# COMESGRAFIKA

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## CREATIVITY AND THE SEARCH FOR MEANING

## N ENDURANCE, SUFFERING AND THE SEARCH FOR MEANING

'The one who seeks meaning in spiritual growth cannot be displeased, because the thing he desires is always in his possession.'

#### B. Pascale

Contrary to Stoics, F.M. Dostoyevsky offered strong arguments on the great idea of immortality and its healing power when he said: 'A suicide after the loss of the idea of immortality is inevitable, even necessary for someone who is more than an animal. On the other hand, immortality which as a concept offers an eternal life, binds a man for this earth in a much stronger way. In this, seemingly, there is a contradiction. If there are so many other lives, why should we appreciate the earthly one so much? But it is quite the opposite: only with the faith in one's own immortality a man can realize his true purpose on earth. Without this faith, his bindings to earth disappear. They become thinner and weaker and the loss of meaning of life (even if it presents itself as a form of unconscious sorrow) leads to a certain suicide'.

Ksenija Atanasijević describes Dostoyevsky as 'the revealer of the abyss of the human soul' and develops the idea of an unnecessary bond between earthly endurance and suffering with the aim of redemption. It is liberation of the human soul from sin, through cleansing and atonement, which leads to union with God and resurrection. This path is full of earthly suffering which the soul has to endure in order to redeem. Endurance and suffering are the terms that were given so much importance that some philosophers and religious scholars derived their own ethics of endurance and suffering from them. Atanasijević analyzed various studies on endurance and suffering (especially Christ's doctrine and the doctrine of Stoics) and established her own theory. In his book, *The Philosophy of Solace* (2004), R. Petrović says: 'In her effort to find meaning in endurance and suffering and create their purest form, Atanasijević first deals with distinction between freedom and non-freedom of personality and then uses this distinction to make a differentiation in the nature of endurance and suffering. The suffering of an undeveloped person, that endures evil out of compulsion, out of its own incompleteness or out of fear and imposed obedience, does not have the same importance as 'a willing self-sacrifice'. It leads to growth of evil and humiliation of the one who agreed to this degradation. Self-conscious personalities, on

the other hand, do not agree to extortion by tyrants, they do not allow maltreatment that will suppress their inner freedom. They do not bend under pressure and they do not accept the beatings'. With these attitudes, Atanasijević opens a series of questions. Primarily, does every suffering make sense? Does it lead to destruction or salvation? Do the silent suffering and endurance of evil build a heroic spirit? Does neglect of human misdeeds produce the true peace of mind or dullness of perceptibility?

We have already mentioned answers to these questions that Stoics offered. Their persistence in enduring punishments, torture and suffering confirms that they were not just theorists of renunciation but true sages and thinkers. The concept of the sage and the thinker that Stoics glorified was their ideal when it came to self-build, self-realization and self-reflection. For achieving these goals they needed unbreakable and strong nature, primeval strength of character which was reflected in the power of the mind over urges and anger, in knowing that bliss cannot be gained by exterior goods and luxury but only through virtue and aspiration of moral freedom. Still, from Stoics' attitude certain heroism of suffering originated -a lack of opposing the evil, not the heroism of surpassing misfortunes. Instead of active and energetic fight, they nourished a tendency to moral perfection of a personality, finding happiness in the inner freedom and independence. For keeping this idea of freedom, they needed to cloister before the bursts of harsh external force and achieve complete insensitivity and numbness for everything coming from outside. In her studies of Stoics' ethics, K. Atanasijević wonders: 'Should we accept every man's ill fate as a personal atonement and be indifferent to negativism? Does a loss of perceptibility for external misfortunes lead to the inevitable numbness?' That is why she says that for a strongly built ethics it is not enough to be aware of the insignificance of earthly riches and seclude ourselves from them as Stoics did. We need to reveal the appeal of eternal values of spiritual life and bind our souls to them. According to Atanasijević, the most exemplary form of suffering was preached and practiced by Jesus from Nazareth who, struck by God's wisdom, reached the mystical knowledge of greatest truths. The man has the power to accept evil, to set light to it with its reason and thus open his eyes to follow the painful road that a human being must cross. Every man has to do this by himself, surpassing misfortunes by self-esteem and selfreflection. It is not the acknowledgement of superiority of evil or undoing yourself before it. It means overrunning the evil by awareness that it is the necessary transiency. Without this knowledge of evil and its nature one can hardly deal with it. Only the refined and deified

awareness of origins and nature of evil can enable us to fight it in ourselves and others, calming our urges and gaining control over ourselves. Only in this way the man is able to achieve virtue for accepting the trials of evil more wisely. Only in this way one will not lose perceptibility for human suffering and efforts of the mind to find ways out of despair.

In his books, V. Frankl wrote that, as a doctor, he could see the revival of hope and meaning of life even with the incurable and patients with severe illnesses and prisoners in concentration camps. Even in these hardest moments, he was able to help them reach their inner freedom and thus endure the suffering. Memories of these people's moral strength, that he himself witnessed, helped him deal with his own fate as well. The aggravating circumstance of camp prisoners was that they never knew if they would live to see the dawn. This suspense and its limitless continuance did not give much hope for the future and it slowly broke a man's moral strength. Frankl helped these people to see these conditions of living as a test of their moral strength and spiritual freedom, as he himself did. He tried to raise their spirits by focusing them on goals in the future. He also saw that it was possible to surpass the harsh reality of the torture he was exposed to by accepting it as past and seeing himself with his family, friends and students again. He influenced other prisoners, encouraging them to endure and making them believe that if a man knew what he lived for, he could adapt to almost any kind of life. Only that belief and the vision of future could save him from dying in the camp, broken and nameless. With such attitude towards the circumstances surrounding an individual (which he cannot change), he still has his inner freedom to decide how he feels about these circumstances.

Many prisoners that survived atrocities of camps admitted later that the biblical story about Job helped them to keep the faith and hope. This story tells about the meaning of suffering and endurance. It shows how God rewards the righteous who suffered and never lost faith. According to this Old Testament story, Job was a good and righteous man *who revered God and turned away from evil.* Job was happy, he had many children and many herds as well. Job was a man of God. But Satan did everything to condemn him. He claimed that people did not serve God because they loved him and that he would prove it by turning away every believer from God if he only let him. Satan claimed that Job revered God because he was getting something in return. He was certain that if Job was tested, he would very quickly turn away from God. God allowed Satan to test Job to see if he was a true believer.

The next day Job lost everything. His herds were stolen by the desert bandits, a great storm destroyed his home and all of his ten children were killed. Still, Job did not sin or say anything bad about God. But Satan did not give up. He thought that Job, although he survived the loss of his children, servants and possessions, would turn away from God if he got severely ill. God allowed Satan to test Job again by striking him with a grave illness. His whole body became covered with wounds and boils. Everybody was avoiding him. Ill and alone, he lived outside the city. He sat in ashes and scratched his wounds with stone. His wife told him to denounce God. But he was just confused, wondering about reasons for his misery. He cried over his sad destiny, wondering why God would punish him with no reason, him, the righteous one who had done no evil. Even then Job did not lose faith in God, he stayed strong and persistent saying: '*Till I die I will not remove mine integrity from me'*. Job remained faithful to the Creator and Satan's claim that he served God because of selfish reasons was disputed. Job's loyalty enabled God to oppose the insulting Satan's claim. Job showed that he loved God and He rewarded him for his loyalty. He gave him back his health and welfare. He gave him twice more of everything he had before. Job found meaning and purpose in his unbreakable faith in God.

This Old Testament story tells us that it is possible to keep our inner freedom as a spiritual stand and build the faith in future on it. In his book, V. Frankl claims that prisoners who did not succeed in this, broke under aimless and difficult life in camp and that they were physically and spiritually more easily ruined. He noticed a strong bond between a man's spirituality and his courage and hope. In difficult prison conditions man's spiritual wealth decided whether he would live or die. The loss of faith in future broke physical resistance and death came swiftly.

Frankl thought that purpose and happiness in life consisted of devoting yourself to others, not in paying attention to yourself only. He said: 'Like a healthy eye which does not see itself, a man is most fulfilled when he forgets about himself, when he simply devotes to others, to their welfare. Forgetting about himself, a man becomes more sensitive and giving himself to others more creative'. This chain of thought can be found in Tolstoy's Olenin in *The Cossacks* when he realized that the purpose of life was in living for others, in doing good deeds for others and loving them. One day, in silence and loneliness of forests of the Caucasus Mountains, he had an epiphany. As soon as he came back to the village, he gave a horse as a gift to a young Cossack

Luka. That is the proof of the writer's belief that a man has to build a better life for others and do everything in his power to ensure their welfare. When an individual reaches this stadium of the spiritual growth, he establishes peace and harmony between his beliefs and actions. There is no contradiction between his ideals and his way of life. The greatest sacrifices and renouncements do not cause suffering anymore, but pleasure and happiness because of surmounting the obstacles on the road to spiritual development. That is why millions of readers easily found the meaning of life in Tolstoy's works and they succeeded in their search for purpose. Tolstoy did the same in his private life. He wrote to Gandhi in India, inspired by his non-violent fight for a better life of all people.

A man is in constant search for his purpose. Thanks to self-transcendence of human life, the will for finding the purpose is the strongest force that drives a man. Today, however, this will is frustrated. Today ill people turn to psychiatrists, complaining about lack of meaning and emptiness of life. People are occupied with questions that used to be asked by those on their deathbeds in the past. Frankl foresaw material and technical achievements, questioning the meaning of life and its emptiness as a consequence. It means that this worrisome doubt is growing, regardless of the age, situations or social statuses. It is reflected in violence, drug abuse, astonishingly high rate of suicides, especially among young people. These are only some of the symptoms of neurosis today, according to Frankl. In this respect, he specifically criticized western culture obsessed with 'gaining happiness' and material wealth, forgetting about the true meaning of life and thus wiping the boundaries between good and evil. It is no wonder then what misery has struck us (especially the small countries on the Balkans), great at end of the XX and the beginning of the XXI century. The transition from the last century to the millennium brought great conflicts between people and in themselves, too. Evidence of this was evil that Slavic and other nations were faced with.

Frankl noticed that even writers shared this common nihilistic view and made mistakes accordingly by imposing negative attitude upon their readers. It is because a writer, when tortured by the lack of purpose, feels an impulse to fill this void with absurdity. However, Frankl claimed that there was a possibility of another choice and that modern literature did not have to be a symptom of mass neurosis of today, but the cure for the society. Writers who suffered through hell of despair and painful emotional crisis can describe their agony and the way they overcame it. It could be a message and a lesson for many young and adult people who suffer from loss of purpose. Not only writers but scientists, sportsmen, politicians and other public people can do the same. Many of them wrote their biographies (A. Schweitzer, N. Tesla, M. Selimović, Tolstoy, F.M. Dostoyevsky, Roosevelt) in which we can find evidence of their painful emotional crises and the way they overcame them, inner conflicts and emptiness of life, finding purpose eventually (for their existence and in people who needed them). They became stronger, healthier and happier people. Writer's honesty about his mental wounds and suffering can help readers with the same problem to surpass their torment and find goals worth living and fighting for. Frankl warned us that a writer should protect his readers from despair and help them heal through reading his books. There are many examples of books which changed or saved readers or even prevented some of them from committing suicide. These books helped them find goals that brought hope and purpose they lost. There are cases of books which helped incarcerated people or the ones sentenced to death find purpose worth fighting for, even in their last moments. Even then, in that last moment, when one discovers his purpose, it helps him realize that his life was not in vain. For instance, in Tolstoy's novel *Death of Ivan Iliych* we see a fifty-year-old man who suddenly discovers that he is going to die in several days. This man, faced with death, realizes that he has wasted his whole life and by this revelation he has outgrown himself and finally gained ability to find endless purpose of his life.

In Tolstoy's other story (*My Dream*, 1906), the reader can see how the main characters (a father and his daughter) suffer, how they search for the purpose and contemplate on the moral side of their actions. This story is a proof of the writer's immense responsibility. He has to express freedom of thinking and argumentation for his characters' actions. But this freedom is not what represents the whole story, according to Frankl. Freedom often has a tendency to turn into selfishness if it is not bound by responsibility. Tolstoy fought injustice in his private life and with his writing. We can see that not only in his published books, but in is biography as well. His words: 'I cannot be silent!' (from his essay with the same title), made some very powerful people tremble in Russia then. His characters are, as he himself, focused on something or someone beyond themselves, on other human beings and goals they need to accomplish. When we read about Tolstoy, Gandhi, Tesla, Saint Sava, Pupin and Marie Curie, we can see that one best fulfills himself when he does not think of himself, when he simply lives for welfare and happiness of other people. Forgetting himself, a man becomes more sensitive, and giving himself

to the others he becomes more creative, according to Frankl. Tolstoy succeeded in that, in his life and his work as well, often going through painful emotional crises. His words that rebelled against the injustice towards the oppressed ('I cannot be silent!') are a cry in which all the suffering in the world is contained. For all the oppressed Tolstoy demanded a better life, not only for the Russian man but for the Russian worker and peasant as well, for all the people in the world. That is why Tolstoy is considered to be the man who searched for and found universal principles of justice. In this aspiration and fight for a better life of others, he reached the heights where peace and harmony between ideals and actions rule. Even the biggest denouncements are no longer considered suffering but pleasure and happiness because of the obstacles one overcame on his road to accomplish his goals and outgrow himself. Tolstoy's life and work are the universe of their own, as they are the proof of a unique creative genius among Russian romancers of XIX century. Tolstoy's work teaches us that in the pursuit of better life and in fight for better conditions for everyone, there must be obstacles and emotional crises. However, all this makes sense if one aspires to higher levels of development of both an individual and the society. From biographies of great scientists and artists we can see that they also experienced crises and inner conflicts until they found goals worth living and fighting for. With their lives and their work, they fought for principles of universal justice, peace and welfare of all the people in the world. Books written by great Russian romancers of XIX century (Tolstoy, Gogol, Dostoyevsky, Nekrasov, Gorky, Goncharov, Turgenev, Chekhov and Pushkin) outbalance duration, transiency and oblivion. They speak of the man and his existence, (im)perfection and endless(ness). They support a successful development of both society and an individual. Creativity that shines from these works is not a current state, because it expresses the essence of a lasting man and his general view of himself and the world. Their books offer new answers and original solutions of problems which overrun prejudices and stereotypes and augment our ability for studying and improvement in numerous ways. The great writer of everlasting novels The Fortress and Death and the Dervish, Meša Selimović, said: 'Books are not the man in whole but the thing that is best in him, the man of precious moments. With this man, who does not exist, you can talk, enjoy and you cannot even express your gratitude ... He will receive you eagerly if you come back to him, always ready to start a conversation with you'.

We know that books are the result of a man's spiritual creation and for books of great writers it is said that they are a gift from God and that only a certain kind of people can write like that. Luckily, it is in human nature to realize potentials and talents that we possess. This need is expressed through man's creative aspiration which Socrates called *daemonion*, 'the inner voice', which reminded him what to do and what to avoid. Plato called this sublimated energy, which instigated creativity and which 'made soul grow wings', *a spiritual eros* ('royal lust'), without which no work of art, science or philosophy would exist. The man is born with multiple energies and abilities. The greater the gift, the greater the need for its expression. The man has either an opportunity to recognize and improve these talents or to neglect them. They determine his role in the world because they make him responsible for fulfilling himself and finding the purpose in life. Driven by the deepest innate creative impulses and abilities, the man aspires to accomplishment of his talents, which enables him to fulfill his purpose. Plato received not only talents from gods, but the blessing of being the Socrates' student as well. Great minds and creators always have in mind that the man is obliged not only to create in the world he lives in but to change and improve himself. He asks others and himself questions, trying to reveal the truth and find purpose of his life.

Socrates was famous for his method of questioning in efforts to reach the truth and the purpose of his own existence. His well-known method of asking questions and leading a dialogue is respected even today. He is considered to be the first to ask questions in order to find meaning and gain knowledge about himself and others. He asked questions to reach knowledge, contrary to what people then thought, and to imply his own ignorance and wish to learn and think. He thought that only by asking one could begin the search for meaning and the true knowledge. It is a painful path which is based on *the common thought* through a dialogue with other people. *The question* and *the search for meaning* are something the man is born with. They are the essence of the man's existence and they seem natural to him as breathing does. With his method of asking questions and making dialogues and his inductive-deductive cognition, Socrates gained what we call today *Socrates' cunning mind*. By expressing one's seeming ignorance, in the form of the question, he had to convince the other person that they did not know what they actually had been certain of knowing. Socrates loved the truth and saw it as supreme beauty and questions were his main means in the search for it and the meaning. With his inductive-deductive method of asking questions, Socrates fought against dogma. That is why dogmatists accused him of blasphemy and of being a bad influence to the youth. We can say that his love towards the truth led him to his death. He was condemned to drinking the poisonous

hemlock. That is why Socrates' death is one of the most beautiful historic events. He had to die to win.

Socrates' case is both painful and educational for an intelligent individual, because it warns and reminds of the curse of the choice. It also confirms that the most important thing is the pain of questioning and the suffering in the search for knowledge, meaning and the truth. Reaching the truth is priceless, more precious than any sacrifice made on the road to recognizing it. According to Socrates, the truth must be painful. If the man takes the road to reaching the truth, he has to know how and what questions to ask. Only with the skill of asking questions the man can clear the way to the true answer. Asking meant thinking, searching for the meaning, according to Socrates. That is why he is considered to be the first philosopher to have started *the* search for the meaning, the search for the purpose of one's own existence and the existence of mankind in general. Plato also studied the truth through dialogues. He too used questions as a means for the dialogue. He led his students to come to an answer through maieutic. The search starts with the question; the question starts the road to the truth and the meaning, according to Plato. Plato used to say that Socrates was obsessed with doubt because of the questions he had. We are born with the question; it was given to us by nature. It imposes itself, it drives us. Socrates himself used to say that he had a strange fate of wandering and doubt, an evil lot that he had to endure to understand that everything that was beautiful had to be painfully earned. Suffering follows every true search, the search for the truth and the meaning. The question arises from wonder and the unknown. From wonder come the question and the knowledge. From doubting the known comes critical analysis. And from the man's conscience of being lost arises the question about himself, said K. Jaspers. He considered, as did Socrates, Plato and Aristotle, the wonder, the question and the need for the meaning the source of philosophy. For him, philosophy was a way of wondering. Jaspers thought that wondering meant aspiration towards the knowledge, the meaning and the creation. The question had this function as well, since it was the product of wondering and thinking. To ask means to think. In the basis of wondering there is the question. For Aristotle, wondering was the beginning of philosophy and for Jaspers it meant the aspiration towards the knowledge and the meaning. E. Fink said that philosophy was nothing else but the question because it was open to a problem and because every answer implied another question. He said that the question, as a philosophical problem, originated from wondering which

was actually the beginning of philosophy, thinking and the search for the meaning. Aristotle also claimed that the beginning of philosophy lied in questions and the search for the meaning.

He said that curiosity and wondering were essential initiators which made a man try to organize his life and the life around him. The first wondering of man about the nature and natural phenomena, that he could not understand, was actually primeval question and the search for the meaning. Questions were at first asked about the unknown phenomena in nature and space, such as the existence of Sun, stars, universe and so on. Therefore we can see that the question is in the basis of all the knowledge about oneself. Every adult person pauses before secrets and vastness of space, as a child does. This curiosity leads us to the question about the purpose of our existence is an eternal question which is connected to each and every fate and the fate of all mankind. Every man wants to know himself and his fate. He wants to know who governs it and find answers.

There are numerous studies on how it is possible to search for and find the meaning of life. These studies primarily point out that the meaning and happiness in life mean control over our own behavior and events that happen on a daily basis. It does not mean that we should think that our life depends on some higher power (fate) that we cannot affect. This tells us that everyone has to invest certain efforts and try to answer the question about the meaning of life through his work. Therefore each one of us is individually responsible for finding that meaning because it is not some general recipe for curing an illness, when you can give a universal medicine to each patient for the same injury or illness, infection or inflammation. Because there is no universal meaning, but the concrete one where in a certain situation or a moment each man has to become aware of his responsibility and his choice in every single action no matter the difficulty of circumstances surrounding him. The meaning of life is something we ourselves create, something unique for each person. Not only adults search for the meaning, children do it too. For a child, it could be an attempt of standing up or the first step or trembling while putting the last cube onto the tall tower that it built. While doing that, there is nothing else in the world for the child, it does not think of anything else and is capable of forgetting even hunger or thirst because it is occupied with the meaning of the current action. For an athlete it is breaking his own record, for a mountaineer it is climbing the highest peak he never reached before, for a writer it is a well-written book, for a plowman it is a good harvest. These are all issues of selfdevelopment, self-sufficiency and self-reflection. For each person, there are thousands of such opportunities. A happy and fulfilled life is something each man creates for himself and you cannot copy a recipe for that from others. Psychological studies show that in order to have a happy and fulfilled life one needs to focus on the present and the future, while in psychoanalysis it is not the case. It considers the roots of our problems are in our behavior in the past, in our early childhood. Unlike psychoanalysis, which is focused on the past, positive psychology is focused on the future, the only place where it is possible to find the meaning. That is why Frankl said that one who knew the reason for living was likely to bear the way of living easily, no matter how difficult were the circumstances he found himself in. Indeed, one can find the meaning of life if he thinks of what is to come, that is, if he is focused on the future and the goals he wants to achieve in his future life. When one reaches these levels of spiritual development, he can also reach greater harmony between his beliefs and actions, his ideals and his way of living. Not even the biggest sacrifices or denouncements mean suffering then. Instead they give pleasure and happiness because of the obstacles that one surpassed on his road to spiritual growth and self-sufficiency. Still, this does not mean the end of discussion because in positive psychology there are some phenomena yet unexplained, especially when it comes to moral questions and the relation between good and evil. Today, as before, philosophers, sociologists and psychologists are aware that the more material and technical achievements grow, the biggest is the crisis in the society. Moral standards are lowering from one generation to the other and it is happening fast. Somebody's accident or a tragedy that used to upset us, does not seem so terrible any more. Even bigger tragedy has to happen in order to evoke our empathy. Psychologists warn us that this 'pursuit for happiness' (which is considered to be material wealth in the modern society) will cause many moral break-downs and crises, where boundaries between good and evil will completely disappear. Modern society is obsessed with the question of finding happiness and gaining material wealth. They are losing the gist of the real meaning in life, thus wiping the boundaries between good and evil.

Books from many fields of knowledge (literature, philosophy, anthropology, sociology, psychology, science, spiritual tradition) help us in our efforts to find the meaning, showing the reader achievements of mankind. They build bridges between various disciplines, thus showing that differentiation and integration of human activities and spirits are inseparable. It tells us that, despite partialization of knowledge into specific domains, modern thought brings us a unique

vision of the world and the man in it. Books help us interact with the world and ourselves, in the attempt to understand them better. These books are sources of knowledge and a stimulus for our thought and the search for the meaning. They do not give us final answers or nullify our questions. They make new ones and teach us to ask and think. In trying to find answers to phenomena described in books, the reader actually learns about himself and the world around him.

What makes a book the great one is a possibility to read it again and again as if we are always doing it for the first time, with the same eagerness and interest. Many books can be read only once, without causing curiosity in a reader. Great books deal with great topics that are not yet solved and they always give us inspiration for new trials. That is why a good book has a great spiritual value, because it helps us to be self-sufficient and better persons.

## THE LIFE OF SUFFERING AND CREATIVITY

Even though it is well known that mankind's prosperity was enabled by talented and creative individuals, the fact that the society was not capable of adjusting to these individuals in one whole millennium is a paradox. Many wondered why this was the case. It is interesting how these talented and creative humans were accepted by average, but greater in number, members of the society through various epochs. Facts from biographies of great scientists and inventors tell us that there are few individuals, no matter which social-economical formation is in question, who marked at least one of the periods in their lives with sacrifice, only to improve the human kind. Still, mankind cannot yet show respect for individual freedoms and differences among people. This characteristic is very much expressed when it comes to a talented, creative and underestimated individual. He is the different one and that is why he is often rejected and punished. In all epochs of mankind's progress, the only way for an individual to be safe was to resemble others. Any exception from the majority meant evil and ended in persecution and usually death. Medieval Inquisition burned thousands of innocent people on the stake just because their opinion differed from the church's. They did not just burn women thought to be witches but the church persecuted any advanced teaching to defend its dogma. The history of science shows us how tragic were lives of the greatest minds of that time (Giordano Bruno was burned alive at the stake), only because they did not want to renounce their theories.

There are many proofs which illustrate that everything different and unusual is rejected by the majority. We could even say that the society's development was in conspiracy against the human nature and individuality until now, since harmony and security were found in resemblance and deviations brought insecurity and persecution. There are few talented individuals who succeed in surpassing all the obstacles and personal crises and many of those who do not because they live in primitive surroundings. Their tragedy is not only theirs but the tragedy of mankind in general. Think of all the inventions that could have been invented, all the cures that could have been made, all the sonnets and books that could have been written if only they had been supported by the society in whole. We only know and praise great minds who succeeded in their accomplishments (Mozart, Tolstoy, Einstein, Pasteur and others), but think of those who did not accomplish their great works, that could have helped mankind if it had realized their potentials. As an illustration of these facts we will refer to a passage from the novel *The Painted Bird*.

This novel was written by Jerzy Kosinski and it tells us about the fate of a six-year-old boy, whom his parents sent to some distant village during the war to avoid Nazi camps and the certain death. The peasant woman who was supposed to take care of the child soon dies. Child's parents do not know this and the boy does not have the means to make contact with them. All alone, depending on kindness of strangers, but their rudeness and hostility as well, the boy wanders through wartime Poland. He then meets a lonely young man called Lekh, who earns his living by setting traps for wild animals and birds. Lekh has a girlfriend Ludmila, who sometimes visits him. Very often the war in the mountains prevents her from coming, even for weeks. That would make Lekh furious. He would start catching birds and putting them into cages. Usually it would be a raven or a crow. In his boredom and rage, he would mumble something and watch the birds in their cages. Then, as though he remembered something, he would take a bird and bound her legs. He would prepare various paints and start applying them to the bird's breast, head and wings, trying to dry it well so the bird could fly again. The bird would be more colorful than any flowery meadow. According to the boy, the story goes on like this:

Then he would go into the thick of the forest. There Lekh took out the painted bird and ordered me to hold it in my hand and squeeze it lightly. The bird would begin to twitter and attract a flock of the same species which would fly nervously over our heads. Our prisoner, hearing them, strained toward them, warbling more loudly, its little heart locked in its painted breast, beating violently.

When a sufficient number of birds gathered above our heads, Lekh would give me a sign to release the prisoner. It would sour, happy and free, a spot of rainbow against the backdrop of clouds, and then plunge into the waiting brown flock. For an instant the birds were confounded. The painted bird circled from one end of the flock to the other, vainly trying to convince its kin that it was one of them. But, dazzled by its brilliant colors, they flew around it unconvinced. The painted bird would be forced farther and farther away as it zealously tried to enter the ranks of the flock. We saw soon afterwards how one bird after another would peel off in a fierce attack... As soon as it joined the flock a desperate battle began. The changeling was attacked from all sides. Black, red, green, blue feathers began to drop at our feet. The ravens flew amuck in the skies, and suddenly the painted raven plummeted to the fresh-plowed soil. It was still alive, opening its beak and vainly trying to move its wings. Its eyes had been pecked out, and fresh blood streamed over its painted feathers. It made yet another attempt to flutter up from sticky earth, but its strength was gone.<sup>1</sup>

This passage can only discourage everyone who knows what dignity, individual freedom and diversity mean. The painted bird could be a symbol of the colored or the white skin, different religion and nation, retarded or an advanced but misunderstood individual. He is *the other one*, different from the rest, rejected and punished for that. In 1841 Ralph Waldo Emerson wrote that 'the society is in the conspiracy against the human nature and individuality because only compatibility is considered a virtue and being different causes rejection'. People are hard on accepting different members of the community and they oppose them, even if these people can contribute much to the society.

