

CREATIVE EDUCATION OF SPECIALISTS AT UNIVERSITIES – HOW TO TURN A COMMON SPECIALIST INTO A CREATIVE MASTER

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Summary: This article discusses the problem how to turn a professional into a creator as well as what methods, techniques, trainings, concepts, the kind of training organization should be used to go from professional training to obtain Master and craftsmanship right outside universities. In ancient European art schools, specialists were educated both in mastery and creativity in all forms. Nowadays we get specialist with knowledge, but our economy requires a creator, creativity and masters. The ability to create should be the basis of ability to work, otherwise in a constant exchange of goods the student is not able to keep his job or business. The skill of creativity is the basic skill of a modern job. Masters in modern and future economy should be geniuses rather than standard workers.

Keywords: master, craftsmanship, Creative Society, creative, beauty, mastery, skills.

1. CREATIVE ECONOMY REQUIRES A MASTER AS A WORKER

Creativity has become an integral requirement of modern life. So that means we all need to put the question, whether is it possible training or development of creativity in universities (schools, pre-schools)? Is it possible to education the Master? This article presents the philosophical concepts that allow us to conclude that this is possible and to identify way to some solutions.

This article is based on two large monographs [1, 3]. Monographs result multidisciplinary philosophical studies, collected many examples of autobiographies, research, interviews, provide material and data on which the conclusions or developed concept. Detailed manner with the involvement of all material science and the latest scientific evidence studied the concept of Beauty, Insight, Creativity, Thinking, and other. Later we rely on our own research and the definition of the terms presented in the "Theory of the creative process" [1], and many other works [1–3]. But, unfortunately, a small article format allows us to give only the conclusions, but not evidence and justification, sometimes takes hundreds of pages, and those only in a simplified form. This article is a philosophical and scientific concept and forecast, and the requirements to philosophical concepts, scientific concepts, forecasts, other than to the experimental data, theories and hypotheses. Many of the

concepts had to give an overview and a very simplistic, and represented only part of the concepts. Therefore, in most cases, we provide links to work, where it is proved or considered. Forecasts have yet to materialize and may not materialize or may not be achieved, the successful concept will develop, many philosophical concepts lay at the base of completely new directions, practices, experiments, even state policies, etc.

About some terms and terminology:

Beauty, according in our research “feeling of beauty” of scientist, engineer and other mental worker, philosopher, creator, an ordinary man in monograph "Theory of the Creative Process" [1], we cannot use only in usual sense, but as an instant “evolutionary assessment” of phenomena in feeling. Studies show that any evolutionary in every area (external, sensory, visual, mental, scientific – ∞) we can appreciate (evaluate, rate, estimate, measure) as beauty [1]. Insight, it means holistic though with details [1].

Creativity – not only in art: all kinds of Evolution in even somewhat related to progress, excellence, development in the infinity of forms and types, including mental work.

When analyzing modern economy we can identify certain traits that involve changing the type of economy in the near or distant future. It corresponds with the emergence of digital goods, whose value is determined only by how creative they are, the transfer of production of goods to the consumer, i.e. the separation of the creative component in digital form from the product itself, and defining the exchange value of the product by its creativity. Creative Economy becomes a part of Creative Society and requires Masters and Creative Education [9].

Master rather than specialist – is the one who can meet the requirements of modern economy. Under the conditions of extra strong competition, only Master is able to create any value of goods. Creativity is the highest development of economy and its culmination. In an increasing number of specialties and industries, creativity has become a mandatory part of work, and this trend is developing. Due to the explosive growth of automation and computerization, the role of a simple duplicate and mechanical labor will decline. Soon, probably, all the work will require a creative component [9].

Moreover, it should be understood that working with creativity in mind demands more effort than previously. The writer still has to write his book, where each sentence and

idea is individual and original, the programmer must write a program or code, the constructor and his team must create, develop and test an airplane and its parts a thousand times, etc. The creative component in labor does not preclude the labor itself, which can range from 1 to 99%. If once creativity seemed one-time and rare, for some time now it has become a permanent part of work or labor, the highest stage of labor.

Economy puts creativity on flow. Only Masters are able to be continuously creative, like Mozart, who created more than 600 works.

Labor will move to the area of endless forms of creativity [9]. Creativity in programming is also creativity, creativity in advertising is creativity as well, and creativity in the endless series and changes of newly developed skills, professions, specializations, fields of expertise is creativity, too.

Even mechanical and simple work is becoming more and more non-standard, and requires not only simple redoing, but needs the application of mastership. Creativity has become the demand of any profession.

Therefore, what we need is Master and Creator. However, the notion of Master includes an entire multi-level system of thousands of micro-skills and skills, habits, qualities, etc.

A system of higher education should produce more than only specialists; the result should be Master-Creator, a man capable of unceasing continuous creativity with high quality and perfection, which people demand.

2. HOW DO EDUCATE MASTERS?

Due to the fact that creativity becomes an integral part of work and many types of work require constant creativity, even at a low level, the question arises - is it possible to teach creativity?

In recent decades, scientists have learned a lot about the mind, the structure of the brain, the psychic and mental features in education and training skills, and some enthusiasts have built up and gathered enough experience [4] to understand that creativity training is possible [1–3].

Economy simply put many people in a position where they had to learn toward constantly create, as did the Master.

2.1. Fluctuations in the number of Masters and geniuses in the population over time

The study of history shows that there were periods when the number of geniuses and Masters reached an incredible concentration. In addition, when the density of the population became thousands of times greater, then their numbers decreased. The difference paradoxically can be up to a thousand times. The relationship between the number of geniuses and Masters and the percentage of the population has not been found. Moreover, fluctuations of geniuses within one nation, that is, in a population with a similar genome and even in direct descendants, can be great. This suggests that the appearance of genius and master, the genius and creativity, may depend on ideology, belief, culture, education, lifestyle, etc., and cannot be too complicated.

Ancient Greece experienced an incredible concentration of well-known geniuses and Masters. But Ancient Athens, as we know from excavations, were placed on a square less than three by three kilometers, which, by modern standards cannot even be called a town or a large village. And its population fluctuated, according to different

sources, from ten thousand to three hundred thousand inhabitants. Plutarch mentioned somewhere that the number of citizens was 14240 people [11], and Themistocles kept in mind and remembered the names of all the citizens of Athens. It is unlikely that the entire population of ancient Greece significantly exceeded half a million. This is a paltry number of people by modern standards, but it gave rise to an unprecedented explosion of Masters, so one believes that the number of art works in Athens could exceed the number of its other inhabitants. For example, according to Pliny the Elder, Lysippos created more than 1,500 works [Naturalis Historia, Book 34, XVII.37, see in 10], Praxiteles – about 600, Phidias – 800, and there were nearly ten artists of similar fertility per decade. Some people believe that even Socrates was able to carve a couple of sculptures. However, other researchers argue that among free citizens there was virtually no one who would only admire art; they were all engaged in some kind of art (science and philosophy). It was due to the Cult of Beauty [1].

The Cult of Beauty includes the worship of Arts (philosophy of science), and even the very participation in the arts (rhetoric, poetry, sculpture, painting, acting and so on).

A similar Cult of Beauty was seen in the Renaissance time, especially in Italy, the Republic of Venice and Florence (the Florentine Republic).

