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## THEORETICAL ASPECTS OF SPECIAL EDUCATION AND REHABILITATION

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### SUMMARY

*The purpose of this paper was to discuss historical, political, social, scientific and cultural preconditions and parameters of all professions dealing with people with disabilities. We mainly focused on those professions that made strong influence on methods and approaches in education, care, social and emotional support, therapy and rehabilitation of disabled children and adults. At first these were theologians and medical doctors, and later starting from the end of XIX century, pedagogues and psychologists gave great contribution to development of special education and rehabilitation. In this paper we presented several significant names from each area, although we are aware that this might be only the top of long list of contributors. Our intention was to discuss and illustrate multidisciplinary and multidimensional nature of special education and rehabilitation that derives from medicine, psychology, pedagogy and ethics. In second part of the paper we discussed actual problems in theory of special education and rehabilitation.*

*We believe that exploration of theoretical foundations of special education and rehabilitation might be helpful for definition of special education and rehabilitation as modern science.*

Key words: people with disabilities, theoretical foundations, theory of special education and rehabilitation

### INTRODUCTION

All sciences and scientific disciplines have their own dynamics of development. In the past, scientific discoveries represented mostly result of individual work. Affinities and curiosity, together with some other personal characteristics, were leading individuals toward new scientific findings. Today, science is performed mainly at universities and institutes and it became organized activity of each civilized society. Impact of society on development of sciences is indisputable. Society is ordering party of projects that should fulfil socio-political aims. Dealing with the science today is not intimate affair of individuals but result of interactions in whole society. That is why we decided to elaborate this topic.

In the first part of the paper we will discuss development of theory of special education and rehabilitation from its historical side. We will illustrate several authors, for which we believe they gave significant contribution to development of special education and rehabilitation theory. Their work and contribution will be presented in

the aspect of historical moment and social context in which they have lived. Especially are intriguing their biographies from which one can notice that their educational background was often in theology, medicine, psychology and pedagogy.

In the second part of the the paper we will present actual moment of theory of special education and rehabilitation in certain annotations without further detailed analysis, because we believe this task belongs to higher number of institutions and researchers.

In Conclusion part of the paper some of final findings are presented.

Also, we would like to share with you dilemma concerning consistency and coherence of theory of special education and rehabilitation.

We are aware of the fact that there are not that many faculties and institutes in Europe and North America at which studing programme of special education and rehabilitation is established, especially in comparison to some other sciences. Therefore, this paper is also invitation to all of them for international debate, joint collaborations and projects. We believe, science of special education and rehabilitation could improve lifes of many people, therefore it could improve our world.

#### **Development of theory of special education and rehabilitation worldwide – historical approach**

As in many other sciences theory of special education and rehabilitation started its development thanks to efforts of philanthropic individuals. What differ these individuals from those working in other sciences is their education. Mostly these are theologists, physicians, psychologists and pedagogues. Their philanthropic orientation together with their education forwards them to investigate problems of education, self-service and social integration-inclusion of children and adults with disabilities. There are also examples of people with disabilities that gave their personal input to theory of special education and rehabilitation by trying to overcome their own handicap.

#### ***Impact of theology on development of theory of special education and rehabilitation***

It is not difficult to link theology and religion (at least Christian religion) with their humanitarian efforts towards children and adults with disabilities. Charity, help and protection of these persons is one of main Christian religion postulates which are present for more than 2000 years.

Probably the oldest evidence of education of disabled children (deaf children) is documented in Spain. *Pedro Ponce de Leon* (1520-1584) Spanish priest from order of Saint Benedict was teaching deaf children to sign language (Daniels, 1997; Savić and Ivanović, 1994).

Following this method *Juan Pablo Bonet* (1573-1633) also Spanish priest, published first book on deaf education topic in year 1620 at Madrid with title „Reducción de les letras y arte para enseñar a hablan a los mudos“ („Summary of the letters and the art of teaching speech to the mute“) (Catholic Encyclopedia; Savić, 1991).

Frenchman *Charles-Michel de l Epee* (1712-1789) known as philanthropic educator had background in theology and law. He has become known as „Father of the Deaf“

because he founded first free of charge school for deaf people in 1760 „Institut National de Jenues Sourds de Paris“. One of his contributions was establishment of French sign language which he as a religious person mostly used to give other people religious education (Catholic Encyclopedia; Savić, 1974).

Educational methods developed by de l Epee were further promoted by *Roch-Ambroise Cucurron Ab Sicard* (1742-1822) also catholic priest. Sicard succeeded de l Epee after his dead at leading school and later became even member of French Academy (Harlan, 1984; Savić, 1974).