But the process of creation does not depend only on the conditions provided by the society. It depends mostly on the strength of the individual (his intellectual and emotional potential), especially his emotional states. In ancient times, people noticed the connection between certain mental states and creating. Great philosophers thought that trance and neurosis were not illnesses, but a sign that an individual aspired toward higher levels of development, unlike the rest, and that he wanted to express himself by creating. These states were usual for poets, writers and prophets, but for many scientists as well. Aristotle thought that many mentally disturbed people 'become poets and prophets' and that 'Marco of Syracuse wrote beautiful verses while suffering from neurosis and when he got better, he lost his talent'. Aristotle also noticed that almost all prominent poets, artists and philosophers of his time were melancholic, unstable and weird in some way. They were all mentally sensitive as well, and their inner psychic states and conflicts were tense. These were considered to be the main cause of their impetuosity and the loss of strength. That is the reason for their exhaustion and early death. Ceaseless physical exertion as a consequence of creative aspirations, strong emotions caused by

<sup>&</sup>lt;sup>1</sup> Kosinski, Jerzy. 1976. The Painted Bird. New York: Grove Press. pp 187-190.

failures and rejection, poverty and constant doubt in their own abilities and purpose, harmful habits and physical weaknesses – all of these put the nervous system on a hard test. It was always thought that brilliant individuals and great artists were not destined for peaceful and easy life, but for suffering and mental pain. Happiness is reserved for the average and well adapted people. Even in ancient times many noticed that 'there was something delirious in each piece of art'. It was considered that disturbed psyche was a precondition for creativity. This especially referred to epilepsy and depression and was also mentioned in the holy books (Talmud, Bible, Koran), where certain exalted states of mind were described as a stimulus for miracles and miraculous healing.

Analyzing biographies of great people, we can see that the most part of their work was created from turmoil, inner conflict and doubt. Suffering they went through is a proof that they were destined for a hard life, the life of pain and sorrow. Some people even claim that there is no creating without tragedy, unrest and inner conflicts. Everything originates from restlessness, pain and torment. Considering this, we can understand Diderot's words better: 'When nature creates a brilliant individual, she lights up a torch over his head and sees him off to the world, saying: 'Go and be unhappy'. Diderot anticipated this fate of brilliant people who were considered superior because of their genius, but also neurotic. Unlike Freud's classical psychoanalysis, which considered neurosis an illness, new studies show that these states are not diseases but a sign of a more advanced development of an individual, who is trying to exceed the average and surpass the obstacles in his way. These obstacles, inner or external, cause unrest, torment and conflicts.

German psychiatrist Stekel wrote that neurosis was the basis of every progress and that it drove a philosopher to think, an inventor to solve difficult technical problems, a poet to make the greatest creations of the mind. 'Neurosis is a blossom of mankind. Without neurotics we would now be stuck at the alphabet of sophistication and culture. Ceaseless physical exertion as a consequence of creative aspirations, strong emotions caused by failures and rejection, poverty and the constant doubt in their own abilities and purpose, storms of life full of unexpected changes, harmful habits and physical weaknesses – all of these put nervous system of great men on a hard test'.

In the past, many authors considered suffering to be a necessary condition for creativity because it awoke creative power, while pleasure lulled and dulled them. Dostoyevsky made a

cult of suffering and he was the creator of the ideology of suffering and sacrifice. On one occasion, he talked to his friend Solovyov and said: 'Siberia, hard labor, it is a great happiness for me'. In *Crime and Punishment* he said that '*an idea lies in suffering*'.

In his book *A Tragedy of a Genius*, V. Stanojević says that philosophers and creators feel this as well. He says: 'De Vini called it the magnificence of human suffering. Mises wrote: 'Nothing makes us great as suffering; the only good thing left of this world is that I sometimes cried'. Heine comforted himself: 'If my song is not cheerful, at least it kept me from my suffering'. Baudelaire explains the efffects of suffering: 'You gave me mud and I turned into treasure'. Guillaume says: 'When we cry, does it not mean that we feel our own misery and that we can rise above it?'... Cultural creativity originates from aspirations of the society, first felt, announced and shaped by brilliant people. It has its own time of appearing, which depends on social circumstances. Connected by invisible spiritual threads and fluids to their society and time, brilliant creators are not only messengers of the new and advanced, in dialectic sense, but its sowers and reapers as well. This is the case in every branch of social activities and with every creator, no matter if he is a founder of social movements or of scientific, philosophical, literary or artisitic ones. They all respect the law of causative evolution.

The best example for the phenomenon mentioned above is the ending of the feudal society in XVIII century, announced by Voltaire, Russeau, Diderot and encyclopedists, and its collapse caused by Mirabeau, Robespierre, Danton and others. Without this historically conditioned ending of one social order all these brilliant makers of the movement would remain anonymous. It is the same with literary and artistic movements such as: Sentimentalism, Romanticism or Realism. This destiny followed all the movements and revolutionists through history.

By showing complexity of psychological processes of cultural creativity, in the aspect of mastering the inner exertion and exterior social interferences as well, Parisian psychiatrists Atom and Dromard brought the following conclusion: 'In an artist, there are simultaneously an inspired madman and a criticising sage: the madman suggests and the sage disposes'. The same authors make their idea more comprehensive by quoting the theory of the famous biologist Charle Richeau on the same topic: 'For creating a brilliant piece of work you need both Don Quixote's and Sancho Panza's soul; Don Quixote's to go ahead, to turn off the treaded paths, to do

something different and better than what others do; Sancho Panza's as a sound reason to set light to the deep originality. Many wise men missed great discoveries and works, they could not realize them on their own because they did not have the courage or the imagination of Don Quixote. Many poor madmen wasted their dreams and chimeras because they did not have sound reason of Sancho Panza'.

It seems that Kazimierz Dabrowski's theory of the development of a talented and creative individual, which takes into account not just intellectual but emotional and moral development as well, gives better emphasis on more versatile observation of the development of creative individuals.

Years of clinical and therapeutical practice led Dabrowski to the idea that the development of a personality (and its abilities and features) cannot be reduced to some average standard, as nomothetic psychologists claimed, using different statistical procedures and standards of the development. Every personality can be explained and better understood only as unique in its biological structure and its behaviour. This attitude brought Dabrowski closer to Allport's idea of notion and structure of a personality and its development, but also to other psychologists of ideographic and humanistic orientation, such as Abraham Maslow and Carl Rogers.

Dabrowski saw the development of each personality as multidimensional and multistage, moving from one stage to another. It can be illustrated by the following example. Love, for instance, can be selfish in a way that the other person is being used as an object for satisfying one's own need or want. On a higher level, love can be unselfish self-sacrifice in order to keep and enable a better life for others. This relationship is most commonly seen between a mother and a child. Further more, fear on a basic level can be primitive and paralysing as an answer to certain threatening stimuli from the surroundings. But it can also be instigated by one's inner critical view and analysis of one's own actions. In the latter case, moral responsibility for one's own actions is the cause of fear, not some exterior threats.

In both examples mentioned above (love and fear), we can see that behaviour and development start from the lowest levels of egocentrism and finish with the highest – critical

analysis of one's own actions and moral responsibility, which leads to the highest levels of the development of altruism.

Therefore, Dabrowski saw the development primarily as enrichment and growth of the inner emotional life, where in the beginning emptiness and simple, primitive reactions prevail – moving toward higher levels of self-consciousness and responsibility for our own actions.

It is known that Jean Piaget's theory of cognitive development mainly directs attention to the cognitive development, while the development of the emotional and inner life is neglected as less important. Unlike this theory, Dabrowski emphasises the importance of the emotional and moral development for the complete development of a creative individual. Dabrowski not only gives a detailed description of this development, but he is trying to find basic mechanisms that run and transform this development from lower to higher sequences of development.

That is why every higher level of development has different and various structures of a personality and its behaviour as well. Emotional strength is the key factor of the development and it enables dynamisms which lead this development from lower to higher levels, but it also enables continuity of the development in whole.

Levels of that development are hierarchical and multiphase and every higher level represents progress in relation to the previous one. Transformation is reflected in the transition and development of the lowest forms of behavior and emotions to more complexed ones. Dabrowski's studies helped him to conclude that the majority of talented and creative individuals expressed higher levels of empathy, sensitivity and moral responsibility, self-observation, altruism and self-criticising, compared to the general population. During emotional crises, these persons express symptoms of neurosis, such as: the sense of inferiority, strong inner conflicts, the feeling of guilt, fear for their own existence and the existence of others, despair. That is why Dabrowski said that these persons were ususally 'positively maladjusted'. In their development, they crossed over the boundaries of the average in their social and emotional life, compared to the majority of population, and thus became aware of their difference (from normality) and suffered pain and torment.

This theory suggests that talented and creative individuals are not destined for a comfortable life, but are in the constant state of inner conflicts and crisis which lead to higher

levels of their development. These are the levels on which universal principles of justice and human living are recognized and respected.

## **INSPIRATION AND CREATING**

In most dictionaries, the word *inspiration* means jubilance, getting incentive, being motivated for doing something. It is the state of creative fervor, the inspiration for creating. In artistic and scientific creativity it is sometimes called the divine inspiration, the divine influence. The inspiration and the state of creative enthusiasm is also used to clarify the term *foolishness for Christ* as accepting the sign from God or mediation between the world of gods and the world of people. The fool for Christ transmits the messages from above and imitates a deity. In medical sense, the inspiration can literally mean breathing in or inhaling air into one's lungs. Later, this word got another meaning and psychological connotation. It meant taking in unusual emotions, moods, thoughts, insinuations, anticipations and everything that awoke the creative spirit. Finding themselves before the enigma of this unusual state, poets used to explain these suggestions with mysticism that came 'from above' and inspired them by 'some higher' power they called divine. All those who were interested in exalted states of consciousness in moments of creation of some scientific or artistic work, noticed that these states of inspiration and fervor were followed by certain emotional states. These unusual states of body and mind of the one creating something new was called by careful observers 'a soul mainly divine' or 'a mouth that *will hail great things'*, a mystical term.

These words also refer to our famous writer Petar Kočić and his work, as well as to his fight for liberating his people from long-lasting enslavement. Many discussed inspiration as the exalted state of mind during creation of some scientific or artistic piece of work. Psychologists studied this state and its role in the creative act (in the mere process of creation) of writers, poets, scientists, painters, sculptors and many others in a more detailed way. On creative sparkle in Kočić's writing, Pero Popović, Kočić's fellow countryman told a true and an interesting anecdote. When one night they said good bye to each other, Kočić remained in his cold little room in Vienna, with his head bent down, his hair disheveled, wrapped in some old coat. It seemed as though dark thoughts had caught up with him and he did not notice his spirit leaving him. When Popović came again in the morning, he found Kočić in the same place, motionless, in the same position. As soon as he saw his friend, his face lit up and he was transformed in an instant.

'Sit and listen' – he said to Popović, grabbed some scattered papers from his desk and started reading: 'Burning sun – it will singe everything! The sky turned indigo blue...Far away – far around Osmača and Lunjevac the bluish horst appeared...'

It was the beginning of the short story *The Grave of a Kind Soul*. Popović, the painter, listened to Kočić, who enthusiastically not read but 'as though he was throwing a blazing stream of bitter protest of an infuriated national tribune to some invisible and frightful opponent'.

Another example of Kočić's inspiration in creating his work and his joy in the creating process is his most important work, *The Badger in Trial*, written in only one night. Kočič, overjoyed, informed his friend Simo Eraković of this with the following words:

'I wrote it in one night, one night! It is the story about David Štrbac who sues a badger in that miserable country of ours.' (In Vienna, April 1903)

These words show that Kočić often got inspiration during the night, when everything was silent and when nothing disturbed his imagination and the vision of his homeland; when images of his Zmijanje and Stričići strung before his eyes. Then, his creative sparkle was the brightest and it set light to the road he chose. Kočić actually had a versatile genius (he was a poet, a story-teller, historian, ethnographer and a national tribune). Therefore, the famous claim: *The greater the genius, the more dramatic the living*, can refer to him as well.

There are four phases of the creative process and the creative solution of a problem, that were studied in detail by Gestalt psychologists (school of psychology that studied the creative process). Indeed, the progress in studying, creative thinking and solving the problem (creating scientific and artistic works) is related to *Gestalt theory of learning and creating*. Gestalt psychology is a school of psychology that studied cognitive processes, especially the critical and creative thinking in people. Gestalt psychologists deserved credits for studying such an important field of psychology that was neglected for years. The main field of styding in Gestalt psychology is the creative thinking and the main method of research is the method of problem tasks. The question of laws according to which the creative process takes place is the central subject of experimental research of Gestalt psychologists. They (Koffka, Köhler, Wertheimer and others) set a problem, task, a problem situation as the main experimental situation in studying the creative thinking. All of their experiments are actually analyses of the process of

solving various problem situations. For creating these experimental conditions credit also goes to Gestalt psychologists. Wertheimer is especially famous for trying to answer the following questions in his book *Productive Thinking*: What happens if a man thinks productively? What are important characteristics and processes of the creative thinking?

Gestalt psychologists consider that understanding and solving a certain problem is actually observing a problem situation as a part of a greater picture, a clearer complex. For instance, formula for measuring the surface of the rectangular triangle will be better understood if we observe the triangle as a part of a greater complex, which is the rectangle. Indeed, every rectangular triangle is exactly a half of a bigger shape, that is, the rectangle, whose dimensions are equal to catheti of the rectangular triangle and the diagonal is equal to the hypotenuse. A similar situation can be found in P.P. Njegoš's work. For instance, to analyze the man better, his weaknesses and strengths, Njegoš always studied him as a part of greater surroundings, in his relations to other people. Indeed, if we search through history, man could do little by himself, not just in fighting for his freedom or against natural catastrophes, but when it comes to his personal inspirations and accomplishments as well. That is why Miloš Obilić, a character from Njegoš's most famous work, is always followed by his two loyal friends, Ivan Kosančić and Milan Toplica. All the problems of man's microcosm Njegoš used to observe in relation to his macrocosm and the other way around. The whole picture will show more details about an individual and details will tell more about the whole picture of a certain event. Therefore, Njegoš was the first to see microcosm and mental macrocosm given in archetypal contents of the collective unconsciouss and the accumulated experience of ancestors. This can be clearly seen in his two important works. While in The Mountain Wreath Njegoš describes the battle between good and evil, justice and injustice, freedom and enslavement on earth, in Little Montenegro, in The Ray of Microcosm this battle is lead on a wider battlefield, the whole universe as a general principle of the battle between light and darkness, harmony and chaos.

Therefore, according to Gestalt psychologists, an individual who creates a new piece of work needs to observe a problem situation as a part of a greater picture, to widen it with an adequate shape. Creation of a work and solving a problem situation is searching for this adequate shape. According to Gestalt theory, the process of creation and creative solution of the problem undergoes four typical phases. In solving a problem situation, the man has to know elements of this situation first. This can be done through trial and error. As these attempts bring no success, man leaves the activity and chooses what can be seen in the sense of his behavior as quiscence. However, activites are still going on inside his psyche.

The man that is solving his problem situation thinks about the problem he has been trying to solve. Then he suddenly comes to the solution. It is as though he says: 'Aha, that is it!', and the solution is then being checked and analyzed. This act of observing the problem situation and the solution of the problem is called 'the eureka effect' or 'aha! moment'. More detailed description of the four phases of the process of creative thinking while solving problems looks like this:

The phase of preparation or becoming familiar with the problem is the phase which starts with 'the play' of ideas. All aspects and approaches to the problem are being considered. Gradually, one takes more critical and selective attitude, where certain hypotheses and ideas are rejected and others are studied in a more detailed way. This is the beginning of the process of creating something new. It also tells us about the importance of the phase of preparation in the process of creative thinking and making a scientific or an artistic work.

The phase of incubation or the apparent inaction can be very different in its nature and duration. It can last several minutes or hours or days, or even several weeks, months or years. In this phase the problem is put on hold for some time. But bringing attention to it again leads to a sudden insight into the situation and the solution of the problem. Numerous examples from lives of famous people, such as: inventors, scientists, mathematicians and other, confirm the existence of this phase in solving the problem. It is known that they found solutions to their problems in situations when they least thought of it, for instance during taking a bath, shaving, listening to a concert or walking through the park. This tells us about the positive influence of taking a pause for solving the problem successfully.

The phase of illumination can be described as creating something new and solving the problem. Here it comes to 'aha! moment' because the solution is found and a new piece of work is created.

In the phase of verification main ideas are tested, that is, the solution of the problem and the established hypotheses are tested. The whole process of creative thinking can be clearly seen in Njegoš's work, as well as in the works of Tesla, Pupin, Andrić and other great creators.

The first phase is the phase of preparation of the creative work; in this case the poet collects material facts. Thus collected 'material' is being intensively experienced through the contents of the consciousness and everything is followed by turbulent emotional experience.

When enough facts or 'material' is collected, the second phase or the second creative act – *incubation* takes place. During this time, the collected material is processed on various levels of human psyche, distant from levels of the consciousness. That is why the creator is not aware of the process. The unconsciouss processing of the material which will produce an artistic work is especially important here. On this level of unconscious psychic life of the creator, in the darkness of unconscious, incubational processes take place. Therefore, depending on unknown factors, after a long or a short incubation, in the moment of the greatest exaltation and fervor, tension and thrill, 'the explosion' of inspiration or aha! moment takes place. It is the moment of insight and the birth of an idea, a solution or the whole work. On this level, dialectic leap in the conscious part of the psyche happens, followed by psychological manifestations of pleasure and the psychological image of relief. These are the signs of manifestations of the third phase of the psychological creative process – *inspiration* or *illumination*.

This is how our brilliant scientist Nikola Tesla explains the moment of *inspiration* or *illumination* during the discovery of one of his greatest inventions (*the reverse magnet rotation*), which was the basis for creating a clear mind image of the new electrical engine:

'One afternoon, which is always in my mind, I was walking happily with my friend through the city park, reciting poems. At that time, I knew by heart the whole books, word by word. One of them was Goethe's *Faust*. The sun was setting and it reminded me of the famous verse in this poem:

The sun retreats – the day, outlived, is o'er It hastens hence and lo! A new world is alive! Oh, that from earth no wing can lift me up to soar And after, ever after it to strive!<sup>2</sup>

<sup>&</sup>lt;sup>2</sup> Johann Wolfgang von Goethe Faust. Translated by George Madison Priest. http://pinkmonkey.com/dl/library1/faust.pdf

Inspired, I pronounced these words and an idea struck me as a lightning and the truth was revealed to me in an instant. With a whisper I drew diagrams in the sand that I showed during my lectures in America six years later. Images I saw had been incredibly sharp and firm as a metal or a stone. I would have given thousands of the nature's secrets for this discovery I tore out from the battle with its superiority at the cost of my life.'

Here is one more example which illustrates the great role of inspiration and efforts in creating a scientific or an artistic work. When the famous French writer Stendhal wrote his novel *The Charterhouse of Parma*, everybody congratulated him and he humbly said: 'Do not congratulate me. I got the idea from above'. Here we can see that in creating a piece of scientific or artistic work the inspiration has an important role, but beneath it the great effort lies, as well as work and patience. Analytical studies on the creative process showed and proved the well-known claim: *Great works are followed by great suffering*.

Therefore, although at first sight it seems that a solution, an idea or a piece of work came from nothing it is not so easy. Namely, the creator is often unconscious of a new work being born and the flow of his thoughts during the creative process. Science cannot fully explain this phase of creating yet. After this phase the fourth phase of checking and improving the new piece of work takes place. It is the phase of verification. Every creator gives his own mark to this phase. It is known that Tesla, Edison and Pupin checked their inventions over and over again. Brilliant writers, such as: Tolstoy, Dostoyevsky and others, copied and corrected their novels dozens of times to make them as good as they could. The great mathematician Poincare made detailed notes of circumstances in which he would come to his important discoveries.

He literally said: 'The role which unconscious research has in the mathematical discovery is indisputable. Often, when someone is working on a difficult problem, he does not accomplish anything when he first takes up a task. Then, after a long or a short pause, he again sits at the table. In the first half of an hour he still finds nothing and then suddenly the essential idea comes to his mind. We could say that the conscious research proved to be more fruitful because the work was paused, which brought new strength and freshness of ideas. This pause most probably included unconscious work. These sudden inspirations usually come after several days of hard and unfruitful effort. The necessity of the second period of the conscious work and effort is understandable then. It is vital to process and check the results of inspiration'.

Therefore, after the necessary former period of intensive work on the initial problem, the period of resting or unconscious work must come before we can expect a new idea. This new idea needs checking and processing before the discovery can be considered complete and successful. What is really new in the discovery comes suddenly after the preparation and the period of neglect of the problem. All these phases of creative thinking and solving the problem can be found in the work of the famous scientist Archimedes. There are many written proofs of the creative process and solving the problem in the work of famous scientists and they show similarities in the flow of the process and the phases. In the first phase it is important to collect as many data as possible about the problem which needs to be solved. Then certain efforts have to be made to solve the problem in question. This rarely leads to success at first attempt. More often the work has to be stopped because of fatigue and hopeless trials. Days and weeks can pass in this inaction until the key idea comes and this usually happens when the attention is directed to something distant from the problem. It sometimes happens during a spontaneous conversation about the problem, a discussion or an attempt to explain the problem to someone else. One of the earliest discoveries about which we have any kind of psychological data is Archimedes', found during his taking a bath, the real 'eureka moment'. Similar cases are documented about some contemporary artists, researchers and scientists. We often have detailed descriptions of the process of illumination which can happen while travelling in a train, a car or a bus, during a walk in the park, dressing, resting, lying on the beach, daydreaming, lying in your bed, shaving, fishing, listening to a concert or a speech, reading, waking up and so on. Here, as an illustration we will tell a story, a legend of the great scientist Archimedes, which will show us phases and the flow of the creative thinking in whole.

'According to the legend, king Hiero suspected that his goldsmith had used silver in making his golden crown. The king asked Archimedes to find a way to make sure whether the crown was made of gold or not, without damaging it. After many trials and hard thinking, Archimedes still could not solve this problem and finally he gave it up. But one day, while having a bath in his bathroom, not thinking about the problem anymore, he noticed that his

extremities lost their weight in the water and that he could easily lift them up. Then he got an idea that led him to his famous discovery and the solution of the king's problem.'

This legend of the famous scientist Archimedes is the first psychological evidence of *the act of discovery*. Similar circumstances of the act of discovery were experienced by many others that we mentioned earlier.

Psychological and other studies have shown more direct connection between the process of creating and emotions. When these emotions are unusually strong and turbulent they are considered *affects* and when they are weaker and long-lasting we define them as *mental moods* or *passions*. Which kind of emotional states will overwhelm the creator depends on the former experience. Here is an example as an illustration: Two men set off in a boat. One of them has already survived a shipwreck, while the other has enjoyed his earlier peaceful sailings during pleasant evenings in the company of his friends. Even the weakest wind will terrify the first man and he will remember stressful images of a boat turned over and drowning, while the other will enjoy the strange sounds and colors of the turbulent sea and the rocking of the boat on high waves.

To understand the creative inspiration better, it is necessary to show what poets and lyricists think of the poetic inspiration. According to them, an immediate cause, an impulse or a motive for the sudden inspiration can be some external moment that leaves a strange impression on the artist, causing an unusual mood or state of mind in him. This moment can be anything and it is different for every poet. For one it can be a beloved woman, the colorful nature, homeland, the past, relics or a memory. For others it can be a heroic figure or act, social motives, a touching historical story or a tragic end. All these motives, perceived by eyes, ears and the rest of the senses from the external world and processed inside the poet's mind, mood and thoughts, get their final form in the poet's imagination. This final artistic product is not a copy of the former external motive. An artistic piece of work is not plain and usual, it is special and aesthetic and these former external stimuli represent only the connection with reality.

These external moments which cause inspiration can often appear as an illusion or a hallucination. V. Stanojević says that in his poem *The Night* Pushkin sees a figure and hears sounds that do not exist. He writes that *his beloved's eyes shine in the dark* in front of him and

*smile at him*, then he adds that he hears the words: '*My darling, my darling .... I love... I love ... yours ... yours*'.

The same author gives the following examples as well: Paul Verlaine sat in a cafe with his friend once. Outside, a strong wind was blowing and shifting the curtains. The poet looked long at the curtains and then, inspired by his association, he told his friend: 'Do you see how this cloth is shaking? For you it is a piece of fabric shifted by the wind and I see a sail of an arc carried by the tempest and I see myself terrified on the raging waves of the ocean. I see other things, too. I see a flag flapping, I hear a trumpet sounding an alarm, I see an attack and the whole army running into the fire'.

Shelley's biographer said that the poet was once walking down the beach with his friend. He suddenly grabbed his friend's hands and started yelling: 'Here it is! Here it is again!' Trying to calm him down, his friend asked Shelley what he was so afraid of and Shelley explained that he had seen a child coming out of the waves, smiling at him an clapping its little hands.

In one letter, G. Flaubert wrote: 'I am so awfully tired and I feel as though someone put an iron hat on my head. I have been writing *Madame Bovary* since two o'clock in the afternoon. It is six o'clock now and each word flogs my nerves. I was so obsessed with the idea of this work and I was living the fate of my heroine so strongly that I got scared I would be infected with this feeling. I left the table and opened the window to calm down. Now my knees, beck and head ache and I feel that my nerves are exhausted'.

Pushkin had the same feeling while writing his verses and he talked not only of his pain of inspiration but of his cries and tears as well: 'I was crying in front of you for a long time and I watered my work with the tears of inspiration'.

From all the mentioned above, we can see that the process of creating an artistic piece of work is interesting as much as it is individual and unique for every artist. Byron used to change, adapt, add, cut out again and again while writing his great works so that less than 20 % of the original idea remained. From his first inspiration, the idea and the plan while writing *Faust* until the final version, Goethe spent 20 years working ceaselessly.

Schiller did not change his original idea but only added and continued what he planned. He thought that in creating an artistic piece of work the mind must not exaggerate with the *creative thought* or be petty. He also said: 'Everything depends on the creative power of the inspiration'.

Goncharov wrote: 'I always get one image or one main motive. It leads me forward and I reach whatever comes to my hands, whatever is in close connection with it. Then I work lively, quickly and my hand barely has time to write what comes to my mind. And it lasts until I am finished'.

Pushkin wrote his great works for years, as well, changing the original idea and the text in many ways. He spent seven years writing *Eugene Onegin*. He worked ceaselessly, he read, made notes, and, while reading, he made drafts and sketches on the margins. Sometimes he would start a work and then condemn it to oblivion: 'Here is the beginning of one of my works which will probably never be finished', he would make a comment on the margin.

The great Renaissance poet Petrarca left a testimony on how artistic works were made. Inspiration comes when the poet hopes the least. He told an acquaintance of his: 'You will be surprised when I tell you that I often worked and created while riding a horse and by the end of the road the poem would be finished. At the village gatherings I would always have a quill at hand, unless the consideration toward the host would distract me. On every table I keep a notebook. Very often I wake up in the middle of the night, I take my quill and, in order not to let my thought slip away, I write down what I can barely read in the morning. These are my worries'.

On the importance of the proper preparation and its role in the creative process we have many data and testimonies. S. Zweig analyzed Tolstoy's work in the phase of the preparation: 'His wondrous frescoes of the world are the artistic and carefully built mosaic, made of numerous tiny stones of millions of minuscules of individual observations. The great epic of two thousands pages, *War and Peace*, was rewritten seven times. Every historic fact, every psychological detail was carefully documented in order to give The Battle of Borodino authentic precision. Tolstoy rode for two days with the general staff map through the battlefield; he travelled many miles in a train to find out a small detail which would complete the story from

some soldier. He searched for lost documents and private letters to grab a piece of truth. In years he collected these small observations and details until they got the whole, pure and perfect shape'. Our writer S. Sremac was known for the three phases of his work: collecting the material, developing the story and writing the final version of the text. If he started with an anecdote, he would first write it down and develop it in his draft. Only then he would start writing during which he would use his collected material. He did not hesitate to use the collected material for one surrounding to describe the other, similar surrounding, which proves that he was not concerned with naturalistic but artistic authenticity primarily. This hunger for the authenticity and the irresistible aspiration to penetrate the essence of what he is supposed to create and revive through words is common for many writers. Flaubert, for instance, joined the funeral procession of some Madame Puncher, the doctor's wife, who fell of a horse and died instantly, because he wanted to collect material for describing Monsieur Bovary's posture at Madame Bovary's funeral. The Russian writer Turgenev used to develop his characters' biographies meticulously. "While writing *Fathers and Sons*, he kept a diary of Bazarov. On every book he read, every man he met and every important event he wrote observations which Bazarov made. These notes developed into a great book, which at the end lost its value as used raw material. It was necessary for the writer to keep an eye on his hero, to know his daily thoughts, feelings and impressions. Thus, Turgenev achieved truthfulness of his characters'. The great painter Matisse left a testimony on the importance of preparation for an artistic piece of work in his letter to Clifford. He said: 'I have always tried to hide my efforts and I wanted my works to have lightness and joy of spring, which never let anybody see its efforts and exertion. That is why I am scared that a young man, who sees only seeming lightness and unrest in my drawings, will use it to get free from certain efforts I consider necessary. Several exhibitions I saw in last few years confirmed my fear that young painters avoid slow and painful preparation, essential for education of every contemporary painter who wants to work exclusively with color. Slow and painful work is essential. When an artist does not know how to prepare his period of growing through his work that has little similarity with its final result, he does not have a bright future as a painter. An artist has to own the nature. He has to identify with its rhythm. It is an effort which will be followed by mastery that will later enable him to express himself with his own language'.

