- activation function – emotions provide the energy necessary to activate and perform different cognitive operations,
- "modulating" function – emotions provide the amount of energy that ensures optimal functioning of cognitive processes,
- metacognitive function – which is related to the orientation in its own cognitive processes, and the selection of procedures that may be the most effective in a given situation.

The features of emotions named above show the importance of the role they play inside the human body and in the processes taking place in it. Thanks to these functions, the special role of emotions was noticed and emphasized. Therefore, more and more space is devoted to the issues of emotions, both those of students and of teachers, that go along with the education process. There are three main reasons why emotions play such a role in education:

a) emotions influence the student's interests, achievements and commitment to the learning process,

b) emotions support the individual development process of children and adolescents, constituting a central element of their mental health and well-being,

c) emotions experienced by teachers in a classroom are a central factor in shaping their professional activity.

A very valuable observation is the statement that in the process of education, emotions are like a filter that determines what information will be accepted and memorized. This happens because emotions cannot be separated from cognition and learning. It is the emotions that determine how information is interpreted and stored, in other words, what their emotional charge is.

Unfortunately, a big problem and limitation in the formalized education system is the lack of encouragement both for students and for teachers to consciously practice the ability to recognize and name their own affective states.

And the emotions that appear in the teaching process concern both sides – the student and the teacher.

One of the research areas concerning emotions in the education process is the analysis of the feelings experienced by the student during learning. Professor Reinhard Pekrun in the early 2000s proposed the concept of a socio-cognitive model in which he defined the so-called achievement emotions, described as emotions directly related to cognitive activity or its effects.

In this model, the emotions of achievement relate not only to the end result of learning but also to the process of achieving it (e.g. excitement increasing along with learning or becoming proficient, boredom when listening to instructions, or anger when the task is obstructed).

Taking into account the object of the emotion (focused on the process or the result), the value of the emotion (positive vs. negative) and the level of activation, a three-dimensional division of achievement emotions was distinguished:

a) the positive emotions related to activation include play (oriented to the process) or joy, hope, pride and gratitude (oriented to the result), while the positive emotions related to deactivation are relaxation (oriented to the process) or satisfaction and relief (oriented to the result),

b) negative emotions associated with a high level of stimulation are anger and frustration (oriented to the process) and anxiety, shame and anger (oriented to the result). However, negative emotions related to low activation levels are boredom (oriented to the process) or sadness, disappointment and hopelessness (oriented to the result).

In practice, this means that the joy of learning can take many forms, ranging from excitement to an emerging challenge, to a state of relaxation when a routine task is performed. When the learning process is under the subjective control of the student, but its final effect is judged negatively – the student experiences anger. Mainly because the expected effect does not satisfy him. On the other hand, if the learning process is judged positively, but the student has no control over it, and the existing obstacles do not guarantee success, the student experiences frustration. Ultimately, when a learning activity is valued neither positively nor negatively, it leads to boredom. Boredom arises when there are too low and too high demands placed on the student in the learning process.

The consequences of the emergence of achievement emotions during learning:

a) achievement emotions have an influence on the quality of the student's engagement and learning outcomes,

b) achievement emotions affect the use of the student's cognitive resources, motivation, choice and effectiveness of learning strategies, as well as the location of a sense of control over the process of acquiring new information and school skills (external vs. internal).

The conclusion resulting from the use of such a model confirms that emotions are an integral part of the educational process, closely related to cognitive processes, and should never be treated as a side effect of the learning process.

The aspect related to the teacher's emotions is as important as the emotional aspect of the recipient of the process, in other words, the student. The teacher, just like the student, is the centre of the educational process. His role is, in a way, a driving force because it is the teacher who is the messenger of the knowledge, the mentor, and the guide for the student. And as a person, he experiences a whole range of emotions and feelings that accompany him in his professional work – which is education. Therefore, the teacher's emotions experienced in the classroom are a key factor influencing his professional activity. The feelings he encounters affect his practical skills in the field of transferred knowledge, professional development of cooperation between students, and contribute to his personal development and well-being in a similar way as emotions influence the learning effects and the student's well-being.

Classroom teachers experience a wide variety of emotions depending on how they interpret and judge student behaviour. The individual emotions of a teacher, which are his emotions, depend on the mutual relations between his cognitive processes (such as evaluations, opinions, judgments), and his behaviour. In many cases, students are aware that they can influence the teacher's experience of positive and negative emotions. The most common source of positive emotions in a teacher's work are interactions with students: observing the way they learn and make progress, especially when they have difficulty at the beginning. The more positive emotions in the relationships with students, the more often teachers spend time with them and organize extracurricular activities. Teachers also experience positive emotions when they manage to implement their own plans and intentions in the lesson, when they experience support from colleagues, and when parents accept the teacher's grades and support their effort. The teacher's

emotions, such as joy, satisfaction or pride, influence positively both the students and the effectiveness of the teacher's work.