It is interesting that patrons, customers and charterers of the arts, like in ancient Greece, were the aristocracy, the rich, the church (temples) and the common people, and art was ubiquitous in homes and on the streets.

Religion was not only unopposed to art and Masters, but, on the contrary, it was its famous customer.

The arts engaged many circles of the society: a) the Government and the aristocracy as the secular authority, b) the church (in the temples of ancient Greece) as the spiritual authority, c) the rich as the creators of the authoritative weight of demand, d) the masses. In this way, the ideological basis (the church or temples) was combined with the public inquiry, secular request, demand and massive request. Obviously, we can see the presence of sacred power, society, fashion and massive requests.

During the Renaissance time in Italy ancient Greek influences were common, and in some of the points that revival was even of "republican" structure.

Interestingly, in Italy during an opera renaissance, almost everybody was able to sing practically almost everything, and one could hear a man singing a fragment of an opera in the street.

The Cult of Beauty bloomed again in Vienna, which became a "music capital".

The Cult of Beauty and Arts and even the cult of ancient Greece were manifested in some way at different times in Holland, France or England.

In Protestant Germany and partly in England it was not so much the cult of beauty as the cult of philosophy and science, when masses rushed to attain knowledge and education and rarely did it for money. The world-famous German philosophers were abundant in that short period. We again see a high concentration, which is very difficult to combine with the genetic model that assumed a certain percentage of geniuses within a population.

If we see a statistically significant fluctuation, then these conditions of increase geniuses can be created.

2.2. Crises of Culture and Cultural takeoffs – cyclic pattern of growth of culture

Moreover, the same population may be, in a short span of time, experience an "attack of genius - an explosion of geniuses and Masters, and a "turbidity crisis" - explosions of militancy and cultural savagery; for example, the great philosophical and scientific Germany became a "great Reich" for a period of 15 years. This may indicate that the same mechanisms of hysteria and the increasing influence of the masses can serve both as a mechanism of cultural and scientific explosion or "cultural crisis". Moreover, the Russian overturn showed that these two processes could even occur at the same time: a huge number of Russian geniuses blossomed between and during the two revolutions, although at the same time an outburst of cultural savagery almost buried them. That means that "an explosion of culture" and "a crisis of culture" can follow one another in one nation within a short span of time.

An unprecedented cult of beauty and even the cult of ancient Greece flourished during the Russian Silver Age. The aristocracy liberated by Peter III (Manifesto 1762) [12] and Catherine II (Charter for the Rights, Freedoms, and Privileges of the Noble Gentry of 1785) [12] from mandatory service got some free time. Russia received a small stratum of people, according to the number of hereditary nobles, at first sight comparable to the free population of Ancient Greece and Italy. Gradually, in this environment grew the Cult of Art and the Cult of Beauty that in the environment of aristocracy denoted customary making art. Throughout their youth, they played music, composed poems and wrote books, pursued philosophy and science. Later children coming from other estates joined them. This exchange had education as its purpose. As a result, in the period 1785–1917 (until 1960 th, when the last nobles and their children died) Russian culture cherished an unprecedented outburst of geniuses and masters. The Silver Age (Russian Renaissance) was comparable to the eras of ancient Greece or Italian Renaissance. At that time, hundreds of representatives of different ethnic groups were born and lived, who later became world renowned geniuses in various fields such as Rachmaninoff, Scriabin, Tchaikovsky, Gretchaninov, Leo Tolstoy, Dostoevsky, Chekhov, Bunin, Sholokhov, Roerich, Vrubel, Levitan, Shishkin, Tropinin, Serebryakova, Malevich, Chagall, Pasternak, Nabokov, Akhmatova, Lermontov, Pushkin, Blok, Fet, Mandelstam, Blavatsky, Berdyaev, and many hundreds of others.

It is worth noting that the cultural explosion of a narrow stratum of aristocracy and educated commoners ended with a social revolution of masses with terrible paroxysms of lack of culture and wildness, which was replaced by new growth during periods of calm and crisis again.

The culture of a nation and a country in general appeared incapable of holding the nation free from lack of culture during transition periods. In addition, the second small cultural advancement of masses went along with the 1937 hysterical repressions by Stalin. That allows one to assume that there is a simple and available mechanism behind grass-roots movements.

The idea of cultural crises, that is, cyclic rises and recessions of culture, "crises of culture", is not new and reminds one of the concept of economic crises when rise causes recession. Production boom is followed by a crisis of overproduction. The full boom of culture, cultural expansion and superiority can lead to ideas of political expansion. In

simple words, "they" share our great culture and admire it, but "our power" and "our government" have not become theirs yet. Christianity, Islam, communist ideas – they all turn to aggressive campaigns and Crusades after a period of proselytism. Even European culture in its full bloom coincided with colonization of Africa, America and Asia. However, attempts of expansion of all types (economic, political, and territorial), except for the cultural one, often meet cruel resistance and promote formation of new national states. Losing and being humiliated, the state with great culture can fall into "crisis of culture" and even run wild, like the fascist, Nazi, Hitlerian state. Thus, transition from cultural to extra-cultural (political, etc.) expansion can serve as a mechanism of cultural degradation, decline of culture and "cultural crisis".

Fascism seen as a crisis of a great culture can arise as a reaction of a great state and great culture to humiliation and defeat.

"Cultural crisis", after unprecedented take-off of culture, can also be caused by the fact that a given culture and art are no longer possessed by the masses; they become divorced from the masses, become so subtle and refined, that masses do no longer understand them. At the level of excessive refinement and complexity, art becomes an elite thing and masses completely disappear from it. When masses have fallen away from high culture, they are instantly lost to it. This is the crisis of overproduction: when nobody buys goods anyone understands culture. Culture is like Camus' Sisyphian labor; it is pushing a stone uphill repeatedly, which turns out to be futile if it becomes very elitist and not rooted in masses. If a culture is separated from masses, the society can experience a fall of mass culture, but not take-off. All or at least the majority in a society should lift culture. The very development of culture and skill to incredible heights and up to transcendental sizes can cause a crisis of culture. In other words, as soon as classical music becomes daunting, confusing, and intelligible to connoisseurs or experts only, young people begin to listen to "rap", "rock" and "pop" rather than classical music. As soon as dances become super art, and the best young people cannot dance it any more, they start dancing "hip-hop", "house", "reggae", "break", etc. and not classical ballet. As soon as "culture without exception", "one and all culture" (as it was in Ancient Greece) loses its mass character, there is a failure of culture and its degradation.

To accept culture, we should be able to do it yourself, create it yourself. Perhaps also, something that we perceive as degradation and extinction of culture is the beginning of a new one, which starts with the ascension of new masses and social layers, which were not previously participating or involved in cultural life.

What we can distinguish as signs of cultural prosperity are:

- Such called the Cult of Beauty.
- Mass character of art, sometimes almost universal participation in it, is similar to that of ancient Greece. We mean, in philosophy, rhetoric, poetry, sculpture and in other arts. Even in the dark Tsarist Russia practically all the members of aristocracy were involved in the Muses to a lesser or greater degree: played music, wrote poetry or other works, philosophized, drew pictures, etc. To do otherwise was uncivilly and unfashionable. Very often cultural boom takes place in small closed societies like that in the republic of Venice, Florence, Holland, small kingdoms of

Germany, Vatican, etc. However, as soon as the era of universal involvement of masses into artistic occupations and creativity fades away, than the brilliant era of the Renaissance was replaced by an epoch of stagnation or "crisis".