In the state of inspiration every creator demands and gives what is best of him, to final frontiers of his abilities, without knowing he is doing that. He himself feels that there are still

things to be improved in his work and he is always ready for these efforts and challenges that seem as an unnecessary perfectionism and a waste of time to ordinary people. This state of creative fervor was described in a more detailed way by the famous writer S. Zweig in his works *Shooting Stars* and *The World of Yesterday*. This process of inspiration and creating Zweig described, especially picturesquely, in his visit to the famous sculptor Rodin. It is a well-known story of Rodin receiving Zweig in his studio and showing him his greatest work. Suddenly he realizes he needs to correct a small detail, one after the other, while he is completely distracted. He has been working for hours and when he wanted to leave the studio he remembered he had a guest. However, Zweig's testimony is more authentic. We can see there how the Spirit of Creation sometimes enjoys mocking the creator himself. Emile Verhaeren, famous Belgian poet, enabled Zweig's visit to Rodin. Here is the detailed description of this encounter:

'At Verhaeren's we got into discussion with an art historian who complained about how the time of sculptors and painters had passed. I was strongly opposing the idea. Was Rodin not still amongst us, the artist as great as the ones of the past? I started to list his works and, as always when one fought against contradictions, wave with my hands. Verhaeren smiled and said that if someone liked Rodin so much, he might as well meet him. 'Tomorrow I will be at his studio. If it suits you, you can come with me', he said. If it suits me? I could not sleep from joy. But when we came there, words stuck in my throat. I could not even address him properly, so I stood amongst the sculptures as if I was one of them. Surprisingly, he seemed to like my puzzlement since, on my departure, the old man asked me if I wanted to see his real studio and join him for dinner. I learned the first lesson: great men are kind-hearted. The other one was that they were very simple. In this man's house, the man whose works filled the world and were familiar in each line and draw to our generation as a dear friend, middle-class meals were prepared: good meat, some olives and abundance of fruit, with a strong rustic wine. This gave me new courage and at the end I was able to talk freely as though I have been a close friend to this old man and his wife for years. After the meal, we went to the studio. It was a vast hall in which his most important works, in second cast, were exhibited. Amongst them, hundreds of small parts, a fist, a hand, horsehair, one female ear, lied formed only in plaster. Even today, they are alive in my memory, made from the drafts he used to exercise. I could tell the story of one hour spent in his studio for hours. Finally, the master led me to a pedestal on which, beneath the wet rags, his last piece was hidden, a woman's portrait. With his rough wrinkled peasant hands,

he removed the rags and stepped back. From my tight chest I accidentally uttered with a sigh: 'Admirable', and immediately blushed because of the banality. But he, with peaceful objectivity and without a grain of vanity, confirmed mumbling: 'N'est-ce pas?' He then hesitated. 'There, near the shoulder. Just a moment!' He took off his dressing gown and put on a white blouse. He grabbed a spatula and with one stroke aligned the skin on the woman's shoulder. It quivered as though she was alive. He stepped back again. 'Then here', he mumbled. Again, with a small detail he changed the impression. Then he became silent. He walked forward and backwards, he observed the figure from the mirror, mumbled and made inarticulate sounds, he changed and corrected. His eye, which was kindly absent-minded, now pierced with strange fire and he seemed taller and younger. He worked and worked, with passion and strength of his powerful, heavy body. Every time he stepped hard backwards, the floor would crackle. But he did not hear it. He did not notice that there was a young man behind him, whose heart climbed to his throat from joy because he could watch the master at work. He completely forgot about me. In his mind he was alone. For him there was only the form, the work and the vision of absolute perfection behind it. He spent a quarter of or a half an hour like that, I was not sure. Great moments are always on the other side of time. Rodin was so focused on his work that even the thunder could not awake him. His moves became firmer and more furious. Rage or drunkenness got over him and he worked faster and faster. Then his hands started lingering. They realized that there was no more work left for them. He stepped back once, twice, the third time, without changing anything. Then he mumbled something quietly and softly, as if putting a scarf around his beloved's neck, he wrapped the statue in its rags again. He sighed with relief, deeply and freely. His body became heavy again. The fire went out.

Then I realized the most inconceivable thing: he took off his blouse, put on his dressing gown and got ready to leave. He completely forgot about me in that moment of concentration. He did not notice that a young man, holding his breath, deeply touched, motionless like his statues, stood behind him and that he himself brought this young man to his studio to show him his work. He walked to the door and just when he was about to open them, he saw me and looked angrily at my face for few moments. Who is this young man who sneaked in my studio? But in the next moment he approached me almost ashamed. 'Pardon, monsieur', he started. But I did not let him finish. I grabbed his hand gratefully, I almost kissed him. In that moment, the great secret of all art and earthly creations appeared before my eyes: concentration, accumulation of strength and all the senses, overcoming oneself and the whole world of every artist. I learned all of it for a lifetime.'

It seems that the nature of creative inspiration or enlightenment is, despite many important cognitions and testimonies that were left for us by great artists, still unfathomable. Even though we know many motives that stimulate it, we still do not know how that process works and what its essence is. The story of the secret of creating will always be unfinished and one of many enigmas of the world, the deepest and the most mysterious one. That is the secret of creating like. S. Zweig continues his story by telling that the secret of creating does not allow, like the nature, to be reached and perceived completely. It will hide its last mastery: the way the flower grows, the secret of how the world, the song and the man came to exist. The secret of creating mercilessly puts a veil over these riddles. Even the creator himself (the poet, the musician, the sculptor, the painter) will not be able to set light to that moment of inspiration, that divine moment of enlightenment and creativity. Many testimonies of creators explain how the work was shaped in its final version. The artist does not, however, know how it all started any longer, how it grew and came to exist. The only thing known about this process and its secret is the elusive foreboding given in the leftovers of the products of the process such as pages of a manuscript, usually the first draft, which are not yet meant for printing (they are full of corrections from which the future final form will become, whether it is a lyric, a piece of music, a novel, a painting or a sculpture). These incidental products of the final work tell us more about the secret of creating than the final version of the work. This' incidental' material has grown from the mere process of creating an artistic work and it shows the true nature of the creator in the moment of creativity and the mere process of creating 'caught' in the act.

Ivo Andrić also pointed out the importance of these incidental remains in the process of creating an artistic work, when he talked about the book *Stones* by Victor Hugo, published on the occasion of 150 anniversary of his birth, which contains unpublished material of this great French writer. He then commented that the life work of this author 'had to leave behind, as every great construction, a lot of waste and small pieces of unused construction material'.

That is why it is important to pay attention not only to final works of some artist (literary, musical or artwork) which are available to the public, but to these 'incidental' remains which led to the final version of the work we admire at the end. These incidental products and drafts, with

numerous corrections and comments, can tell us more about the creation of the artistic work than the work itself. They tell us about the struggle, consistence, perfectionism, suffering, doubts and painful crises the artist went through in the process of creating the work. This was all mentioned in the chapter *The Life of Suffering and Creativity*. Imagine how many times it happened that an artist destroyed his work he spent several years creating because he was unsatisfied and he thought he could have done better (evidence of this was given to us by the authors themselves or by the people they were surrounded with). And who would not be interested in the creative process of Andrić, Crnjanski, Njegoš, Selimović, Yesenin, Tolstoy, Tesla, Edison, Leonardo da Vinci and others. Young people can learn about the hard work in order to be successful from them. Great works bring great suffering. But this is the paradox of creating. That is why the creator himself does not accept the process of creating gladly. He enjoys the final work more. That is why he is able to endure suffering and pain that the process demands. Thus, young people can become familiar with these processes of creating the work. This work has the educational purpose for them, because it teaches them that nothing in life comes easily and that they should expect many obstacles on the road of creativity. Despite many cognitions and testimonies left for us by the creators themselves, the nature of artistic and creative inspiration is still the unfathomable secret. Although we know a lot about the motives for the inspiration, we still do not know how this process works and what its essence is.
## **CATHARSIS AND THE CREATIVE WORK**

In the majority of dictionaries the term *catharsis* (from Greek katharsis) means cleansing the soul from passions and establishing mental peace. This explanation of the word came from Aristotle's teaching about the influence of art on the man. This primarily referred to psychological unburdening, moral transformation and establishing the balance of the soul. Psychoanalysts consider that the term *catharsis* can be used to describe different ways of behavior if there is a strong emotional basis for this. For instance, aggressive behavior (especially displaced aggression), but creative one as well, during creating the work (a theatre play with a turbulent plot for example) can be explained by the influence of catharsis. Aristotle used this term to explain emotional state and behavior of the observer of tragedies which were often played in Greek theatres. Watching what the hero goes through, the observer experiences emotions of the hero himself such as: hesitation, doubt, anger, indecisiveness and so on. Experiencing these emotions helps the observer to release his own emotional tensions. He is cleansing his soul from unpleasant emotions that accumulated in him. The observer also experiences aggression and releases it by watching what happens on the stage and reliving it. In some parts of the Balkans it is a tradition for family members to lament and wail for the dead during the funeral. The feeling of such pain is common for people who lost a close person or a family member (mother a child or the other way around, a brother, a sister and so on). Then we can hear comments of the people attending the funeral who say it is better for them to release their pain and sorrow because of the loss of the beloved person. In Greek tragedies, these scenes were very frequent:

*'When they brought her dead warrior home, she neither fainted nor cried. Seeing this, her maids said: She has to cry or her heart will burst from pain.'* 

To explain the connection between the displaced aggression and catharsis, the following examples are often given. When we are frustrated, the first and the strongest impulse is directed to the source of frustration. When a child sees a candy on the table and wants to take it and his mother prevents this from happening, the child is highly motivated to be aggressive towards the mother. But this behavior is inhibited by the knowledge of punishment if the child does something like that. According to the theory of frustration aggression, the child will displace its aggression and shift the source of frustration to other things and phenomena (it will throw a toy or something similar). Therefore, hostile emotions move to less dangerous targets for releasing the anger and aggression. The most common example of *the displaced aggression* is the one of a worker who is being criticized at work by his boss and who goes home and releases his frustration onto his wife, who then criticizes their child and the child finally hits their dog. According to the theory of frustration aggression, the less the similarity between the object and the aim of the aggression with the real source of frustration, the weaker the displaced aggression and effects of catharsis. According to this theory, when applied in the field of prejudice, it can be foreseen that when the source of frustration is very strong and we are afraid of it and not able to respond, then the aggression is shifted to a weaker source who becomes a scapegoat and who cannot defend himself. There are many examples of such cases through history. At the beginning, few Christians were accused in the Roman Empire for everything bad that was happening. If epidemic, droughts, earthquakes, fires and other catastrophes happened, few Christians were blamed with awful cries: 'Get the Christians and throw them to the lions. They brought us these misfortunes'. The same thing happened to the Jews in Germany during the World War II. Therefore, the displaced aggression takes place when the aggressive behavior cannot be manifested on the real source of aggression for some reason and the aggression is then manifested on some other person who is not the real source of frustration. These situations are the most common source of national stereotypes and persecutions. Young people showing dissatisfaction, even hostility, toward any kind of authority is partially the consequence of the displaced aggression towards their fathers which they then manifest on their teachers and representatives of social institutions. When we have an amount of aggression which is in discrepancy with the nature of the situation in which it is expressed, we can say that we are dealing with the case of displaced aggression, which can be released through catharsis.

Pointing out the importance of catharsis in artistic creating signifies the connection between the work and the artist himself, since the work becomes a part of his intimate life. If artistic creating is based on collecting and expressing affective potentials that the artist manifests during his life, the artistic work ceases to be a clean intellectual play and it becomes the thing that insures the artist's personal spiritual existence. Beside this, an artistic work can represent multiple liberations from a depressive problematic personal situation. It is a serious effort of the artist to overcome his psychic problem. Through his work, the artist is trying to detach himself from the present dramatic state in order to embrace new life experiences and temptations more easily and more freely. According to Freud, our motives can often come across resistance in the mind of an individual or the society. These states usually begin in dreams, unconscious or semiconscious states. Psychological mechanisms of dreams contain the following moments: condensation, shifting, dramatization and symbolization. The result of the activity of these mechanisms is the fact that a certain situation or a tendency appears in disguised, transformed or changed contents; that between so called 'obvious' and 'latent' contents there is similarity in affective and instinctive tendencies, but the staging and roles are changed in order to become acceptable for a certain social surrounding. Psychoanalysis tried to point out the ways in which the unconscious functioned in our conscious life and our behavior in whole. It starts from the attitude that an impulse in the conflict with demands of consciousness creates complexes that are partially conscious and partially unconscious. Complexes not only make us sensitive to some experiences, objects and notions, but they evoke latent and repressed tendencies so that our excitement can become exaggerated and disproportional in relation to its seeming cause. In this over-excited state of mind, man experiences things too intensively and reacts in his imagination or actual behavior more strongly than usually. Our famous theoretician of the creative thinking and its processes, R. Kvaščev, considers that many psychoanalysts see unconscious as complexes and they study unconscious and conscious influences to the creative process mainly through revealing various complexes the creator might express. They think of the aim of the aesthetical analysis as searching for 'the relation' between the artist and his complexes, which are also manifested by the observer of the artistic work. The psychology of dreams enabled the interpretation of dreams as hidden or symbolic signs of unconscious, deeper and latent tendencies in experiences of an individual. This cleared the way to symbolism of contents through which artists express themselves. Possibilities of interpreting contents of some artistic work magnified, especially when psychoanalysts pointed out the difference between personal and primitive or collective (in the sense of evolution) complexes. Personal complexes appeared during an individual development, on personal experiences, because of some trauma or injuries, which distracted an individual form his original and real goal. Therefore, these individual complexes appeared in conflicts with the surroundings, which are inevitable considering our own impulses and asocial or prohibited behavior (for instance Oedipus complex). However, the man freed himself from these conflicts through his development and complexes, which appeared only

as over-fixating to the former unsurpassed phases of the development of our libido. Therefore, in an individual development there is no fatalism of complexes. But it is a different situation with so called primitive or collective complexes (complexes of mankind common for all the members of the human race). It is because they are based, according to Jung, on 'collective unconscious' which is common for the whole mankind and it is passed on through the psychological heritage. This confirms the existence of collective or primitive unconscious (primitive complexes as archetypal content?). It is a fact that all people, from the most primitive to the most developed ones, have common symbols or topics expressed in a mythological or rationalized way, but which direct us to common tendencies, worries and aspirations. Psychoanalysts think that the jealousy of son towards father because of his relationship with mother was not only present in the patriarchal bourgeois society but in all social orders, even the oldest that we consider primitive. That is why this complex is not only personal but the collective one. Psychologists confirmed that Freud's primary theory about symbols being the means to hide unpleasant contents was wrong. In one of his early essays A Poet and the Fancy Freud claimed that an artist succeeded to make daydreaming acceptable through two processes. He 'seduces' us with formal aesthetic pleasure, transferred to us via the presentation of 'his fancy'. In other words, an artistic form here serves to hide the real content of the work and to sweeten the bitter ingredients of the pill with the external beauty. Unlike Freud, Jung claimed that symbols revealed, not concealed the message. He claimed that when Freud talked about 'the façade of the dream', he actually meant not only the dream but its obscurity. Thus, he projected his own inability to interpret the dream to the dream itself. It means that when we say that a dream has a false façade, we actually do not know how to interpret it. This different interpretation of the dream opens our eyes in the matter of similarity between the language of the dream and the language of the artistic work. During the dream, human spirit goes down into deeper layers in which life situations are not described by abstract terms but by symbolic images. 'We should admire the creative imagination the dream can evoke in all of us. From this resident power of the picture language the artist draws his ideas', says Jung.

Thus we came to the topic which tells in what ways psychoanalysis interprets the artistic communication. Kvaščev points out that psychoanalysis has tried to solve the problem of the artistic communication and the relation between the creator and the observer of an artistic work in an original way. Psychoanalysts ask: What does the artist pass on to his work? Does he want

to announce what he wants to express? How does one express himself artistically and how can the communication between the creator and the observer of the artistic work be accomplished? Psychoanalysis answers these questions: the relation between the creator and the observer can have many meanings. The artist reflects his complexes to his work, as does the observer. This projection is much more important than those conscious connections that originated from some topic or a story. Psychoanalysis can, without any difficulties, show that beside the external participation in the artistic pleasure there is a latent one, much more active and it originates form liberation from hidden instincts, according to Freud. The artist expresses or releases himself for one reason and the observer for the other. Two individuals project very different emotions simultaneously. The artist feels as though he expressed his inner self and he is right according to psychoanalysts, that is, he liberated it. But he is wrong; he only transferred it to the work. The artist and the observer have their inner worlds, completely closed to the exterior one, but they come in contact because of a coincidence in their knowledge and actions. Finally, the conclusion is that the artistic work does not have the purpose to enrich the observer, but to awake what he carries inside. This attitude denies the possibility of the real development through the artistic experience and that is why this is the weakest side of psychoanalytical studies on the function of the art.

Kvaščev also studied psychoanalytic biographies of artists. He says that psychoanalysts studied biographies of artists with the aim of clarifying the process of creating artistic works intensively. They made an effort to prove that personal complexes of artists affected their choice of motives and symbols in their work. Artistic work has the same function as does the dream for neurotics. They serve as means of liberation from certain complexes and inner conflicts, because the artist dramatizes these conflicts and presents them in the immediate or a transformed form. Psychoanalysts thought that if they became familiar with the artist's psychology, they would find the key to understanding their creativity. Psychoanalysis reveals narcissistic tendencies in the character of the artist, as well as exhibitionism. Narcissism is the consequence of separating libido from the object it was bound to and his return to the subject. We can assume that instinctive energy and libido go from their subject towards objects and they return to the subject. In aesthetical activity, according to psychoanalysis, this interest goes back to the man who experiences these objects. There is a kind of regression and introversion in this: the man finds in his own thoughts and dreams as much pleasure as he does in his real life, but it is transformed because of our wishes.

However, after all these critical comments to psychoanalytic theory of interpreting the process of creating the artistic work, we can say that psychoanalysis gave an important contribution to studying the creative process. It pointed out the importance of catharsis in the creative process and it connected affective components of creating to the psychic situation of the artist himself. Psychoanalysis enabled better explanation of the choice of topics which brought the literary work closer to the mechanism of the dream. It set light to the role of subconsciousness in literary creativity with the claim that subconsciousness worked through complicated and organized experiences or complexes and thus brought the choice of literary topics and dramas closer to the real life situation of the artist. Psychoanalysis directed out attention to some important moments of creative dynamics with which unconscious or latent contents transformed into conscious ones and thus connected artist's experience with his work.

## II PART

## **CARL LINNAEUS**

In a detailed analysis done by the famous Internet encyclopedia Wikipedia, Carl Linnaeus was proclaimed the most influential person in the history of science and mankind in whole. This fact tells us enough about this scientist's qualities and his contribution to the development of the science and the human race generally. Today, everybody knows that biological classifications (taxonomies) of organisms are based on the research and studies of the great Swedish naturalist and scientist from the XVIII century, Carl von Linné. His wish and ambition was to name and describe all animals, plants and minerals discovered then. In 1753 he published his study Species *Plantarum* in two volumes, in which he described every plant in detail and determined its name. Thus he introduced binominal nomenclature. He established the scientific systematics of plants and thus determined the flow of studying the diversity of the vegetal world and the causes of this diversity as well. Identification, designation and classification of species are the main parts of the taxonomy in Linnaeus' systematics of plants. In his long research, Linnaeus paid the greatest attention to systematization of the vegetal and animal world. He did it in such a detailed way, as no one could before. He paid special attention to the identification, classification and denomination of plants. As we already mentioned, he did the majority of systematization by himself, but he used results of the work of his predecessors in this field. He mostly relied on the work of the great Greek philosopher and naturalist Aristotle, who described plants from his surroundings in detail. As a university professor, Linnaeus held great lectures and he wrote academic essays and discussions. He taught botany, zoology, geology, practical medicine and higiene and he had many scientific successes in these fields. The number of the works he published is impressive and it made him the best writer in this field of study even today. The way in which he described his experiences from many scientific expeditions and travels, brought some of the greatest works of Swedih literature ever. It is often said that he was the poet in the world of science because of his style and details he described from the nature, natural phenomena and his view of them. He received many honors and recognitions during his life and he became a member of many scientific academies and societies in Europe. He also got the title of nobility as the acknowledgement for his work.

Here we will describe in short Carl Linnaeus' life and the circumstances in which he grew to be the naturalist famous all over the world. The picture of a boy from Stenbrohult, Linnaeus' place of birth, playing with flowers in a craddle is well known to everyone who showed interest in his life. This picture is the confirmation of his future choice of profession he will love so much. Even later, when he became famous, he would talk in detail about his happy days from childhood in his hometown. He was born on May 23, 1707 and he was the first child of Nils Linnaeus. Later, he will get two sisters and two brothers. He considered himself lucky because he was the first child and because he was born in May, the most beautiful season 'when cuckoos announce summer between the month of leafing and the month of blooming'. Hence his earliest and fondest memories from childhood, his first encounters with plant world and flowers with which his father used to decorate his craddle. He would watch surpised the world around him and his parents would bring him out in the garden amongst the flowers. His father was a peasant and a chaplain in Råshult and his mother Christina Brodersonia was the daughter of the rector of Stenbrohult. Shortly after Carl was born, his parents moved to Stenbrohult where his father inherited the place of his father-in-law and continued the family tradition. It was a cultivated and a beautiful area with many colorful flowers. He spent much time in the garden in his craddle. His father had a decent botanical knowledge so he and his wife always kept beautiful flowery gardens. Carl was very happy to grow up in such circumstances. The boy was very curious and perceptive of the things happening around him. His father encouraged this curiosity by bringing him various field and mountain flowers with which he decorated the child's craddle. Before he was able to walk, Carl's father would take him to parks, flowery fields and meadows near their house. His father would pick flowers so that the child could play with it and see its colors and parts. It was as though he knew what the boy would do when he grew up and what would fascinate him the most. When little Carl was able to walk on his own, it was great happiness for him and his father because they could go to distant areas to become acquainted with diversity of nature, of plant and animal world that surrounded him. In three decades he would become one of the most famous scientist in the field of plant systematics, which was a completely disorganized, according to scientific criteria, field until then. In school he learned to write and read fast and he was very good at Latin too. He was not an extraordinary student, because the school could not satisfy his variuos interests, especially those in botany. When he enrolled in college, first in Lund and then in Uppsala, he chose what he liked the most – botany. With his knowledge in the field

he impressed his professors quickly and he was soon made an instructor and assistant in the university's botanical garden. His work was recognised and appreciated by the whole scientific and university association and he soon got a financial help to enable his travel to still undiscovered area in Lapland, in the north of the country. This scientific travel was very tiresome but useful for the young explorer. The result was his book published in Latin under the title *Flora Lapponica*. Later, he published his journal from this travel and gave it the title *Expedition to Lapland*. It was published in English, for the first time, in London in 1811, under the title *A Tour in Lapland*.

On his return from the expedition, after he published his research, he became very popular and was invited to teach geology at the Uppsala University. After that, he set off on his second journey in Lapland where he met his future wife Sarah, the daughter of a rich doctor. According to Linnaeus' biographer, Knut Hagberg, his ambition then was to gain the title of the doctor of medicine and collect enough money to publish his works. He did as he planned. He then went to Holland where he became a doctor. Since he was already famous for his research and scientific works, he was soon able to publish his great work Systema Naturae, in which he gave his revolutionary ideas on systematics of animal, plant and mineral world. In Holland, Linnaeus published his other known works as well, such as: Flora Lapponica, Genra Plantarum, Critica Botanica and so on. He travelled to England and France to get familiar with the work of naturalists there and to show them his achievements in this field. When he came back to Sweden, he was already famous and only 31 years old. Beside his scientific work, he continued to practice medicine and to develop his knowledge in the field of botany, geology and medicine. All this enabled him to be chosen for the professor of medicine and science at the Uppsala University, where he remained to live until the end. From his written legacy, such as diaries, journals and letters, we can see that he also had a literary talent. Linnaeus' younger brother Samuel later told how his brother would come home, during the holidays, while he was still a pupil, and gladly spend time with his younger sisters and brothers and he liked very much to tell them stories of flowers, their names and their parts. He used to do that often on their trips to the fields of flowers and surrounding forests. When they would come back home, Carl would press and put the samples of flowers he brought with him into the herbarium. He was very talented for drawing the flowers as well and he tried to develop this gift in others too. He taught them that they should not just nourish and watch flowers but to observe it as an expert, their parts, role and function of those parts in the life of a flower. Everybody could see his affection for studying the plants and his curiosity and talent that was obvious from his earliest years. However, his parents decided that Carl should be a theologian, although they were the ones who encouraged his interest in the nature. Carl needed a lot of courage to tell his parents that he did not want that and that they should allow him to study what he wanted, such as botany or medicine. It was the same with Tesla, whose parents tried to convince him to become a priest and continue the family tradition. He did not receive it well and he even fell ill because he wanted to study electrical engineering. He was persistent and only when his parents got scared for his health, they let him study what he chose and was talented for. Tesla soon got well and started his research which will make him a scientist famous all over the world one day. The same thing happened with Linnaeus. He did not continue his family tradition but became the great scientist and naturalist of his time instead.

The studies of medicine and botany he chose were very expensive then, but his parents decided to support his talent and enable him to study what he wanted. Instead of theological, they bought him medical and botany books.