*Valentin Haüy* (1745-1822) was also philanthropic person under deep influence of Christian religion. He started his education while having job of ringing the Angelus bells in a local Premonstrant Abbey where local monks thought him to speak foreign languages. In year 1785 he founded Institut National des Jeunes Aveugles (Institute for Blind Youth) with first group of 12 young students. His method in teaching blind children was accepted also in other countries. Schools for blind pupils were opened under this influence in Liverpool (1791), London (1799), Vienna (1804), Berlin (1806), Amsterdam and Stockholm (1808), Zurich, (1809), Boston (1829) and New York (1831) (Catholic Encyclopedia; Savić, 1966).

Of course there are many other examples of theologians who gave full contribution to development of theory and praxis of special education and rehabilitation and they should be further researched.

### ***Impact of medicine on development of theory of special education and rehabilitation***

The most frequent examinations of children and adults with disabilities in the area of medicine are those made in clinical studies. These clinical studies made in scientific disciplines like neurology, psychiatry, otolaryngology and ophthalmology describe and define causes of disease that lead to dysfunctionality which may cause handicap. Each medical diagnosis or result of medical research is subjected to reinterpretation in theory and praxis of special education and rehabilitation. Special education and rehabilitation consider disabled person as entity with disordered biology and psychological reaction which together cause their dysfunctionality in social surroundings.

*John Bulwer* (1606-1656) is the one of the first medical doctors from Great Britain who proposed idea of educating deaf children and adults. In his research he was exploring the body and human communication by gesture. In year 1644 Bulwer published work titled „Chirologia: or the natural language of the hand“ where he focused on hand gestures which have come to be seen as the domain of deaf communication (Wollock, 1996; Savić and Ivanović, 1994).

*Johann Konrad Ammann* (1724-1811) was as a physician mainly interested in oral communication of deaf persons. After graduation he performed practice in Switzerland and The Netherlands where he earned good reputation in this medical area and published title „Surdus loquens“ (The Talking deaf Man,) in Amsterdam 1692 (Historical Dictionary of Switzerland; Savić, 1991).

*John Dix Fisher* (1797-1850) American physician founded „New England Asylum for the Blind“ in Boston, Massachusetts. He was impressed upon visit of Institute for Blind

Youth in Paris initiated by Valentin Haüy with methods used to teach blind people. Later on, his institution changed name to „Perkins School for the Blind“ in memory of Thomas Handasyd Perkins (1764-1854) with whose financial support this school continued to work (Kelly, 1912).

In France, in 1825, *Jean Marc Gaspard Itard* (1774-1838), physician whose main interest was in otology, described for the first time Tourett syndrome. Experiences he earned in celebrated case of Victor of Aveyron (Wild Boy from Aveyron) Itard described in book titled „Memoire et report sur Victor de l Aveyron“ published in 1807 (WhoNamedIt.com).

*Édouard Séguin* (1812-1880) who studied and worked under Jean Marc Gaspard Itard, promoted method based on physical and sensor activities that initiate development of mental processes in children with mental disabilities. This method was result of Seguin's experience and research performed in asylum Salpetriere in Paris. Séguin observed and detected benefits of „physiological“ method of treatment in children with mental disabilities. This led him to believe that intellectual disability is not consequence of damaged brain, but rather effect of insufficiently developed brain. Séguin concluded that such undeveloped brain could be improved using motoric and sensor training. He focused on development of exercises for improvement of muscles and senses, through which he believed his protégées, will strengthen the body and improve development of central nervous system. This approach was named by Séguin „physiological education“ and his main aim was to help his patients to have optimal „functionality in their social surroundings“. Séguin also believed that persons with intellectual disability may control their body functions and movements by their own strength of will.

Since 1848 Séguin lived in USA where he opened his own school for children with intellectual disability in Cleveland, and later also in Portsmouth. He moved to Mount Vernon in year 1860 where he restarted practice as a physician. Three years later Séguin moved to New York and worked in Randall's Island School for children with intellectual disability. Most of his work was documented in his book „Idiocy and treatment“, published in 1866. Séguin was also first president of Association of Medical Officers of American Institutions for Idiotic and Feeble-minded persons (Disability History Museum, online).

*Maria Tecla Artemesia Montessori* (1870-1952) earned first experience in teaching and upbringing of children with intellectual disabilities and neuropsychiatric disorders during her medical studies. After graduation in medicine she dedicated whole career to this issue. As an employee of university psychiatric clinic Montessori expressed interest in education of „retarded“. She also worked at Scuola Magistrala Ortophrenica (Orthophrenic School) which was founded by National League for education of children with disabilities. This school was taking care of education and upbringing of children with wide variety of neuropsychological disorders. Work in this type of institution is what transformed Montessori from physician to pedagogues. There she spent two years experimenting on models of treatment developed by Jean Marc Gaspard Itard and Edouard Seguin. In 1907 Montessori opened in Rome first school for low-income families named *Casa dei Bambini, or Children's House*.