- The Cult of Master, Master's Cult, Cult of Mastership, Cult of Excellence Skills, supports the Cult of Beauty. Cult, is reaching up to the worship of the Masters, geniuses and Creators.
- Study of the Masters reveals that most geniuses arose at a school of another genius, and they often were direct pupils of the genius. The supervision over geniuses and Masters gives them an opportunity to adopt certain habits and skills. To give an example, Nikolay Roerich was Arkhip Kuindzhi's pupil.
- Competition among geniuses and Masters leads to high levels of their potential; it is good for them to compete. Research shows that geniuses often come into the world in pairs or groups. Akhmatova, Tsvetayeva, Mandelstam, Pasternak, Gumilev and other poets were not only intimately familiar with one another. They even performed in the same café. Raphael, Michelangelo, Leonardo da Vinci competed with one another not only in art but also for orders; Haydn and Mozart worked at one time and Beethoven studied with both of them; Hegel, Schopenhauer, Fichte and Schelling worked at the same time and their work and lives intercepted with the life of Kant; Vincent van Gogh, Claude Renoir, Henri de Toulouse-Lautrec, Camille Pissarro, Edgar Degas, Paul Gauguin and others worked at the same time and the list could go on forever. Recognized geniuses remain only in those areas where there is competition: virtuosos such as Sviatoslav Richter, Mstislav Rostropovich, Yehudi Menuhin, opera singers – Placido Domingo, Luciano Pavarotti, etc are good examples of this fact. It seems that only in competition most Masters reach traits of genius; when one talent competes with other both can race in mastery and end up as geniuses who are top of the world. It is difficult to find one's path from scratch, but trying to become better than another genius does, it is possible to outclass him and become a genius in turn.
- The Cult of Arts, especially in the form developed locally, which could be called "renaissance" of local culture (music in Vienna and Italy, philosophy in Germany, etc.). Later even the Cult of Culture (during Shevchenko's era in Ukraine there was, as argued in memoirs, literally a cult of Ukrainian culture among Ukrainian intellectuals; in Russia during the era when Russian culture was forming there was V. Stasov with the "Russian circle", which was professing Russian lore, folklore, traditions, language at the time of pro-European orientation of culture. It was seemingly an insignificant circle of intellectuals in both cases, but they helped the formation of the original cultures at approximately the same time.
- Phenomenon of sacredness or involvement in local religion both in ancient Greece the design, construction and decoration of temples was a highly artistic activity; and in the Renaissance Italy art was involved in creation of churches, icons and other religious images, and therefore a significant part of the story was religious and sacred.
- Sometimes a resource of free time becomes an important factor in the development of art and science;

even with the presence of professional education, the development of society in the creative direction may be blocked or impeded if there is no leisure time available for the development of creativity.

- Participation of the authority, i.e. patrons of art in the heyday was a great support for artists and their artistic activities, e.g. the Medici, the Pope in Rome and in Vienna – the royal family, the kings played the same role. Men of Art and Science, when surrounded by patrons' care, reached peaks of their development. During the golden era in Ancient Greece men like Socrates, Phidias, Anaxagoras, Protagoras, Herodotus and others were friends of Pericles; Anaxagoras was also his teacher.
- Among the rich and the wealthy, there has always been a great demand for art; it was present in their homes not only in the form of their own involvement but also in numerous objects of artistic value that they gathered: sculptures, paintings etc. Therefore, great Masters did not need to starve; the patrons commanded many pieces of art.
- The demand from the masses; members of the public were not only creators of art but also its judges and critics. Moreover, they sometimes paid for the pieces of art. That assumes, unfortunately, quite high level of prosperity of masses. It also means that numerous products of creativity were viewed to be sacred, so, for example, during the era of icon-painting boom one could find an icon in every house; otherwise, they would have been burnt.

Not always, of course, all requirements were fulfilled at the same time. Poetry is a good example; its 'production' and distribution did not require virtually any financial investments; it was transmitted orally and existed in people's memory only; to receive it was also free of charge. The approval of any state or Church authority was not necessary; hence the paradoxical development of rhymed bardic poetry in the USSR.

These conditions developed in detail in work [1, 3] and other can be created.

2.3. Master creates in the mind

Paradoxically, only few people realize that the Master first creates his masterpiece in mind (brain, nous). Numerous studies of creators and Masters have proved that the Master first creates and nurtures his works in his mind. Modigliani said, "I write in my mind over three paintings a day, but why spoil the canvas, that no one will buy" [cit. in 1]. Taras Shevchenko wrote: "Paintings in the minutest detail are ready (of course in the imagination), and give me the poorest means now, I would stiff over the work ..." [cit. in 1]. Hints about the fact that the first of all you need to create a picture in your mind, can be found in the heritage of almost all well-known artists – from Raphael and Leonardo da Vinci to Reynolds and Vrubel, Rodin and Michelangelo, etc.

Moreover, the majority of brilliant composers, such as Mozart and Beethoven [1, 3] first created their symphonies in their minds. Mozart, according to his wife, never came close to the clavier or paper while composing. Mozart wrote: "All this fires my soul, and provided I am not disturbed, my subject enlarges itself, becomes methodized and defined, **and the whole**, though it be long, stands almost finished and complete in my mind, so that I can survey it, like a fine picture or a beautiful statue, at a glance. No parts are sounded successively in my imagination, but I hear them, as

it were, all at once. What a delight this is, I cannot tell! All this inventing, this producing, takes place in a pleasing, lively dream. Still the actual hearing of the whole ensemble is after all the best what has thus been produced. I do not easily forget, and this perhaps is the best gift I have my Divine Maker to thank for... When I proceed to write down my ideas, I take out of the bag of my memory, if I may use that phrase, what has previously been collected into it, in the way I have mentioned..." [cit. in 13]. We have not found any area of creativity where geniuses would not pass a stage of "an image in mind". In work [1] we have collected an impressive evidence of how works of art are created in artists' minds first. Greatest virtuosos admit that before playing in public, they have to create the sound in their own minds. Famous actors claim that they first create the roles in their own minds and only then learn to play them; brilliant opera singers describe how they try to achieve the necessary sounds and understand emotions at first in their minds. In addition, brilliant designers like Nikola Tesla described how he first designed his new creation in his own mind and brain [14].

Even ingenious writers, who operate with words, but not with images or pictures, admitted that they also needed firstly to create a certain image in mind. The ingenious fantast I. Efremov wrote: "But before on paper will be falling the first words, the first lines will be lay down, I have to imagine visually to the smallest details that picture, that scene which I am going to describe. Before my eyes it should "come to life" imaginary film. Only when on this movie I will see as if I see that personally, all episodes of future book in a certain sequence – frame by frame, – I can imprint them on paper..." [cit. in 2].

Even brilliant dancers and ballerinas, such as, e.g. the legendary "goddess of ballet" Ulanova, described how she initially searched and created an image in her mind. Even some legendary guitar rock virtuosos claimed that a representation in mind not only of the sounding but also the part of hand and fingers helped them with obtaining a smooth and speedy performance of the work. Such brilliant physicists as Albert Einstein or Lev Landau carried out all their work in mind. Landau claimed that he generally did not write down his work [cit. in 1]. Moreover, the deceased young artist Nadya Rusheva said about her method of creativity: "I see how contours of a future drawing appear on paper – I need only to lead round them a felt-tip pen" [cit. in 2].