Linnaeus' studies of plants and botany from his earliest days were very useful for his studies of medicine. He read almost all the books published until then on plants and they were very practical in his further studies of medicine. He started organizing and classifying plants according to their utility for health, which was then common with all the naturalists. From his first days of studying plants, Linnaeus paid great attention to healing effects of plants, but he did not stop there. Beside his wish to gain better knowledge of medical characteristics of plants and their healing effects, he wanted to study the plant life in a more detailed and scientific way, their habitats, development, nature, their parts, their names and so on. Linnaeus considered that the process of naming the plants was the highest scientific priority. It can be concluded from the fact that he considered giving names the best way to get to know things. For this attitude of his, he found the confirmation in the Bible in which it was written that the world was first created with a word. To study plants the best he could, he read everything that came to his hands. The greatest help were Aristotle's works in this field. He read his works with great zeal and attention and Linnaeus' comments written on the margins of Aristotle's pages on plants and animals (in Latin, which he mastered in his early days) are the proof of it. In Aristotle's book on the history of plants, Linnaeus found what he could not find in contemporary books, which was the great natural system in the first place. However, although Aristotle's work Historia Animalium was Linnaeus' first textbook, he did not stop at that. He tried to go further from what this scientist accomplished in this field and to create better and more scientific natural system, especially better classification and systematization of plants. In his lectures and published works, Linnaeus held on to Aristotle's characterization of plants and animals, but he dreamt how one day he was going to name every plant and animal and include them into his own system in the places where they belonged. Knut Hagberg, Linnaeus' biographer, wrote that nature, his father's piety and the first insights into the system Aristotle created, were the most important factors of Linnaeus' development in his early phase, that is, in his boyhood. In the grammar school he was an average student, but he was very good at Latin and ancient philosophy. The program according to which schools functioned then, even in the grammar school, did not satisfy young Linnaeus' interest and curiosity at all. He was particulary disappointed in the lack of space in the program for gaining knowledge about the nature from books on the nature. That was why he searched for these books on his own in order to satisfy his curiosity and the thirst for knowledge in that field. He had to buy these books by himself because the school library did not have them. At that time, good books were very expensive and he could not buy them often, especially because his mother was not very keen on young Linnaeus' interests. Due to his poor financial situation, his scientific achievements were not in accordance with his talent in this field. He could not follow accomplishments in botany and zoology in other countries because he did not have means to acquire the latest scientific literature and results of researches from foreign countries. For instance, the great achievements in natural science in England in the second half of the XVII century had strong influence and importance for the scientific public in Sweden. But Linnaeus found a way to acquire the latest knowledge in the field of botany and biology. He travelled often to other countries and he knew languages well, especially when it came to translations from Latin which was the main language of medicine and botany then. Only thus he was able to have outlines of the system of plants when he was just 24 years old, which he would later elaborate in details and publish in his famous work Systema Naturae. Every plant, every flower was beautiful to Linnaeus and in his systematization of plants he saw a trace of some creator's hand. His biographer wrote:

'It is not easy for us today to know what Linnaeus thought, felt and had in mind when he, as a young student, tried to find the systematic classification in botany, zoology and mineralogy gropingly. To understand Linnaeus, we first have to try to forget the latest development of modern science and with our imagination continue to follow Linnaeus' flow of thoughts in the time when the science was still at its beginnings, unknown to us. When Linnaeus created species and genera, genders and classes, he did not even think of the genetic connection, heredity and development. For Linnaeus and his time, all the species were defined forever, the way God created them in the beginning. Classification of plants into biological groups was something completely different for Linnaeus from what it is for us today. It meant that the Creator, as a skilled weaver, built a clear and a beautiful pattern in its basis, organized and shaped on natural things: botanical, zoological and mineral, so that the observer had to see a certain scheme in this. In the natural world, as it was built once and for all, there is a plan, a geometrical tendency. Nature was given an impulse by the Creator to settle in certain forms. Species were terms for Linnaeus and they existed in God's consciousness before they were created. That is why finding the similarity and the connection was not the same for Linnaeus and for us. For Linnaeus it meant confirmation of a small piece of an endlessly complexed development and finding in the nature itself traces of God's plan of creation. Linnaeus was only twenty eight years old when he published his first edition of Systema Naturae in 1735, in Holland. In that book it is evident that Linnaeus considered what he found in nature to be nothing else but the plan of creation. Everything was sorted by species: minerals, plants and animals. Linnaeus did not doubt for a second that he was the one endowed with providence to reveal the relations in the survival, affinities of species, order and harmony, which were God's expression according to him. Linnaeus himself often pointed out that he was the only man able to come to this conclusion that 'the purpose of creating the earth was God's lesson, manifested in the works of nature, and it can only be interpreted by the man.'

In his early work *Critica Botanica*, Linnaeus succeeded in setting general principles of nomenclature, that is, he gave every plant its name guided by the saying: 'If the man does not know names of things, his knowledge of them is not worth anything'. That is why Linnaeus considered nomenclature in botany to be as important as classification. Before Linnaeus, in the field of naming the plants there was a real fuss so that a great and a serious job had to be done to put things in order. Because of that, he tried to give uniform names to plants; he wanted species that belonged to the same genus (family) to have the same family name. He also wanted species which did not belong to the same family to have different names. He wanted clarity and

something that could be applied to wider scales. He strived to the liberation from old medieval names of plants. What versatile and dilligent scientist Linnaeus was, with his impetuous desire for new knowledge and eagerness to embrace great difficulties to gain this knowledge, is evident from his following words:

'There would be no greater effort or harder research than the one in botany if we were not led by our will, which I cannot explain, so that the love for plants would always overwhelm the love for ourselves? My dear God! When I think of the fate of a botanist, believe me, I do not know for sure if I should call them intelligent or crazy because of their enthusiasm for plants. I will add only several examples. When I was young, I treaded through the wilderness of Lapland, although I did not know either the language or customs and the way of life of Laplanders. I lived exclusively from water, meat, without the bread or salt. I gambled with my life on the Skulbergat hill in Finnmark, on the icebergs of Alps, in shipwrecks and among clouds. I made my way through forests and mountains and all this because of my wish to collect as many plants of the scarce Lapland flora as I could.'

In these memories he did not mention only himself and his associates, but the other scientists as well, who also had to overwhelm many great and difficult obstacles to advance knowledge in botany for welfare of the whole science and the human race. Linnaeus' associates travelled the world, exposing themselves either to coldest blizzards of polar areas or to tropical heat in hot ares of Africa, just to study the plant world of these regions. During these expeditions, many of them had to endure hunger or thirst, the greatest cold andthe tropical heat. They suffered pneumonia and serious contagious diseases in tropical forests of Africa, such as malaria or something similar. Only their thirst for knowledge could encourage them to embrace lifethreatening risks and endure hardest strain. Still, many of them did not succeed and they died because they thought of plants more than they did of their health. In his journals and memoirs, Linnaeus gave recognition to them for their contribution to the development of botany as a science. He was also aware of the importance of his own contribution and that he was in the top, but he recognized contributions of his predecessors and those who helped him with their earlier discoveries to climb to the top of the scientific pyramid of botany. He knew he could not climb there without their help, without standing on his predecessors' shoulders. They all integrated themselves in the pyramid of botanical knowledge, where on the top Carl Linnaeus stood. He

gave recognition to his first teachers of botany while he was still walking through the local fields and forests, searching for rare plants. They all integrated themselves in this great botanical construction or pyramid of knowledge and science, according to Linnaeus.

In his early work *Systema Naturae*, he represented the thesis that there were no other species but the ones God had created. But he also noticed flowers that were made artificially and those malformed flowers and shapes that originated from normal shapes. All this made him study and research these phenomena in a more detailed way. In his next work *Critica Botanica*, he tried to solve this problem in the following way: All the species in the last line originate from God Almighty; it is indisputable. But the Creator let the nature to joke sometimes. That is why there are two differences among plants – one is real, versatile, created by the hand of God, while the other one is a variation in its external manifestation, a work of nature made in its mood for joking. This is often misused by the florists. Because of that I too make a difference between species from God, the real ones, and gardeners' abnormal shapes. The first are more important, on the account of their Creator, while the latter I refuse because of theirs. The first ones exist and have existed from the beginning of the world, while the latter, malformed, are of short life'.

Linnaeus was aware even then that such a solution could only temporarily eliminate some contradictions and fractures in his scientific construction and it was not the best of solutions. Still, he strived to in the end. He felt that in his great building *Systema Naturae*, certain important cantilevers were slackening and it began rocking. But in his next work *Critica Botanica*, he again started studying the system he had just finished, which was accepted and embraced by the majority of the professional and the scientific public. He started doubting the basis of this system. Few people who found themselves in his shoes would do that. In his fervor there was no doubt where Linnaeus stood. He fought for the truth until the end. He started doubting everything he had done. Even after recognitions he got for his work and research, he was more interested in the truth than in the glory. He was not vain and he was aware that great works allowed mistakes. Ceaseless work affected his mental and physical health. He became more irritable and quarrelsome. Slowly, his well-known serenity, spite and working elan started vanishing. But these flaws which manifested in his temper could not be noticed in his talent for making great scientific syntheses and in his lyric fervor while working and studying his scientific

subjects. Only in his mood one could notice the change. He would be distracted and silent for a long time and then he would again become irritable and quarrelsome. It was probably the consequence of ceaseless tensity and exhaustion during the long creation of the monumental work. According to his biographers, Linnaeus succeeded in surpassing this crisis and later he showed more wisdom, sensitivity, humor and life joy. Still, years of crisis came again and he became fainthearted, hesitant, childish, sceptical and irritable. He again became prone to strong emotions, harsh words; he would often give up what he had just started working on. In his last years, he started complaining, he had frequent mood changes, he considered himself a martyr and he watched others suspiciously, being afraid of their malicious goals. Still, until his end, Linnaeus was obsessed with his passion for research, studying and synthesis, which encouraged him to search for new proofs for his hypotheses and thus satisfy his inexhaustible desire for new knowledge. Although the change in his emotional life was evident, he still had rationality which enabled him to give in to his research. He was occupied with his discoveries in the natural system, its uniqueness and correctness of the endless diversity.

All this tells us that Linnaeus, like other great people, had a complexed and complicated disposition. Maybe he was Gods' favorite, as his biographer Knut Hagberg pointed out, because he was the first to make great scientific discoveries and get recognitions for them. For the purpose of comprehensiveness of his scientific discoveries, Linnaeus sailed through his Sweden lengthwise and crosswise, especially its polar areas, such as Lapland which was still undiscovered for the most part. His students and associates travelled to Japan, Africa and South America to search for unusual plants and animals and describe the life and customs of still unknown and unexplored nations and cultures. His students sailed the planet lengthwise and crosswise, so to speak, they endured the hardest efforts, exposing themselves to most difficult conditions, and some of them even risked their lives, only to give their contribution to the science and help Linnaeus build his great work. They left written testimonies on what they endured and what dangers they exposed themselves to during these great expeditions. They often lacked food and were starving for days which weakened them and made them less resistant to contagious diseases, even malaric ones in tropical areas of Africa, Sumatra or Java.

Linnaeus had very wide and versatile interests. He studied animals, plants and minerals. He was especially interested in migrations of birds which was a quite unknown field in his time. His discoveries are used today. It demanded long and hard work, observing and researching outdoors, in fields and forests. Linnaeus prepared and performed his observations and the research carefully and he made detailed notes. For instance, he discovered which birds migrated and which did not and the way they did it. He also discovered three great directions of migrations over the Mediterrenian Sea. On these researches of migrations and behavior of birds and other animals, Linnaeus wrote many monographies which were published by Swedih Royal Academy of Science.

Many people pointed out that Linnaeus' descriptions of plants and animals equal some of the best literary works in the beauty of style. He had unusually clear and simple style of writing, which did not diminish scientific value of his work, but it contributed to its popularity. In this aspect, descriptions and analyses of the atmosphere of forests, cheerfulness of copses or his observations of animals bringing youngsters to the world; descriptions of habitats, their construction and raising youngsters. All the impressions, aesthetic, emotional and visual, are united in these scenes. Although we can say that Linnaeus was a kind of a poet for his wide and emotional soul, he was still primarily a scientist. Darwin admired Linnaeus greatly and in his works Linnaeus' style of writing and exhibiting collected material and facts is recognizable. Darwin also had this feeling of joy and love for everything that was rare and unusual. Many other scientists looked to Linnaeus' style of writing as well. His works were not just scientific but lyric and literary beacuse they had so much beauty. Linnaeus himself felt great jubilance while observing sunrise, the way the sun moved across the sky, how birds drove wild from joy and life above the lake in the mere dawn and they chirked, sang and flew to and fro; the way they would go down to the coast and spatter with thier wings, dive, shudder and spread their wings to dry faster. Then everything would suddenly become peaceful, Linnaeus wrote from a nearby bench he was siting on in shades, unnoticed. To Linnaeus it seemed as some heavenly place or something similar to the most beautiful dream. He thought that divine laws work in the nature and people only needed to try to find them. He literally said:

'It must be clearer than a day that natural science is more important than any science and that it deserves the man's attention, hard work and efforts the most, because it is a divine science. It does not only reveal reasons for the creation of the man, but it leads us directly to the knowledge of the Creator, wisdom, omniscience, omnipotence, mercy, without which we could not use these possessions we were created for. The road we must take is searching for God's deeds. He brought us to this world, decorated with endless diversity of its products. Theologians accept the claim that this earth and everything in it was created for the man. Therefore, we neglect God's deeds and we, using them, respect the real master! Let us announce your wonders, oh, Lord, and let people appreciate your astonishing power. In one word: thinking about the nature always makes us feel divine joy, constant happiness in our souls, regeneration and the highest point of the human pleasure. When the soul participates in this, it awakes from numbness and exits into the light, into the heavenly earth or heaven on earth, delirious, without the sense of time that flows.'

With this, Linnaeus confirms the Christian teaching that the world was created for the man. Everything that exists, exists for him. This is the usual dogma in Christianity but in its use Linnaeus is closer to Aristotle than he is to the Bible. Linnaeus' God is God the Creator from the Old Testament. Furthermore, God created the man to admire his work. To achieve this it is enough for the man to acquire the knowledge of the nature, according to Linnaeus. Astonishment with beauty in diversity of the nature points to the work of God's laws in it. Linnaeus indeed had all this: astonishment, curiosity and the quenchless thirst for new knowledge of the nature and its laws of eternity and survival. Like Shakespeare, Linnaeus' most delicate feature was his ability to wonder. From his notes, which he kept often and neatly, one can see what he felt towards the life. This is also evident in his numerous letters he wrote to his friends, family and associates. From these written testimonies and his journals, we can conclude that he had a literary talent and a great sense of style, expression and sentence.

He was unusually brave and curious explorer. Where others would not dare to risk, he would jump into. He was attracted by the unkown and diverse. He had many talents, he was a good botanist, professor, naturalist and a writer. In short, he was a writer and a thinker. For his work he was given honors and he became a member of majority of scientific societies and academies in Europe then. In 1762 he got the title of nobility and changed his name to von Linné. Students from all over the world came to listen to his lectures. Many of them participated in great scientific expeditions and became Linnaeus' followers, not just in science but in work techniques, in love and devotion to the science. Many years after his death, he remained a role model that young explorers gladly looked to.

As all great scientific and artistic achievements, Linnaeus' work went through some characteristic psychological phases of creation and creative thinking, which we will describe in short and relate them to his work.

Real progress in studying the creativity, the creative thinking and creating scientific and artistic works is connected to the appearance of Gestalt psychology and Gestalt theory of learning. Gestalt psychologists can take credit for studying such an important and great field of psychology of creating, which was unfairly neglected for many years. The main field of the research of Gestalt psychologists is the man's creative thinking and the main method of this research is the method of the problem task. The question of laws according to which the process of creating an artistic or a scientific work functions, became the central subject of the experimental research of Gestalt psychologists. Koffka, Köhler, Wertheimer and others set a task, a problem or a problem situation as the basic experimental situation in studying the creative and the productive thinking. All their experiments are actually the analysis of the process of solving various problem situations by man. Creating these experimental situations which allow and enable the process of solving such tasks is also Gestalt psychologists' credit. Wertheimer is especially known for trying to answer this question in his book Productive Thinking: What happens if a man thinks productively? What are important characteristics and processes of the creative thinking? Linnaeus himself told in detail in his works through which phases and in which ways he came to his discoveries and about creative solutions of problems. It is identical to the theory which Gestalt psychologists advocated.

They consider understanding and solving a problem actually an insight into the problem situation as a part of a wider picture, a greater and clearer complex. For instance, the formula for measuring the surface of the rectangular triangle will be better understood if we observe the triangle as a part of a bigger, wider and clearer complex, which is the rectangle. And indeed, every rectangular triangle is exactly a half of the rectangle, whose dimensions (length and width) equal catheti of the rectangular triangle and its diagonal equals hypothenuse. That is why the surface of the rectangular triangle is nothing else but the half of the surface of the rectangle. Very similar situation can be found in the work of Carl von Linné. For instance, to have a better insight into every plant, Linné always observed it as a part of its surroundings and through its relation to other affined plants.

Therefore, according to Gestalt psychologists, an individual who creates a new work needs to view a problem situation as a part of a wider complex, he needs to complement it with an adequate shape. This is what Linné did. Creating some work and solving a problem situation is looking for this adequate shape. According to Gestalt theory, the process of creating and creative solution of the problem has certain typical phases. In solving some problem situation, the man has to get familiar with the elements of this situation. This phase can be done through trial and error. As these trials do not lead to success, the man leaves the activity and shows signs of what in the aspect of external behavior looks like inaction. However, on his inner psychic plan certain activities still take place. The man who is solving the problem situation probably still thinks of the problem in question. Then suddenly the real solution takes place, abruptly, as if the subject who is solving the problem comes to an important insight and says: Aha, that is it!, and the solution is then being checked and realized. This act of insight into the problem situation and resolving the problem is called 'Aha moment' or 'Eureka effect'. More detailed description of the four phases of the process of the creative thinking while solving the problem and creating looks like this:

The phase of preparation or becoming familiar with the problem is the phase which starts with 'the play' of ideas. All aspects and approaches to the problem are being considered. Gradually, one takes more critical and selective attitude, where certain hypotheses and ideas are rejected and others are studied in a more detailed way. This is the beginning of the process of creating something new. It also tells us about the importance of the phase of preparation in the process of creative thinking and making a scientific or an artistic work.

The phase of incubation or the apparent inaction can be very different in its nature and duration. It can last several minutes or hours or days, or even several weeks, months or years. In this phase the problem is put on hold for some time. But bringing attention to it again leads to a sudden insight into the situation and the solution of the problem. Numerous examples from lives of famous people such as: inventors, scientists, mathematicians and others, confirm the existence of this phase in solving the problem. It is known that they found solutions to their problems in situations when they least thought of it, for instance during taking a bath, shaving, listening to a concert or walking through park. This tells us about the positive influence of taking a pause for solving the problem successfully.

The phase of illumination can be described as creating something new and solving the problem. Here it comes to 'aha! moment' because the solution is found and a new piece of work is created.

In the phase of verification main ideas are tested, that is, the solution of the problem and established hypotheses are tested.

The whole process of creative thinking and creating itself is clearly seen in Linnaeus' work and in the work of Tesla, Pupin, Andrić and other great creators.

The first phase is the phase of preparation of the creative work; in this case the poet collects material facts. Thus collected 'material' is being intensively experienced through the contents of the consciousness and everything is followed by a turbulent emotional experience.

When enough facts or 'material' is collected, the second phase or the second creative act – incubation, takes place. During this time, the collected material is processed on various levels of the human psyche, distant from levels of the consciousness. That is why the creator is not aware of the process. The unconsciouss processing of the material which will produce an artistic work is especially important here. On this level of unconscious psychic life of the creator, in the darkness of unconscious, incubational processes take place. Therefore, depending on unknown factors, after a long or a short incubation, in the moment of the greatest exaltation and fervor, tension and thrill, 'the explosion' of inspiration or aha! moment takes place. It is the moment of the insight and the birth of an idea, solution or the whole work. On this level, dialectic leap in the conscious part of the psyche happens, followed by psychological manifestations of pleasure and the psychological image of relief. These are the signs of manifestations of the third phase of psychological creative process - *inspiration* or *illumination*. Therefore, although at first sight it seems that a solution, an idea or a piece of work came from nothing, it is not so easy. Namely, the creator is often unconscious of a new work being born and the flow of his thoughts during the creative process. Science cannot fully explain this phase of creating yet. After this phase the fourth phase of checking and improving the new piece of work takes place. It is the phase of verification. Every creator gives his own mark to this phase. It is known that Tesla, Edison and Pupin checked their inventions over and over again; brilliant writers such as: Tolstoy, Dostoyevsky and others, copied and corrected their novels dozens of times to make them as good

as they could. This is all evident in Linnaeus' work in which every conclusion was supported by multiple proofs. His students, who followed him in his constant and creative work, helped him with this.

Everybody agrees that Linnaeus' work, in its composition and artistic value, exceeds the time and the space in which it was created. He gained planetary glory by introducing binominal nomenclature into Taxonomy. He classified the nature into realms, classes, orders and genera and he introduced the practice of associating the Latin names with all the living beings, which is still used. He wrote close to hundred books, mostly in botany, and over three hundred scientific essays which is the reason he was called 'The Prince of Botany'. With the financial help of two of his friends, in 1735 he published Systema Naturae on 11 pages (the 13th edition had over 3000 pages), with a phrase 'Deus creavit, Linnaeus disposuit' ('God created, Linné arranged), where he formulated the three realms. The plants were classified according to gender characteristics into 24 classes. Linné was a naturalist in the true sense of the word, but primarily he was a botanist. He used to say that studying the nature automatically led to the knowledge of God. He was an extraordinary writer, so good that he was praised by famous authors of his time and later on. He achieved this by his simple and comprehensible style with many parabolas, similar to the Bible. He used to call the most talented of his students his apostles and he often sent them on expeditions all over the world, from which they would bring collected plants. Many of them died in accomplishing these tasks in distant countries. This tells of their loyalty, appreciation and devotion to him and their mutual work. In the analysis done by the famous Internet encyclopedia Wikipedia, Linné was proclaimed the most influential person in the history of science and mankind in general. He died on January 10, 1778 and he was buried in the in Uppsala Cathedral. He remained the inevitable role model for every botanist and scientist and at all universities today students learn about Carl von Linné, the creator of binominal nomenclature.

## NIKOLA TESLA

It is often said that some nation's reputation is not in the size of its country or population, or even natural resources, but in spiritual values and creative power of its members. They did not just indebt their nation with their credits, but they contributed to the whole mankind. The list of these individuals is very short and centuries can pass until one of those people is born. Such one man is Nikola Tesla, a brilliant scientist and inventor. Tesla and his work belong to the whole world. He created an immortal work form which new scientific fields and technical branches later originated. He gave a strong incentive to other scientists and inventors to work and research with great success, what they always pointed out and recognized. Some of them became the most famous physicists of our time and winners of The Nobel Prize, such as: Rutherford, Millikan, Armstrong, Born, Compton and many others.

How much Tesla indebted the whole mankind with his scientific discoveries, professor R. Capa from England confirmed with his words in the lecture he held regarding the hundredth anniversary of Tesla's birth.

'Long time ago, in prehistoric times, an anonymous genius invented the wheel. It was one of the most useful discoveries that man gave to his kind ever. But still, this invention was completely obvious unlike Tesla's invention of an invisible wheel, made of the invisible magnetic field, and that is what we owe him. Such an invention could only be conceived in a brilliant and unique mind.' (See A. Milinković.Tesla: The Inventor of The Third Millennium. 2000)

But Tesla was a genius with many abilities and gifts: he knew foreign languages very well, he was interested in philosophy, literature, astronomy, history and he also contributed to medicine, cosmology, psychology (he studied dreams), telepathy, astral and parallel worlds and so on. He had supernatural sensitivity of senses, unbelievable imagination and lively notions (mental images of thoughts in pictures).

According to his biographer, V. Popović, Nikola Tesla was born on July 10, 1856. His parents were Milutin Tesla, an orthodox priest in Smiljan village, and mother Georgina – Đuka Mandić (maiden name). Peaceful village Smiljan, with its fields and meadows, is set 10

kilometres from Gospić, which is the biggest place in the area and the natural center of Lika plateau. There are fields all around the plateau and in the horizon you can see the tops of vicinal mountains. Therefore, we can conclude that Tesla was a child of the people and that his immediate relation with the nature, village and people had a strong influence on his development as a man and as a scientist as well. He came from a humble but intelligent surrounding, where spiritual values were more important than material ones. He adapted and kept many of these positive features which helped him to survive among strangers, where he spent nearly his whole life, far away form his people and customs. From his parents, Tesla inherited the best features of his Dinaric ancestors, such as an unusual gift. Tesla originated from Serbian families, from both his father's and his mother's side, who probably moved here during the great migrations of the Čarnojević clan (when the biggest movement of the Serbs to east and west took place). Tesla's father Milutin finished the school for officers at his father's wish (he was an officer too). Milutin later left the school and chose the orthodox school of theology, which he finished as the best student. His son Nikola will do the same thing later; he will not fulfill his father's wish and become a priest and he will radically change the direction by becoming a scientist and an inventor unlike any other the world has seen. Only the great love and complaisance toward his talented, frail and weakly son, and his persistence as well, convinced Tesla's father to let him follow his path and his lodestar.

After finishing the school of theology, Tesla's father married his mother, a daughter of an esteemed priest Nikola Mandić from Gračaci. He was first appointed a chaplain, a priest, a beginner in Senj, where he lived from 1846 until 1852. In this time he had three children, son Dane (who will later lose his life tragically) and daughters Milka and Angelina. After that Milutin moved to Smilljan village to become an administrator and he became the parishioner of Smiljan in 1857. Here he got his son Nikola, who will later become the great scientist and inventor. When his children were old enough to attend school, Milutin asked to be moved to Gospić, where he remained to his death in 1879. Milutin was a very educated, gifted and sober man. He was well-read and he spoke German and Italian language; he also had his own library. He published many articles and essays on economic, cultural and educational problems of Lika in local magazines and he also wrote poetry. He was a fierce supporter of opening Serbian schools and he paid great attention to raising and educating his children. When his noticed signs of the talent in his young son Nikola, he started paying more attention to him trying to support

and to stimulate what nature predicted. He considered being the priest a noble vocation so he married all of his daughters to priests. He wanted the same profession for his son Nikola but he will choose a completely different one.

Nikola's mother was remembered by everyone as Đuka and her brith name Georgina fell into oblivion by all, even her family. She came from an old and respectable family Mandić, who gave generations of priests. Amongst them was Đuka's brother, Petar Mandić. Tesla loved him dearly and he often corresponded with him. Đuka's grandfather was the archpriest Toma Budisavljević.

As the oldest female child in the house, Đuka had to take over all house chores, even as a little girl, after her mother's death. Since she was always busy, she did not have time to attend school and develop her natural talent. But her wisdom and unusually good memory were priceless. What she heard or saw only once, she remembered permanently and thus she built a strong spiritual life.

'In premature and constant fight for her family and herself, she became brave, venturesome and of strong will. Later, she enjoyed reputation and respect from all the people who knew her. She loved traditional poems and she knew many of them by heart such as whole passages from *The Mountain Wreath*. She was able to recite verses for hours and everybody listened to her gladly. Then she would often take little Nikola into her warm lap and she taught him history of their people through traditional poems. She spoke of great and noble deeds from Serbian past. She sowed the seed and awoke in her son the poetic inspiration which was essential for his work later. For his inventive gift, Tesla often pointed out that he owed much to this gifted, simple woman, so close to the nameless people's poets, of great imagination and delicate taste which left great artistic works in carvings, carpet weaving and embroidery. Among her people, Đuka was known for her proficiency in finding and creating useful things for the household and for her handicrafts in embroidery with colorful traditional motives. It seems that the inventiveness was something that all the members of the family had in common.' (V. Popović. Nikola Tesla. 1956. p 25)

Tesla loved and appreciated his parents and he always pointed out how they had the greatest role in his success. He wrote about that in his memoirs *My Inventions*. For his father he

would say that he was an educated man, a poet and a writer. He also had a great memory and he could recite long passages and verses from various books in foreign languages. Tesla remembered how, when he was still a child, his father would teach him to guess other people's minds, to find mistakes in the way someone spoke and to calculate numbers by heart. Tesla's father wanted him to develop his memory and reasoning, especially criticism in reasoning. It was all undoubtedly very useful for the development of Tesla's critic and scientific mind later.

His parents' gift and the immediate nature of Smiljan village made a world in which little Nikola spent his early childhood and from which he gathered his first impressions of life, nature, things, people and events. The oldest three children in Tesla family had already attended school when Nikola started to walk. The difference in their age was big and little Tesla had to find his own ways to have fun. He grew up in freedom and space that only village could provide. That is the reason he grew to love nature and it became his best friend in playing and the teacher in learning about the world around him and about himself as well. In the peacefulness of the nature intact, Tesla developed the need for solitude and isolation that is specific for gifted children and young people. He lived like this for years and it made him observe and think not only about the enigmatic nature that surrounded him but about himself, his feelings, secrets of life and hopes for better future for all mankind. Most of his biographers pointed out that little Nikola spent his first years of life, before going to school, jauntily.

'He was lively, curious and easily scared. Seasons changed and the nature changed with them. After a long and boring winter, a happier life came with spring and sunny days and he could again play freely around his parents' house. The green and familiar forest attracted him but he did not enter it for a long time. He was scared by its rustling and mysterious quiet. The greatest fun he had at the creek that went down from the woods and burbled by the house.' (V. Popović. *Ibid.* p 29)

From these several events from Tesla's childhood, we can see that he showed all the features of a gifted child, not just intellectually but emotionally as well, which was common for early manifested talent. Not only their thinking is more diverse and on higher levels compared to their peers, but their emotions are more abundant and deeper. Gifted children feel and experience the world and everything around them more strongly. These characteristics and the richness of emotions they keep until their end. Because they are more sensitive (contemporary expression:

emotionally gifted), they experience the world around them strongly and they are more sensitive to injustice and vulnerable (they can carry painful memories with them their whole lives). This sensitivity makes them suffer more and they are not supported in their tendency to make the world a better and more righteous place. They always aspire to higher moral standards and think that they can do better and more; they are very self-critical and ready for self-analysis. This deep worry for morality and justice is especially painful if they have to live in the world of violence and injustice, which often puts them into the position of being neglected and going through great emotional crises and inner conflicts. Their moral standards, values and expectations are above average compared to the rest. They become aware of moral problems, the issue of bigger families, individuals and general questions about the development of mankind sooner. Their personality's features are: aspiration towards personal ideals and empathy for problems of humanity, autonomy, authenticity and social responsibility, self-realization and harmony with the principles of universal justice.