The emotional condition of the teacher has a direct impact on his students. Students who observe positive feelings and good mood in a teacher during a lesson are more likely to carry out the tasks assigned to them and less often apply avoidance strategies during learning. Emotional interaction works both ways, i.e. teachers who experience more positive emotions while working are more constructive when teaching, have more creative ideas, are better at interpersonal relations with the students, and use more effective ways to reduce everyday school stress. Negative emotions also influence the effectiveness of teaching. Teachers most often experience anger and frustration when the attempt to achieve designated goals is blocked. This usually happens when students violate rules, have poor academic results, or behave in a way that is perceived by the teacher as uncontrollable (e.g. laziness, not willing to learn, lack of attention). Negative emotions are also experienced due to bad relationships with other teachers or lack of cooperation with parents. In traditional educational systems, there is still a mechanism in which the student's expression of negative emotions is unacceptable in the school environment, but a teacher's expression of anger and frustration is allowed. Moreover, many teachers believe that showing negative feelings helps them maintain discipline in the classroom and makes their work more effective.

In the model presented by Professor Pekrun, it was indicated that the emotions of students in the education process can be positively stimulated by strengthening their sense of competence and control over the learning process and its results, and by shaping a proper judgment of this activity and its effects. Among the postulated ways to achieve this goal, the following are mentioned:

a) care for the quality of cognitive instructions and requirements for the student. Tasks precisely defined, clear and adequate to the student's abilities evoke positive emotions regarding achievements and contribute to an increase in the sense of control over the learning process and positively valuing the process of learning and its effects,
b) stimulating motivation and shaping the value of the tasks carried out, both in the classroom and at home. Teachers and parents can "pass on" their enthusiasm for learning and positive academic results to the students.
c) shaping a supportive environment that favours learning and high academic achievement. This is done by learning autonomy and cooperation (individual vs. group

learning). Allowing students to be independent while gaining new knowledge and skills supports their sense of competence, influences positively the process of valuing the tasks performed, and as a consequence evokes positive emotions[16].

The quoted considerations indicate that the relationship between emotions and the educational process is the subject of advanced research. This is not surprising given the importance of this issue. At the same time, it is pleasing that in such an important aspect of human life as education, further areas are explored and described, which have a direct impact on the quality and effectiveness of education. Those types of fields should be constantly developed and the conclusions obtained should be put into practice. The subject of education and teaching is essential because the future, which will be created by today's students, depends on the condition and effectiveness of the process of transferring knowledge.

Methods of education that use emotions in the teaching process– examples of magical classes

Many studies have been created and are currently being prepared about the condition of the formal education system, which show various aspects of it. In the available articles, studies, blogs, and the media, we can find multiple critical opinions, advice on how to improve something, information about the ineffectiveness of some methods or approaches. Critical opinions are important insofar as they indicate problematic areas that occur in the general education system. Diagnosis is the first step to improving something or setting the correct course of action. Education is a key element of human development. The possibility of acquiring knowledge determines conscious decision-making and shaping of the life path, in both the personal and professional dimensions. Therefore, the education process needs as much attention as possible and all available means and tools should be used in order to popularize, develop, modernize and raise it to a higher level.

The current level of technological development and the level of understanding of the dependencies and mechanisms occurring in the body, especially in the human psyche, enable effective teaching in a form which is attractive to the student, corresponding to his or her

[16] Grzegorzewska I., Emocje wprocesie uczenia się i nauczania, Teraźniejszość – Człowiek – Edukacja: kwartalnik myśli społeczno-pedagogicznej nr 1 (57)/2021, s. 39-48.

perception. Teachers play a special role in this process. It is dependent on their commitment, creativity and adaptability, as well as their willingness to learn, whether and what opportunities they will use, and in what way they will pass on their knowledge.

Without skipping critical opinions and being aware of the various problems that affect general education, it is worth focusing on the positive aspects and discovering innovative and creative teaching methods. And there is no lack of those at all. Being aware of the influence of emotions on the process of remembering and the fact that experience is the best form of learning, many pedagogues conduct their classes in a magical way, using curiosity and interest, stimulating the students and developing their imagination, introducing the so-called wow effect.

Various methods and tools are available today. Education can use the latest technology – from toys and interactive whiteboards through electronic devices to internet connections. The combination of various methods and tools makes learning attractive, full of inspiration and emotions – almost magical (in the sense of power and impact).