Quite unexpectedly, even some outstanding athletes claim that they go through such a phase in their work. The brain of an athlete processes the given information and produces an outcome and only then, he performs and embodies the image. That is by far the most difficult intellectual skill, which can be achieved through long training. The athlete receives his most difficult result by processing of much information with hundreds of details, and only then embodies it using his physical skills and abilities. Thus, an intellectual image of a future action can be found even in the sphere of physical achievements, which are always preceded by the working of intellectual and mental skills.

It appears that in sport and in sportsmen, too, there are mental skills, which can sometimes perform instantly and imperceptibly for the master's extremely difficult and complex calculations. However, it is easier to develop and to make it, if you know what it is, where and how.

Detection of an image stage of formation in the mind in very diverse areas, actually made training in Craftsmanship-Mastery and the Master available and attainable for millions. Because everyone understands that an intellectual skill can be developed, it is possible to build it up gradually and it is possible to create a piece of art eventually. Moreover, to draw and incubate, for example, a picture in one's mind is far greater ease than on canvas. With an hour's work on one's mind and imagination, it is possible to change and improve a picture one thousand times, achieving Perfection and Beauty. Leonardo da Vinci's thought, thinking, meditation, reflection, contemplation on Mona Lisa in the mind for the period of about three years [17], enabled him to draw it in a hour or day.

Everyone understands that if you are able to play music in your mind, if you can think of musical sounds, then changing it thousands of times per day you can reach beauty even by accident. Obviously, in this case, creativity will be more accessible to everyone – the main thing is to learn how to play music in one's mind.

From the unclear ingenious work, which is written down unclearly under unclear laws, we pass musical creativity into Thought. In addition, to think, reflect, ponder, and contemplate is an activity available to everything, everyone, regardless of abilities. However, we must learn to think in images, shapes or colors, sounds or music, movements or blows, but not only in words. Moreover – abilities to imagine things and to think may be developed.

There is no reason why you could not create an ingenious image in one million attempts in mind with absolute ease and absolute freedom to change things. Of course, if you are skillful, competent and able to do it.

There is such a thing as a mental skill – repetition of any action in the mind leads to gradual acquisition of the skill and it eventually becomes our internal ability. Therefore, solving examples of multiplication tables in the mind a thousand times, we will soon be doing it without thinking. If we run the examples in mind hundreds of thousands of times, it will become our skill, and we will just see or realize the answer with one glance at an example. In other words, there are mental skills that are gradually developed. In addition, they facilitated our thinking. Like Mozart and Beethoven, who kept an entire symphony in their minds, we hold a thought or an image.

Translation and training creativity primarily in the area of mental creativity, in thought, in thinking with pictures, images, thinking with forms, sculptures, sounds, opens up the possibility of learning the Mastery and craftsmanship of a genius for everyone.

It is the very loss of a link of mental creativity, which makes the process of creativity something incomprehensible and mystical, it is because there is unclear from where it undertakes on a scene or on a canvas during drawing. Whereas dissecting of creativity into two stages – mental and an embodiment by skill – makes creativity easy, clear and available to everyone. Everyone knows that Gioconda by Leonardo da Vinci may be copied even by a pupil of art school within some hours. In general, it is possible to teach anyone to copy views from cards or pictures through developing their consecutive primitive skills. In addition, how does then transfer of a ready accurate image from the mind to paper differ from copying? Some artists even like to superimpose their mental picture on paper and then simply shade, outline and paint over the image on paper.

A person's capability to clear draw the same lines, curves and other lines without templates, all forms and figures, and clarity, accuracy, precision, exactitude of the hand as a whole may be exercised and attained by teaching children in a variety of methods, most of which do not require students to be geniuses. On the contrary, children acquire professional skills more easily and faster than adults do. Their brains are apt to focus on one task and even if it is extremely difficult, they are able to produce better results than adults are. But a child must know what to do and start with a simple exercise – he or she must understand what to do, how to do it, and cannot be put off by any problem that makes his/her task difficult to do or understand. They have to achieve mental skills, body skills, dexterity, knack, proficiency, craft, trick, adroitness, craftsmanship, mastery, workmanship, mastership, excellence. They have to become not only Masters of knowledge but also Masters of thinking. It is a very well-known fact that children can reach incredible levels of mastery with skateboards, rollers, cars, bikes, horizontal bar, skis and even horses such that is impossible to imagine.

The main problem is that they are used to thinking in words rather than in art forms – thinking in pictures, thinking in shapes, and thinking in sounds – that is what should be taught. Mastery of thinking pushes mastery of arts and at last mastery of knowledge. Once they reach the stage when they are able to think spontaneously in art forms, images or sounds, their creative skills cannot be stopped. To free one's mind from the habit of thinking in the traditional way is not an easy task, but when their mind-form is no longer a problem, there is time to think about the perfect form.

In our view, absolutely everybody has this ability to superimpose an image on the object. It is like the work of a hypnotist who orders a patient to see something, for example, to imagine that the man is in an art gallery, and he starts describing the paintings – for a fraction of a second the man's brain imposes images on a wall. He can paint pictures with color and pencil like a child in a coloring auditorium.

Strangely enough, one of the most phenomenal breakthroughs in teaching Mastery was the realization that Mastery lies primarily in the mind.

It was enough to break "teaching creativity" into several stages, including the mental and the embodiment, and teach them separately, to make it more simple and quite comprehensible processes.

2.4. Types of thinking and the multiplicity of the brain

We have attempted to describe various kinds of thinking, investigated in the past century by various authors or mentioned in the memoirs and writings of private persons [see 1].

In a simplified form, an outline of the types of thinking is as follows:

1. *Delta-level of holistic thinking and holistic states (thinking by integrities, holistic thought).*

It is level of integrity of inspirations, **wholeness of insights**, and an entire flash of **inspiration**. Such as those which were described by Mozart and Beethoven, when they realized the whole symphony as a whole. It was all in their minds; the level of "aha factor", "aha reaction" [5]. Such called flash complex thought with many details [6]; the level at which the brilliant chess player operates the whole chessboard and understands or recognizes the board and the position of the pawns at a glance. This is the result of his experience; the level

of unity which is similar to hypermnesia [1], i.e., when a person sees all the events of his life at once, remember all his life in one second [15], remember all the time simultaneously, isochronously. It is the level of autistic perception when an autistic person perceives a set of objects, many of detail, all puzzles at the same time [1]. It is the level of religious ecstasy or an illuminative way, when the entire world is perceived as a whole, wholeness, integrity, all the world in one's mind. The All, also called The Great One, The Supreme Mind, The Absolute, Absolute Spirit, absolute idea, Infinity, Absolute Reason, Wisdom, absolute consciousness and absolute being, universe in nous simultaneous [16] — the mind perceives the model universe; the level of yogic "samadhi" (skt. – integrity) [16]. It is the level of integrity and holistic states, which have been described, so finely by S. Grof [15] and many other authors. This is the level of mental skill, when all that has been learned is realized at once; the level of all kinds of Love, that holistic feeling, the level of instant memories of large volumes of material at the same time, the man with absolute memory, etc. [1]. This level of insight [4] and inspiration where our thinking uses integrity-wholeness and is trying to comprehend all at once, cover entirety, envelop the whole, embrace the unit; when it is all aware of everything at once, at the same time. We have called it 'delta-level' because these states are often accompanied by the domination or over activation of delta waves [1].