Montessori believed that starting from the earliest point of life „child reveals herself through movements and sensomotor experience“. These inner requirements of the

children are always constructive as far as basic support and adequate surroundings are present. According to Montessori child in earliest period of life does not want to be shown anything, but only to be helped in process of its natural development. That is principle that could be expressed through the following sentence „Help me to do it by myself“. The teacher, believe Montessori, shouldn't try to put the knowledge into child's head, but instead to encourage curiosity of the child using single and short dialogues and explanations. Based on this, Montessori developed idea of „free education“. To realize this idea the teacher needs to prepare surroundings which will enable free development of the child. Montessori concord with Itard that there are determined periods in life of a child during which it can learn adequate things, as well that capabilities for this kind of leaning decrease during time. If a child doesn't learn what is determined for determined life period, after longer period of time capability for learning might be lost. These aspect Montessori integrated in to system of education of her protégées and presented detailed schemes of development of language, hand, intelligence etc through different phase of childhood. She supposed that children can accept definite knowledge on determined levels of development if he/she get proper surroundings and support. Because she knew that these determined period of development doesn't always synchronize with calendar age of a child, it is necessary to observe it, follow its development and to verify life period in which a child is ready to accept new knowledge (Standing, 1957).

*Eduard Claperede* (1873-1940) was Swiss neurologist, child psychologist and educator. He was fist educator that introduced term „school made to measure“. Basic characteristic of conception known as „school made to measure“ is knowing and respecting individual differences between pupils in their capabilities. School-teacher has wider role in respect to this concept comparing to traditional school. Claperede suggested: (a) parallel classes (grouping of students according to their abilities); (b) moveable classes (a student attends instruction in one school subject together with students from one class and in another subject with students from the other class) (c) parallel departments (classical, general, technical etc. a student can choose, depending on his abilities); and (d) a system of choice, a system of options (provisions are made for a student to choose for himself among classes i.e. courses) (Kocić, 2002; Claperede, 1950; Claperede, 1951/1952)

*Ovide Dekroly* (1871-1932) was Belgian medical doctor specialized in neuropsychiatry, but well known as teacher and psychologist. Dekroly obtained education at universities in Ghent, Berlin and Paris. He was the founder of 'Institute of Special Education—Psychological Laboratory of Dr Decroly' in Brussels in 1901, and later founder of school for regular pupils in the same town. Dekroly performed systematic researches and published several articles on method of „centre of interest“. His ideas spread from Belgium and made strong influence in education and pedagogy of Western Europe. Dekroly presented his pedagogic idea in form which is well known as „L'école pour la vie“ (School for life through the life). He pointed that teaching programs shouldn't be adjusted only to psychology of a child, but also should be adjusted to requests of modern-day individual and social life. Starting from this view, Dekroly pointed that school should give to a child practical life-oriented encouragements by teaching a child about his/her personality, needs, natural and social surrounding. This kind of knowledge is grouped around what Dekroly named „centres of interest“. Therefore, he

organized whole educational work and teaching in the Institute around program based on centres of interest. Dekroly especially pointed that „totality of an individual makes that he/she sense, think and act as a whole“. This idea was starting point for him to make recommendations and conclusions for didactics and organization of his school. In its essence, method of centre of interests is active method in whose basis is observation as starting point in development of whole intellectual activity of a child. The school needs to be adjusted to psychological and pedagogic capabilities of pupils in order to response to all requirements and activities of each child. Moreover, Dekroly underlined significance of collective education for moral and education of children. He pleads for formation of homogenous classes of children divided in to homogenous groups in order to easily stimulate education and socialization of schoolchildren (Dubreucq, 1993).

*Pyotrl Kuzmich Anokhin* (1898-1974), was Russian medical doctor whose main interest was in biology and physiology. Anokhin started his academic career under leadership of famous Ivan Pavlov, Nobel Prize Winner in physiology. His „Theory of functional systems“ is one of main approaches of theory of special education and rehabilitation. As he proposed, functional systems are alternative to the predominant concept of reflexes. Anokhin recognized two types of functional systems: system of the first type provide homeostasis due to internal (existing) resources of the body and system of a second type supports homeostasis due to a change of behaviour. Anokhin defined stages of behavioural act as: afferent synthesis (determined by motivation, pad afferentation, situational afferentation and memory); decision-making (consisting of formation of action result acceptor and efferent synthesis); action; evaluation result of the action; meeting the needs. Functional system defined by Anokhin is based on adaptive results of action. He describes central nervous system as „self-organizing system“ which doesn't have linear structure, but rather consist from one another synchronizing elements. Each of these elements itself may cause dysfunctionality, especially at children and adults with disabilities. Using this model in theory of special education and rehabilitation, element that cause dysfunctionality could be detected (Red'ko, 2004).