Below are some examples of magical teaching methods that confirm the observation quoted earlier that “a joyful brain remembers better”:

1. Makey Makey – a mechatronic system that is gaining more and more popularity among teachers, which consists of a printed circuit board and a set of cables ended with so-called crocodile clips, which make it easy to attach to various elements (e.g. fruit) and a USB cable that allows the board to be connected to a computer or tablet[17]. With the help of this small board, it is possible, for example, to play a melody on fruit or vegetables. In the description advertising this tool and encouraging teachers to use it in their work, we read: “This small board is able to make the children not want to go home, and at the same time they will activate their reserves of creativity, joy and willingness to cooperate. Many of them will discover IT, engineering, mathematics, music or art talent because this is what characterizes these classes. During the classes, students work by project. They learn by doing, which allows for versatile development, stimulating many senses, developing various interests, and combining them together. But the most important thing in all this seems to be that science becomes something practically useful,

[17] Apanasewicz J. Poradnik i scenariusze dla kodującychnauczycieli i nauczycielek Makey Makey, „Zaprogramuj przyszłość”, Warszawa 2018, s. 8.

relevant in everyday life – without unnecessary rules and definitions. Clean operation and simultaneously an amazing dose of knowledge and skills”[18].

One of the teachers who used this device for the first time during a lesson described the reaction of the children when they could play on the bananas connected to the plate: “Wow! This is MAGIC!”[19]. The emotional pattern described earlier worked here – almost subconsciously the children described a phenomenon they did not understand as magic. It could be said that they somehow explained to themselves the unknown occurrence by the activity of supernatural forces – in this case, mechanisms of electrical conductivity yet unknown to them. Luckily their guide through the world of the magic of the Makey Makey board was a conscious teacher, in whom the children’s reaction caused the following reflection: “Cool, I sparked enthusiasm and a spark of mystery, but this is not magic, this is SCIENCE! The science which allows these bananas to play, that lets you know how it happens and what makes bananas playable (…) when these kids were saying “wow magic” I thought to myself: no, no, no, I need to explain to them scientifically why these bananas play”[20].

[18] Ibid. s. 8.
[19] https://www.edunews.pl/nowoczesna-edukacja/ict-w-edukacji/5389-makey-makey-magia-czy-nauka-o-co- chodzi-z-grajacymi-bananami Webinar, min. 5:10-7:08; (dostęp: 11.2021).
[20] Ibid.

”Magic is the essence of education”

At the end of this study, it is worth looking at one more dimension of magic in education. It is an extremely important one, and maybe even the most important because it relates not so much to the emotional sphere, but to the essence of humanity.

“Magic is the essence of education” – this is the title of the speeches at the TEDx forum (an initiative that brings together people and institutions that try to discover new ideas and share the latest research in their local areas, sparking discussions in various environments and communities) by Przemysław Staroń, Polish teacher and lecturer, a popularizer of the use of social media in education in Poland and the use of innovative educational methods and tools. In 2018, he was honoured with the title of the Teacher of the Year in a competition organized by the Ministry of National Education and the magazine called Głos Nauczycielski. Nominated for the Global Teacher Prize. He began his speech by presenting the thesis that “education should be magical”. Referring to the most popular work of youth pop culture currently, the saga of the teenage wizard Harry Potter, he pointed out that the action of this book takes place in a school of magic. A school that children dream of being invited to. A model school. So he asked a question: why do we actually have a problem with children wanting to go to school? The answer was obvious: throw magic into schools! So he proposed the following project: “Let’s make education magical! So that the student (after being shown something by the teacher) could say: WOW! This is great”. Of course, he did not mean introducing magic into education at the level of witchcraft or explaining occurrences through the action of supernatural forces. The postulate of this pedagogue comes down to the statement that any knowledge can be shown magically, with interest, using the element of curiosity and surprise. A quote from his statement: “an experiment (simple, explainable by the laws of physics) but on the level of emotion it is magic, this is the wow effect”. That is why it is so important to enliven the transferred knowledge so that it is cool, friendly and close to life. In this way, he expressed the truth around which the methodology of modern education focuses and constantly develops, that emotions play the main role in the teaching process and cannot be ignored in didactic work. The conclusion of his speech was both surprising and extremely simple. And in its simplicity, it affects the essence of not only education but most of all interpersonal relations, which are its basis. Mr. Staroń summed up his speech with the sentence: “love is the most powerful kind of magic!”. Love in three dimensions: love for yourself, love for what you do,