2. *Theta-level thinking by feelings.* Brilliant actors, directors, writers, composers, performers, musicians mention that they think by feelings and with feelings [29]. Just in the way that others think in words. By dint of feelings, they are able to create pictures, textures, combinations, can manipulate them, change them, add, draw, improve, etc. That is, people do not just experience some feelings, but they think by them, use them as a tool in their mind. They are used as a means for a certain target achievement. As well, render a complete holistic complex picture of feelings, subordinated to a plan, etc [1]. A. Wise found solution even to intellectual and mathematical problems on this theta-level [5].

3. *Alpha-level of thinking by images or sensory perception. Thinking in pictures, sound, music, form, smell, taste, contact sensation.* What comes to us from the senses to the brain, is what wherewith we can think, reflect, ponder, contemplate, speculate, believe, reckon, suppose, suspect, mean, invent, construct, compose, remember, create. It is the level of thinking in images [1]. Thought uses images and colors to create paintings. It is thinking in images and colors, typical for artists, conscious work of thought on an image, using no words but paints, colors, images, image deformation and so on [28]. Such thinking is repeatedly described, artists think in paintings and landscapes, photographers in photos, military men think with circuitry, map, weapon, army, forces and mapping, projection, representation, displaying; designers in drawings, charts, traces, layouts, draft, figure, plan, image, imagery. What is more, at this level, one can think in sounds and musical sounds, like composers or actors do. On the other hand, in shapes and spatial relationships, like sculptors and architects; in smells, like perfumers; in tastes, like some cooks; in body shape, like a dancer, choreographer,

master of martial Arts or gymnast; and even in tactile sensations, like the blind from birth. Any sensory feelings, trapped in the brain, can be used for thinking and creativity. This can be not just a simple sensation, but its treatment and processing, not only clear sounds, but musical sounds or notes, not only simple images, but also three-dimensional forms, which are processed by the brain, etc. There may be as much as over sixty forms of thinking at this level and even more combinations. Some psychologists have described solutions of mathematical tasks in image, in colors [5] and even in the form of space [1] achieved by counters or famous mathematicians. They have also described several autistic people who think only in images [7]. They cannot think in words at all – they must translate words to pictures to be able to understand them. There are well-known scientists who think in their scientific work and scientific thinking, with image and form, without resorting to words [1]. We call this sensory level Alpha-level due to the frequently observed dominance of alpha brain waves in the electroencephalogram with figurative thinking [5]. It is interesting that the mindset of Albert Einstein, who thought in pictures, in form, in senses, in feelings, has seen a dramatic activation of alpha rhythms in thinking. Hadamard used to think in spatial forms [1, 3]. They both argued that words completely disappear when they start thinking. They translated result into words, logical and scientific forms [1].

4. *Beta-level verbal reasoning or sequential thinking.* The level of thinking in words is common to millions of ordinary people. This process allows one to focus on a single element only [5, 1]; we can utter not more than one word at a time, while an image may contain hundreds of parts that we can concentrate upon. The image may include a variety of elements, space may include even more, and a feeling of the wholeness may contain all life. Words flow consistently one by one, therefore it is possible to apply formal reception of logic to them. This is the level of ordinary logic. We call this Beta-level because verbal thinking is usually dominated by beta waves [5].

Only one object may be considered on Beta-level, while on Delta-level - many.

Some autistic people cannot focus on one object at all. The presence of people who cannot focus on one object at all, but at the same time can sometimes span multiple objects and has outstanding or almost absolute memory, while having problems with words, force to doubt hypothesis, what the ability to allocate a single object and manipulate only one object is primary for the mind.

Once it has been found that the objects of our view are also thoughts, and we can change them by means of hypnosis, education, experience, etc.; if our vision was not thought we could not used to change it on the orders of the hypnotist. There is no justification to consider that the eye (the same brain in fact) can see thousands and millions of objects, and the brain and mind of many people – cannot see thousands and millions of objects. On the contrary, the objects in a picture may be partially considered the same kind of thoughts as the thoughts of the brain. In addition, the brain can probably also see its own thoughts and structure, as well as the eye, that is, have a mind vision

of thoughts, product and structure. Probably the awareness of an entire symphony by Mozart and Beethoven, an open memory of Kim Peak or the twins Michael and John are like the experience of the vision of all the world in one go. Alternatively, the whole life or all thoughts as a whole – all these features of the mind which can see all the thoughts, as described by survivors of clinical death: "All my children's thoughts were here ..." [cit. in 1]. This is "mind see", vision of mind, which can see thoughts as objects of the eye vision.

5. *Gamma level or corporal (body) thinking.* It is the level of over-concentration on the action or 'skill' level. It is thinking with the body, such as American Sign Language, sign language thinking in corporal art forms used by dancers, ballerinas, masters of martial arts, etc. He, who has learned a sign language, often finds out that they "think of hands"; it is as a sign is words when we think with words. Similarly, experienced dancers, martial artists and athletes can instantaneously think of body shapes, building a combination of forms and figures to achieve the goal. A brilliant master can have a simple direct thinking form of the body, as in Sign Language. He can simply think in skills. We call this level of thinking Gamma level because of the activation of gamma waves during action, super concentration, movement, thinking at this level [1].

There are countless combinations of these levels. The number of combinations exceeds $n!$, because some intellectual development of these levels of the brain is possible, like learning musical notes. The scientist in the experiments of T. Ribot, for example, was thinking of printed words in images. Judging by descriptions of creators numbers of combinations of these levels, their gradation and the relationships between them (images with smells and with some spatial relations, for example) are almost infinite. What can vary is not only the levels, but also the force with which these combinations are manifested. As with a small number of colors one may create an infinity of pictures, so there can exist an infinity of different types of thinking.

6. *Creativity – multifaceted concept.* We consider only such process in which creativity can be formulated as achieving a holistic insight (insight) or holistic thinking (inspiration) with all other levels.

Creativity as a combination of levels of thinking can be seen as a spiral cycle of steps. Such as **setting a goal** – **intense thinking** (verbal, passing at the alpha and theta levels) – fixation (dominant, some thoughts dominate, flow thinking) – **incubation** (incubation of thoughts) – **illumination** (holistic insight, typical of Mozart) – **inspiration** (permanent holistic thinking, like Beethoven) – **check** – **the embodiment** (implementation, the embodiment of the gamma level skills) [1]. Each element is possible, but none is obligatory. Moreover – even the idea may be hatched.

What was once considered as a mystical insight and inspiration, an incomprehensible state, was in fact a holistic state. Inspiration means thinking at a holistic level.

In a typical situation, holistic state covers a small number of parts but if one practices one's skills, the number may increase. Moreover, there are some well-known cases when it covered an entire symphony [6], or a puzzle containing of few thousand pieces or a memory of a few hundred elements of one's life in some extreme situations

(clinical death, life threat, suffocation, super fatigue, trance, religious ecstasy, fever, poisoning etc.) [1]. A research of these states revealed the nature of inspiration. In a simultaneous, i.e. not consecutive understanding of a set of elements, thoughts, or notes, etc., we extract all possible relationships, meanings, structures of this set – simply because we realize them all at the same time – a whole book as one sentence.