*Alexander Romanovich Luria* (1902-1977), was Russian neuropsychologist and developmental psychologist and leader of the Vygotsky Circle. Luria graduated in medicine and afterwards got PhD in pedagogy (1937) and MD PhD in 1943. He has worked at Experimental Defectological Institute in Moscow (1920-1930, 1950-1960) with children with intellectual disabilities and gave huge contribution to uprising of theory and praxis of special education and rehabilitation. Luria described dysfunctionality of patients with head and brain injuries and disfuncionality of patients with organic brain syndromes. As a result of his work in neuropsychology on executive functions of the brain published „Problems of Higher Nervous System Activity in Normal and Anomalous Children (1956-1958), „Higher Cortical Functions in Man“ (1962) and „Working Brain“ (1973). Although, he was not the author of famous Luria-Nebraska neuropsychological battery it is founded on his work, therefore it is named after him (Homskaya, 2001).



***Impact of psychology on development of theory of special education and rehabilitation***

*Alfred Binet* (1857-1911) was studying Law and Natural Sciences at Sorbonne University, but is well known as psychologist and inventor of first intelligence test. Binet invented intelligence test as a tool to identify pupils that need some additional help in acquiring school knowledge. Later on, in cooperation with Théodore Simone he revised his test which is from then known as Binet-Simon test. The test was helpful in understanding of children whose intellectual capabilities are not appropriate for acceptance of school curriculum determined for their age, so they would need some additional help. Starting from 1891 till his death Binet was working at Laboratory of Physiological Psychology at Sorbonne. In year 1889 became member of Free Society for the Psychological Study of Children and member of Commission for the Retarded. Binet used his intelligence test to distinguish between children with normal and decreased intelligence, and to measure level of abnormal intelligence. Binet gave significant contribution to theory of special education and rehabilitation through his published work: *La fatigue intellectuelle* (Binet, A., Henri, V., 1898), *Mentally defective children* (Binet, A., Simon, T., 1907) and *L'intelligence des imbeciles* (*L'année psychologique* 15, 1-147, 1909) (Silverman, 1964).

Behind time (due to political atmosphere in former Soviet Union) work of *Lev Semyonovich Vygotsky* has been published. Lev Semyonovich Vygotsky (1896-1934) studied Law at Moscow University but also parallel intended private founded and non degree granting „Shanyavskii People's University“ showing interest in art and literature. In 1925, Vygotsky defended his PhD with title „Psychology of art“ and later in 1926 published book „Pedagogic psychology“. This led him to Institute of Psychology in Moscow where he made most of work.

Vygotsky showed research interest in topics like development of cognitive functions, logical memory, selective attention, executive functions, language, etc. Vygotsky defined „The law of proximal development“ by which he explained possibilities and requirements for child development. In his published work he described features and dynamics of child development for each type of invalidity. Besides, Vygotsky created bio-psycho-social frame for analysis of children with disabilities, suggested outline for their education and upbringing, and pointed importance of stimulation in the „zone of advanced development“. Vygotsky is one of the first researchers who stressed to significance of social surrounding for development of invalid children. In difference to other researchers he was not exploring one type of invalidity in particular context, but rather all types of invalidity in different contexts. That is why he believed that phenomenological approach should be used in education and therapy of these children. He compared, detected differences and similarities and defined methodological principals of approaches and treatment and established theory of defectology. Out of many published papers and books we will mention „The Fundamental Problems of Defectology“ (1929), „Play and its role in mental development of children“ (1929), „Thinking and Speech“ (1934) (Wertsch, 1985).

*Jean Piaget* (1896-1980) is Swiss developmental psychologist and philosopher educated at University of Neuchatel, and University of Zurich. He created theory of

cognitive development that represent interface of theory of special education and rehabilitation. Piaget considered different models of development from social model of development, through biological model of development to logical model of development and thinking. Piaget defined today well known stages of development: I Sensorimotor phase, consisting of six substages: 1. Simple reflexes, 2. First habits and primary circular reactions, 3. Secondary circular reactions, 4. Coordination of secondary circular reactions, 5. Tertiary circular reactions, novelty, and curiosity and 6. Internalization of schemata; II Preoperational stage, consisting of two substages: 1. Symbolic function and 2. Intuitive thought; III Concrete operational stage, and IV Formal operational stage.

Piaget collaborated with Alfred Binet and helped him to construct intelligence test, later known as Binet test of intelligence. Results of Piaget's collaboration with Vygotsky were published as Comments on Vygotsky's critical remarks concerning „The Language and Thought of the Child“, and „Judgement and Reasoning in the Child“. He was also director of International Bureau of Education, and in 1934 stated that „only education could save our society from possible collapse and violence...“. His well known published papers are and „The Construction of Reality in the Children“ (1955) and „Genetic Epistemology“ (1968) (Burman, 2011).

With appearance of cognitive psychology in 70's of XX century understanding and improvement of mental processes is evident. Nowadays, mental processes that make possible attention, memory, perception of language, problem solving and creative thinking are much clearer. These aspects applied to children and adults with disabilities made significant input to further improvement of theory and practice of special education and rehabilitation.