love for the people you work with. In this sense, he identified magic in education as love on the level of a relationship. An important element of his argument was also the obvious statement that you should start with yourself and look at yourself with love, understanding, and acceptance. "Yourself" in this case is understood as a teacher, a guide for others, the one who discovers and shows the world of knowledge to other people – his students. He presented the reason for such an approach in a very clear way, saying: "in education, the teacher is the most important because only he can make the student most important !" This prioritization, in some sense, shows the real magic in education – shaping human-student by the teacher's attitude. He supported his position with short and concise arguments, taken from life and observation, saying: "If a teacher is frustrated, insecure, gets a low salary, has no possibility of supervision – the world tells him – "you are unimportant" – then how can he tell a young person – "You are important!" It's necessary to start with yourself – love yourself. These insecurities lead to ineffective methods of education, withdrawal of teachers, building authority through fear, or imitating an idol or a friend. You have to fill yourself with love – healthy, true, self-accepting. You have to start with yourself – without loving yourself – you cannot love others. It is the hurt who hurt, the humiliated who humiliate, and the betrayed who betray. Happy people do not need to hurt others." He ended his speech with an emotional message: "Teachers – love yourself and then you will not transfer your insecurities to those with whom you work. The second thing is to love the area in which you work. It does not matter what you teach, what matters is whether you put your heart into it." The conclusion of this speech was contained in the following statement: "Education should be magical, but with the assumption that the most powerful type of magic is love. Love which goes beyond itself goes to another person"[21].

On the surface, the quoted presentation might seem too emotional and referring to a dimension that is far away from the main topic of these considerations. However, this is not the case. In the quoted speech, the fundamental issue concerning interpersonal relations, at the student-teacher level, was raised and supported by substantive, not emotional arguments. The speaker drew attention to the most important element of the education process – the teacher, who together with the student creates its subjective dimension. In the process of developing new methods and educational tools to stimulate the student and increase the effectiveness of his learning thanks to

[21] https://www.ted.com/talks/przemyslaw_staron_istota_edukacji_jest_magia_magic_is_the_essence_of_educat ion; (dostęp: 11.2021)

the release and use of emotions, very often the importance of the teacher as a person is missing. The teacher is the one who has to use these tools and stimulate emotions. As Mr. Staroń reminded the audience in his speech, the teacher's emotions are equally important because they enable or disable effective learning and shape the attitudes of those who perceive them, i.e. students. In conclusion, trying to create a magical education system that uses emotions in the teaching process, it turns out that it is important not only to focus on the emotions of the recipients – students – but also to care for the well-being of teachers and support them in the process of conscious shaping and working on their own emotions – as people whose duty it is to teach other people. The importance of this aspect is shown by the example of the mentioned speaker, who, having such enormous creative potential, used in his everyday activities, quit school and is not currently working as a teacher.

Chapter 7 - Operating Model

If you want your child to be intelligent, read him fairy tales; if you want him to be VERY smart, read more!
Albert Einstein

- Of the surprise and its consequences. (Primary emotions) What is the purpose of our research? I try to summarize a statement: Projecting ourselves into the future of learning by developing a model that is not simply a technological evolution (without any cost/benefit analysis) but that by examining, decomposing and elaborating all the pedagogical experiences made so far, can establish what to add (and what not) to integrate and help the development of the current school model. To face this path it can be very useful to question neuroscience. At the current state of knowledge, the brain works like this. Although still the most mysterious thing on earth, the human brain, evolved compared to that of other mammals for the ability to process primary emotions and make them become complex feelings, is formed by distinct areas that imply different functions. The synapses that are continuously created between the various areas determine their processing capabilities. (this is a simplification, but quite precise). Let's focus on how we perceive and memorize emotions. The two parts that affect our project are the amygdala and the hippocampus.

The Amygdala oversees the processing of emotions. The events that affect the amygdala for their emotional content, are imprinted in the memory; we memorize better when something excites us. The relationship between the amygdala and the hippocampus, that is, between emotion and memory, turns out to be very close. The function of the hippocampus is twofold: to transform short-term memory into permanent memory and to keep the ranks of our memories. (Giulio Maira – Neurosurgeon)