Tesla learned to read and write before he went to school, because he grew beside his brother and sisters who had already attended school. That is why his first contact with school was not so interesting and he learned more from his solo trips in the nature, spending more time in the woods and on the river and lake banks. He was very interested in water (creeks, rivers, lakes) and its mysterious power to run his first little wheels he had made before going to school. In this endless silence and freedom he could satisfy his curiosity by doing his first experiments about using the water power and by making his first models of water turbines. This encouraged his inventiveness. He was fascinated by the power of water all his life. As a child, he would spend his time on Plitvice Lakes, imagining how one day he was going to build the real power station on Niagara Falls, which he later did. He had to surpass many obstacles to fulfill his dreams, not only among strangers but as a child, often coming across stubborn ignorance in attempts to satisfy his scientific curiosity. For his 'roaming' and spending time around rivers and lakes, Tesla's parents and his uncle often rebuked him, which Tesla mentioned in his memoirs.

'My uncle did not like me wasting time and he often rebuked me for that. I was, however, fascinated by Niagara Falls about which I read in some books and in my imagination I created images of huge wheels rotated by water. I told my uncle that I would go to America some day

and realize my plan. After thirty years my plans for Niagara Falls were realized and I was amazed by the immense mystery of the human mind.'

We can only imagine his uncle listening to these words and wondering if everything was alright with the child. This is exactly the characteristic of a genius – to see the meaning in ordinary man's pointlessness. From the mentioned Tesla's memory, we can see how strong his visualization and visual memory were. In his imagination, he could create precise images of what he wanted to do and it was easier for him than describing it verbally. Having such vivid pictures of what is about to be created (in this case the child in question is going to fulfill his dreams in thirty years), so called thinking in images, is a characteristic of a great gift and creativity. While analysing his own creative process, Einstein noticed the important role of the visual data processing: 'It seems that words have no role in the mechanism of my thinking. Units that serve as elements of thinking are signs or clear images'. It is known that in the field of discoveries and inventions curiosity has not only a propellent but the essential role. It is not just fascination by mysteries of nature and life, but a tendency to learn more about ourselves and others, about the nature around us, things, events and phenomena we encounter. Curiosity is congenital for children and it is the primeval tendency to learn or investigate something. According to his relatives, Tesla showed great eagerness to learn how things functioned, even before he went to school; he liked to experiment and apply what he had in mind in practice (building a toy, a machine or something similar). He was very interested in everything that happened and everything he saw. He had an unusually developed memory for his age. According to his parents, he was too sensitive and vulnerable. He would remember sad events for a long time. This all tells us that little Nikola was not just intellectually but emotionally gifted. He felt more strongly so he suffered more because of some sad happenings or injustice. He had an extraordinary imagination with which he could conjure a new fictional world whose boundaries reached far away and continued on the things he experienced. He himself remembered how he travelled through unknown areas, space, cities, countries in his mind, alone in the silence of his room, while other children his age were sleeping tight. He admired the things he saw and he felt excitement as though it was really happening to him.

This could be experienced only by a child who possessed great mind, imagination and emotions, which is going to be the most important precondition for his brilliant discoveries and inventions later.

This can also be seen in Tesla's memoirs (*My Inventions*. New York. 1919), where he speaks of his imagination and his gift for inventions.

'Our first endeavors are completely instinctive and they originate from lively and undisciplined imagination. When we reach more mature age, our sound reason takes over and we become more organized and we start thinking. But those early impulses, even though they are not directly productive, influence our development the most and they are essential for our future fate. And indeed, now I feel as though I would, if I developed them instead of repressing them, contribute to mankind more significantly. But it was not clear that I had a talent for inventions until I was a fully grown man.'

A very important component of the talent is not just a developed mind, imagination and sensitivity but the immense thirst for knowledge, unrestricted curiosity about ourselves and the world surrounding us. The only way to quench this thirst is to research and experiment in order to see how things and events function, to reveal the mystery of nature and the meaning of life. Beside his great intellectual strength and extraordinary imagination, Tesla had an unusual gift for visual memorizing and visualization of events. In his mind, he had exact images of what neither he or anyone before him saw in reality. Studies confirm that this is exactly one of the important characteristics of a brilliant scientist and an inventor and there are many testimonies of this left by scientists themselves. Their mind is mobile and they can think in pictures, which is a proof of neural function of the right hemisphere of the brain. Researches in the field of central nervous system showed that for creative processes the function of the right hemisphere is essential, even though the best results can be achieved when both hemispheres function in a harmonious and integral way. About his ability to clearly present what he had in mind before creating it (so called thinking in images), Tesla speaks in his memoirs. He was always able to indulge in the pleasure of constructing machines and aparatuses in his mind. Ideas, he says, came to him constantly, as carried by a current, and his only difficulty was that he could not catch them so fast and make designs exactly how they appeared in his mind. Parts of the aparatuses he imagined would be real and tangible in every detail to him, even in the tiniest wires. He especially enjoyed in fantasizing about the engines rotating ceaslessly and quickly because thus they were more appealing to the eye.

Recent medical researches gave a lot of data for the presumption that the nervous system of gifted and creative individuals is organized differently, on a higher level, and it is far more sensitive than in common people. It is suggested that the capacity of conductivity of nerve fibers is usually above average and this is the reason why they can receive and process more data for the same amount or unit of time. Exactly this characteristic of the nervous activity of creative individuals can cause unwanted consequences as well if it works ceaselessly, without a break. This was the case with Tesla while he was staying in Budapest. At that time, beside his regular work he lived of, Tesla constantly worked on his favorite subject: problems of the engine for the alternating current. In his biography the following was written:

'But everyday hard work and constant thinking caused eventually a strange and severe nervous disease. Doctors could not establish a precise diagnosis. The sickness manifested in the excessive sensitivity of his nervous system. All his senses were tense, especially the sense of hearing. Even the slightest noise, coming from the street in the night, would cause insomnia which would last for days. Tesla continues telling us that even as a child he had a sensitive hearing. In his childhood he saved his neighbour's house from fire because he heard fire cracking which did not bother or awake others. He alarmed everyone in time and the accident was avoided.'

On the recommendation of his doctor, Tesla began taking longer leaves from work, which, beside his strong will and need for working, helped him recover, finally. He himself said: 'My health recovered and the strength of my mind with it'. Tesla's senses were indeed delicate and susceptible that he could hear and see (and create in his mind images and ideas of what he was thinking about so clearly) what was inconceivable to the ordinary man. This is how Tesla describes his moment of inspiration during the discovery of one of his greatest inventions: **the reverse magnet rotation**, which was the basis for creating a clear mind image of the new electrical engine:

'One afternoon, which is always in my mind, I was walking happily with my friend through the city park, reciting poems. At that time, I knew by heart the whole books, word by word. One of them was Goethe's *Faust*. The sun was setting and it reminded me of the famous verse in this poem:

The sun retreats – the day, outlived, is o'er It hastens hence and lo! A new world is alive! Oh, that from earth no wing can lift me up to soar And after, ever after it to strive!<sup>3</sup>

Inspired, I pronounced these words and an idea struck me as a lightning and the truth was revealed to me in an instant. I drew with a whisper diagrams in the sand that I showed during my lectures in America six years later. Images I saw had been incredibly sharp and firm, as a metal or a stone. I would have given thousands of the nature's secrets for this discovery I tore out from the battle with its superiority at the cost of my life.'

Research in the field of talent and creativity found that for all components of these processes (process of talent and creativity: intellectual, motivational, sensitivity, imagination), the thirst for knowledge and books is very important. Young Tesla indeed had a chance to quench this thirst. His father had a great library and he also visited the school and the public library. According to Tesla's memoirs, at first his father supported son's preference for books, but several years later, when he noticed that reading became passion and that it damaged his son's already weak health, Tesla's father had to intervene. He forbade his son from spending long hours in the library, especially at night.

Since Tesla ignored these prohibitions, his father went further in punishments: he would lock the library and turn off the lights before the night sleep. This did not help because Tesla found other ways: he would read in secret, at the night time. The issue of light he solved by making candles that he hid during the day, as well as his books, and at night he would take them out. When everything was silent, he would freely give in to reading.

'In those breaches of discipline, his wittiness went to the tiniest measures of caution. He would cover the windows and clog the keyhole so that even the smallest ray of light would not come out. He would spend all night reading, often until the dawn, when his mother got up and,

<sup>&</sup>lt;sup>3</sup> Johann Wolfgang von Goethe. Faust. Translated by George Madison Priest. http://pinkmonkey.com/dl/library1/faust.pdf

before her house chores, went to see her son. She would find him in bed, pretending to sleep. Because of these sleepless nights and excessive and premature mind strain, his body weakened until he finally fell into bed where he spent several months sick. He was 14 years old then and he had just finished the grammar school in Gospić. His condition was serious and it made his parents desperate because even the doctors lost hope for his recovery. So they fulfilled every Tesla's wish. One of the first was books. They brought them from the public library. Those were stories by the American author Mark Twain, translated in German. As soon as he began reading them, he became thrilled and 'he completely forgot about his hopeless condition'. Maybe this was what saved him, since he recovered soon after. Later, in America, Tesla had a chance to meet Mark Twain. The encounter was very touching. Tesla told him of his sickness in childhood and salvation that his books brought. Eyes of this famous writer of humorous stories filled with tears. Since then, these two great souls became very close. Until his death, Twain kept in touch with Tesla. He visited his laboratory and followed creation of his great inventions.' (V. Popović. *Ibid.* p 52)

Tesla had an incredible gift for foreign languages. After he finished grammar school in Gospić and recovered completely, he continued his schooling in grammar school in Karlovac, where classes were held in German. There he learned Italian, French and English as well. So as a very young man, he was able to read various literary and scientific works in various languages. This enabled him to gain professional education more widely than other students could, who mainly performed what was asked of them. Tesla stood out among others because of his unquenchable desire for knowledge and an incredible energy for work. He often received recognitons from his friends who used to tell him he would one day become a great and a famous man. Of course, there was always some poignant comment by those who were envious and jelaous of Tesla's success in school, on Tesla being asocial, solitary and ignorant of good time young people had in bars and cafés. But Tesla was different and he did not like that way of living, although he tried, so he gave it up. He did not have many friends but once he made one it would last long.

Since he was introvert by nature, he showed a strong tendency to find pleasure in his inner life (his thoughts, fantasizing, emotions), from which he drew energy for his most important life and scientific activities and inventions. Withdrawing into solitude is a characteristic of introvert people. Just think of Tesla's childhood and his solitary trips to rivers,

lakes, woods, where he was drawn by his curiosity to investigate, observe and learn, while his peers looked for other children and spent time in playing. For introvert people, spending time with others is quite tiresome. That is why they withdraw into solitude to regain their balance and energy for work. With extroverts it is quite opposite because they draw energy from socializing with others, the more contacts and relations they make, the more energy they get. It is obvious that the development of society does not go in the direction of the introvert personality.

Talented individuals are able to go above their limits just to achieve something very important for them or something that represents meaning in their life. They are able to sacrifice themselves to be the best in their field of studying. Of course, in those situations they need support and understanding from everybody, more so if they fail in their endeavors.

Indeed, it takes a lot of courage to live in the space between 'what is' and 'what is supposed to be', in a constant effort to achieve the latter or to get as close to it as we can. Self-perfection is very painful and it is not destined for everybody, because everybody is not ready or brave enough to embrace such challenges, painful doubts and inevitable suffering and roaming on this road. But both success and failures are essential components of the development and of the road to magnificence. There are many examples of this in ordinary people and those who indebted mankind with their inventions. From biographies of great men of science, literature, music, painting, sport and other, we can see that many of them had emotional and developmental crises, which they tried to overcome and become better and more productive.

Lives of Tesla, Edison, Mihajlo Pupin, Mark Twain, Marie Curie, Anna Akhmatova and many other scientists and creators, are wonderful examples of commitment to what one loves. Young people can learn from their examples and see that they should not give up so easily from attempts to make or do something if the first attempts were unsuccessful. They should learn that practice and persistence take them closer to their goal. Thus they will realize that for success they need time and hard work, that success is not something you can easily achieve.

Perfectionism is differently understood in different cultures and traditions. For instance, in western culture swimmers, athletes, violinists, chess players and others are expected to spend many hours practicing in order to achieve better results. On the other hand, the same amount of time invested in studying mathematics, physics or foreign languages is considered perfectionism, but in the negative context. Therefore, in the first case, perfectionism is encouraged and nourished and in the latter it is constrained.

Of course, if we wanted to elaborate perfectionism as a phenomenon, we would have to take into account not just characteristics of a certain culture or an environment and its dominant values, but all kinds of motivation, types of personalities and so on.

Most people try to reduce the difference between 'what they are' and 'what they want to be', as the highest level of self-realization. On this level of the development of an individual, inner and autonomous factors are enormous power and reservoir of energy to persist in achieving the goals that were set.

It is thought that Tesla's temperance in eating and drinking contributed to his physical fitness and youthful complexion. His only flaw was his excessive generosity and even though he earned millions with his inventions, he left no material wealth behind him since he gave it all away. He was a first class idealist who did not think much of money and he paid no attention to it. Still, it is a fact that there are more data on Tesla as a scientist and an inventor than on his private life. It is probably the case because it is much easier to analyze the work than the personality of its creator, although it is reflected in his work. The task is then more complicated because it is known that Tesla is one of the most famous persons in the history of mankind.

It is a fortunate circumstance that Tesla left a testimony of his life and his time in his memoirs that have the poetic strength of a real literary work. He wrote it well because he was an observer of himself, the life, the nature and everything happening around and in him. His introvert personality enabled him to analyze his feelings, actions and thoughts. On this subject, Tesla wrote the following:

'Even in my childhood I was obliged to focus attention to myself. It brought me suffering but today I see I was lucky actually, because it taught me to appreciate the immense value of observing oneself in order to preserve life and achieve success.'

It is known that Tesla had enormous energy and motivation for scientific work to which he devoted his whole life. Still, he found time for other fields and he read works from these fields, especially from philosophy and literature. That is why he often returned to his favorite fun from childhood and youth and spent all nights reading in his hotel room.

Almost perfect knowledge of eight or nine languages made this possible. Many master pieces from the world literature he read in the original language so he could feel their real beauty, which is usually lost in translation. Poetry was dearest to his heart. Since he had extraordinary memory, he knew numerous verses from the works of great poets: Pushkin, Goethe, Byron and Shakespeare. He appreciated our traditional poems and he placed them together with the most beautiful poems of Greeks and Romans. Poetic inspiration came to him when he was creating his greatest works. A brilliant idea appeared in his mind during his walk through the park while he was reciting Goethe's Faust, the idea that led him to his greatest discovery – the reverse magnet rotation. That is why it was often said that Tesla was 'the poet of science' or that 'he resembled a sage and talked like a poet'.

Tesla was very interested in biographies of great men of science, literature, music, painting, sculpture and so on. He read them zealously and he always came to the conclusion that natural talent is not in itself enough for achieving great success. He himself saw that everything great men achieved they did it with hard and systematic work. From his early days, Tesla was familiar with the observation and logical thinking and he noticed that in every work success came, whether in physical or mind strain, only in case that eagerness to come to one's goal developed fully and all attention was focused on this goal.

From his own experience, he knew that success required great patience and that most difficult problems could be overcome only with the patient and persistent work. It is well known that Tesla died in poverty, even though he could have had millions of dollars. Tesla's biographers, who regret his lack of ability for business, do not quite understand the basic fact: if he had had that ability, Tesla could not have been what he was – a brilliant scientist and an inventor. He met his last years with nothing. Since he was very proud, he did not want to ask for help, although many American companies, that earned millions on Tesla's inventions, would have helped him gladly only to be allowed to use his name again. This was exactly the reason he did not want their help because he loathed the commercialization of his name.

He spent his last years in New York, living of pension that Royal Government of Yugoslavia gave him. Even when he was the strongest, when he worked the most, he lacked money for his experiments.

There is a question – how come that his contemporaries such as Thomas Alva Edison and Mihajlo Pupin, with whom Tesla collaborated often, especially at the beginning of his scientific activity in America, had this ability and they provided for not just themselves but their descendants as well. Edison was an American and Pupin came from Idvor village in Serbia. But the following fact is often neglected: Tesla's introvert personality. Because of that and his focus on his inner life, the world of his fantasizing, visions, ideas and inventions, he sacrificed everything. He never got married or had a family, saying that if he did that, he would not have enough time for his scientific and experimental work.

Tesla was distinguished by his enormous energy for work, his remoteness and his ability to live in the world of his ideas and visions for days. He said himself that he had done his famous experiments in his head first (manipulating ideas and thoughts) and then he tested them in practice, which always confirmed what he had made up in his mind. Because of such a way of living and his solitude, many of his biographers (especially so called psychiatrists), without being able to give some new information, raced to 'find' as many compulsive actions in Tesla's behavior as they could, or to 'make up' more traumas from his early childhood. Usually they would cite the death of his brother Dane, who died when Tesla was six years old and six years younger than Dane. But it is hard to believe that such one case can determine one's fate completely, especially Tesla's as a genius. Besides, many people experienced traumas in their childhood and according to this argument we should have all been sick, weird or extravagant. The fact that Tesla was an introvert, withdrawn in the world of his ideas and inventions, was essential for his brilliant achievements. From this remoteness and fantasizing, he drew not only his brilliant ideas but the energy crucial for his often tiresome and ceaseless work on experiments. Edison and Pupin were completely different personalities from Tesla.

It is a fact that introverts, such as Tesla, do not like publicity, advertising, showing off, public and social meetings – all this exhausted him much more than the work on his inventions. He used to say that he would change all these parties, public meetings, glory, that everybody desired, for the pleasure of solitude and reading a good book in peace. The peace, Tesla always longed for, meant so much to him, not just for putting his brilliant ideas into work but for recharging and gaining back the balance which was mostly disturbed when he had to, against his will, appear in public. This was needed in order to experimentally try and prove the strength and the efficiency of his ideas and inventions at great scientific conventions.

In this, Tesla was completely different from Edison and Pupin, who liked gatherings and social life. Even in physical sense Tesla differed. He was tall, elegant and almost ascetic. Edison and Pupin were quite the opposite: short, round-headed, neckless, they had short arms and legs and they were plump. By their nature, they were merrymakers; they liked having fun and socializing. They were also talkative, friendly and they did not devote their lives exclusively to the science and inventions. They had a sense of humor and they liked eating and drinking. Their cheerfulness, jokes and gaining friends and social connections easily (they were extroverts) was accentuated in them and these were useful characteristics for business.

But what is best in this kind of personalities (extroverts) is that they both were, beside their genius, extraordinary realistic and practical. Most of such personalities are organized and good at establishing relationships with people. Both Edison and Pupin were practical and realistic and that is why they were not just great inventors but successful businessmen as well. Tesla did not have any of these features. He realized he could not change his introvert nature (although he tried in his youth). As a young student in Vienna, he reacted on sarcastic comments of his friends, about him being a friendless loner who never went anywhere, by trying to go to bars, play cards, smoke and drink, but he soon realized that such way did not suit him and he gave it all up. He had a very strong character and he never came back to it. He knew himself well, since he mastered techniques of self-observation and self-analysis in his childhood. It was often talked about intolerance between Tesla and Edison and Pupin. People usually commented: 'It is common for strong personalities from the same scientific field to despise one another'. If this was a case, the reason was their disparity. Besides, Tesla was not just a practical inventor (like Edison and Pupin) but a great scientist who discovered and formulated fundamental principles of science, which can be used in distant future on a higher and technologically more developed level of civilization. Tesla was the first class scientist while Edison was brilliant for his application of already discovered inventions and its value for humanity.

The secret was in his famous formula: 'Genius is 99 % of hard work and only 1 % of the inspiration'. And indeed all Edison's inventions came to be via this formula: trial- error –trial – success. Most of Edison's inventions were made thus: trial – error – repeat – change and eventually experimental way to reach the best solution. He then checked every procedure in details (1500 wired threads) in order to finally create the light bulb.
Tesla, in accordance with his nature and the scientific method, took a different path: he would first solve problems through his creative imagination and thinking and then he would experimentally check his hypotheses and the solution he had already had in his mind.

Therefore, both Tesla and Edison were brilliant inventors but they differed in the method or the procedure of coming to the solution and in the final (practical realization) of their inventions.

Tesla did not have a talent for business exploitation of his inventions, while Edison applied classic American pattern for realization and having benefits from his.

They differed in appearance, in nature of their personalities, especially in the dimension introvert – extrovert. Edison was a realist, a man who knew people and who tried to apply inventions and improve them for practical use with his hard work and he charged well for it. Tesla was a dreamer, thrilled by the discoveries of fundamental principles of science, the ways of life, nature and universe. His imagination and his mind worked ceaselessly so he needed solitude and peace. He was able to live for days in the world of his ideas and experiments. Because of his way of life, his biographers proclaimed him eccentric. It is possible that they were led by an old belief in which wrong and untrue ideas of talent and genius were taken into account. Namely, there was unscientific and overcome theory (pathological theory of abilities) that if someone was talented for a certain field, for instance intellectually gifted, than he had to have some flaws in some other fields, usually in physical appearance. This meant that a talented person had to be either lame, hunchbacked, a cripple or weak-eyed. According to this naïve and unscientific belief, that was kept for a very long time, the principle of compensation is in work here. If you are talented in one field, you have to be damaged for some other. However, recent scientific studies point out different facts. Longitudinal studies of the American psychologist Terman in this field showed that intellectually gifted individuals are, compared to their average peers, more emotionally stable and socially successful and in physical sense they are healthier and stronger. Terman's studies on talent and creativity, and on many other things, showed that there is the issue of correlation rather than of compensation. Since Tesla's intellectual and physical strength was indisputable (he was tall, elegant, scrawny and strong), he did not have flaws in this sense, then some of his biographers (so called psychiatrists) hurried 'to find a flaw' in his inner and emotional life. They tried to find as many 'compulsive actions', tics and traumas as they could,

according to which a gown up man and the scientist Tesla could be proclaimed as a victim of his biography from childhood.

According to R. Petrović, 'Tesla could not reach the level of genius he achieved if he was not gifted by multiple talents: great intelligence, the strength of intuitive perception and visualization, vivid imagination, physical endurance, great memory and sensitive nature. All these gifts he developed spontaneously, following the impulses of his own temperament. However, what made Tesla special was not just the gift for the scientific and the experimental research, but his ability to reach the highest levels of the human development by strengthening his will and self-control to the level of identifying the will with the desire.'

'Since my childhood', says Tesla in his autobiography, 'I had to focus on myself. Because of that I suffered a lot, but looking upon it now I was lucky, because I learned to respect priceless importance of self-observation in order to save my life and achieve success...Most people are so focused on the external world and prone to forget what happens in themselves'. (Nikola Tesla. My First Efforts on the Inventions. p 26) He practiced hard and mastered his mind, moral and physical abilities and he could 'play with passions which would destroy much stronger people.

This attitude tells us that man was supposed not only to create but to change and improve himself. But, since creativity demands certain talents, so does the creating in morality. Persistence and endeavor alone are not enough if the personal choice does not originate from a higher calling.

R. Petrović points out: 'Creativity is a way out of the closeness of one's own being. Namely, changing yourself means knowing yourself. Sharpened consciousness of oneself is man's diving into himself, knowing his own weaknesses and trying to overcome them. However, to really change yourself, it is necessary that efforts done in the ascetic experience have basics in the gift of personal transformation. Efforts or endeavor alone do not produce the gift. If it is lacking as a blessing, no endeavor or effort can compensate for it. Self-obssession, unless it is inspired by the creative zeal, can turn into egocentrism instead of a way of cleansing the spirit'.

We have already mentioned why Tesla loved and needed peace and solitude – it was the condition for his creativity. He was not closing into himself, but withdrew as a presumption of

achieving inner spiritual potentials and establishing more immediate communication with himself.

Only in and over our own solitude, we are able to self-analyze, to gain introspection of our inner lives asking answers to questions: Who are we? What are we? What do we aspire to? Where and how do we go from here?

These questions and thoughts on solitude raise questions of the existence itself, which lead us to its nullification and growing into a higher level, where creative imagination dominates, such that gave Tesla so many spiritual gifts.

Withdrawal into solitude is one of the conditions of spiritual transcendence and gaining authentic mystical experience. Only in the silence of our willing exile, we can sense a miracle and establish a connection with the whole nature and universe.

And does not the word solitary (Greek: monahos) mean a unique, authentic and an extraordinary life? Is it not the path Saint Sava chose? A spiritual or a religious encounter with ourselves is only possible if we withdraw into solitude and give in to silent thinking (silence) and self-analysis. Only thus it is possible to truly know our heart and consciousness. Only thus we can see our true virtues and weaknesses. The one who has this inner insight can have moral attitudes and awareness of his own insufficiency and the need for improvement.

It is obvious that personalities of great and brilliant men, such as: Saint Sava, Nikola Tesla, P.P. Njegoš and others, cannot be analyzed through traumatic events form their early childhood, as Freudians considered. They could neither be analyzed on the basis of 'hypothetical average standards' or 'standard personality', as nomothetically oriented psychologists did (they used statistics and factor analysis). It is necessary to focus attention to the development of every personality's potential, starting from the individual, from what the personality is and can be. Humanistically oriented psychologists (Allport, Rogers, Maslow) have a completely different approach and they consider that a personality cannot be reduced to some average norm; every personality can be explained and understood as a unique and unrepeatable in its biological structure and its behavior, goals, motivation and actions as well.

Humanistic psychology is opposite from psychoanalysis and behaviorism because it points out the importance of personal factors in behavior and the freedom of choice, selfdetermination and aspiration toward self-realization, too. Man is not just a being of reactions, as he was used to be defined by psychoanalysts and behaviorists, but behavior of a mature grown man is a result of his conscious goals and intentions.

Luckily, nature has determined that every man who inherited a certain gift or a talent has the need to realize it. This need is expressed through man's creative aspiration which Socrates called *daimonion*, 'the inner voice', and it warned him which things he should do and which to avoid. Plato called this special kind of sublime energy which drives one to creation and from which 'the soul grows wings' spiritual eros ('royal lust'), without which no work of art, science or philosophy can be created. Man is born with multiple energies and abilities. The greater the gift (according to St. Paul these gifts are blessings from the Holy Spirit), the greater the demand for its realization. Man stands opposite these gifts with the possibility to recognize them and either perfect or neglect them. They determine his role in the world because they make him able to realize his own nature and the higher level of existence. Driven by the deepest innate creative impulses, boons, the man strives to realization of his gifts with which he acquires the possibility of the personal and human realization in general. Plato received from Gods not just his personal gifts but the fact that he was born as a man and Socrates' student as well. In great minds and creators, there is always the attitude that man is free to create in the world he lives in, but to improve himself as well. The best example is the work of Nikola Tesla. He had many talents and he could achieve extraordinary results and give creative product in many fields. Most of these gifts he inherited, but some of them he built in himself because he had many potentials and the desire to learn and improve. Creativity is once more a way out of one's own closeness of the personality. Changing oneself means knowing one's own nature - strong and weak spots. It is a sharpened awereness of oneself and recognition of one's own weaknesses in order to set in motion the tendency to overcome these weak sides of our personality. However, for a true selfchange, not only ascetic experience is needed but the gift of self-transformation as well. Effort alone does not produce the gift, but we need the innate or natural potential. If this does not exist, no effort or endeavor can compensate for it.

## MARIE SKLODOWSKA-CURIE

Marie Sklodowska-Curie was born in Warsaw in 1867. Her parents were teachers and according to their friends and acquaintances they were very modest and respected people. In their house they created a warm family atmosphere for versatile development of their children and their growing up. In the house of Sklodowski respect for books and knowledge was especially nourished. When Marie was only ten, her mother died. It was a great loss not just for Marie, as the youngest child, but for her father, brother and two sisters. The oldest sister, Bronia, did everything to take over the chores that their mother used to do and to be a mother to her younger sisters and a brother. But the loss of sister Zosia soon after was a difficult stroke for Marie. She wondered why God was so cruel to take from her the two most beloved persons, punishing her with that great suffering. In school Marie accomplished extraordinary results and she was the best among her peers because she had superior learning skills and unquenchable thirst for knowledge. She studied fast and easily. She was unusual for two reasons.