### ***Impact of pedagogy on development of theory of special education and rehabilitation***

The end of XIX and beginning of XX century was a period when many reform have been started in educational systems of Europe and North America. All these reform movements criticized actual educational system and demanded its improvement with new and better solutions. Special education and rehabilitation was also influenced by general reforms in education and there was impact also on constitution of special education and rehabilitation as science (Đorđević, 2000).

German philosopher *Edmund Gustav Albrecht Husserl* (1859-1938) introduced phenomenological way of looking at objects as a method in psychological researches. Husserlbase explained that in the Phenomenological standpoint, the object ceases to be something simply „external“ and ceases to be seen as providing indicators about what it is, and becomes a grouping of perceptual and functional aspects that imply one another under the idea of a particular object or „type“ (Boer, 1978; Husserl, 1962).

*Peter Petersen* (1884-1952) professor of pedagogy at Jena University founded experimental school in which he wanted to realize his „ideal of school as co-partnership of life and work“ similar to a family. „Jenaplan“ that he applied in his school divided all pupils according their age and sex, and according their capabilities and level of knowledge they had, in order to teach them appropriate to their affinities. This conception of school has beside inner also outer differentiation of pupils, what is important for education of disabled children (Muller, 2004).

*Paul Heimann* (1901-1967) earned education in pedagogy, slavistic and economy. He was professor at Pädagogischen Hochschule Berlin (College of Pedagogy). Heimann especially pointed that knowing and respecting individual characteristics of pupils relevant for process of learning represents good starting point for realization of special kind of teaching process. According to Heimann knowing starting levels of knowledge of schoolchildren makes good precondition for organization and classification of pupils. These postulates are present and today in theory and praxis of special education and rehabilitation (Reich & Thomas, 1976). *Wolfgang Schulz* (1929-1993) was German pedagogue and professor of didactics at University of Hamburg. He is proponent of didactic model of Hamburg's School that developed under strong influence of Berlin Didactic School (Bognar, 2002).

*Kilpatrick Willame Heard* (1871-1965) is American pedagogue and philosopher of education well known as an inventor of Project Method. This method is form of „Progressive Education“ organized curriculum and classroom activities around a subject's central theme. Heard rejected traditional schooling that focuses on memorization, and strictly organized classrooms. Kilpatrick believed that children should direct their own learning according to their interests and should be allowed to explore their environment, experiencing their learning through the natural senses. He believed that the role of a teacher should be that of a „guide“ as opposed to an authoritarian figure (Beineke, 1998).

*Roger Cousinet* (1881-1973) was French teacher, pedagogue and pioneer of progressive education. Cousinet started method of „working in groups“ based on stimulation of schoolchildren to form groups according to their affinities in order to response to their school obligations. After they form groups according to their sympathies and capabilities, they would be changed until they become fully functional for realization of common level of cooperation. Cousinet's starting view was specificity of child's age which is characterized by need for play and different types of social association. These specificities are according to him incompatible with frontal presentation in education. Theory and praxis of special education and rehabilitation is also incompatible with frontal presentation (Raillon, 1993).

*Carleton Wolsey Washburne* (1889-1968) was American pedagogue and reformer of education. He is well known for Winnetka Plan, that he crated based on experience obtained in suburban of Chicago called Winnetka between 1919 and 1943. The Winnetka Plan is a system of individualized instruction in an ungraded setting based on the principles of progressive education, aimed to develop the „whole child“. This plan included physical, emotional, social, and intellectual education. Washburne made curriculum that includes both „common essentials“ (reading, writing, number skills, history, and geography) and „creative group activities“ such as art, music, literature, and physical education. Since population of schoolchildren with disabilities also represent heterogeneous group this approach is consistent with theory of special education and rehabilitation (Meuer, William and Tubergen, 1998).

Almost at the same time, 1914-1920, „Dalton plan“ was introduced. Dalton plan is one of most wide-spread types of curriculum based on individualization. This plan was invented by American educator *Helen Parkhurst* (1887-1973). She graduated from Wisconsin State Teachers College in 1907 and was awarded her M.A. in 1943 from Yale

University. Starting from individual differences between pupils, idea that Parkurst promoted was to make possible to each individual more freedom and equal opportunities for advance in learning. All curriculums were adjusted to the level of development of each individual pupil and they were accepting them at their own pace. The pupil could make progress to new program only if results he/she obtained were at medium level of the class. This type of programme was mainly applied in organization of schools for children from low-incoming families. Individual capabilities of disabled schoolchildren are in the centre of theory of special education and rehabilitation, unfortunately they are rarely considered in the praxis of educational system (Tillman, 1994).

*Robert Dottrens* (1893-1984) is Swiss pedagogue and professor of pedagogy at University of Genève. Dottrens suggested individualization of education using individual sheets of education. This technique is based on individual capabilities of each student, and it is constructed and applied in experimental school in Mail, Genève (Ecole du Mail).

