Psychological Trends in Czechoslovak Democratic Education

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THE PRESCIENTIFIC STAGE

Czech people living on the territory now included in Czechoslovakia possessed a unique opportunity in the history of education, namely, a group of conscientious people organized in a society ambitious to promote systematic education, as it has been doing since the 15th century. This group was the Society of Bohemian Brethren – *Unitas Fratrum* – the followers of the original teaching of John Hus. Each of their communities tried to establish a school, provided with a competent teacher, accessible to any child, rich or poor, boy or girl. Teachers could teach everything known at that time, including natural history. They tried to extend education to children, as well as to adults, as a part of their religious duties. One of their ordinary members who rose to the level of university graduate by self-education was their bishop at the end of the 15th century, Tůma Přeloučský, originally a tailor.

There were some powerful psychological factors in action in the communities of the Unity of Brethren, such as interest in spiritual values, cooperation, and mutual aid. These components produced a highly spiritual and cultural atmosphere which became a characteristic of *Unitas Fratrum* communities at home and remained so even during their exile in Germany and, still later, in the United States, where they are known, under the name of Moravians, as founders of schools and musical festivals.

All improvements introduced into education by the Brethren were systematized into a complete and integrated theory of education, closely approaching our modern conceptions, by their last bishop, John Amos Comenius (Komenský) 1592-1670. When Professor Jean Piaget, the well-known psychologist, introduced the Unesco publication commemorating the 300th anniversary of the year of the publication of Comenius' *Opera Didactica Omnia* (*John Amos Comenius*, 1957, Paris,

Unesco), he warned against seeing in comenius' ideas all trends on modern education. But Piaget himself must recognize the unusual farsightedness of Comenius, who elaborated many ideas which were later introduced into education by progressive teachers (though some are not yet practised regularly). Piaget admires Comenius' genetic approach, his idea of education for all children, autodidactic devices, emphasis on senses, and his humanitarian goals of education with its international dimension (1.c.p.18,20,24).

Some psychologically founded ideas by which Comenius advanced education almost to our modern level show his understanding of individual differences, of the proportionally longest childhood in man, so different from other living beings, (*Didactica Magna*, any edition, chap. 27-31), and of the fact that education civilizes man's instinctive nature (Unesco, p. 192ff), which he proves by describing two cases of wolf-children (*Didactica*, chap. 6). The goal of education is to him to bring man closer to real humanity, and therefore he requires "public schools" in all communities and nations (Unesco, 147, 151). He emphasizes also that everything has to be taught and learned by as many senses as possible to make images firm (*Did.* chap. 20). Therefore, matter must precede form, objects must be perceived before words. His *Orbis Pictus* and books of pictures for preschool children are precursors of visual aids (*Did.* chap. 28).

Education must be concerned with the whole man (Unesco. p. 113). As he puts it: "I add that all schools should have the reputation of being, and should indeed be, pansophic, drawing gradually on all things: (1) sensual, (2) intellectual, and (3) spiritual (i.e., physics, metaphysics, and ultraphysics), not separately, but all together through all the seven ages of man, starting from the fundamental and rudimentary, through broader and higher grades to the highest that can be reached on earth" (Unesco, p. 154). The goal of raising man to higher levels of cultural life is also among the most modern quests for personality formation.

Ideas of Comenius were living in the 18th century as widely read philosophical teachings. They are mentioned several times in Goethe's autobiography. But the practice of public education was still far from materializing for all children.

About in the 1860's, the ideas of Herbart clarified the function of psychology in the field of education by attributing to ethics the role of formulating the goals of education and by making psychology instrumental in constructing the way toward ethical goals. Thus, psychology

became the foundation of educational methods. In this function, psychology was recognized as an indispensable part of teachers' professional preparation and since then psychology has been added to the disciplines essential to a competent teacher, as was recently admitted by James Conant in his study of American ways in teacher education (*The Education of American Teachers*, New York, Mc Graw Hill, 1963, p. 131).