First, there was her great memory. When she would read a poem or a story, she could repeat it immediately without an error. It astonished other students and they could not believe it so they thought that she had read it before or had learned it secretly. Because of her fast and easy learning, she could finish her school tasks quickly, as well as everything else she had to do. Thus she would also have time to help other students with studying.

Second, she was able to focus on her studying even in the noise and fuss. She could completely 'dive' into what she was studying and what interested her that she did not notice what was happening around her. Nothing could distract her form her work. The best illustration of this ability is the following example: One night Marie was sitting at the great table and studying for school while her friends were having fun at the same table, talking very loudly and making noise. During the two hours of her studying, she did not even once raise her head from her book to warn this cheerful and noisy company that they were inconveniencing her. She was so occupied with her studying that she did not even notice what was going on around her.

Marie was the youngest child in her family and when she grew up she started helping her father in earning money for the household (what he earned was not enough for a five-member

family), because her brother and two sisters were still going to school. Since Marie was an excellent student and she had great marks in all subjects (foreign languages, history, mathematics, physics), she started tutoring her peers who had difficulties with studying. It was not easy for a young person who had just turned sixteen. These instructive lessons Marie held in the houses of parents whose children had problems with school. Those were usually wealthy families who could afford such expenses in order to help their children to finish school. She often had to go from one end of the city to the other in snow and rain. Besides, most of those wealthy children were lazy and they barely showed any will for studying, so it was hard work for Marie. She often had to wait in a cold corridor or in front of the doors for an hour until she was let inside the house and the student concerned was prepared for lessons. Although these were children of wealthy parents, they would often 'forget' to pay for her hard work, even though she eagerly waited for it to help her father. Sometimes months would pass until they 'remembered' to pay her and not without her asking. Then they would behave as they were giving her charity, as Marie did not earn it by working hard.

Along with that job, after she finished high school, Marie became a student of the 'Travelling University' to quench her thirst for knowledge and improvement. It was a group of young students who met in secret to study on their own. Poland was not autonomous country back then and many people did not want, some could not, to go to university so they found a solution in joining the 'Travelling University'. Therefore, these young people met to study, each time in somebody else's house, at some other place and time so they would not be discovered. At this 'Travelling University' lectures were held in secret by teachers who also wanted to prepare young Poles for liberation and independence of Poland. Young students who attended the 'Travelling University' and finished it, later established similar universities and became assistants and professors at these secret and travelling higher education institutions. Thus a great network of these travelling universities was created so that even greater number of young Poles would have a chance to study, improve and welcome the days of bright future.

Marie was especially close with her older sister Bronia, who took care of her as a mother and in a way she compensated for her love. That is why Marie decided to do everything to help Bronia to finish her studies and accomplish her goals. It was Marie who suggested that the whole family should help Bronia to go to Paris and finish her studies of medicine there and then come back to Poland to find a job. In her efforts to help her older sister, Marie completely forgot her desires to go to France herself and finish her studies there. She knew that it was not possible financially for both of them to study and she let her because she loved her so much. In order to help her older sister to go to Paris for four years, beside instructive lessons she gave to students who had troubles with studying, Marie had to become a governess in homes of wealthy families. Soon Marie was heard of as a good governess so many families wanted to hire her. Marie accepted this difficult and responsible job because she wanted to spare some money for her studies she desired so much, aside from the sum she was sending to her sister. Most time she spent in teaching little children to read and write Polish language in their houses because it was banned in state schools then. Parents of these children were very satisfied with Marie's work as a governess and a teacher.

Marie worked as a teacher for four years, sending her older sister Bronia material and moral support for her studies of medicine in Paris. Their father, who worked as a teacher in a school for boys then, found a better paid job so that Marie could stop working as a governess and devote to her studying. She again became a student of the 'Travelling University'. She spent most time doing experiments in science (physics and chemistry), since this interested her the most. At that time her sister successfully finished her studies of medicine and got married. She wrote to Marie to come to Paris and continue her studies there. With the money she saved and with her father's help, Marie did exactly this. In 1891 she arrived to Paris, to live with her sister and continue studies. She did not live long in her sister's house, since it was far away from the university. She moved into a little room in the attic of a building near the university. The money she saved working as the governess she spent only on the indispensable things, such as books, rent, food, clothes and registration fee for the university. Those were difficult days for Marie, without heating in the little room in the attic where she lived and with barely enough food. Cold, hunger and work in the late hours exhausted her and she started fainting often. Her sister Bronia and her husband, also a doctor, brought her to their place to recover. Many years later, when she became famous, she wrote in her memoirs that those were happy years of her life because she could devote completely to her studying and improvement. She was so occupied with her studies that she forgot about all the difficult things, hunger and cold, especially while she was doing some of her numerous experiments. In her imagination, she was able to talk to famous scientists

from the past whose life and achievements she knew well. She was famous for her ability to focus on her work so much that she did not notice anything around her.

During her studies, Marie spent most of her time in doing experiments and learning French language. In the laboratory at the university she met a French student, enthusiast and scientist like herself. It was Pierre Curie, persistent and interested in science as Marie was. Their work and interest in science brought them closer together and they got married and founded a family. This enabled them to focus on their work more intensely. Every day, after eight hours of work in the laboratory at the university, they would go home together where, after finishing house chores, they would continue studying until late in the night. Two years later they had their first child, a daughter, Irene, who will become a famous scientist as well and get the Nobel Prize like her mother. Thus Marie had her studies, work in the laboratory, house chores and taking care of a child. She never complained about being all of these things: a scientist, a wife and a mother. She would always say that all this made her even happier. In her laboratory she worked on the discovery that will make her famous and include her into immortals of scientific achievements. How did it come to this?

Several years earlier uranium was discovered. It was radioactive and it spread light all around it. Marie called it radiation. But she did not stop at that; she wanted to discover and explain where the radiation came from and how it appeared, what caused her. Searching for answers to these questions, she worked ceaselessly and did experiments in her laboratory. Her persistent work led her to the one of the most famous discoveries in science. It was epochal. Marie and her husband repeated their experiments numerous times until they were sure that they could confirm their discovery. The mineral they found during these experiments in the laboratory was completely unknown to the scientific public. Their persistence and brilliance led them to this discovery – the discovery of the new element which they called radium. It was this element that the strong light came from. Only then, the Curies could notify the scientific public and the whole world of their discovery and explain that the light came from the raw uranium ore. It was n 1898 when Marie and Pierre Curie, after ceaseless mixing and melting of uranium in big caldrons, succeeded in isolating a tiny particle of radium (this is what they called the new element), which spread light as some small sun all around it. It was pure radium which could not be found in the nature but in the mixture of uranium ore. What they discovered would demand four more years

of hard work to isolate pure radium and present the work to the public. Although they had a small laboratory at the university where Pierre worked, they decided to rent one old and flimsy shed in the vicinity of their apartment and to adapt it for their work on experiments. They did it to avoid paying for the space, since the shed was abandoned. In this ugly old shed, which was leaking, they made their own laboratory in which they could come and work at night, after Marie finished her house chores and taking care of the child. This shed was close to their apartment, which was very important for them. There they could melt and measure uranium ore in big caldrons, taking turns all night, to get a tiny particle of radium and show it to the whole world as the proof of their epochal discovery. We can only imagine the great and brilliant scientist, with a ladle as big as herself, doing this tiresome job in both summer and winter, alone or with her husband. How much strength and will was in Marie's little and delicate body and how many unsuccessful trials to isolate this element, which they named radium, in its pure form. Every second of their free time, Marie and Pierre spent in their improvised shed/laboratory, which still leaked and where summer heat and winter cold were unbearable. They worked day and night, without losing hope that they would succeed in isolating the particle of radium to share it with the whole world. For these four years of hard work in such difficult conditions, they both said later that it was the happiest time of their life. Working ceaselessly, day by day, week by week, after four years, they succeeded in isolating one particle of radium and they showed it to the world. It happened one night in 1902 while they were having dinner. Marie suggested that they should go to the shed and check once again what happened with the result of their experiments from that day, although they were there just a couple of hours ago. When they came to the shed and opened the door, the bright light shone on the whole interior. This light was spreading from only one small particle of radium which they succeeded in isolating from the uranium.

Melting and measuring day and night, Marie and Pierre were convinced that somewhere in that boiling compound there was the mineral which shone that bright light, which they named radium. Finally, after numerous attempts, there were also failures, the success came. The discovery of radium explained also one of the greatest secrets of nature and Marie and Pierre became immortal geniuses which indebted the whole world with their discovery. Now this great and epochal discovery could be revealed to the world. Radium which did not exist in its pure form and which was invisible was finally isolated and available to the whole world, because it shone as the brightest star, much like the scientific star of Marie and Pierre shone after their discovery as a fruit of their long-lasting hard but successful scientific work.

After their great discovery, Marie and Pierre Curie were invited by scientific associations to hold lectures not only at universities in France but all around the world. They were also invited to various celebrations, which they unwillingly accepted because they had to; at these festivities donations for their future scientific work were collected. The production of only one gram of radium isolated from the raw uranium ore was very expensive. These celebrations, organized by scientific associations, were attended by very wealthy individuals who could donate great amounts of money for expensive scientific and experimental work in laboratories. Marie and Pierre Curie spent all they had and they could not continue without someone else's financial help. When they were asked how the world could pay them for their epochal discovery and years of sacrificing and selfless work without any help, they humbly answered that the only things they wanted were better conditions for their scientific work and a new laboratory so they could give new discoveries to the world. Even the Nobel Prize they got for their discovery, they spent for equipping their laboratory. They did not even go to receive the prize because they were busy with their experiments and with work at the university. But what made them very happy was their discovery that radium could be used for treating serious diseases. It was discovered that radiation that came from radium can efficiently destroy carcinogen cells. After this discovery the demand for radium increased. Marie and Pierre tried to collect as much money as they could for isolating radium from uranium ore. The whole world needed radium and collecting money for its production became easier. Wealthy associations and individuals from all over the world, especially from America, showed their willingness to give their financial support for the production of radium. Famous scientists could keep much of this earned and collected money and use it for making better living conditions for themselves and their children. That thought, however, did not even cross their minds. Everything they earned and collected via donations, even the Nobel Prize, they spent for equipping their new laboratory, scientific experiments and for the production of radium which was a very expensive process. They both said that their discoveries belonged to the whole world not just to themselves. They continued their scientific work more intensely and house chores and family obligations piled up. Beside Irene, they got another daughter whom they named Eve. The money from the Nobel Prize and scientific associations they spent on their equipment and better conditions for work.

One rainy April day in 1906, Pierre Curie died tragically. His death was a difficult blow for Marie. Everything they achieved until then, they achieved together. She had to continue all alone and beside the scientific work she had to take care of their two daughters, Irene and Eve. Soon after her husband's death, Marie was chosen for the professor of physics at the university where he used to work. She continued to work tirelessly in her new laboratory. Successes and discoveries followed and she soon got the second Nobel Prize, which she earned all by herself this time. In 1911, the construction of scientific institute was finished so the famous scientist got even better conditions for her scientific research. The next three years she continued working on her experiments with radium and the possibilities of its application more intensely in the laboratory. This would be interrupted by the beginning of the First World War in 1914. Whole France was in danger. French government suggested the laboratory to be moved to some distant and quiet place, so Marie could continue her scientific work and research. She agreed but she did not continue her work. She came back to Paris immediately to help her people in defense and in treating the wounded and the sick. In this difficult situation, she saw how her discovery of radium and its radioactivity could be used for treating the sick and wounded people who fought at the fronts. The scientist herself travelled from hospital to hospital all around France and she helped and taught people to use the new apparatuses based on the radiation for treating the sick and the wounded. She used the ambulance vehicle, which she often drove alone, even to the most distant fronts. Even the military doctors gave her recognition and realized how important her discovery was for hospitals and treating everybody who needed it, especially in establishing a diagnosis and an adequate treatment of the patient. While visiting fronts in the ambulance car, she would take her underage daughters with her to teach them the way they could help the wounded, the sick and the unlucky. Her ceaseless work, even during the war, in her efforts to use radioactivity for everybody's welfare, slowly damaged her own health. She always thought of others and their welfare more than of herself and all that time she worked with radioactive material without an adequate protection from the radiation. Her strength weakened and her health was damaged by experimenting with radioactive material from the time she was a student and the difficult war circumstances only made it worse. When the war was over, she used the last atoms of her strength for restoration of the country and her experiments. She still collected money for the production of radium. She even travelled to America with her children to collect means from scientific associations and wealthy individuals who were willing to help. She

travelled only because these associations asked her to come and give a speech. It often happened that she was so weak and exhausted that one of her daughters had to take this role. When her health would become little better, the organizers of the conventions insisted that she came, since these conventions were organized in her honor and the donors were more inclined to give money if the famous scientist would appear and give a speech on her discoveries and their usefulness for the welfare of the human race. She then decided to go back home because she could not bear the exertion. But she changed her mind only because she was aware of the high cost of the production of radium and the difficulty of raising money for it. Sometimes, she was so out of strength that she could not speak or hold lectures in front of conventions organized in her honor. That is why she prepared her daughters for such situations and they would then take over her obligations the way she told them to. The President of the USA received them and gave significant means collected in his country as a support for the production of radium. Another time, the President of the USA received her in Washington at the festivity organized in her honor and personally handed her favorite gift to her - a small amount of radium so that she could continue her scientific experiments. Many famous persons attended this festivity organized in her honor.

After she visited America, she went to her homeland, Poland, which she loved immensely and where her family and friends from youth were. Her health degraded with time because of her long-lasting work with uranium and radium. Its radiation damages the organism, especially if one does not wear a protective suit. Her last words were said to her scientific experiments, radium and her laboratory. She died on July 4, 1934.

If we look back and return to the moment when radium was discovered, today we can see how much the world owes to Marie Sklodowska Curie for everything she did for the welfare of the whole human race. Marie and Pierre's discoveries were precious not only for better understanding and treating diseases but for understanding and improving development of plants and animals, for studying space, for scientific research of genesis and the beginnings of our planet, for getting various kinds of energies, such as atomic energy and similar. All these discoveries were conceived in the first experimental laboratory of Marie and Pierre Curie, in an old and ruined shed in Rue de Lomond in Paris. More than a hundred years ago, Marie and Pierre started their famous experiments with one ton of uranium ore. Their first experiments suggested

that beside uranium there was some other, still unknown element in this ore. In difficult conditions, without protective suits or adequate equipment, only in workers' clothes full of dust and stains from acids and smoke that pinched the eyes, in great winter cold and unbearable summer heat, Marie and Pierre never gave up their experiments which brought them success and glory in the end. They melted uranium ore in big caldrons, measured it and mixed it with various acids day after day, month after month, for four years. They added gradually new ores to this boiling compound, ingredients and new acids. They worked ceaselessly and fought to isolate this unknown and unusual matter which had the strange power of radiation from the uranium ore. This element they found and which did not exist in its pure form in nature radiated three and a half millions time more than uranium. News of this discovery astonished the scientific public and the whole world. In disbelief, scientists from all over the world hurried to see with their own eyes this epochal discovery and the power of radium which shone as a fire. They were confused by Marie's request to come at night. You can only imagine their surprise when they, at the door of the scrappy shed, realized why they had been invited to come at night, to see the greatest of all the wonders. A tiny speck of radium which was in a glass jar at the table in the middle of the shed, glowed in the dark and lit the whole space like a tiny sun, like a jewel in which the fire burnt. On December 24th, 1903, Swedish Academy of Science awarded Marie and Pierre the Nobel Prize for the discovery of radium, which was the greatest recognition any scientist could get. Three years later, Marie lost her husband and a colleague. It was a tragedy that happened one rainy day when he went out for a walk, slipped and fell under the carriage. She was left alone with two little children and the science she loved with all her heart. She continued her scientific work, giving the world another great discovery, a radioactive element. She named this new element polonium, in the honor of her Poland. This discovery was as important as the previous one because she did all the work herself and she also took care of her children. That is why the Swedish Academy of Science awarded her the Nobel Prize again. This is how Marie Sklodowska Curie became a double winner of the Nobel Prize and until today remained the most famous female scientist of all times. Her devotion to the science and experimenting with dangerous radioactive materials, without adequate conditions for work and protective clothes, cost her life and she died in 1934 because of the poisoning by radiation she was exposed to through her longlasting work and experimenting with radioactive materials. If she lived a year longer, she would experience the joy of watching her daughter Irene and her husband Frederic Joliot receive the

Nobel Prize for the discovery of artificial radioactivity. It is a unique case of awarding the Nobel Prize to the three members of the same family.

## LEV NIKOLAYEVICH TOLSTOY

It is a well-known fact that the occurrence of great Russian writers in the XIX century is something unique in the history of literature. Gogol, Lermontov, Dostoyevsky, Tolstoy, Nekrasov, Gorki, Goncharov, Turgenev, Chekhov and others, but most significantly Alexander Pushkin, the most brilliant of them all, created something new in literature and changed it forever. Many people considered Pushkin the greatest personality of Russian creative thought. He was universal genius and without him neither Tolstoy nor Dostoyevsky would become famous. His work, according to Berdyaev, is a universe for itself, as people are the cosmos he appeared in and contained everything in him. Pushkin's genius passed lightly through all literary systems. That is why we could say that he was in literature what Mozart was in music. This musical genius was said to have passed easily from one musical system to another. Pushkin was considered a gentle lyricist, audacious satirist and a great dramatic. He was also a great master of the short story and with *Eugene Onegin* he proved to be a great romancer as well. Both Mozart's and Pushkin's lives illustrated adequately the following saying: The greater the genius, the more dramatic the life. Many people say that everything that was created in Russian literature in the XIX century was inspired by the creative genius and work. Pushkin was killed in a pointless duel, ending his turbulent life of a poet when he was 38 and this is probably the most tragic death in the history of literature. He created brilliant works during his short life, but it is a mystery how many he could have created if he had lived longer. His creative line was continued by great Russian romancers of the XIX century, especially two of them - Lev Tolstoy and Fyodor Dostoyevsky.

Tolstoy's genius belonged to him and times and circumstances in which Russia was then as well. He was born on August 28, 1828, in a family of five children and he was the youngest of brothers (Nikolai, Sergei, Dimitri and Lev). Tolstoy originated from old aristocratic lineage, from two noble families: the Tolstoy and the Volkon princes. His mother died young when he was almost two years old, and his father died when he was nine years old. After his parents' death, four brothers and a sister were left alone. Tolstoy was a healthy and an advanced child. He spent his childhood on his father's estate, together with his siblings. After their parents' death, they were cared for by their grandmothers and aunts. Tolstoy started to show his gift in his childhood already. He had a great memory, which was going to have an important role in his writing later. He remembered being bathed in a trough and put in diapers. Surely this exquisite memory in the early childhood helped him to learn reading and writing in French when he was only five and when he was eight he recited hundreds of Pushkin's verses by heart. He was also very affectionate towards his family members. For him deaths of his father, grandmother and aunt were great blows from which he hardly recovered. Later, he himself used to say that his father's death awoke a religious feeling and the first thoughts on the meaning of life in him. Because of this, he was often sad and overwhelmed with skepticism which led him to despair. This emotion was especially conspicuous when he moved to Kazan to live with his aunt and go to school and later university there. He already read Voltaire and Pascal's *Thoughts*. When his father died, and later his grandmother, his foster parent became his aunt Pelagia Ilych who lived in Kazan.

In Kazan Tolstoy enrolled in the university of oriental languages but he quit soon because he was not interested enough. He chose law school and started studying harder but he quit that too because he gave in to an easy living: love, wine, parties, festivities, balls and so on. When he was bored with all of it, he started feeling empty and asking himself about the meaning and the search for the meaning in life. That is when he decided to go back to his estate in Jasna Polana. It was the first of many radical steps in his life. There he tried to live a life of an ordinary peasant and a bachelor. He made a cape and slippers for himself. His family began calling him Diogenes because of that. Thus he wanted to seclude from a loose life of nobility (which he used to lead before coming back to Jasna Polana), at the expense of poor peasants. He wanted to get closer to common people, especially peasants. During the sharing of the property with his brothers, Tolstoy got Jasna Polana and he became the master to 300 serfs. He began doing all the work that peasants and serfs did: ploughing, fencing the ground, harvesting, reaping and collecting hay. He bought agricultural machines and began planting fruits, forests and opening schools for children. He was thrilled to do the job of a pedagogue. He equipped and opened a school for children on his estate in Jasna Polana. This school became an original laboratory where the efficiency of teaching methods, forms and tools was checked. This was a free school whose task was to bring the children back to the nature. The child was a center of everything and everything should be subordinated to it. Tolstoy was evidently strongly influenced by the ideas of the French philosopher and pedagogue, Jean Jack Rousseau. The school was completely organized to meet the needs of children. Its aim was to satisfy children's curiosity and the unquenchable thirst for knowledge. These children went to school whenever they wanted, they entered through windows sometimes. This, of course, led to the other extreme. Tolstoy wanted children to be happy in school. He did not want to make studying enforcement and school something to be afraid of. Tolstoy was well acquainted with educational systems in Germany, France, Belgium, England and Italy and he harshly criticized schools abroad, opposing the strict discipline and lack of freedom for students, studying everything mechanically, formalities and uselessness of school contents in real life situations. He was against dogmatic teaching and he considered that children should go on their own through the actions of personal observation and investigation and thus come to certain conclusions. He appreciated the obvious teaching and the school in the nature, so he was inclined to organize trips to fields and forests, where children could freely observe the growth of plants and get acquainted with the animals. He encouraged creativity in students, asking them to write short essays on their experiences from the trips to fields and forests.

Although Tolstoy simplified his life, to get as close to people as he could, peasants did not trust him and they thought he was only pretending. This hurt him a lot and, being disappointed, he gave up everything. He went to Moscow and returned to his loose pointless living. He gave in to gambling. Soon, he saw it was not leading anywhere and to get free of it he went to St. Petersburg to decide what to do next. He then decided but soon changed his mind: first he prepared for travelling abroad and then he wanted to continue studying. After that, he decided to go to the army and make a career as an officer. But finally, nothing of this happened and he again gave in to binges, drinking, gambling and listening to Gypsy songs. He lost a lot in gambling and he fell into debts. He wasted money and time. In his diary he then wrote: 'I live as a bastard, but not as a complete bum. I neglected my plans and I lost my faith'.

At that time, his older brother, who was already an officer and who came to St. Petersburg on a short leave from military, tried to save him from lethargy and crisis. It was a chance for Tolstoy to change surroundings and go with his brother to the Caucasus Mountains and save himself from the decline. This change was the best he made until then and he again got élan for living and work. New surroundings, new people and new impressions brought back his energy and revived him. He again felt that religious emotion and will for work and on this he

wrote in his diary: 'Yesterday I did not sleep at all. Having written something down in my diary, I started praying to God. These sweet emotions I have when I pray, I cannot express by any words'.

According to V. Stanojević, in this period of Tolstoy's life in the Caucasus Mountains, there were many mood changes but the joy won. He passed the exam for officers and he joined the army. It was then when he started writing his first book *The History of My Childhood*, which was immediately accepted for printing. This all rose his spirits and he wrote in his diary: 'There is something in me that leads me to conclusion that I was born to be special, not like other people'.

He went to the Crimean War in 1855 as an artillery officer. He was overwhelmed with the patriotic feeling, as was the whole Russia. Tolstoy's participation in war operations against the highlanders in the Caucasus Mountains gave him material for his stories on war and life in the army. In his war stories The Raid and The Wood Felling he showed and illustrated the war and the Russian soldiers in an unusual way for the Russian literature. He did not just describe the external side of the war, but the behavior of people in war circumstances as well. He was especially interested in individual features of each personality in the war and the way they were expressed in difficult war circumstances. In his stories and novels, he dealt a lot with psychological roots of bravery in war and he vividly distinguished the real and the fake heroism. In these stories, and later in novels, real heroes were the ordinary, humble people, who were not conspicuous or noticed before. Tolstoy described the Siege of Sevastopol in which he himself participated. He then noticed and described in his story the spiritual greatness of a Russian soldier, his patriotism and the heroism of the people he defended. In these stories, Tolstoy revealed details of the atmosphere among aristocratic soldiers; he described everything about the siege and he stepped out as a decisive opponent of the war which brought tragedies and opposed laws of man's nature and morality.

Although at the beginning of the war he was overwhelmed with common enthusiasm and patriotism, he felt fatigue, pessimism and glumness when the war prolonged later on. That is why, as soon as the war was over, he resigned from the service in the army and came back to St. Petersburg to devote himself to his literary work. It was then when he decided that the meaning of his life was in writing. When he came to St. Petersburg in 1855, after the fall of Sevastopol, he

found himself for the first time in a true literary environment and this was where he met Turgenev, Nekrasov, Goncharov, Chernyshevsky and other writers who embraced him with enthusiasm. But soon it came to stagnation and even conflict in the literary circle of St. Petersburg, especially with Turgenev. He again brought a decision to change his environment and travel to Europe to see if there was anything for him there. First he went to Paris, where he witnessed deaths by guillotine. This and similar phenomena caused aversion toward Europe and he returned to his estate in Jasna Polana. There he found his spiritual peace and inspiration for his creative work. He again opened schools for children. His optimism and work élan grew. He wrote down in his diary: 'Good people are having great time in this world. Even I am. In the nature, air, in everything – hope, future, wonderful future'.