Although idea of using individual sheets of education is not original (this technique was used by Washburne in his school and also by Parkhurst) Dottrens made new conception of its application. He intended to use these sheets and to implement them in massive education like in public schools. In difference to individual education from Dalton plan and Winnteka Plan, Dottrens named his concept „individualized education“ and pointed to connection between individual work of pupil and collective education. Considering problem of freedom in education, he put this problem in relation with discipline and pointed that pupils with different individual characteristics couldn't be disciplinized in the same manner. Dottrens believed that freedom that makes possible to each schoolchild to become happy and competent person could be reached through respect of individuals features of the schoolchild. Dottrens distinguished three groups of schoolchildren in the class: group of school children which represents average score, group of most successful schoolchildren, and group of unsuccessful school children. Third group is what we consider as disabled schoolchildren that would need special treatment and program (Dottrens, 1962; Žlebnik, 1983).

„Manheim School System“ made strong influence on theory of special education and rehabilitation. Inventor of this system is German pedagogue *Josef Anton Sickinger* (1858-1930). He made reform of public schools by dividing schoolchildren from one class in four parallel homogeneous groups according to their capabilities. First group represented intellectually disabled schoolchildren, second group were schoolchildren with average capabilities, third group were schoolchildren with exceptional capabilities, and fourth group were schoolchildren with normal capabilities but that need some additional help in learning. This type of school organization introduced differentiation of teaching process according to pupil's capabilities (Krneta, 1971).

*Celestin Freinet* (1896-1966) was French pedagogue and educational reformer. He developed educational system named after him. „System Freinet“ was not theoretically derived concept, but concept developed from practice. Freinet was wounded during World War I and due to personal body handicap unable to perform full duty as school teacher. Freinet tried to overcome deficiency of traditional educational system and therefore insisted on individualization of education and self-work of schoolchildren. Each schoolchild has his/her own week plan made according to personal individual capabilities. School organized by Freinet lost character of educational institution and

became working institution directly connected with life. This kind of institution might be of great importance for education of disabled schoolchildren (Legrand, 1993).

*Alexander Shuterland O'Nill* (1883-1973) was Scottish pedagogue and educational reformer. He was representative of „concept of free education“ that was born as radical criticism of traditional, authoritative, and bureaucratic school. This concept was implemented with foundation of School in Summerhill in England in 1921 by O'Nill. Main milestones of concept implemented in the School were: democracy (democratic atmosphere in school and democratic participation of all school members), freedom (freedom of schoolchildren to choose between subjects and activities in free time), school self-management (issue from democratic participation of schoolchildren), responsibility (freedom in school doesn't mean that there are no rules and responsibility issue from respecting the rules which are made by all school members), personal happiness of each individual from school. O'Nill's idea standing behind Summerhill School was „to make school that is appropriate for child, but not the child appropriate for school“. He also believed that point of life is to find happiness, which means to find what is interesting, and the role of education is to prepare someone for life and that is valued also for disabled children (Bailey, 2013; Nil, 2003).

*Rudolf Steiner* (1861-1925) graduated in natural sciences in Vienna, but is well known as pedagogue, literature critics, lecturer, and writer. In 1919 he founded Elementary School in Stuttgart for children of employees of cigarette factory „Waldorf Astoria“. Philosophical and scientific background of „Waldorf School“ is anthroposophy as spiritual science of body and soul and their interconnections. Final goal of waldorf pedagogy is ambition to use pedagogic measures for children between 7 and 14 years that will enable them to interlink their fillings, consideration and free will. One of the aspects of waldorf pedagogy is presence of different types of differentiation of education. Differentiation of education, especially at disabled children, is based on respect of individual differences in capabilities, tempers, talent and learning disability (Steiner, 2006).

### ***People with disabilities and their contribution to the theory of special education and rehabilitation***

Personal impact is imperative in art and science. Some of the disabled people, although they profession was not closed to special education and rehabilitation praxis, gave their personal contribution to development of methods and theory of special education and rehabilitation.

*Louis Braille* (1809-1852) lost his eye sight in accident when he was only five years old. He was enrolled in Institution Nationale des Jeunes Aveugles where he began developing a system of tactile code that could allow blind persons to read and write quickly and efficiently. Braille characters are small rectangular blocks called *cells* that contain tiny palpable bumps called *raised dots*. The number and arrangement of these dots distinguish one character from another and could be used for writing letters, numbers, mathematical formulas, musical notation. The system is applicable in all languages (Mellor, 2006).