Why is narration even more important than explanation? Why are fairy tales (even evening ones) indispensable tools for creating memories? How can emotion give rise to more lasting phenomena of memorization than study? Because it is not the neurons but the neural networks (the amount of synapses) and the substances that they produce by activating them, to determine the proper functioning and potential of our thought and everything posed in the previous questions is summarized in the research we are preparing to undertake. Neural networks are formed in an important way in front of surprise and amazement, in the activation of thought that elaborates

and seeks solutions, when curiosity is stimulated, when magic activates magic. We talked about tricksters and their social function (Il briccone divino op. cit.) and this is what we must become and make our boys n.e.e.t (nider in enployment in education or training). Sorcerers of emotions. We will carry out a misdirection (making shots, in order to have data that can be analyzed in subsequent phases) on various types of boys who attend illusionism shows. Children between the ages of 6 and 10 – with down syndromes or/and with autism. This is to know the irrational and emotional responses aroused by specially designed magical effects. We will try to recognize from their reactions, through the analysis of facial expressions and body language, what are the immediate emotions and through interviews and Q&A we will try to deepen our knowledge about it. We will do the same on a sample of adults both with learning problems and not, in order to try to identify what are the cultural superstructures that prevent the free enjoyment of wonder. These data will be an indispensable basis for elaborating a model of learning through, and by means of the illusionWe are fighting against a social system, that of the availability of information and a consequent atrophy of the need to memorize, and we do not know if the mutation that will take place in the minds of our great-grandchildren will reveal more evolved models of thought, if the world that this transformation will create will be better or worse than what we would like to shape, but I am convinced that our vision of a "creative" brain is decisive for the problem solving that presents itself to us in this era where choices will substantially determine the future of human beings. What we can certainly say is that in the post-war industrial era, no one or almost no one has set itself as a parallel objective to the development of capitalism, the analysis of the long-term consequences. Few have had a vision or at least have asked the question in philosophical terms, while instead I believe that this activity is indispensable now, in the light of the developments and spread of educational practices with an evolution increasingly distant from human nature. More and more homologating. So let's start again from man and from the basic word of philosophy: STUPORE. It follows practical scheme of work.

Step 1Processing two types of magical effects to be presented in the same context: An effect of pure illusion, where something happens without any reason other than magic itself. Another where the magical effect is the compendium of a narrative. Where the surprise comes to support a story told that does not necessarily presage the use of illusions but that still incorporates them into the performance. Step 2organization and filming of ad personam and collective shows, with

the expected plates, with particular attention to the expressions and reactions of the public. Step 3 Interviews with the people participating in the shows (with video footage)Step 4Montage and analysis of the materials. (study of how the magical experience can activate the creative process of finding solutions both in a concrete way, that is, with references to one's own knowledge and in a completely abstract way) Step 5Equipment of a theoretical and practical model for the use of illusionism, the use of surprise and amazement, in the teaching and learning processes.

Chapter 8 - Clarifications on emotions and memory in a small history of

evolutionIt remains very useful to have an approach, albeit superficial, of an evolutionary nature. To know, or even just remember, where our brain comes from and where it goes. Before the advent of Homo Sapiens, that is, that human brain able to fully understand the connections between cause and effect, man was equipped with a brain (we will call it an ancient brain) that was able to react exclusively to indispensable stimuli. Hunger, fear, the instinct of reproduction and the instinct of survival. The development of language but above all the ability to remember and order experiences, to preserve them to make them useful and persistent are the prerogative of the brain that we will call "modern". So in our braincase we have highly specialized structures in vital functions and in the processing of emotions (from the elementary to the most complex and nuanced) up to areas responsible for complex intellectual operations. These last areas have developed by "inventing" new functions without losing any of those acquired and consolidated. The ancient brain dates back about 500 million years and its structure is identical to that of reptiles. It makes the heart beat, allows breathing (which also with respect to learning processes, breathing and the muscle that controls it, the diaphragm, would need a separate chapter and an important deepening) regulates our waking and sleeping states (here too it would be necessary to better understand how to use sleep for learning and recording and storing information in the brain) perceives sudden changes in temperature, it generates the feeling of hunger, implies the coordination that allows us to move. In short, it keeps us alive. This brain, about 300 million years ago, began a slow evolution that taught it to process emotions and, consequently, to control behaviors. He began to recognize the perceptions sent by the senses and use them to understand the world around him; both in the field of threats and in that of pleasure, both for better and for worse (understood as real categories of survival or death).

It is this evolution that has allowed the various areas of the cerebral cortex to communicate with what we have called the modern brain, what the Russian neosurgeon Luria calls "The organ of civilization". It is the emotions, the amazement, the sensory experiences that press from the ancient brain on the modern one and allow it to invent, create, memorize, process, evolve.

Without this essential thrust nothing that was FIRST imagined and THEN invented and realized, would exist. The spark is doubt, dopamine the messenger, neural networks the avenues for solutions and memory consolidation. The production of dopamine, one of the keys to the functioning of the modern brain, is produced in the face of amazement and it is in this condition that the dopaminergic synapses and the nucleus accumbens are activated in a consistent way and make a pleasant event by placing the mind in a receptive attitude. We have 500 million years of brain evolution at our disposal. Let's treasure it and above all let's not throw it to the nettles.