To be able to understand all the relationships is to build the perceived model of the phenomenon, i.e., the unity of thought. Holistic state (holistic experience, holistic feelings) builds a model from our accumulations, whether it is a model of scientific phenomena or understanding, or a model of a product, or a harmonious masterpiece [1]. How holistic state does build it? When the mind embraces one short sentence from a few words, he allocates it all the relationships. When the mind is able to cover the entire book in one short sentence, he allocates in the book all the interconnection, when the mind embraces many objects at once rather than one object, he releases all relations, all the details, all the connections. Nevertheless, awareness in the mind of all relations, details, links, etc. is creating a mental model. This is a holistic consciousness of all parts, parts relations, etc. Mental model is our holistic mind. Holistic state builds the most harmonious model corresponding to the task, to the feelings, emotions, etc.

Our aim was to separate various modes of thinking into levels so that we can learn to think at each level. It is necessary to develop skills of thinking at each level.

What need to be noted is also various possible combinations of the levels. The development of our skills should reach a stage when we are able to use them automatically.

No one would deny the fact that practice can facilitate the development of skills to think at a certain level. There are special exercises to master our thinking.

A study of biographies of certain famous geniuses shows that they have consciously attained mastery of different types of thinking; thinking from the sensory level and the level of feelings to the holistic level [1]. A careful study of biographical material shows that many geniuses developed his genius with training and became Masters in the mind.

In addition, studies show that training can help improve even multi-tasking skills. All kinds of thinking can be trained [8].

We think that to develop our creativity we have to go to thinking in pictures and colors, in photos, in music, thinking in forms of sculpture and architecture, thinking in techniques of martial arts, thinking in feelings, pictures, complexes, thinking in an actor's role, like actor Michael Chekhov or like a stage director (stage-manager, producer), thinking in chess boards, etc. If your chosen field of study is music, you should develop the skill of thinking in music in your students. Many composers have generally argued that the music they have in their minds never stops, no matter what they do, just as ordinary people never stop thinking. And many brilliant poets have been thinking in verse. Creativity means incessant thinking in arts features, just as ordinary people think in words. All ingenious creators have been thinking in pictures, images and colors, changed their paintings and shapes in their minds. In addition, it is easy to imagine that from the moment one starts thinking in forms of one's art, creativity is easy and has no limits. Vrubel think up with more new ideas more than could be realized. The

sketched scraps of paper to such an extent that they became difficult for something to consider, and many times completely redraw ready canvases by rewriting new pictures. Roerich created over 7000 pictures and developed a special technique, embodying a painting in a day or two (he sketched finished painting new pictures), Picasso painted more than 20,000 works (he painting on absolutely everything).

When thinking with art form (picture, music, shape, etc.) in the mind we can create more than anyone can actualize. The problem is in the lack of thinking in art form (or they cannot do that).

Integrated development of skills can help to master the mind. Dividing it into two halves - the mastery of the mind and the mastery of external skills can solve the basic problems of creativity and learning skills.

We have two blocks - if you create the first and main, that is creativity in the mind, then you can teach almost any kinds of creativity, teaching the second block. In fact, a person capable of creating in the mind will be able to do any kind of creativity.

From drawing in the mind and music in the mind towards scientific work in the mind, there is a free way to all Arts, Science, Design, because whoever owns the mind will quickly learn specific skills, too. Leonardo da Vinci was an extremely versatile person. With the development of the mind and the brain the division into humanities and sciences be invalidate. In fact, this division can help avoid too narrow specialization.

Such the base of mind and mental skills (skills creation in the mind) would allow quick development of any external skills; because the problem is in thinking, and is not in the incarnation of finished in the our mind with all the details work of art. This approach allows you to build up various art on the basic core (skills art-shell ramp up on creative mind-skills operation system).

Leonardo da Vinci may be viewed closer as an ideal with this shell-base-processor approach to creativity.

No rules in choice, no limits there is a core of the mind skills, mastery of the mind, once achieved, cannot fail us.

2.5. Creativity and abilities

If we carefully look at the first paragraph and the types of thinking listed above, that is, the level of holistic thinking and a holistic state or illumination and inspiration, we can see that this level is the basis of ability. Simultaneous coverage of a set of elements gives an insight and thought, gives illumination, gives inspiration. Simultaneous coverage of a work or a lifetime it is an absolute memory.

Once we have gained the ability to monitor the state of wholeness, even if it is still extremely rough and approximate, we are able to control the ability [3, 5, 8]. In addition, who knows where it will end.

2.6. Observation and methods of training observation

Are there any simple methods of training the mind, useful even for students, the implementation of which would be easy to control at school? Paradoxically, the best method enhance the creativity is familiar to every one of us but it not used us as such. This method is an exercise of observation in all its forms, brought to skill.

One of the most effective methods of training the mind and creativity in the world is observation. It should be practiced constantly to become a skill or ability.

Training procedure is as follows – first we try to develop a desired skill by repeating certain actions in the mind; then we transform the skill into an ability of our conscious mind until it becomes a routine activity. Children like child-mowgli (feral child, wild child, human children who has lived with wild animal isolated from human contact from a very young age) have no abilities; they even cannot assimilate the language or speech. Instead of the ability to versify child-mowgli howled at the moon, instead of dancing he was able to run on his fours, instead of literary abilities he was able to tear the book in his teeth and instead of scientific abilities he was able to gnaw at unfamiliar objects. You can see our inborn (genetic) talents in the Zoo – our brain commands an instant dismantling of unused muscles, nerve cells, etc. Our organism turns on the mechanism called apoptosis - programmed cell death. Therefore, the existence of an **unused or undeveloped** brain system or its inborn abilities (as a genetic talent) is highly improbable. According to modern scientific data, such a system would be dismantled. Unused systems erased from the body. Moreover, the existence of an inborn talent or genius that has never been developed or extensively used is meaningless from a scientific point of view. We all know atrophy the muscle, we all know atrophy the brain, 50% neuronal cell death in infancy, we all know 99% atrophy the "talent" and "genius". Without training, no talent may be identified; exclusion of average children from training instead of providing them with full development of all areas of Arts from early childhood is like expecting food to fall from the sky. According to our findings most successful are those who receive professional and comprehensive education from early childhood.

The classical method of training by observation, well-known since ancient times, is as follows: first look at the object, close your eyes, and try to reproduce it in your mind with all the smallest details. We emphasize the fact that an object or picture needs to be **reproduced in the mind** with all details and relationships and not in speech with words. That is, when looking at a landscape try to reproduce it in the mind, looking at a drawing – reproduce the drawing in your brain, when hearing music – reproduce this music in your mind.

Why does one need to build a picture in the mind and not simply convey the details using words? Because building in the mind is a mental action and mind practice, which generates skills. If you exercise your mind ten thousand times, build any kind of objects, for example, ten thousand different landscapes, your experience will allow you to reproduce the picture in your mind almost automatically. Moreover, you will need to look at a picture only once to take all the details and relationships in.

What is observation? When a scout is able to notice the number of soldiers, tanks, guns, their location, security systems and all the details in view – this is observation. When a scientist reveals previously unknown relationships – this is observation.

Observation is the ability to reproduce object(s) in the mind with all the details and all relationships between them.

In order to train your student in his basic skills put an object, which contains numerous details in front of your pupil, and ask him to close his eyes and try to reproduce it in his mind. All parts of the process can be easily controlled. Your student most probably will not be able to do it correctly the first time. His image will not contain every detail. It may be even distorted. Therefore, ask him to look at the object

once again. He can then compare the mental and the real object and add the forgotten details. The procedure should be repeated more and more again, until the adequate object or the picture is built in the mind.