*Helen Adams Keller* (1880-1968) was American author and political activist that due to encephalitis lost eye sight and hearing at 19 months old. When she was 7 years old she

got governess Anne Sullivan (1866-1936) that after a long struggle with lot of patience taught her to speak and understand speaking language. She used technique based on touching palm with lips and touching throat with palm. Later Helen also learnt to use Braille. In year 1888 Helen got enrolled at Parkins Institute for the Blind and in 1894 at Wright-Humason School for the Deaf. Two years later she attended The Cambridge School for the Young Ladies and in 1990 Radcliffe College. During the lectures Sullivan was all the time with Helen helping her to understand what is said by lecturers. Helen didn't only learn to read and write but also became writer and later even teacher of deaf and blind children. She wrote several books in which explained her handicap and problems that such people face in their lives (Hermann, 1998).

Certainly there are more examples like these. Personal experience and struggle that fight these people is something from which we can learn a lot.

### **Actualities in theory of special education and rehabilitation**

Nowadays special education and rehabilitation of adults and children is institutionalized. It became organized and systematic activity at universities and institutes worldwide.

Out of many institutions we will present: Rochester Institute of Technology, National Technical Institute for the Deaf New York, <http://www.ntid.rit.edu/>; Faculty of Education, Social Science and Law University of Leeds, (<http://www.education.leeds.ac.uk/people/academic/sugden/>); Faculty for Education, Science Department for Special Needs Education, University in Oslo <http://www.uv.uio.no/english/>; Faculty of Educational and Rehabilitation Science, University of Zagreb, <http://www.erf.unizg.hr/en/>; Educational-Rehabilitational Faculty, University of Tuzla, <http://www.erf.untz.ba/#>; Faculty of Special and Rehabilitational Pedagogy, University of Ljubljana, <http://www.pef.uni-lj.si/>; Schulpädagogik, Socialpädagogik, Behindertenpädagogik und Psychologie Erziehung und Unterricht, University of Hamburg, <http://www.ew.uni-hamburg.de/de/einrichtungen/ew2.html>; School of Educational and Social Sciences, Department of Special Needs Education and Rehabilitation, University of Oldenburg, <http://www.uni-oldenburg.de/en/specialneedseducation/>; Centre for Disability Research at Upsala University, <http://www.cff.uu.se/?languageId=1>; Faculty of Rehabilitation Science, Technical University Dortmund, <http://www.fk-reha.tu-dortmund.de/fk13/en/Faculty/Departments/index.html>; Karolinska Institute of Special education, <https://www.universityadmissions.se/intl/start>; Faculty of Special Education and Rehabilitation, University of Belgrade, [www.fasper.bg.ac.rs](http://www.fasper.bg.ac.rs).... As many others.

These Faculties and Institutes represent authentic academic institutions inside Universities. They all show similarities with other such institutions from Europe and North America.

### CONCLUSION

It would be quite difficult to determine exact time period when theory of special education and rehabilitation started its development. Philanthropic individuals with various educational backgrounds (medical doctors, psychologists, pedagogues, theologians) gave huge contribution to the theory of special education and rehabilitation. Their biographies are impressive and huge inspiration not only for their communities but to the whole world. Although, social and political circumstances and level of technical development at that time made their communication difficult, they found the way of idea exchange between themselves. Quite often they had similar ideas but they could not exchange them.

For centuries before these and others individuals were giving their contribution to creation of basic principles of theory of special education and rehabilitation. With the time special education and rehabilitation derived from several other sciences and became influenced with knowledge and methods from these sciences. Fundamentals of special education and rehabilitation consist of methods, techniques and procedures of learning (activities of daily living, social competence, academic and professional competence, knowledge).

This approach represents basics of curriculum of study programs of special education and rehabilitation at Faculties in West Balkans, Europe and North America. There is clear division on subject derived from medicine, psychology, pedagogy, and subjects that concern learning methods of disabled children. Studying theoretical orientation of Faculties for special education and rehabilitation, their curriculums, research interests, their organization, and realization of joint projects would improve further development of theory of special education and rehabilitation.

### REFERENCES

1. Bailey, R. (2013). *A. S. Neill*. London: Bloomsbury. ISBN 978-1-4411-0042-9
2. Bognar, L., & Matijević, M. (2002). *Didaktika*. Školska knjiga. Zagreb.
3. Burman, J.T. (2011). The teroeth Piaget. *Theory & Psychology*, 21(1), 130-135. doi: 10.1177/0959354310361407
4. *Catholic Encyclopedia*. „Charles-Michel de l'Épée". New York: Robert Appleton Company. 1913.
5. *Catholic Encyclopedia*. „Juan Pablo Bonet". New York: Robert Appleton Company. 1913.
6. *Catholic Encyclopedia*. Valentin Haüy. New York: Robert Appleton Company. 1913.
7. Claparède, E. (1950). *L'éducation fonctionnelle*. Paris–Neuchatel.
8. Claparède, E. (1951/52). *Psychologie de l'enfant et pédagogie expérimentale*. Paris–Neuchatel.
9. Daniels, M. (1997). *Benedictine Roots in the Development of Deaf Education: Listening with the Heart*. Westport, Conn.: Bergin & Garvey. ISBN 978-0897895002
10. Disability History Museum. <http://www.disabilitymuseum.org/>. Article In Memory Of Edouard Seguin, M.D. Accessed 20 August 2014
11. Đorđević, J. (2000). *Reformni pedagoški pokreti u 20. veku*. Učiteljski fakultet. Beograd.
12. Dottrens, R. (1962). *Individualizovana nastava*. Veselin Masleša. Sarajevo.
13. Evgenia Homskaya (2001). *Alexander Romanovich Luria: A Scientific Biography*. Plenum Publishers, New York, NY, p.9.