Chapter 9 - Some repetitions (but repetita iuvant)

- Traditional learning and new ways

https://www.facebook.com/sottosopra.idee/videos/4530116730371532/?extid=WA-UNK-UNK-UNK-AN_GK0T-GK1C

First watch this video. Do we need to change our educational model? My answer is yes. We must again learn to give the right importance to words and their meaning. We need to go back to thinking like children. To recognize the difference between the "shorter" way and the "best" way. What is the way? I do not know, but I am sure that the starting square is wonder and amazement. Certainly not the slavish repetition and learning through study as we conceive it today. Moravia writesAt the age of 9 I fell ill with bone tuberculosis. I attach great importance to this disease, because because of it I made short and irregular studies, often interrupted ... We thank Prof. Nicola Donti infinitely for the fantastic synthesis from which we will start for a series of considerations. We have already written:

Creativity, unlike other cognitive functions, is at its highest during childhood and is lost as you grow. Yet creativity, in life, in work, in social relationships is considered one of the most important cognitive functions, at the base of intelligence as it is defined today, that is, the ability to solve new problems. According to the World Economic Forum, creativity will be a crucial skill for tomorrow's world of work. (Giulio Maira Op.cit.)

The form of learning in use in Italian schools is, although evolving, substantially traditional. What do we mean by traditional? Which now, by established practice, is believed to be the best possible. Basically it makes use of the subsidiarity of the oral explanations and indications of the professors, to the texts of the books that are the prevailing place of study and learning. Such books often provide for the need to summarize concepts in notes that integrated with explanations serve to consolidate knowledge. So, basically a knowledge related to the understanding and memorization of concepts considered fundamental. As already mentioned, we neglect to talk about the evolution and replacement of books with tablets that allow the phenomenon of copy / paste, a substitute for the ancient practice of annotation, in the false

illusion of having stored knowledge in a place that is always accessible and that eliminates a fundamental step for memorization.

- But let's talk about converging questions and divergent questions. Professor: This year we need to ask ourselves wide-ranging questions, because if the questions are short-lived, the answers will also be short-lived... Student: (interrupting from reading the "corriere dello sport") Aho, this is worse than last year ....(Congratulations professor riccardo Milani)

We all come from a training experience that mainly proposes a single model. Explanation / exposure – deepening through individual or (more rarely) group study – examination / question with answers related to the right / wrong duality. Apart from some educational attempts, although interesting, marginal, this is the way to proceed in practically all fields of learning. But the question is: are we happy with what this paradigm has generated? Are we happy with the society in which we live? Of a society that generates profit from destruction, wars, food manipulation, annihilation, division into social classes and that increasingly distances man from his conscience and from having "human" behaviors? We deepen the analysis of our education and training systems. Converging questions and divergent questions. The first (converging questions) are those to which only one and only answer is possible. They are closed, authoritarian. They are the ones who are asked for a "RIGHT" reply. Questions that do not even (and not even remotely) ask the doubt of the response "to the state of current knowledge". One correct answer and many more ALL wrong. Divergent questions, on the other hand, have a completely different characteristic: they admit non-predetermined answers, open to new perspectives and multiple solutions, not to argue but to offer different horizons and useful for discovery and new knowledgeOur society, but basically all those of monotheistic religion, are reiterated for the general conviction that there are two and only two categories. Right or wrong. Good or bad. Good and bad. Friends and enemies and bring all levels of knowledge back to such trivializing duality. Avoiding uncertainty means pigeonholing entire societies into seemingly democratic but essentially totalitarian paradigms. The art of doubt is the most revolutionary that can be exercised with oneself but also with regard to society. Asking and asking questions is the subversive act par excellence. Knowledge, the admission of error and the awareness of uncertainty are fundamental foundations of democracy. Using illusionism, conscious deception, in educational processes can

only positively stimulate this way of thinking and proceed in one's cognitive development. I thank Mr. Gianrico Carofiglio for having inspired me this reflection and for reminding me (in the words of Bertrand Russell) that it is essential to put some question marks IN FRONT of statements that for a long time were taken for granted. Assisting and proposing magic effects, in addition to immediately questioning one's knowledge, induces, in an attempt to give an answer to the extraordinary event, reasoning and the search for different solutions; all right but perhaps all wrong, it does not matter. Traditional learning methods have no component that activates the creation of these synapses.