Herbart was followed by Gustav Adolph Lindner (1826-87), who prepared a *Textbook of Psychology* that was used in teacher-training institutions in Austria-Hungary, and also in the United States. When Lindner became professor of education at the newly-restored Czech Charles University in Prague, in 1882, psychology was definitely accepted as a part of teacher preparation and has remained so ever since.

At about the same time, romanticism emphasized interest in childhood. The literary works of Rousseau and Tolstoi contributed much to this orientation among middle-class intellectuals and among teachers in Czech territory. The end of the 19th century was the turning point in teacher orientation, since it moved it from one-sided intellectualism and logical formalism to the psychological understanding of the child. The beginnings were rather more theoretical, centered on academic discussions, without much real change in practice. The new interest in children caused the introduction to children's literature of children's language, and the adjustment of school activities to the level of the child mind.

THE REVOLT AGAINST TRADITION

Rousseau's emphasis on spontaneity, Tolstoi's calling for freedom for children as the best method of education, Ellen Key's campaign for children's rights, Maria Montessori's maternal attitude to individual children – all these moved parents and teachers to study children objectively and to record developmental changes in a systematic way. Since many of these ideas were expressed by Comenius, whose works were published by now in Czech, teachers came to realize that practising these ideas is in the Czech national tradition.

Almost unanimous approval was given to the movement that tried to replace the traditional passivity of children in schools by a natural active participation. The "active school" became the slogan of progressivism in education at the beginning of the 20th century, all over the Western world.

This movement was organically allied to the revolt against the formalism of school discipline, practised merely for discipline's sake. Under this regime, three strict prohibitions were imposed on children from the first day of school: 1) not to move from the place assigned to each pupil in the class; 2) not to talk freely; and 3) not to use his hands unless ordered by the teacher. Since all three are against the child's nature, more activity was demanded for children in the classrooms.

The uniformity of school requirements, assignments and progress in subject matter was felt to be contrary to the variability of children's mind. The uniformity of schedules, courses of study, methods, textbooks, and instructional devices was looked upon also as psychologically inadequate.

Didactic materialism – excessive emphasis on the quantity of subject matter and on its logical organization – was under fire from romantic anti-intellectualists, as mentioned above. Other parts of human personality were discovered and found to deserve the teacher's interest and guidance beside the process of reasoning.

These points of revolt were much discussed in Czech teachers' periodicals. There were no attempts to test such ideas in an open experiment, however, since the Austrian administration, always too conservative, did not approve it.

These limitations provoked in teachers an increasing dissatisfaction and an eagerness to gain Western freedom. They started to organize a professional association. They were encouraged in this respect by the ideology of the "Sokol" organization, whose goals were not only in the field of physical training, but also in cultural values and social emphasis on democratic equality. The attractive power of these ideas was so great that at the beginning of the 20th century, there was a Sokol chapter in almost every community. Another similar sociopsychological power was the beginning of worker organizations. The teachers' association did not pursue only the goal of political power, but also the goal of cultural enrichment. They started a self-supporting publishing institution "Dědictví Komenského" (The Heritage of Comenius), where editions of educational classics and of all relevant discussions on educational problems were printed. This publishing institution was a monument to the teachers' enthusiasm and self-sacrificing spirit in service to cultural values.

To this publishing institution, which revolutionalized the views of the majority of teachers, were added two more technical tools for professional enlightenment, namely, two scientific periodicals: *Pedagogické*

rozhledy (Pedagogical Views) and *Česká mysl* (Czech Mind). The first was devoted to problems of education and child study, the second to philosophical and psychological issues. Both were edited by university specialists who were eager to report any progress in psychology, child development study, and educational psychology going on in the Western world. Both were very efficient tools for the discussion of professional problems on the scientific level.

Still another factor, completely new, appeared on the horizon of science in the 1880's when Wilhelm Wundt opened a laboratory for experimental psychology at the University of Leipzig. Wundt tried to show that psychology was now based fully on scientific foundations. The amount of experimental data was soon so large that Wundt could collect them in three volumes, *Grundzuege der Physiologischen Psychologie*. Like all Western psychologists, Czech psychologists oriented themselves toward experience and experimental documentation.