14. Francine, D. (1993). Jean-Ovide Decroly. *Prospects*, vol. 23, no. 1/2, p. 249–75.
15. Herrmann, D. (1998). *Helen Keller: A Life*. New York, NY: Knopf. ISBN 978-0-679-44354-4
16. Husserl, E. (1962). *Ideas: General Introduction to Pure Phenomenology*. Translated by W. R. Boyce Gibson. London, New York: Collier, Macmillan.
17. John A. Beineke (1998). *And there were giants in the land: the life of William Heard Kilpatrick*. New York : P. Lang. ISBN 0-8204-3773-5
18. Kelly, Howard A., M.D. (1912). A Cyclopedia of American Medical Biography from 1610 to 1910, vol. 1, pp. 305–306.
19. Kocić, Lj. (2002). Edouard Claparede's 'school made to measure'. *Zbornik institute za pedagoška istraživanja*, Issue 34, pp. 141-158.
20. Krneta, Lj. (1971). Funkcionalna pedagogija. *Pedagogija*, 2, 238–263.
21. Lane, Harlan. „Chapter 1, My New Family“. *When the Mind Hears* (First ed.). Random House. ISBN 0-394-50878-5.
22. Louis Legrand (1993). „Célestin Freinet“. *Prospects: the quarterly review of comparative education*. XXIII 1/2: 303–418.
23. Mellor, C. Michael (2006). *Louis Braille: A Touch of Genius*. Boston: National Braille Press. ISBN 0-939173-70-0
24. Meuer, W., & Tubergen, Jan. (1998). „Carleton W. Washburne“. *Winnetka Gazette*.
25. Nil, S. A. (2003). *Slobodna deca Samerhila*. Logos Art. Beograd.
26. Paul Heimann (1976). Lebensdaten. In: K. Reich, H. Thomas (Hrsg.): *Paul Heimann – Didaktik als Unterrichtswissenschaft*. Klett, Stuttgart. ISBN 3-12-923380-6, S. 229–230.
27. Roger Cousinet (1993). Louis Raillon (1881–1973). *Prospects*, vol. 23, no. 1/2, p. 221–33.
28. Rudolf Steiner. (2006). *Autobiography: Chapters in the Course of My Life: 1861–1907*, Lantern Books.
29. Savić, Lj. (1974). *Sistemi obrazovanja gluviĥ*, Savez društva Defektologa Jugoslavije, Beograd.
30. Savić, Lj. (1991). *Istorija surdopedagogije Srbije*, SGN, Beograd.
31. Savić, Lj., Ivanović, M.P. (1994). *Surdopedagogija*, Defektološki fakultet u Beogradu, Beograd.
32. Savić, Lj. (1966). *Teorija i praksa specijalnog školstva u Srbiji*, Savezni odbor Saveza gluviĥ Jugoslavije, Beograd
33. Silverman, H.L., Krenzel, K. (1964). „Alfred Binet: Prolific Pioneer in Psychology“, *The Psychiatric quarterly*, Supplement 38: 323–35,
34. Standing, E.M. (1957). *Maria Montessori: Her Life and Work*. New York: Plume. ISBN 0-452-26090-6.
35. Susanne Müller. (2004). *Peter Petersen – eine reformpädagogische Bewegung und ihre heutige Bedeutung*, GRIN Verlag, S. 29
36. Theodorus Boer (31 December 1978). *The Development of Husserl's Thought*. Springer. p. 121. ISBN 978-90-247-2039-2
37. Tillman, J.K. (1994). *Teorije škole*. Eduka. Zagreb.
38. V.G.Red'ko, D.V.Prokhorov, M.B.Burtsev. (2004). Theory of Functional Systems, Adaptive Critics and Neural Networks, *In Proceedings of International Joint Conference on Neural Networks*, Budapest, pp.1787-1792.
39. Wertsch, J.V. (1985). *Vygotsky and the social formation of mind*. Cambridge, MA: Harvard University Press. ISBN 0-674-94351-1.
40. WhoNamedIt.com. *Article „Jean Marc Gaspard Itard“*. Accessed 20 August 2014
41. Wollock, J. (1996). John Bulwer's (1606–1656) place in the history of the deaf. *Historiographia Linguistica*, 23, 1/2,
42. Źlebnik, L. (1983). *Opšta istorija školstva i pedagoških ideja*. Prosvetni pregled. Beograd.