Chapter 10 - Amazement and

PhilosophyProbably without the word amazement philosophy would never have existed. In fact, I formulate better. Without the word amazement philosophy would never have existed. Without this primary emotion the science of existence would never have developed. Plato and Aristotle make the word wonder the foundation of their thought. The search for surprise that stimulates questions that seek answers. Philosophy is the mirror of our brain, or at least it should be... Philosophy, founding for almost all other disciplines that have to do with thought (and not only) is the lever of evolution, the fulcrum of progress, the mother of questions. But, as we have already said, the questions must be wide-ranging because only in this case can the answers be as wide-ranging. Instead, illusionism, the former queen of the arts, the one that by vocation produces wonder and suspends reality, seems to be destined to produce one and only (demeaning) question: How did she do it? This restriction of the field (and consequent decay of interest) is probably due to several reasons attributable, however, to a single phenomenon. The lowering of the level of the type of performance and the advent and affirmation, even before the "MAGIC", of the ego of the performer himself. It must be said that we are also living in a historical period that is not exactly ideal. A phase in which what they call science (i.e. "the current state of knowledge") is taking over any possibility of abstraction. The historical materialism par excellence where there is less and less space for poetry, music (but have you not noticed that it has completely disappeared from the contemporary?) and philosophy, now relegated if not ghettoized in small annual anniversaries. And we live at the mercy of what they consider truth, without reflecting on the fact that we are already laughing at our "certainties" of yesterday the other. Thus, that handful of deluded illusionists, instead of fighting to reveal the sense of surprise, of suspension of credibility, of healthy deception for good, take refuge in the construction of useless Puzzles by sliding the supreme discipline into the limbo of things, considered in a derogatory way, "as children" (and if they were, even Rodari's fables and poems are considered as such, but what a thickness and depth ....)

Chapter 11 - Science, scientists and science communicators

"The intuitive mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honors the servant and has forgotten the gift."

A. Einstein:

In times, unfortunately suspicious, we try to put order in a category of adjectives that are increasingly confusing, overlapping and even, replacing each other. Science is by definition dubious and not just the search for answers. Understanding, without keeping curiosity active, is destined to form dogmas and therefore absolutisms. To determine convictions that not always, indeed almost never, although they seem so, are just and definitive answers, but which are often a pretext and justification for dictatorship. History must never be forgotten. We all have certainties of astronomy when we discover that the earth has two (and maybe three if not more) Moons. But is it? And yet it seems to be so. We are convinced that we know the human body intimately, for having dissected it in every way and instead we discover that we have other unknown organs (two, but perhaps more than two) including the largest that finds a place in the human structure, at least at the current state of knowledge. Science, the real one, never ceases to be uncertain, but science and some self-styled scientists are very different things. Equally or worse are the science communicators. Just a few days ago, one of those very famous for his appearances on TV, perhaps the most famous and accredited, said something in my opinion disturbing: - To understand the world you have to open your mind, but not so much otherwise the brain falls to the ground. Interpreting we could say: - Think, but limitedly. Do not try to go beyond what (WHO decides?) is permissible and plausible to think. Faced with such cultured dissertations, I would like to reformulate his own words paraphrasing them in: -To understand the world we must open our minds, but very very much, paying attention mainly to those who claim to limit their use by proposing pre-organized answers and, above all, to those who, with paternalistic action, present themselves full of certainties.

Fluid intelligence is the ability to think logically and solve problems in new situations, regardless of the knowledge acquired. It is the ability to analyze new problems, identify the underlying patterns and relationships to extrapolate a solution using logical reasoning. It is necessary that all logical,

scientific, mathematical and technical problems are addressed with the process of problem solving, adopting fluid thinking that includes both inductive and deductive reasoning.

Crystallized intelligence (GC) is the ability to use skills, knowledge, and experience. And that's it.

Chapter 12 - Spectators and Magical Experiences

A separate chapter is necessary to clarify the reason for the choice of certain viewers and how to prepare them to live the magical experience. It aroused in me particular interest (with consequent amazement for the results obtained) a singular activity put in place by a group that took the name of *Improv Everywhere* and that was called *Magic experience design*. (brilliantly told in the book "The Art of Astonishing" by M. Tomatis and F. Buscema) It was a matter of organizing and implementing a sort of sophisticated candid camera where, however, the ultimate goal was to make live, even to a single person, an unexpected magical experience. Of course the results were exhilarating. The power of having lived that experience directly, unleashed, in the "victims", happiness and unrepeatable emotions. (you can also find several videos of these experiences on You tube) In this practice I have identified two points that can be important and very useful to the experimentation that we are going to produce. The magical effect, in some cases, occurs without the direct intervention and mediation of the "magician". So regardless of the ability of an operator, but more simply because a series of actions put in place by the subject involved, make enchantment possible (or at least this is the perception). Second: the subject of the experience is left free to live the emotions without having to recognize the illusionist ability to entertain. We will see if practicing magic in this way will give us more chances to understand the quality and quantity of sensations experienced by the person involved. I would also like to justify the choice of the types of subjects to be involved. In contemporary society, falsely disillusioned, attracted by the virtual, addicted to the false belief of knowing for "having heard", illusionism has been relegated to a ghetto, the illusionists caged in a role of pure entertainment, therefore without any luster for the art of which they are depositories.