These new trends were conscientiously reported to Czech teachers in both journals by university professors: František Drtina on new ideas in education; František Čada on child development; and František Krejčí on psychology. The last was moved by the many textbooks of psychology published in Western countries to start to write a six-volume compendium of psychology. This textbook was just finished at the outbreak of World War I, and was published by the teachers' publishing institution.

Just before World War I, the changes in theoretical conceptions of education were supplemented by an instrument for their practical application in the adolescent period – by the Boy Scout movement. This educational factor is usually omitted in the history of educational cultural endeavor, although it is a very important enrichment of educational practice. This movement was soon recognized as a valuable tool of education for the very difficult period of boyhood, and educators quickly accepted it with sympathy. Professor Antonín Svojsík brought it to Bohemia from England. The first Scout group camping in the Czech-Moravian mountains became famous through the *Diary* of Jiří Wolker, later a highly-valued poet.

Practical attempts to apply psychological ideas in Czech education before World War I were limited to two areas: 1) Visual aids for elementary schools "Názorné vyučování", by which Comenius' idea of teaching by means of things was strongly recommended to teachers; many kinds of visual aids were produced and put on the market; and 2) undifferentiated curricula for elementary grades in the form of

projects or units from child surroundings, such as school garden, transportation, family life, community hygiene, etc. The motivational aspects of school work and syncretic character of the child's mind (as Jean Piaget today calls the inability of children to analyse complex phenomena into their components) were at the roots of these experiments.

THE ROMANTIC PERIOD

Since the political pressure of conservativism was lifted in 1918 and the needs of the new democracy appeared to be just the opposite of those of the old monarchy, many people believed that schools would have to switch to different techniques and ideologies than were traditional. If Petr Bezruč, the poet of *Slezské písně* (Silesian Songs), called the secondary schools "katorga" (forced labor prison), he emphasized the lack of freedom. Many people agreed with him and lack of freedom was felt as the main defect of education. (Have in mind Tolstoi's exclamation: "The best method is freedom!")

The Czech teachers felt a deep responsibility for the future of the nation and approved the general sentiment that the destiny of a nation depends on its creative talents. They had seen it proved during World War I, when the fame of the creative sons of the country contributed to making the cause of Czechoslovak independence known to the allied world. Such names as Hus, Comenius, "Il divino Boemo" – Mysliveček, physiologist Jan Purkyně, composers Dvořák and Smetana, all convinced the Allies that a nation which contributed many high values to Western culture was worthy of freedom.

Mental synthesis of these experiences, expectations, and the traditional missionary spirit of the national enlightenment, in which teachers were playing a significant role resulted for many teachers in a sincere eagerness to introduce a new approach to daily practice in public schools.

Soon after 1918, many experimental classes and schools mushroomed all over the country. Some of them transformed certain factors of the educative process more thoroughly than others, and became well-known; some were less daring. The common denominator of all of them was their uncompromising emphasis on freedom for children; spontaneity seemed to them a divining rod of modern education. These experimenters supposed that spontaneity was the core of child personality in which the most precious qualities of man were enclosed. Spontaneity

was conceived as the intrinsic treasure of any human being, the mysterious heritage from his ancestors, and the unexplorable promise of his future, especially concerning his potentiality to climb toward those values man considers as the highest goals of mankind.

This conception was based on Rousseau's romantic belief in man's original goodness, which is fully natural to him, and which can be fully developed and preserved for mankind only by man's close connection with nature, described enticingly in Rousseau's *Émile*. The future lot of man was imagined to be "inscribed" in his original endowment. Such "seeds" were believed capable of full development after conception by the individual's inner spontaneous powers during his growth. If these powers could have their own free way, they would reach the development in their best form and degree, and might be of greatest benefit to their bearers and to the nation. Children were compared to flowers which grow by their "inner push" that decides the final lot, features, and qualities of each individual.