At first building an image in the mind takes a lot of time; it becomes easier and quicker with each subsequent attempt so that after ten thousand times your mind does it automatically.

A skill to reproduce a landscape or an object in mind at a glance is a skill to reproduce, capture, analyze and think about tens and hundreds of details in the mind, – and this is what we call observation.

Training to reproduce in the mind pictures, sounds, smells, shapes, music, architecture, tastes, feelings, tens of thousands of times helps to master one is thinking and bring one's abilities to the highest level. We need to develop the ability to think with pictures, feelings, music, colors, shapes, etc., when we want to increase the ability to creation picture, music, actor's role, sculpture...

Now, imagine two people. One is constantly looking at and reproducing the beautiful landscapes around in his mind (and so ten thousand times), and the other is not able to reproduce them in the mind because he has not exercised his mind well enough. Who among them can easily build your own landscape? Easier for whom is to do it? Who can hold picture in the mind?

Paradoxically, people do not seem to realize that the man who reproduces landscapes in mind, already trained to build them in the mind, trained to build parts in the mind, trained to build any shades of colors in the mind. He elementary builds his landscape. He really creates that scenery in mind like on canvas or paper. It does not matter, it is a real or virtual board, and there is an element of creativity. Moreover – he was just thinking with landscapes. A person who has reproduced in his mind ten thousand landscapes, just start thinking landscapes.

If a person has reproduced ten thousand different drawings in her mind, it will not only be easier for her to create a drawing - she will just start thinking in drawings.

If a person has reproduced ten thousand architectural objects with the slightest details in her mind, she will just think in architectural objects.

If a person has reproduced ten thousand songs or tunes with drums, bass, piano, vocals, etc. in her mind, it will be far easier for her to build her own melodies and songs. Moreover, she will just be thinking in music.

However, of course, the training of observation does not end there. From training with pictures we go on to the construction of a model in mind; from a static model – to a dynamic model; from a simple imaginative model – to a model that engages all the sensory perceptions and feelings; from a simple model – to a mathematical model; from a single dynamic model – to an interaction of dynamic models. Next, we learn how to integrate the model in all its complexity; then we learn to acquire the ability to think in models and this step leads to acquisition of holistic thinking – thinking in complete models. A few creators have described the world. There are descriptions of creators who perceived the world as an incessant beat of mathematical models.

Observation is the path to a holistic state. However, from a mechanical model transition there leads a way to try to reproduce live objects and their behavior. In Buddhism, where people have trained their skill of observation for decades, reproducing the behavior of a living object is

considered one of the toughest tests. To build a model of behavior of a small fish alone is very difficult.

From building models, one needs to proceed to the **ability to think in models.**

For the scientist, observation is simply the foundation of science; it is the ability of the mind, without which science as a whole is not possible. In other words, the skill of observation and the ability to make good observation is the ability to create Science.

Observation skill that is, finding, reproducing and playing in one's mind is the basis of creativity and thought.

Observation, i.e., the ability to identify features of an object, notice all the relationships between its parts, and reproduce it all in the mind, forms the basis of any mental activity. To identify all these things in a text is the basis of understanding. The ability to reproduce an object in one's mind is the basis of design. The ability to identify all the relationships in unstructured and unbound materials, to realize them, and then reproduce in the mind is the basis of any research activities. To identify all material relationships and display an object in the mind helps to build a model. The ability to identify features, to build models is the usual way to go in science, design, and engineering. First, it is the foundation of any creative activity. Incessant training develops our skills to reproduce any picture in the mind (figure, music, rhythm and role) with all the details and leads to creation of a new picture in our mind. Ability to reproduce any art form or thing in the mind leads to ability to relax creates in the mind – we cannot stop to create when we can easy thinking in art form or science-form.

We cannot stop the flow of creation when we achieve it.

Observation is the base of any creative activity.

With the ability to instantly build in a mind any complex detailed structure of hundreds or thousands of parts, turn it into a model, change it, manipulate it, keep it, think about it, "rotate it in the mind", improve it, harmonize it, treat it, and so on – creativity becomes an easy, unchallenging, uncomplicated, familiar, ordinary, simple and accessible business. In addition, it is the most importantly – a natural one. In fact, thinking in this case can turn into creativity. With such skills, we create as naturally as we used to think. It is exactly our ability to reproduce any object in the mind with all the details. It does not matter, whether it is a picture (painters), static volumetric figure (sculptor), sound figure (musicians, composers, speechwriters), dynamic sports figure (athletes), dynamic sensory and motor figure. As well as in the role (actor), olfactory complex figure (perfumes), gustatory complex figure (cook), synthetic figure painting, volume, movement of objects, bodies, feelings, thoughts (directors and actors), and so on, which is the "bottleneck" of creativity.

2.7. Thesaurus, the treasury (repository, treasure house)

One of the most valuable qualities of creativity is the formation of a kind of 'treasury', a wealth of imagination and creative basis for new creations. Now consider the same phenomenon of observation, this time not as a skill, but as an accumulation of thoughts in the mind. If we consider two persons: one with the well-trained ability to observe and reproduce any picture in the mind (with more than ten thousand beautiful scenery what he find in nature) and the other without observe skills. Who cannot observe any objects even when looking at him many time, who cannot reproduced any landscape in the mind at all, who will

possess a large treasury, rich imagination? Who have no one in mind and in memory, of course, or who observe thousand landscape, reproduce, create ten thousand scenery with detail in mind and hold, retain panoramas in mind any time, who thinking with landscape, scene, painting and even usually cannot stop create (if cannot train thought self-control)?

To make a construction in the mind is a thought and to make an observation is the beginning of thought; it is like an accumulation on one's own thoughts.

The skill of observation is the skill of accumulation of one's repository (treasury) for creativity. The skill of observation is the accumulation of wealth, which enables us to be creative.

That is active creative memory, treasure, thesaurus in mind and form in mind as mental skills, not only in memory, because we built any form many time in the mind and create small mental skill of any form (formula, sound, etc.).

2.8. The ability to learn skills

Any development of external skills depends on the abilities of the mind. A skill denotes not only the skill of the mind, but also the attention to detail and the capacity to retain them in the mind. Suppose we take dancing into consideration. The ability to reproduce it in the mind with all the insignificant details and keep all these details in the mind, if the dance physical simple, will lead to the fact that we will be able to dance that dance, will make it possible for us to recreate this dance, albeit slowly and clumsily. In addition, if our body has been trained to stretch, jump, etc. we will be able to do it right the first time. Sergei Rachmaninoff with the first listen was able to play any piece of music that he had heard once only. In addition, if we can reproduce in the mind all the tiny and insignificant details of the movement of someone's fingers on the guitar fret board and the strings used in a song, we will be able to play it on the guitar, though badly. Moreover, if we have honed the basic elements, that is, we have a base of the basic skill and mobility of the fingers; it will not be so bad. Such a person will be able to reproduce the skill. In medicine, there are many reports about autistic people who were able to play the piano after observing someone's play just once. Exact observations allow great accuracy in reproducing a skill without error, that is, without a false movement. In this way, we may accelerate the development of a given skill. It is a proven and tested system of accelerated learning.