It is undeniable, this path has generated in the users of magic shows, a feeling of discomfort in front of what they consider trucco_al_fine_di_divertimento. So, with the aim of having a response away from this attitude we say paternalistic, we will try to carry out our analysis on people as free as possible of mental superstructures that act in this sense on thought. Children, unfortunately, are not very useful subjects because, educated more and more to maturity, they do not recognize the surprise an absolute role, but almost always interpret it as a challenge to what they consider intelligence. They react immediately by superimposing the illusion on the trick and confusingly looking for a justification that does not make them feel stupidIf they are too small, it will instead

be difficult to derive useful data from it. What seems to me the most valid sample is formed by boys down and suffering from autism not too serious. People who have not developed superstructures and immovable beliefs. Equally careful we will have to pay to some characteristics of the experience to be proposed. What we need to be careful about is not anticipating information about what kind of experience they are going to live. If those who enter the room know that they have to witness a magic trick moreover presented by an illusionist, they will have a conscious approach of the prodigy and therefore, perhaps, less emotional. In the case of an event that happens without the apparent intervention of an external operator, the emotional part, in my opinion, will be amplified. We will see.Equally we must refer to the nomenclature of the theatrical performance, staging a "drama". Let me explain: Drama is a story that happens in real time. The sleight of hand is just as much. The sleight of hand, support of a story, takes place but in an epic time. The performance takes place "despite". Performance is a vital act of transmission to pass on social knowledge, memory and a sense of identity. Passing on is the key word. Tradition versus modernity. What our work should aim at is to bring the show as much as possible as it were - Hic et nuc - in an attempt to understand what generates emotions.

Chapter 13 - Finally, a little bit of everything

If you are not able to feel amazement you are deadAlbert Einstein

It seems strange that many of the quotations brought to synthesis of our research are by Albert Einstein; we would not like to seem presumptuous and approach, even if minimally, our intuitions to his. For heaven's sake! But what surely binds our world to his way of thinking is the continuous, maniacal attention to free thought. The absolute conviction that an irreplaceable part of human thought in the act of giving life to an embryo of rationality, is pure fantasy, abstraction. The lack of this moment that today is considered ONLY playful, generates monsters. In our opinion this is what Goya meant when he formulated the name of his work which he titled: The sleep of reason generates monsters. Most likely the "reason" he was referring to was what we now call creativity. It is called "drift syndrome", the inability to enjoy what surrounds us, that is, the inability to amaze us and let ourselves be amazed by the things we have around us: the sunset, the flowers, the sea, a starry sky, a walk in nature, a happy moment linked to an encounter, a word, the fruition of an artistic fact, listening to music. Research has shown that compared to the 60s, 47.8% of Italians are no longer able to get excited about small joys

Happiness is a feeling of direct descent of a surprise.

The verb to be amazed, according to the etymology, means "to react to something unexpected": amazement activates the attention system in the brain, responsible for looking for resources to manage an unexpected event. It stimulates cognitive functions, to establish a link between the surprising fact and what was known, and makes you learn something new.

- Amazement decreases with advancing age. From 100% of three-week-old babies up to close to 0% of the man intent on seeking social affirmation, or the realization of a minimum wage, both situations generating stress. One seeks happiness elsewhere without knowing where and ignores having it in amazement. Magic is considered things for children while it is undoubted and proven that it is precisely there that the secret of life and one's emotions is contained. You don't want to understand, even if it's all that simple, that the human body is not TOUT COURT chemistry, but

emotion-induced chemistry. Proteins, cytokines are produced PRIMARILY by situations that generate emotions. We can continue to think that it is essential to introduce drugs into our body or learn (or rather relearn) to use what nature has made available to us. Returning to children, in-depth studies of a few years ago, found that on average 76% felt amazement in the face of extraordinary events, but that this percentage has collapsed in recent years. For this reason, our screening will start from the response they can give to the emotion experienced by a game of illusionism of "simple" minds, that is, as absent as possible from superstructures.

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