It was believed that another man should not interfere with such inner powers. Any external influence that might plan to give direction to the child's growth was looked upon with suspicion, since it might deform and even threaten the spontaneous direction of those inner powers. A clear example appeared to be the artistic endowment of an individual. Cases of talented children trained by their teachers to a schematic epigonism were known. Since originality was, and is, the most valued quality of the arts, the following imperative was imposed upon the teacher: Give to the learner the highest degree of freedom, so that his originality might fully develop unbiased by any limiting influence.

The teacher must observe the spontaneous actions of his pupils to discover talents. Then he must avoid any indoctrination to prevent epigonism. It was believed that he might thus discover many a talent for the nation, and so contribute to the nation's creative potentially.

What those inner powers in each individual were, nobody knew. If today we call them "dispositions" or "genes", it does not make us wiser. Obviously, teachers believed in the hidden talents progressing by their own mysterious powers, so that the teacher could not only look at their effects with reverence, as at "sacred" agents deciding the future of the child, and protect them from disturbing influences.

Such a mystical approach was reinforced by a special opportunity of getting an intuitive insight into the "workshop" of mental creation and dynamics of moral values in children's mind. This unusual opportunity is due to Leo N. Tolstoi. His pedagogical essays are a sincere descrip-

tion of his observations of children in his experimental class at Jasnaja Poljana, where he himself taught the children of his peasants. He recorded many of his own observations of children with so many lively details that his articles are highly fascinating and seductive reading. From the point of view of psychology, there are two features that reinforced the teachers' enthusiastic interest in the spontaneity of children.

One story concerns his self-observation while he had to decide about one child who was discovered to have stolen something from another child. Tolstoi describes his moral indignation and swift decision about the punishment: He suspended on the neck of the culprit a card with the word: "Thief". And now came the crisis. He pushed the culprit away with open contempt. But the child did not go away and cast at Tolstoi the look of a "wounded wild animal". The intuitive mind of the celebrated writer was pierced by this look and he felt a lighning-like shock: "Have I the right to do this? Do I know the motives of the child? Am I not producing a much wider crime by labelling him with the word 'Thief?' Tolstoi was now completely confused by the complexity of the situation which he had not noted before. He felt completely lost in the labyrinth of the human mind. Ideas were whirling in his own mind, such as: "How easily one can deform the immature, developing mind of a child, the future citizen. What great responsibility there is on the shoulders of a teacher! How can he decide what is the best for a child in such a situation?" Tolstoi simply stripped the sign from that child and let him go. The spontaneity of nature must help where man's reason (even of such as a Tolstoi was still so weak.

Although we might solve such problem better today – and we cannot reproach to an amateur educator, as Tolstoi was, for his clumsy decisions, at a time when psychology had not yet entered its scientific stage – teachers were fascinated by Tolstoi's self-criticism. The great man's hesitations were interpreted by them thus: that the complexities of human nature might be better solved by nature itself. Reliance on the spontaneous development of the child's inner powers was reinforced.

The second feature was still more fascinating. Tolstoi describes his observation of a group of children while they were writing a story on the theme of a Russian proverb, "They feed you with a spoon and pick your eyes with a straw." Children in his class showed interest in writing this story and started to contribute ideas, discuss, and write them. Gradually some left, annoyed by steady arguing about what was acceptable and what was not, and, finally, there remained only two boys – Fedka and Petka – who persisted and together finished the story.

Tolstoi's creative *élan* was fascinated by this picture of two minds in a creative process. Their arguing, inventing, trying to fit new ideas into the frame of the theme and rejecting inconvenient parts, adjusting others, and selecting some better ones – all that was of the highest interest to a creative genius. No wonder, since that gave him a direct insight into the "workshop" of mental creation. This observation impressed him so deeply that he remained a speechless observer during the half day the boys needed to finish. The richness of images, the cooperative progress, evaluation, arguing, fitting, testing, tasting, etc., all such complex processes were passing before his astonished eyes with the naiveté and sincerity of children's minds. Finally, the story was valuable, good, even without Tolstoi's help. The flavor of freshness set him in a mystical awe. Simple boys creating – again, the mystery of spontaneity!