In other words, if, by means of precise observation, we manage to reproduce a skill in the smallest details, and if our body and ability allow it, we will be able to learn skills in no time. That is to say, we can exercise almost any skill. Training of the mind, such as finely honed skills of observation and the ability to keep things in mind is the ability to learn skills.

We can, acquire the ability to create new skills, in principle [3].

2.9. Characters

For the development of the Master not only skills but also certain qualities are required. Here, too, our culture made a breakthrough in the last century. The best of modern ethical systems, for example as the Living Ethics [16], emit up to four hundred ethical qualities instead of the previous several dozens. Moreover, not only these qualities are described, not only situations in which they are shown are revealed, but also the technologies of their training are described. Even such qualities as mercy, compassion, love

and other are physiological, cultural and social qualities. Physiological and cultural, in our opinion, are all feelings and perceptions [3].

In other words, all of them are formed and developed artificially, programmed with culture, society, and children-mowgli do not possess them in any measure.

Mostly, these ethical qualities are artificially created and are based on controlling the brain and the mind. That is, our ethical qualities are skills and complex systems of skills. Qualities (characteristics) - are complex mental, brain, neuron etc. skills of our life (not in art only) [detail in 3].

3. TEACHING MASTERY

In this article, we barely touched on the subject of training and educating Masters, which occupies the entire monograph, to show that from the standpoint of modern science, it is a feasible and quite a simple matter.

Yes, it is a sophisticated technology with the thousands of skills development. It needs to be brought to the mind. The case, when skills are applied consistently and without thinking, just in the way that we learn to use our native language.

Landau, for example, developed the skills of calculations and conclusions of the formulas in his mind; he said that he could not remember a time when he did not know how to integrate in the mind [cit. in 1-3]. Although he was joking, the skill of integration in mind seemed innate.

We think that all children should be subjected to professional training and teaching Mastery in art schools such as conservatories, academies of fine arts, ballet and dance schools, sports schools from their early days and for a sustainable period. First is training mind and creations in the mind (brain): the emphasis is on the first block of mind training - block of mind and mental skills, skills of creativity in the mind in all areas. Block of art skills (physical skills of art, skills of body, and outward skills of art) is second - when the first block (creation in the mind) is good, the second block is easy. Yet, instead of teaching arts, their professors should first focus on teaching creativity in the mind and exercise mental skills of their students. Once the students acquire those skills, they will be capable of learning any form of Art and will be able to create in any field.

Mastery of (in) the mind gives liberty to pupils. It's like the core skills and peripheral skills.

4. LITERATURE SOURCES OVERVIEW

A. Wize [5], M. Cade [4] at al. engaged studies on inspiration, but they only highlighted the electroencephalographic correlates of inspiration and paid a little attention to a holistic state and gradations, and hardly touched the systematic creative work and its staging.

S. Grof [15], R. Dilts [6], and many others studies were engaged on holistic states for inspiration, but they hardly touched correlates of brain waves and their staging.

Y. Ponomarev [cit. in 1], G. Wallas [cit. in 1], and many others were engaged on stages of inspiration. Compared with the proposed work [see details 1-3], they do not consider of electroencephalographic and other correlate states, as well as the role of holistic states for inspiration. We also have introduced and explained [1-3] both additional stages such as the "fixation" and multi-level thinking stress (intensity, tenseness, tightness, tension thinking) of the conscious mind, and other steps were refined and supplemented. The stage of "fixation" on the job, work immerse, behavior model of known artists, as well as

features of inspired state were engaged by M. Csikszentmihalyi [18,19] and many others, but they do not emphasize the many nuances, the structure of inspiration.

Training observation for the development of creative, scientific, cognitive doing was researched by Sh. Amonashvili and other. Their results often are not structured, not analyzed, can not be used as generalized types, methods, the phases, stages and observant features, are not isolated kinds, types, stages, and so on for the next development of observation, suitable for specific types of creativity [details in 2,3].

Problems of the accelerate formation of skills as a generalization of empirical evidence were considered by many persons, including the well-known geniuses [cit. in 2, 3], but in this article and in the works on which it is based [details see Ref. 2, 3], is presented in detail the division of the base of conventionally "mental" and conditionally "physical" skills.

The issues of developing the qualities, which are needed for creativity, as well as behavior models of geniuses, were involved many famous philosophers and psychologists, such as E. Roerich [16] at al. or psychologists R. Dilts [6] at al. In our study the human qualities, and even a sense (compassion, dedication, etc.) are considered to be mentally stable complex socio-cultural, psychological and neuropsychological skills to control their behavior not only externally, mentally, etc., but also at the level of brain waves, hormonally, physically-level processes of the body, etc.

The concept of beauty as an evolutionary mechanism was considered by I. Efremov, L. Gabora [21] and many others, but in our article Beauty is regarded as a comprehensive assessment of evolutionary phenomena, irrespectively to the type of activities. Moreover, mechanisms of "Beauty-Love-Passion," "Beauty-Creation" and others are the evolutionary mechanisms of the human population as a whole, complementing the genetic evolution by the evolution of the brain, consciousness, society, etc., and the cult of beauty is regarded as an Evolution cult, gently stimulating the development of society.

Creativity in school and education, creative learning in general, were engaged by A. Craft [22-24], H. Parchurst, S. Scoffman [25], P. Burnard [27], N. Jackson [30], M. Oliver, T. Cremin [25], M. Carnoy, M. Csikszentmihalyi [20], D. Davies, M. Fryer, J. Guilfred, P. Cochrane [26], H. Gibson, D. Hayes, B. Jeffrey [24], M. Joubert, S. O'Donnell, R. Dineen, S. Parness, C. Rodgers, J. Russell, D. Treffinger, A. Wilson, A. Ferrari [31], M. Kangas, H. Walberg, J. Wisdom, P. Woods, R. Shaheen [32], M. Shaw [30] and many other [see cit. in 32], but we consider the goal of any training as a Master with constant creativity, because look at the training we have with the other hand.

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TWÓRCZA EDUKACJA SPECJALISTÓW NA UNIWERSYTETACH - JAK PRZEobrazić ZWYKŁEGO SPECJALISTĘ W TWÓRCZEGO MISTRZA

W artykule są rozpatrywane sposoby przeobrażenia zwykłego specjalisty w twórczego mistrza. Omawia się również jakie metody, techniki, szkolenia, koncepcje, rodzaj organizacji szkoleń powinny być stosowane aby można byłoby przejść od zwykłego szkolenia zawodowego do twórczego, w celu uzyskania mistrza i autora kreatywnego rzemiosła na uniwersytetach. Podobnie jak w starożytnych europejskich uczelniach plastycznych kształcili specjalistów zarówno mistrzostwa i kreatywności we wszystkich formach. Teraz mamy szeregowych specjalistów z wiedzą, ale gospodarka wymaga twórców, kreatywności i mistrzostwa. Możliwość tworzenia twórczego i kreatywność powinny być podstawą zdolności do pracy, inaczej w ciągłej zmianie towarów uczeń nie potrafi osiągnąć skutecznych wyników pracy lub sukcesów biznesowych. Umiejętności kreatywności są podstawową umiejętnością nowoczesnej pracy. Mistrzowie w nowoczesnej i przyszłej gospodarce muszą być raczej geniuszami, a nie standardowymi szarymi pracownikami.

Keywords: mistrz, geniusz, rzemiosło, twórcze społeczeństwo.