From his biography, we can see that he was torn apart by doubt in the rightness of his actions through all his life and creative work. That is why he often made radical changes. He travelled around Europe (Paris, Berlin, London) to see the greater picture of the state of the common man and he became unsatisfied with the conditions of prisoners in German dungeons, with the death by guillotine in Paris squares. He travelled through Germany, France, Italy, Switzerland and England but he found no peace. He came back to Jasna Polana in 1861, completely exhausted and heartsick. He was satisfied with nothing there, neither with schools, culture, nor with himself. He started dealing with the liberation of serfs, first on his estate and later he tried to develop it as a general idea for the whole Russia of that time. But he did not succeed in that either, so he gave it up. Only the work in the school for children, which he opened on his estate in Jasna Polana, maintained his energy and made sense out of his life. He hired several young teachers, who were still students, to help him with his work. Then he started his own pedagogical magazine Jasna Polana that he himself edited, printed and wrote articles for. All this was too difficult for him and he could not deal with pedagogical work, writing and solving his moral and other problems at the same time. To rest, regain his balance and get energy for his literary work, he went to a friend's house in a distant steppe and he lived in and with the nature. There Tolstoy breathed in the clean steppe air and drank the mare's milk. He thus regained both his physical and emotional strength. Living in the steppe helped him recover completely and in this mood he came back to Jasna Polana and then he left to Moscow to start a new life. There he met Sophia Andreyevna Behrs, the younger daughter of a doctor, whom he then married. This made him very happy and alive, so he decided to move in his house on the

estate in Jasna Polana permanently. He devoted himself completely to his family and he started writing his master-piece War and Peace. This great and extensive work exhausted him but gave him strength as well; it contributed to his spiritual power and creativity. He wrote of this to his friends. His strong imagination gave birth to new ideas for his creative literary work and he made no pause while writing War and Peace. When he, after many years, finished it, he took a short break to collect energy for his new novel, Ana Karenina. He was at the peak of his creative work. This novel made a new epoch. It was a striking image of various layers of society in Russia then, starting with the nobility and going all the way to the peasants. Social-economical movements that characterized Russia after the reform were depicted very picturesquely. This novel was Tolstoy's last work which did not break up with the traditional values of that time; there was still no questioning of social and moral values that made basis of the Russian society then. Never again would the great writer completely lose himself in his creative fervor and work (in strength and duration), as when he was writing his two master-pieces, Ana Karenina and War and Peace. After this longer period of creativity and writing, he again showed signs of the wellknown spiritual languor, apathy, deeper and more intensive than ever. Long-lasting creative work, education of children in the school and the magazine, where he did all by himself (he was the editor, writer and the publisher) exhausted him so much that he could not start anything new. He was then ten years older than when he started writing his great works and he had no strength for such endeavors anymore. Or so it seemed. He tried to find a way out in denying his social life and going back to the life in nature, the kind the serfs lived on his estate in Jasna Polana. There he did the work on the estate and in the school for children and he completely gave up his literary work. He only published short popular brochures for common people. He then developed this feeling of doubt in everything he had done until then, in writing and in his social life. He admitted only the value of the traditional art and handicraft. Still, he would overcome this crisis and apathy and in spite of the fact he was eighty years old, he would give two more great novels to the world, Resurrection and Hadji Murat, as well as some stories and discussions. On social atmosphere of Russia then and conditions in which Lev Tolstoy wrote his works, the great Russian thinker Berdyaev said: 'In Russia of the XIX century the awareness of the cultural class, that at one moment named itself 'the intelligence', became tragic. This knowledge is pathological; there is no healthy strength in it any longer. The highest intellectual class, without firm cultural traditions in the Russian history, without the feeling of organic connection with differentiated society and strong classes that were proud of its history, found itself between two mysterious forces of the Russian history - the element of the imperial authority and the element of the national life. According to the laws of instincts of spiritual survival, he started idealizing first one and then the other principle, then both together, and to search for the backbone in them. Over the dark abyss of the national life, endless as an ocean, this cultural class, that called itself 'the intelligence', felt the macabre danger of being swallowed by this abyss, so it started to bow to this element. It capitulated in front of it because it threatened to swallow them. 'The nation' was for 'the intelligence' a secret power, strange and appealing. In the nation, there was the secret of the true life, a special truth; in it God, that this class called 'the intelligence', lost. 'The intelligence' did not feel like an organic part of the society; it lost its integrity and separated from its roots. The integrity was kept in 'the nation' because it lived an organic life and knew the immediate truth of life. The culture was born in injustice. It was expensive; it meant breaking the ties with the national life and damaging the organic wholeness. The culture was a kind of guilt in front of 'people', 'the escape' from them. This feeling of guilt followed the Russian intelligence all through the XIX century and it undermined its creative energy. What is 'the nation' for the national awareness? What is that mysterious power? The word 'nation' has here just ontological and the only right sense. It primarily has social-class meaning. 'Nation' - these are mostly peasants and workers, the lower classes who live from their physical work. That is why the nobleman, manufacturer, the salesman, scientist, writer or the artist are not considered parts of 'the nation'; they are not organic part of 'the nation', but its opponents, such as 'bourgeoisie' or 'the intelligence'. For Slavophiles and Dostoyevsky's 'people' these are primarily common people, peasants and serfs. For them, the cultural layer separated from the nation and it is opposed to 'the nation' and national justice. The truth is among peasants, not among the noblemen and intellectuals. Peasants keep the true faith. The highest social layer is depraved of the right to see itself as an organic part of the society and to find in its own depths the national element. If I were a nobleman or a salesman, a scientist or a writer; If I were an engineer or a doctor, then I would not have the right to feel as a part of the 'nation', because I needed to feel 'the nation' as an opposing element before which I was supposed to bow as if it were some kind of the bringer of the ultimate truth. 'The nation' is primarily 'not-me' opposed to me, something I bow to, which contains the truth I do not possess, something I am guilty before. Even the greatest Russian geniuses, at the peak of their spiritual life and cultural work, could not resist the

temptations of height and the freedom of spirit; they were afraid of loneliness and they threw themselves at the bottom of the national life. They were convinced that in merging with the element they will find the highest truth. Among great Russian people there is no pathos of climbing the heights. They are afraid of loneliness, abandonment and cold. They seek the warmth of the collective national life. This is the reason why Dostoyevsky differs essentially form Nietzsche. Neither Tolstoy nor Dostoyevsky could bare the heights so they threw themselves down. They were attracted by the dark, endless and mysterious national element. They believed that they would sooner find the truth there than in walking in the heights. Such were the first bearers of our national awareness – Slavophiles. They were at the heights of the European culture, the most cultural people among the Russians. They realized that the culture can only be national. But they capitulated in front of the empire of serfs and sank into the mysterious abyss. They could have defended their own truth, to find it in the depths as the national general truth, but they chose the path of 'the nation'. Thus the abyss between 'the intelligence' and 'the nation' grew deeper and it became legalized'.

In his sixtieth year, that is, in the nineties of the XIX century, Tolstoy had a turning point in his life, regarding his moral attitudes, religion and social connections, which reflected to his works. He made similar changes of mind and the way of living before, but never this radically. His participation in the three days long census in Moscow, in January 1882, made a disturbing and painful impression. He was faced with the atrocities of poverty. That is why in his next works, A Confession, What I Believe and What Is to Be Done, Tolstoy questioned his own moral, religious and social views and everything on which the society and order in Russia lived on with great conviction and honesty. He became more negative toward not just the church but to the self-government in whole. This moral and religious crisis and the change of social opinions reflected to the character of Tolstoy's work and his attitude toward the art. In his discussion What is Art?, he energetically opposed the art for the purposes of ruling classes and he defended the national, simple art, which suited life aspirations of wide national masses. This discussion had the great significance in the fight against decadence which penetrated the art at the end of the XIX and the beginning of the XX century. Appreciating highly the national poetry (fairy tales, legends, heroic poems, sayings) and using it as a model for his own works, Tolstoy himself wrote national stories in which he promoted religious modesty, non-objection to evil and so on. In his eighth decade of life, he organized help for peasants who were starving in Ryazan, Tula and Oryol. He opened public kitchens for the hungry, organized raising the money, wrote articles on the ways to fight the starvation. Bravely and persistently, he wrote letters to the emperor Nikolai II and he protested against the self-will and aggressiveness of the self-government. As an expression of this unusually harsh and fierce protest against the ruling imperial regime and the self-government, he wrote the novel Resurrection. In this novel, he mercilessly criticized all the principles that the imperial society of Russia was based on. Anti-church pages of *Resurrection* were the main reason of Tolstoy's rejection by the synod. In this novel he depicted the tragic fate of Katyusha Maslova and her transformation. Describing Nekhlyudov's remorse and attempts to start a new life, Tolstoy at the same time showed poverty, a ruined village, the imperial dungeon and its prisoners, banishment to Siberia and revolutionaries. He revealed true faces of the court, church, higher officials' class and the whole ruling order of the imperial Russia. In this work, he strongly expressed the tendency of narration of moral confidence as the only means of fight against evil and Tolstoy promoted the power of man's inner transformation, atonement and selfrenunciation. One of the main characters of the novel, Nekhlyudov, since he atoned for the sins committed regarding Katyusha, came to an idea that it was enough for people to respect the gospels commandments of forgiveness and love for others in order to come to the greatest treasures in this earth. In his later works, Tolstoy tried to awake the moral conscious and the conscious of the society. Tolstoy was deeply shaken by the shocking measures of retaliation and violence that followed the break of the revolution from 1905 to 1907. That is why he wrote the article I cannot be Silent in 1908, where he expressed his protest and rage against the death penalties of the revolutionaries that the imperial government carried out. In his heart there were still doubts and contradictions that did not give him peace and that were especially manifested before his death; he eventually gave in to the deep religious mysticism and the oriental philosophy. Those were the last years of the great writer and he, under the weight of his age and the pressures of his own conscious because he belonged to the privileged class of noblemen, started mentioning in his diary his decision to leave everything, even his home and family, more often. That is what he did in the morning of November 10, 1910. He secretly left Jasna Polana and sat in the third class coach, where he got pneumonia. He somehow came to the small station of Astapovo, where the manager of the station received him in a very bad state and let him stay in his home. That was where he died on November 20, 1910. He was 83 years old. It was a great and a dramatic life and it proved the rule: The greater the genius, the more dramatic the life. His

whole life Tolstoy suffered because of his privileges. In his heart he belonged to the people and he deeply empathized with the suffering of the lower classes. Whole Russian nation was born from empathy and mercy. Even the time Tolstoy lived in was specific because it happened often that the members of the higher class renounced their privileges and went to the people to serve them and empathize with them. Tolstoy himself did this often and he worked with the peasants and serfs. He reaped, harvested on his estate and wore common clothes as his serfs did. He really wanted to live as a peasant and he suffered because he belonged to the higher class.

Another Russian genius, Dostoyevsky, was obsessed with the suffering and empathy and these were the main subjects of his writing. Sympathy for the fallen and the degraded and mercy are distinguished features of both Tolstoy's and Dostoyevsky's work. They showed that the Russian man was just and sympathetic and different from the cult of the cold righteousness of the western world. On this subject N. Berdyaev wrote: 'Tolstoy stood up against the injustice and the lies of history, the basis of the state and the society with an outrageous radicalism. He accused historical Christianity for adapting Christ's vows to the laws of this world, for exchanging the God's empire for the earthly empire, for betraying the God's law. He expressed strong emotion of guilt, personal and of the class he belonged to. Aristocratic by birth, Tolstoy could not stand his privileged position and he fought it his whole life. This renunciation of his own aristocracy, wealth and glory, was not familiar to the West until then. Tolstoy did not know how to be consistent; he could not realize his faith in life and he did it just before he died with his brilliant and dramatic leaving. In this lies the curiosity of his unique destiny. He sought the justice and the meaning of life among the common people and in work. To become one with the people and their religion, he forced himself to be Orthodox, he respected all the rules of the church but he could not calm down; he rebelled and he started preaching his own religion which was divine for him. He rejected the ownership of the land most radically because he saw it as the source of all evils'.

Some modern theories of creativity and ability point out that most of brilliant people show disharmony of spirit, inner conflicts and moral crises. These individuals want and aspire to do universal justice for all people. It is a fact that Tolstoy often manifested mood changes, from joy and enthusiasm with life, when he was cheerful, friendly and busy, to being depressed by 'nonsense of living' when he withdrew into solitude feeling angry with the whole world. His emotional crises originated from his strong inner conflicts and inability to accomplish social justice for everybody, especially for the poor of the Russian empire then. He was constantly tortured by the question to which he sought the answer: How to make the world a better place for everybody, not just for noblemen and the ruling class?

V. Stanojević wrote: 'He constantly doubts everyone and everything. While he is in a good mood, he plans, works without a break, believes in the successful outcome of his efforts and a wonderful future. But as soon as he comes across an obstacle, unpleasantness or he becomes tired, he radically changes his mood, leaves the unfinished business, sees everything as black and believes in nothing'.

Tolstoy described this doubt in *A Confession*: 'When I left the second year of my studies at the university in my 18<sup>th</sup>, I did not believe in anything they taught me there. Judging by some of my feelings, I never did seriously, but I believed in what elders had told me. This trust, however, was wavering'. When he became the famous writer, he still showed these moods. On this he wrote: 'The faith in the significance of poetry and progress in life was my religion at first and I was its priest. And being a priest was agreeable and lucrative job. And I lived in this faith for a long time, not doubting its truthfulness for a moment. But, second, especially third year of this way of living, I started doubting the impeccability of this religion and questioning it. Thinking about the glory my literary work will bring me, I told myself: 'Alright, you are going to be more famous than Gogol, Pushkin, Shakespeare, Molière, than all the writers in the world, so what? And I could not say anything to it, anything at all. Questions await me; if I do not answer them, I cannot live. And there is no answer'.

At one time he was thrilled by his estate. He was working all day in the house, in the garden, field, but then he stopped, saying: 'In my thoughts about the estate, which interested me very much, a question suddenly occurred to me: Alright, you will have 6000 tenths of the land, 300 horse heads and later? I was completely lost in this and I could not think anymore'.

At one time he was thrilled by his family: 'Family, I told myself; but family, wife, children, they are also people. They live in the same conditions as I do. Either they have to live in a lie or see the horrible truth. Why would they live? Why would I live with them, keep them safe, take care of them? Because of the despair inside of me or becase of stupidity? If I love

them, I cannot hide the truth from them and every step leads them to the truth. And the truth - to death'.

Suffering because of her family, Tolstoy's wife, Sophia Andreyevna, although she spent many years with him and gave him thirteen children, remained confused by the secret of his soul even after his death. She said: 'I lived with Lev for 49 years but I could never understand him'. Tolstoy's doubt had a strange outcome. It ended with the birth and the strengthening of religious feelings. When he was overwhelmed by the deepest doubt, at the end of the seventies of the XIX century, and when it seemed that this time he could not get out of the dark state of his mind, he developed a very strong religious feeling which saved him eventually. On this he wrote: 'That whole year, when I asked myself every second if I should end my life with a gun or a rope, all that time, along with these thoughts and observations, my heart suffered from one troublesome feeling. This feeling I cannot define in any way except as searching for God and stronger than everything in me and around me it lit up and that light did not abandon me so I saved myself from the suicide'. As a social thinker, Tolstoy was also original, because he was both mystic and a fatalist. He believed that everything in this world happened with God's will, that everything was in God's hands, that in all human and social happenings God's finger was involved and that man was a toy in the hands of destiny. With this philosophy, he defined and ended Napoleon's great attack on Russia in War and Peace. Giving in to the eastern mysticism and fatalism, he opposed force and violence and in the fight against the evil social forces he saw salvation in not opposing the evil. Thus he influenced the great Indian leader, thinker and statesman, Mahatma Gandhi, who freed India from the English with his politics of non-violence and peaceful protests.

There is an understanding that every literary work originates from the state of fervor and the ascent of imagination over reality. This is the empire of freedom in which there is only space for dreams, fervor and assumptions. After that, there is a comeback to reality and a concrete creative work on a certain literary achievement. This flow of transformation of imagination into concrete reality is characteristic for Tolstoy's literary work. There is no a complete scientific explanation for this creative fervor yet. It has only been confirmed that his contents are: emotions, intuition, enthusiasm, ecstasy, inspiration, pathos, trance, sublimation, eccentricity, exaltation, impulses, hallucination, obsession, phobia, imbalance, inner conflicts, creative neurosis, mentality, temperament. V. Stanojević points out: 'The state of exaltation, as every spiritual state, has its roots in material, anatomical and physiological basis and in the property of body structure. From these properties the entire personality's spiritual material is built – its character, temperament and creative abilities in various shapes. Many bodily factors, as well as genes and groups of genes, combine in every personality in a different way into its individuality, which reflects in all of it, even in diversity of fingerprints and handwriting of each person. This last, individual uniqueness and the recognition of it immortalized first the imagination of the national poetry, which represents spiritual person no differently than in its external appearance and behavior. In myths, legends, poems, fairy tales, stories, sayings and proverbs, spiritual personality is expressed with features of bodily material: an angel is a sweet child with wings and benign, healthy and white face; the devil is black and ugly skinny creature, with thin, spiky beard; saints are old men with long white beard, kind expression, slim, with pale skin and meek step; in Greek mythology satyrs are rakish lazy bones, accustomed to vice, who are repulsive because of their ugly appearance and rude behavior; nymphs, goddesses, fairies, mermaids are young beautiful females, charming and seductive. Many poets and writers noticed the same phenomenon in the society – the compatibility of spiritual personality with the bodily structure. In chubby little man, Sancho Panza, Cervantes depicted a careless man, practical and depraved of imagination, a realist who lived smoothly, while in the skinny tall man, Don Quixote, he depicted a dreamer, out of this world, who never worried about himself but about mankind, a utopian condemned by his nature to lose the connection with reality and thus remain a martyr all his life. Goethe described Mephistopheles as an evil cynical demon who noticed that in everybody's face their destiny and history were written ('On each face its history, hatred and love clearly written'). Shakespeare, Dostoyevsky and other great writers, as well as painters, also expressed spiritual state and characters of their heroes through the bodily material. Brilliance is hereditary, but not directly, so it is unpredictable and it diminishes biological strength and vitality, because of which brilliant people do not live long and they usually do not have offspring (or they do but weakly ones; only exclusively they have healthy descendants). Cultural creative people have the shortest age, primarily lyric poets; they burn and disappear fastest, as a candle burning on both sides. Scientists and philosophers have the longest age, while the social leaders have average'.

Lives of many creators, such as Tolstoy's and Dostoyevsky's, which can be seen in their biographies and in their works, show that no spiritual or brilliant productivity is even during the entire life. Tolstoy, Dostoyevsky and Goethe were sometimes enthusiastic and eager to work, which brought great works, but in some other period of life they were disappointed, doubtful and in conflict with themselves and it all led them to pessimism and depression. Analyzing biographies of great people, we can see that they were either overwhelmed with sudden élan or heartsick with sudden knowledge, tones, images, intuition. They worked ceaselessly for months and years, feverishly, until they gave the final form to their work. When they achieved their goals (created the work) and returned to 'the normal state' and 'more peaceful flows of life', many of them felt exhausted, empty and bored, without productivity, doubting the value of their creations, missing the idea and being depressed. It is best seen in lives and work of Tolstoy and Dostoyevsky. After the success and creativity, enthusiasm and exaltation, they experienced spiritual and emotional crises and dramatic radical turns in their lives, but in their ideas and work as well. Tolstoy often wrote down in his diary that after finishing his great works, which usually lasted for several years and it took intensive and exhausting work to be done, he would feel tired and torn with doubts of rightness of what he did and the way he lived. This often led him to great spiritual crises and he made radical changes in his life because of that. He would feel empty, without ideas, weak and infertile in his creativity. Many scientists, especially psychologists that dealt with the psychology of creativity, paid attention to this common phenomenon in nature the nature and its creative 'forces' were defined by alternation of periods of changes and creativity and of periods of halts and stagnation. Man's periodicity in spiritual creativity bows to the same laws in the cosmos. All orbs are subjected to these laws and some of them can be seen just by looking. The movement of stars and orbs is constant and periodical. Seasons, the phases of the Moon, day and night, all these include plant and animal life and periodical shifts of work and rest. In every psychology textbook, especially in those that refer to psychology of creativity, there are four phases in the process of discovery or creative thinking and creative solution of the problem, which come in their order (as it happens in nature – the order of seasons, the phases of the Moon, four weeks in a month and so on). They are defined by the periods of intensive work on the problem and periods of stagnation and halt: the phase of preparation (searching for and collecting the facts, ideas and hypotheses), the phase of incubation or stagnation (when the problem is seemingly neglected or quit, but some unconscious process takes place and because of the significance of this period of apparent stagnation this phase is also called the phase of ripening), the phase of illumination: 'aha moment' or enlightenment when the idea of sudden

discovery or the solution of the problem occurs. After the third phase, the fourth phase takes place. It is called the phase of testing or checking if the solution is the right one or if it is necessary to find a new one. Analyzing biographies of great men, we can see that a number of their works were created from anxiety, inner conflicts and doubts. Pain and torture they endured show the claim that brilliant people are not destined for easy living is true. They are destined for a life of suffering. Many think that there is no creativity without the tragic, inner conflicts and unrest. This helps us understand Diderot's words better: 'When the nature creates a brilliant man, she lights up a torch over his head and sees him off to the world with the words: 'Go and be unhappy". Diderot anticipated the fate of such people. He too confirmed the thought: The greater the genius, the more dramatic the life. Tolstoy experienced great crises and he doubted everything, even his work. He asked himself painful questions when he was at the peak of glory. In his diary he wrote the following: 'Without the knowledge of what I am and why I am here, there is no point in living. And since I do not have it, it means I am not supposed to live'. He was less than fifty then and he had everything: a beloved wife, good children, health, wealth and glory. Still, these questions demanded painful thoughts: 'What is the goal of mine and every other existence? What is death?' He considered life pointless, without a purpose and a goal. He said: 'I seemingly lived - lived, went - went, came to an abyss and clearly saw that there was nothing ahead, except suffering'. But immediately after that great crisis, he developed new faith in life and enthusiastically sought new basis of religion, which followed the development of mankind and which Christ created without mysteriousness. This was a practical religion which did not promise heaven but welfare on earth. It was a conscious act of bringing people from all over the world together. Spiritual crises that he experienced were so strong that he often thought about committing a suicide. He even hid the rope, avoided opportunities to hang himself and he stopped going hunting with a rifle. But he asked himself the question of the meaning of life so many times and he always returned to the Christian teaching and its true values. For him, it was not mysticism or dogma. For him, Jesus Christ was not a god, but a mortal as everyone else, with the exception of the divine being strongly manifested in him. For Tolstoy, Jesus was a teacher of life, as were Socrates, Buddha, Confucius and others. According to him, Christ's teaching was based on love toward people and ceaseless inner work on our personalities. He considered this the only way of salvation of men and the solution of his personal and social problems. He said that we should treat others the way we would like to be treated. These are, at the same time, common principles and moral standards of all great religions.

This chapter has been devoted more to Tolstoy's life than to his work. His life was not usual or monotonous and it became even more interesting as it was coming close to its end. It was a strange life in all the aspects. The fact that he died away from his home in which he spent all his life, made a legend of him. Nowadays we can ask various questions, such as: Would Tolstoy's creative genius have been even greater if he had left his family earlier? Beside everything else, Tolstoy was unhappy and unsatisfied man, torn by many doubts. At the end of his life he had to run away from his family, from his glory, his estate and identity. He died a bum at some remote railway station. This end was not an outcome of a rush decision. For a long time, especially for the last twenty years, he was torn by doubts of compatibility of his religion and his life. It is best seen in his letter to Sophia, fourteen years before his death. He never sent it, though, but hid it carefully and hesitantly. In this letter he wrote:

'Dear Sonia, I have been tortured by disharmony between my way of living and my belief for some time now. To make you change your habits and life I accustomed you to – I cannot. To leave you, I could not until now, because I would deprave the children of the little influence I had over them when they were young and I would disappoint you. To continue like this, the way I have lived for the last sixteen years, to fight you and annoy you and to put myself into obscurities I am surrounded by – I also cannot. So I have decided to do what I have always wanted – to leave. As Hindus go to the woods when they turn sixty, as every man wants, to devote their last years to God, not to jokes, intrigues, tennis, I too, in my seventieth, want with all my heart, peace and solitude and if not a complete harmony then I will not have disharmony between life on one hand and belief and conscious on the other.'

According to V. Stanojević, Tolstoy wrote this letter in 1897 but he kept it, as his last decision, hesitating what to do. In the early spring of 1910, he wrote another, similar one but he stopped writing it because he was not sure of the rightness of his decision.

'However, in the morning October 28, the same year, he got up very early and prepared for a journey. Before he left, he sat at the table and wrote a letter to his wife, this time the last one. It said: 'My departure will anger you. I am sorry for that but believe me I have no choice. My presence in the house became unbearable; beside everything else, I cannot live any longer in abundance, as I have until now, and I am doing what people of my age usually do - I am leaving the world to spend my last days in silence and solitude'.

Quietly, in secret, with his friend Makowecki, a Slovak, he sneaked out of the house in the early morning and went to the nearest station. His biographer Biriukov wrote: 'Tolstoy's intention was to go south, with no aim, hoping to decide the destination on his way.' Tolstoy was not destined to realize the last plan of his disturbed and suspicious soul. On the way, he got sick from pneumonia and he died, quickly, at the home of the manager of the little station of Ryazan-Ural railways, in Astapovo, when he was 82 years old.

He was buried in his Jasna Polana, which became a pilgrimage for people from all over the world. They come here to bow to the shadows of the great writer and see the house he was born and lived in. In his study, there is still a table at which he wrote his eternal works, and further, in a little modest, poor room, he made and repaired shoes. This pilgrimage is common for ordinary people as well as for famous writer. Many of them left written testimonies of it. S. Zweig wrote: 'I have not seen anything more magnificent and touching than in Russia, on Tolstoy's grave. On the side, lonely, there lies the spot the pilgrim could bow to the saint at, surrounded by woods. Narrow sandy path leads to a plateau, which is only a rectangle of land, guarded by no one, watched by no one, which is covered only by shadows of few trees. These trees were planted by Tolstoy himself, as his granddaughter told me on his grave. His brother and he heard from some woman in the village that a place where you planted a tree could become a place of happiness. Thus, they, playing, planted several sprouts. Only later, the old man remembered this promise and expressed his wish to be buried under the trees he had planted. This was done, upon his wish, and this grave, with its touching simplicity, is the most impressive one in the world. Little rectangular plateau in the middle of the forest, around which trees grow and exuberantly bloom - nulla crux, nulla corona! Without a cross, a tombstone or an epitaph. A great man was buried namelessly; the man who suffered because of his name and glory, was buried as an accidentally found burn, as an independent hero. No one is forbidden to approach his eternal resting place; the thin wooden fence is not locked. No one watches upon the rest of the eternally unrest, except the veneration of the people. While usually curiosity squeezes around the luxury of graves, here the superior simplicity stops the will from watching. The wind

murmurs as a word from God over the nameless grave, there is no other sound; someone could pass by it without suspecting anything, knowing that some Russian lies there in the Russian ground. Neither Napoleon's crypt under the marble arch of Invalids, nor the Goethe's coffin in the Ducal Vault, nor the tombstones in the Westminster Abbey, do not impress as this wonderful silent, touchingly nameless grave in woods, around which only the wind whispers and which stands alone, without a word'.

Tolstoy's words from his discussion *I Cannot Be Silent*, made powerful people in Russia, who even after his death kept millions of the tortured subordinated, tremble then. *I Cannot Be Silent* was a painful cry of millions of wretched people for whom Tolstoy sought better conditions and better life. He sought and wanted the universal justice for all the people in the world. His work and his life were a universe, cosmos for themselves, because they were unique as was the creative genius of Russian romancers in the XIX century: Pushkin, Gogol, Lermontov, Dostoyevsky, Nekrasov, Goncharov, Chekhov, Tolstoy and others.

## THE OCCURENCE OF PRINTED BOOKS

It took a long time for people to discover that the human brain, in its nature, is not capable of remembering many things and data continuously, especially those that are not logically organized and included in a bigger complex. However, the human race developed in this direction; it was needed to remember some information, no longer necessary, and keep them for the future (either because of using them again or because of the continuation of what was achieved in the past as it was the case with every civilization beginning from the reached level of development of their ancestors). Therefore, it is necessary to keep those data and 'leave a message' to the future generations that would then know how their ancestors lived. All this drove our ancestors to seek and find new possibilities to keep their thoughts and memories from falling into oblivion, to write them down. But thousands of years had passed before this need to write things down appeared and much more until the human society reached the level of development on which it realized the first steps in writing down their thoughts and keeping them from oblivion, so that they could pass the message through space and time. Ancient Romans and Greeks used to say: 'A thought spoken in words runs and flies away, but the written one remains as a document, as a living witness'. The proof of it is history of people who did not leave written testimonies of their existence and thus fell into oblivion. As speech and language are ways of immediate communication among the living, letters are the way of communication between people separated by space or time. Tails does not connect only people of one epoch but generations with generations, epochs with epochs and it gives cultural achievements to the future generations. Thus it represents the most important means and an instrument of cultural development of mankind. German historian and paleographer Victor Gardthausen literally said: 'A man differs from an animal only in language and speech and a cultural man from a barbarian in tails. But the language alone is only a precondition; the tails is the carrier of culture. Language is the acquest of the primordial cultures and tails is the acquest of highly developed ones'. Our great linguist, Vuk Stefanović Karadžić, said: 'Whatever people invented in this world, nothing can be compared to the tails; it is a science which almost exceeds the human brain'.

The tails which all cultural nations use today for noting spoken words or ideas consists of various signs we call letters. Each letter has its specific meaning and it usually determines one

sound of human pronunciation, even though in some nations some sounds can be noted by two or more letters. Scientists have spent centuries to determine the origins of the tails and the time of its occurrence. Traces of these researches lead back 6000 years in the past, 4000 years before Christ. Namely, it has been affirmed that most of the known alphabets originate from the Phoenician one. The oldest Slavic tails, the Glagolitic script, appeared in the second half of the IX century, thanks to the apostles Cyril and Methodius. First it was used by Slavs in Moravska and in the Balkans and all the church and religious books were written in this tails. Later, the Glagolitic script was pushed out by more practical Cyrillic and then by the Latin script.

But who does the credit for the printing press, the first printing shop and the first printed book really go to? According to our writer and researcher, N. Pijanović, there was a printing press in the IX century in China. However, older and more frequent way of copying documents was done by calligraphic transcribing of contents and copying images. This was especially done in the courts of rulers and noblemen, where dozens and hundreds of specialized penmen were employed. But in the times before Christ, especially after Alexander the Great's conquests, there was a trade of transcribing contents and copying pictures in Alexandria in Egypt and later in the Roman Empire. After the Roman Empire dissolved, in many provinces, especially in ones on the edges of the empire, the authority was taken over by the monastic clergy. Led by religious reasons and the intention to spread Christian ecclesiastic books, they carefully researched the remains of the ancient, Roman and Greek, pagan writings and destroyed them. Many original and significant scripts of Roman and Greek sages were thus lost or they disappeared. That is why in this period transcribing and copying of exclusively ecclesiastic books was dominant in monasteries. Monks carried these transcribed books on their voyages and sold them to churches and wealthy individuals. In our tradition, as far as this is concerned, the clergy played a significant role in nourishing our culture and history, especially considering the fact that we lived under the foreign occupiers. One of our oldest and most beautiful written monuments from the Middle Ages, in the time of Nemanjići, is *Miroslav's Gospel*. It was written by Grigorije the Pupil, between 1169 and 1197, for Nemanja's brother and nobleman, Miroslav of Hum.

Only from 1440 printing became the more frequent way of multiplication of books and it completely replaced transcribing when the printing press with a movable type appeared. Discussions are still led on who is to be praised for the invention of a movable type and the printing press. It is a difficult question because the first printed books did not have dates of issue written on them and they were often missing the place where the book was printed. On some other books, for practical reasons, earlier dates and years of issue were put and the origins of the first edition that others were printed of. That is why it is so difficult today, after that much time, to determine the truth. The first known book with the exact date, year and the printer is The *Psalter*, printed in Mainz in 1457. The question of credits for the invention of the movable type, as far as European continent is concerned at least, is not yet answered. Some consider that this invention appeared earlier, in China, and then came to Europe in the Mongolian conquests of Russia and other European countries. Nowadays, still, the theory of Johannes Gutenberg being the one who invented the movable type and the printing press (around 1440 in Germany) is more widely accepted. He is thought to have come to this invention on his own, without being aware of its existence in China (curving and molding of singular letters). Even though the secret of printing was well kept, the printing shops appeared in Italy, France, Holland, Denmark, Spain, Poland, Hungary and the Czech Republic. The printing shop was also established in Vienna in 1482 and in Constantinople in 1490. In Russia the first printing shop was founded in Moscow in 1563.

N. Pijanović, the already mentioned writer and researcher, in his work *The Printing in Theory and Practice*, points out that in 1495 the first printing press was founded in Slovenian south, in Montenegro. It was founded by Đurađ Crnojević in Obod, then capital of Crnojevići. The printing appeared in Europe in the Middle Ages when the rulers were apsolute. The only class that was privileged in that time was the clergy. Some of those medieval rulers who realized that printing press could be useful for them, allowed it to be established in their country, but in majority of cases this invention was still an unwanted guest. It is important to keep in mind the fact that when the printing press appeared, it was first used for copying the books because there were no newspapers then. Considering that before Gutenberg's printing press on the European soil only copying ecclesiastic books was common, it was normal that usually monks did that job. That is why monks saw an immediate danger in the occurence of the printing press because it was going to replace them and steal away a very profitable job from them, or more simply said, it was going to make them obsolete. These were the reasons why in the medieval countries the clergy started a battle against the printers as heretics and people who sold their souls to the devil because he was the one that managed the printing machines. They tried to convince people that

printing the books was cursed and anyone who brought them into their house, he brought unhappiness as well, because the damnation would persecute them and their whole family. In the times people lived in the darkness of ignorance, when they believed in the existence of witches, vampires and similar superstitions, it is no wonder that the gullible people believed that the printers were unholy spirits they should stay away from. But many rulers then and their councelors did everything to ban printing of the books because they saw dangerous weapons in them that would teach people letters and awake their conscious; they would rebel against God and the church, their rule and the country and deprave them of the apsolute power and nobility. There is one magnificent scene in the novel The Hunchback of Notre-Dame in which archdeacon Claude Frollo speaks to the king Louis XI and says, pointing with his left hand to the church and putting the right one down to a printed book: 'Alack, this will kill that'. Explaining this exclamation of his hero, Victor Hugo, among other things, says that it was 'the fear of one new factor, the printing press, the horror of the church servant who was outshined by the light of Gutenberg's printing press'. However, in our countries it was quite a different situation from what Victor Hugo described. Among our people, the printing press appeared very early, earlier than in other Slavic countries, thanks to the clergy because they stood by people in cherishing our tradition, despite the tragic fate that we went through.

In the time of appearance of the printing press, it first served for copying ecclesiastic books. Thus printed books became a lot cheaper than the written ones and more available to people. The demand and wish of people for literacy increased. We have to repeat here what our great linguist, Vuk Stefanović Karadžić said: 'Whatever the people created in the world, nothing can be compared to the tails; it is science that almost exceeds the human mind'.

Because if it had not been for this invention, how would Roman, German and mythologies of ancient people from east, Greeks, Persians, Chinese and Hindus have been written in the first books? In those books the hidden traditions of Celts and cults of Slavs were written first on the birch bark. In the time of Alexander the Great palm trees, cloth and lime bark were used for writing. Assyrians and Babylonians used to write on clay plates. Many sources claim that Slavs, as Egyptians, curved letters in polished wood or its bark and thus communicated. Parts of that script have been kept even today. Still, it is considered that only with the processing of the Egyptian plant papyrus the real history of book has begun. It would
last for centuries, all the way to the Middle Ages. Only in XI century papyrus would be replaced by the parchment, a material made of the pressed leather. Sometime later, the paper would appear in the first printed books, when the printing press was invented. Chinese, it seems, can take credits for inventing the paper and its production. Their secret of the production of the paper first leaked to Arabs and then Europeans. Until the appearance of Gutenberg's printing press, books were transcribed and copied by hand and they were often garnished. Such our famous book is *Miroslav's Gospel*. This fact confirms that in our tradition, as it is the case with other Slavic people, the occurrence of literacy and the first books can be connected to the acceptance of Christianity. Considering this, we can say that Christianity gave much to our and other people, not only in religious sense but in building, education, culture and similar spheres of life. But acceptance of Christianity was not either easy or quick with our people. It lasted for over 200 years.

Byzantium and some Serbian princes, who came close to it in order to acquire more power, saw that Christianity could only be accepted among Slavs if it was taught in Slavic language and if the church was led by the local people. That is why Byzantium chose a convenient and well organized missionary work, led by Cyril and Methodius. V. Stanojević says:

'Only with their coming and the occurrence of Slavic literacy, Christianity started spreading and growing roots among Slavs. Literate people who transcribed holy books appeared and started preaching and living Christianity. Holy books with Christ's teachings came to the hands of more and more literate Serbs and they were read with love. Thus the demand and desire for Gospels spread, as well as the wish for practicing those teachings. More thrilled and zealous Christians appeared in our nation and they attracted great number of new and honest believers with the warmth of their Christian souls and preaching of Gospels. So the appearance of Slavic literacy enabled the spreading of Gospels in all south Slavic areas and produced more theologians, new missionary centers and new Christians. With the acceptance of Christianity, the first spiritual renaissance of our people began. The most pious and eager followers of Christ's teaching among Serbs started thinking about monkhood as the truest form of faith and love toward God. These ideas came to us from East. Therefore, the more frequent phenomenon of monkhood was determined by the first Slavic literacy, which brought ecclesiastic books and lives of saints in beautiful and warm style, in a comprehensible language, to pious people which

kindled the Orthodox religion even more. These works encouraged believers to live in the spirit of Christian principles. Monkhood spread and monasteries grew in all areas in which Slavs lived. In the Chronicle of Priest of Duklja, the Monastery of Immaculate Mother of God was mentioned. There, Saint Jovan Vladimir was buried after which his widow Kosara-Teodora became a nun. In those times the most beautiful pieces of our literature appeared: The lives of Sts. Cyril and Methodius, The lives of Sts. Clement and Naum and The Life of St. Jovan Vladimir. Miroslav's Gospel is the most beautiful and the most luxurious example of our literacy. It was written in the XII century by some Versalameon and ornamented with beautiful miniatures by Grigorije the Pupil for Miroslav of Hum. Grigorije also transcribed the last two pages. The legends of lives of St. Jovan Rilski, St. Pohor Pčinjski, St. Gavril Lesnovski, St. Jovan Bigorski, St. Joakim Osovski and others were written long time ago. From lives of these ascetics, we found out how they, with their lievs and work, contributed to bracing of Christianity among our people. Our old ascetics and hermits departed from the world but the world followed them. Their moral greatness and the love of people influenced the appearance of many monasteries that as the towers of Ortodox Christianity had a significant role in bracing of Christianity among our people'.

## THE PHENOMENON OF BIRTH AND CREATIVITY

Since ancient times it was pointed out that there had been a connection between certain family variables (the size of the family, factors of inheritance, family atmosphere and its dynamics, the order in which children were born and similar) with the frequent manifestations of talent and creativity. The researches that dealt with variables of the order in which children in one family were born and with the manifestation of talent and creativity of first born children, second born and the youngest children were especially curious. Some modern studies (F. Sulloway: Born to Rebel and others) focused more intention to the younger children in a family. Analyzing the bigger number of studies and latest researches on this subject we can state the following:

The stories of younger children who exceeded their older brothers and sisters can be found not just in fairy tales and legends, but in the oldest written testimonies on mankind. In the Bible it is also a frequent subject and the youngest child is always the one who wins and conquers. Many significant Old Testament names were not the first born children. Isaac, Joseph, Moses, David and Solomon, forefathers of Israel, were younger children and they made radical turns in their lives. This type of the younger child, and most often the favorite one, who develops into a strong personality, is best illustrated by the Old Testament story of Joseph. This story, not just clearly and picturesquely, but intentionally, speaks of the position of the favorite child in a family and the importance of the order of birth of children, it is almost certain that the creators of this story had knowledge we acquire with difficulty nowadays. All the great men: Nikola Tesla, Ruđer Bošković, Mihajlo Pupin, Jovan Cvijić, Meša Selimović, P.P. Njegoš and others are not the first born children in their families. In Njegoš's case this can be traced back more than eight generations in the past. His father Tomo, grandfather Marko, great-grandfather Damjan, his father Stefan, his father Radul, Radul's father Stjepan and Stjepan's father Petar were younger children in their families. However, this phenomenon is frequent in other Slavic people as well. The great Russian writers Tolstoy and Dostoyevsky were also younger children, as well as the brilliant Polish woman Marie Curie. Something similar we have in East and West. R. Tagore, B. Franklin, T.A. Edison, W.A. Mozart, J.J. Rousseau, B. Pascal. T. Wolf, N. Copernicus, Gertrude Stein, Mark Twain and Charles Darwin were also younger children. Darwin was the youngest of brothers and fifth born among six children, such as our Tesla. Darwin was not only the youngest in his family, but also the youngest son of the youngest son, since Darwin's father was also the youngest son of his father. But he was also the youngest child in the whole family. What is more interesting, similar thing can be found on his mother's side of the family as well, because Darwin's mother was also the youngest child, as was her father was in the family of thirteen children. It is the same thing with the mentioned great people, who were born as the youngest children and in families of ten and more of them. The four most important followers of psychoanalysis (Ana Feud, Karen Horney, Melanie Klein and Helen Deutsch) were the youngest children in their families. The majority of leaders of the French and the Russian revolution, events that shook and changed the world and brought tragedies to millions of people, were younger children. Of many rulers in our previous country, three had the greatest significance in its building and appearance, or both. They were, too, the youngest sons in their families. From the mentioned, we can see that radicalism in the area of political and social revolutions meant violence and great human and material losses. However, radicalism can mean a turn in a personal life and way of thinking with the goal of devoting to some idea from science and creativity generally or devoting to the welfare of others. This is more humane aspect of radicalism. Radicalism in scientific and artistic work means turns in the sense of producing (discovery) of something completely new which can contribute to the development of the whole mankind. This contribution in the area of scientific and artistic work was given by great men, such as Tesla, Andrić, Edison, Selimović, Pupin, Dostoyevsky, Einstein, Tolstoy, Pascal and many others.

The phenomenon of order of birth is taken only as one of the reasons for writing which means that there are many first borns who have also indebted their people or the whole mankind. However, it should be considered that first borns have the advantage at the start: their parents have already invested much in them until other children were born and they are favorized in all the cultures according to principles of primogeniture. Who has heard of a culture or community where younger children inherit family and other titles? For privileges that the first borns have, younger children have to fight with their own work and efforts in the majority of cases. To gain a better position for themselves, they have to develop some characteristics that are not common for the first borns. All the other children in the family can be thrown over of the throne except the youngest. The youngest does not have a successor but it has many role models to learn from. It gets so much support and help for developing its spiritual strength and talents and it enjoys attention from everybody. It is in no danger of being rejected or neglected, as it happens to the first borns. Younger children are known for 'rebelling' against the current conditions and they often resist elders and authority based on force generally, although they use it themselves. Psychological studies show that younger children are more open for new ideas and more eager to make radical changes in their lives. They make friends more easily and they develop this skill very early. They risk more often and change their minds faster. Thanks to their openness for new ideas and their genetic basis (only rare ones have it and they are often referred to as *God given*), they can become successful scientists, artists, writers, merchants or businessmen and often leaders of state, political, religious and cultural movements with radical turning points.

Psychology investigates in which amount is talent hereditary and in which it is a consequence of influence from the surrounding or practice. Factors from surroundings deserve a special research because they can be change and made more convenient. If a talent of an individual manifests only in one field, then we can talk of his talent in that field. According to our knowledge so far, we can say that the majority of population is capable of certain creative work. Of course, the simpler the work is and on a lower level, the more numeorus is the participation of the population. However, when the greatest inventions who change the usual order of things in certain fields are in question, there is a relatively small number of individuals who are capable of these discoveries. According to some statistical calculations, applied long ago by the English scientist Galton, such brilliant individuals appear only once in the population of a million people. In his longitudinal psychological study, Terman also set 1% of highest results in general intellectual abilities in the entire population as a criterion of determining talent. The opinion that creativity occurs in all ages and in all cultures and fields of human work is also accepted, but there is a difference in its frequency, intensity and kind inside these categories. Some theories explain creativity and talent as consequences of specific conditions outside and inside a personality. Also, it should be considered that creativity and intellectual talent are not completely unicameral terms. More and more contemporary studie show that intellectual talent is not a synonym for creativity. Because reaching extraordinary results in some field demands not just intellectual talent but other features of a personality as well, such as: attitudes, habits, interests, emotions and so on. Only a certain combination of all these features can give creative products. These and similar questions caused interests and started researches with the aim of finding out more about abilities and features of personalities of creative individuals. Modern studies interest in biological and genetical basis of creativity and talent. How complicated the laws of inheritance are and how difficult for managing, can be seen from the following. It has been calculated that a human being has over 2 100 000 ancestors in only 20 generations. All these ancestors somehow participate in its conception with their factors of inheritance, their genes. If you take a dozen couples of parental features, then it is possible to get over 60 000 different types of desecendants and over a million of possible combinations of these features. And since according to laws of genetics not all the hereditary factors manifest immediately because some of them are dominant (and present in the first generation only) and the others are repressed, the combinations of genes and their later development are difficult to control. The whole process is inconvenient because we do not inherit just positive but the negative features as well (serious diseases, such as hemophilia for example). All this becomes more complicated if it is known that the process can be affected by various social factors and conditions of the surrounding as well. Every person is unique and unrepeatable in its biological inheritance (even the identical twins are not completely the same) and differences increase with education and learning through our whole lives. Even if there were two identical persons, in intellectual sense (or some other features), they would still differ in the combination of genes and characteristics in one unique, complete and unrepeatable structure. Therefore, the personality of man is not a simple sum of its features. That is why the intelligence of two different persons is never the same, not just because of inheritance but because it is combined differently with other features, abilities and characteristics in different personalities, which has different effects even if they were the same. Every characteristic, then, even the intelligence, has its own special and different frame (the connection with other aspects of a personality, such as: motives, attitudes, emotions, habits and so on) in different persons. Highly developed intellectual abilities will not be very useful if the convenient frame of these features is not realized, which means that advanced intellectual features will give matching results if they are supported by other aspects of the personality, especially the uncognitive ones, such as: persistence, motivation, emotional stability, developed sense of obligation and work and so on. It would not be helpful for a student or a pupil with a high intelligence if he did not develop working habits, efficient techniques and styles of studying or if he was not motivated for sudying. There lies the answer to the question why some obviously intelligent people do not achieve expected results in studying, working and in life generally. The answer has to be looked for in uncognitive factors, that is, in the quality of these

factors combined with intelligence and high intellectual abilities. But this also goes in the opposite direction. That is why we can not only assume but claim that, for instance, a lively disposition affects other characteristics of a personality, such as: procedures and techniques of the intellectual work, the kind of social interaction, interests, persistence, working habits and so on. We can say that every special characteristic gets its specific determination ('color') in its relation with other abilities and features of the personality, the way it is all 'combined' in one unique and unrepeatable structure we call the personality. That is why the optimal indivdualization of educational procedures in growth and development of a person is of great significance. Studies showed that inheritance had greater influence in the field of music (in Bach's, Mozart's and Beethoven's family). This was noticed with some scientists as well (Bernoulli, Galilei, Linné, Darwin, Galton and others). The research on abilities and features of personalities of prominent scientists, which, under Terman's leadership, was done by Catharine Cox in 1954 is also interesting. She first dealt with estimating their general intellectual abilities on the basis of their achievements in science and then she studied the development of some of 67 features from her list in these scientists. Generally speaking, brilliant scientists and creators had the following features developed: highly developed general intelligence, motivation, strong character, imagination and originality, memory and ability of reasoning and critical thinking, self-esteem and persistence in work.

## **ACHILLES' HEEL AND CREATIVITY**

## (Mysterious and enigmatic – Many questions Why? and How?)

'Nothing is as unjust as a just approach to the unequal.'

E. Estes

Even in everyday life it is evident that some talented persons succeed in the field of their studies and work (creating), despite all the difficulties and obstacles they come across. School doctors and psychologists saw this while going through children's medical and school records. They noticed that children who suffered from mumps, pneumonia, sore throat and similar illnesses, accomplished very good results in school. This rarely referred to the children with average or below average results. They have established a hypothesis that talented children exhaust their nervous system more (their nervous system can process more information) because they can learn more than average and below average students for the same time. Thus they spend more energy and the consequence is the weakening of their immune system. The other hypothesis is that talented children show more asynchrony (unevenness) in developing abilities and characteristics of their personality and it is very difficult for them to surpass this uneven development. For instance, psychological studies have showed that some talented eight-year old child could be on the level of development of a twelve-year old, but emotionally and socially it is still on the level of development of their peers. If differences are even bigger (studies have shown that in a body of a twelve-year-old can be a fifteen or a twenty-year-old stuck – so called super intelligent children or God's children), then it is harder for these children to face many other problems in their life than for the children whose development of abilities and characteristics of the personality is coordinated with their age. It has also been confirmed that a great number of intellectually talented children grows in poor families. Other talented children, on the other hand, have ill-suited parents and horrible family atmosphere (beatings, alcoholism, drugs, neglect and indifference to a child's welfare and its success in school and life). But despite all this, they somehow succeed in realizing their talent first in school and later in life. Psychologists have even introduced a new term (dimension) resistance-vulnerability. It can be illustrated by the following example: Imagine we have three dolls – one made of glass, the other of plastic and the third of some solid metal. If we hit each one with a hammer, what will happen? The glass doll will break into million pieces, the plastic one will have a dent and the metal one will be undamaged and it will even produce a pleasant sound. The metal doll could represent our greatest treasure - our super talented and creative children. Somewhere in the middle, between these two extremes, there is the plastic doll which could represent children who endure life misfortunes, beatings and hostile atmosphere in which they have to grow but somehow they still manage by. The glass doll represents children who grow in a distinctively hostile atmosphere both in school and their families (nobody takes care of them, parents and teachers are completely indifferent to what is happening to them). Because they do not understand why these things happen to them, talented children are in a constant conflict first with themselves and then with their environment – parents, teachers and peers. They only take punishments and torture both at home and in school (bad marks, missing classes and running away from their homes) and they join other unhappy children in the streets, the children who already gained all the characteristics of delinquency. All these children are deeply unfortunate and they do not have anybody but themselves. The knowledge that nobody wants you, needs you or accepts you is the most difficult thing for a human being (especially for children and young people). Such child must be very unhappy. These children are represented by the glass doll, unprotected and frail. On the other hand, many studies show that happy talented children have great support from their families and they succeed in building self-defense mechanism to fight the life temptations. These children get so much help, support and encouragement both at home and in school, not just from their teachers and parents, but from others as well - friends, peers and so on, because they are pleasant to be with. Studies also show that they become aware of their strength and competence early and they start to use their environment better to make progress and develop their abilities. They also show independence, originality and creativity very early, because they live and grow up in the atmosphere of freedom, tolerance and support and without fear from punishment if they make a mistake in their best intentions. Something else has been noticed: these children need and seek new challenges in order to become even more resistant, self-confident and persistent. Children who go through life with no obstacles, who get everything on their plate, do not have a chance to practice and test their strengths and potentials. This is why they often do not know themselves and they do not get a chance to develop their potentials. The following story from the

Greek mythology will help illustrate the above. When Achilles' mother found out the fatal destiny that awaited her son, she tried to protect him, the best way she could, by bathing him in the river that, according to a legend, could change your fate. Since Achilles was only a baby, she held him for his heel while she was immersing him into the water. Thus only Achilles' heel remained unplunged and dry. Later, when Achilles was nine, it was prophesied that he would be a great hero who would conquer Troy, but he would die in the process. His mother again tried to find a way for Achilles to avoid the war against the Trojans so she dressed him in woman's clothes. But Odysseus revealed the scam and forced Achilles to go to the war. During the siege of Troy, an arrow hit Achilles in his vulnerable heel and he died of the wound. (His heel was the only unprotected part of his body, since his mother held him for it while she was immersing him into the miraculous river.) Unlike Achilles, Hercules triumphed despite all the dangers, thanks to his own efforts and virtues he built by himself. His mother always encouraged him and convinced him he would be successful in life. Hercules, therefore, was not a child protected from great life risks, temptations and challenges. Thus he got confidence and abilities, fighting with all the difficulties and obstacles in life. This self-built firmness and resistance are the most important and eternal avail. But they can be achieved only by one's own efforts and trials and they cannot be given or inherited from anybody. Still, there are no many cases like these in real life, especially nowadays when life is full of stress, tragedy and the system of values is out of order; when boundaries between good and evil are almost wiped out. Although today we know more about the talent than before, there are still many puzzles, perplexities and questions Why? and How? This tells us that we have a lot to learn about how to make education of the talented children more efficient and to point out the importance of individualization of its methods in the sense of respecting individual differences in abilities and characteristics of subjects. Because we all know, from everyday life, that, for instance, some child can be further discouraged by critic so it would not be able to do what it could (regularly) any more, while some other child would be encouraged by critic to invest even greater efforts to do what was asked of it. This tells us that both educators and parents need to know more about the individual differences in abilities and characteristics of their children (especially talented children, sometimes referred to as God's children), as well as the relations between the talent in a specific field of creativity and the general intellectual talent.

Nowadays it is considered that talent means having distinctively developed abilities which enable an individual to achieve the highest results in the field of his talent. That is why the talent is always specific: literary talent, musical talent, mathematical talent, talent for sport and so on. From the aspects of psychology and pedagogy, there stands a question in which amount the talent is hereditary and in which it is the result of practice and education. It is considered that in the total human population there is around 2.5 % of very talented people (as much as mentally retarded ones), but only few of them develop their potentials to the optimal level. Creativity is a wider term than talent and it can be only a potential, which means it does not have to develop if there are no conditions for that. It is a common name for characteristics that enable individuals to achieve results above average in their activities for a long period of time. Psychology studies the amount in which the talent is hereditary and in which it is a consequence of convenient influences from the environment and exercising. Factors of the environment deserve a closer look because they can be changed and made more convenient. If an individual's talent manifests only in one field, then we can talk about his talent in this field. According to our knowledge until now, we can say that a great number of people are capable of a certain creative work. Of course, the simpler the work is, the more numerous is the participation of the population. However, when we talk about the greatest discoveries and inventions which change the usual order of things in a certain field of science and art which runs the development of the civilization - there are only few individuals who are capable of such discoveries and inventions. According to statistics, applied long time ago by the English scientists Galton, such brilliant individuals appear only once in the population of a million people. In his longitudinal study, Terman set 1 % of the highest results in general intellectual abilities in the total population as a criterion for determining talent. The theory that creativity appears in all ages and in all cultures and fields of human work is also accepted, but there is a difference in its frequency, intensity and kind of creativity and talent in all these categories. Some theories explain creativity and talent as consequences of specific conditions inside and outside a personality. Also, it is necessary to take into account that creativity and talent are not completely unambiguous terms. Many contemporary studies show that intellectual talent cannot be a synonym for creativity and creative work. Because achieving extraordinary results in a certain field does not demand only intellectual talent but other features of a personality as well, such as: attitudes, habits, interests, emotions and so on. Only a specific combination of all of these features can give creative

products. These and similar questions caused interest and instigated researches with the aim of finding out more about abilities and characteristics of personalities of creative individuals. That is why this is not the end of the story about enigmas, secrets and phenomena of creativity and talent. There are still many questions *Why?* and *How?*, waiting to be answered. And what is even more complicated: as soon as we think we found answers to certain questions, new secrets and puzzles about the nature of creativity and talent open and it continues endlessly. We know that the most important characteristic of creativity and talent is originality, that is, unrepeatability, rarity and strangeness. Only brilliant individuals are capable of producing such works in science and art that no one produced before them. Such works were created by Archimedes, Leonardo, Newton, Tesla, Einstein, Mozart, Dostoyevsky, Andrić, Picasso, Michelangelo, Rodin and others.

Fortunately, the nature has organized things in such a way that every individual who inherited some kind of talent or gift has a need to realize it. Toward these gifts, man stands with a possibility to either recognize and perfect them or neglect and hide them. They determine his role in the world because they make him free to fulfill his own nature and the meaning of existence. Driven by the deepest innate impulses (blessings) man aspires toward realization of his talents, with which he gains a possibility of personal and human fulfillment generally. Plato received, as a gift from gods, not only his personal talent but the fact he was born as Socrates' student. Great minds are constantly aware of the fact that the man is not only free to create in the world he lives in, but to change and perfect himself. Here we can also take the example of Saint Sava into account. He had multiple talents and he could achieve extraordinary results and give creative products in many fields. Many of his gifts he inherited, but he also built many of them himself because he had potentials and desire to learn and advance. This was the case with other great people as well. Those are few individuals who can climb the highest mountain tops and view from there the meaning of our existence. It is as though we stand beneath a mountain and we begin our climb toward its top. Many of us do not have the strength for these efforts and we give up immediately. But from down there we cannot see the limits of mountain tops. We do not see the highest tops, often covered in clouds and mist. Only rare and the most talented people are capable of these climbs, efforts and challenges. Analyzing biographies of great people, we can see that a great number of their works was created from unrest, inner conflicts and doubts. Pain and torture they experienced justify the opinion that great men are not destined for an easy

living, but for suffering. They are destined for a life of misery. Some people even claim that there is no creation without the tragic, inner unrest and conflicts. Everything is born from turmoil, pain and torture. Thus we can better understand Diderot's words: 'When nature creates a brilliant man, it is as though she lights up a torch over his head and sees him off to the world saying: Go and be unhappy'. Diderot saw the fate of brilliant people. In those times it was considered that brilliance is the highest expression of intellectual activity and that a brilliant individual is also a neurotic person. However, unlike Freud's classical psychoanalysis, which considered neurosis a disease, recent studies are more inclined to the theory that such psychic states are not diseases but the sign of more advanced development of an individual who tries to be above average and comes across obstacles he needs to surpass. These obstacles, inner and external, cause unrest, mental pain and inner conflicts.

**Petar Stojaković** was born in 1945. He graduated from the Faculty of Philosophy in Sarajevo. He finished his postgraduate studies at the Faculty of Philosophy in Belgrade and he got his PhD title at the Faculty of Philosophy in Sarajevo, where he later worked as a professor of psychology. After that he got a job as a professor at the Faculty of Philosophy in Banjaluka, where he worked until his retirement. He published many scientific and expert essays in the field of psychology (thirty books), as well as textbooks for psychology for all the levels of education, from preschool to the university level. As a scientist and a lecturer in the field of psychology, he dealt with studying the connection between psychology and other sciences, especially literature (the connection between psychology of creativity and literature). He worked at universities in the USA (he was included in Fulbright program several times) and Canada for many years. In 2010 he was chosen for a foreign member of the Serbian Academy of Education in Belgrade. Beside his work at the university and his scientific work, he did literary work and he wrote four novels, three collections of short stories and four volumes of essays on books and writers until now. He lives in Banjaluka (The Republic of Srpska, Bosnia and Herzegovina) and he is still engaged in scientific and literary work.

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