This was, to teachers, another proof that there are hidden gifts of originality and creativeness in children which may spontaneously develop and preserve their full fresh charm of novelty.

Teachers involved in these experiments were eager readers of Tolstoi and Rousseau. They tried to protect the inner powers of children from disturbance, to let them develop spontaneously by their own inner determination. The external means of this spontaneous development were spontaneous drawings and paintings of children, favored by all these experimenters. Teachers have seen in them the real creations, accepted them with exalted enthusism and published thousands of pages about them in professional journals.

Each of the experimental classes emphasized slightly different components of the educative process, following the slogan: Freedom for children – freedom for the teacher. Characteristics of each experiment are briefly, as follows:

Marie Kuehnelová tried to pattern school life by the family atmosphere. The dismal colors of public classrooms were changed to joyous light colors on walls and furniture. The school environment had to be agreeable to children to increase their pleasure in staying in school and working there. The teacher's warm affection should attract and encourage creative work from each child. This sympathetic atmosphere was especially emphasized for the transition of children from informal kindergarten to more formal elementary school. Spontaneity was observed and, for the knowledge of facts and skills, the teacher used a winning, rather than compelling, technique. Family-school cooperation was very harmonious. A similar goal was pursued in classes held by

Sedlák and Žitný for workers' children. Poor cultural atmosphere and lack of understanding of the needs of children's mind by the lower classes were balanced by the school interest in the child's cultural development, in formation of personality and character development by effective opportunities for awakening constructive qualities without interfering with spontaneity. For children of the lowest social status, Přemysl Pitter, with the help of the Red Cross, established the "Legie malých" (Legion of the Little Ones) to create for them a warm homelike surrounding, while parents were at work, the children having to stay somewhere after school. Attention was paid mainly to character formation by cooperative group-projects. Eduard Storch similarly volunteered to guide a group of pupils from poor families, after school hours, to live close to nature on a "School Farm" on Libeň Island in the Vltava River. There were quite a few opportunities for spontaneous projects by which creative cooperation was encouraged. Some of these projects, such as a cabin, vegetable garden, a bridge, or a raft, could prove the practical value of cooperation in a very understandable way to children.

Wider publicity was given to two experiments of more irregular institutions serving special kinds of children: the František Bakule Institute for Crippled Children in Prague, and "Dům dětství" (Children's Home) in Krnsko, for orphans of World War I legionnaires. Both were visited by Carleton Washburne, the initiator of the Winnetka Plan, who devoted to each of them a chapter in his book *New Schools in the Old World* (New York, John Day, 1926).

As a teacher of crippled children, Bakule observed that these exceptional children try to compensate for their deficiencies by eagerness to excel in some mental activities, especially in art, poetry, or music. Since he himself had inclinations toward art, he encouraged children, and built of them a song-team. Some children excelled in poetry, some in painting; some were appreciated even by professional artists. Bakule and his sympathisers have seen in it another proof of the effectiveness of spontaneity in children.

Washburne called the orphanage in Krnsko "a children's paradise". In fact, it was dominated by an extraordinarily warm atmosphere of eagerness to do for children anything within human power. Naturally, the freedom of children spontaneity was complete. Children were guided indirectly by situations, rather than by orders. They lived like a large family where individual desires, needs, and motives were respected, as far as they did not threaten the freedoms of others. Common discussions were held to resolve any conflict, and were pursued until a

fitting solution was found. The supreme law was the freedom of spontaneous development of each child. Children's decisions were respected, even when concerned with serious responsibilities, such as the adoption of another orphan, about two years old, whom girls about ten years old adopted as "their" baby, taking care of it like real mothers. Also in Krnsko, children spent lots of time in artistic projects and constructive activities, such as building a house for that orphan baby.

This atmosphere of complete freedom was applied to a public school by Alois Mužik, in his experimental class in Prague. Beginning in the 1920's, he experimented with projects initiated only by children's spontaneous interest. In his elementary class, there was no schedule, no firm curriculum, no separation of subjects. Each day, the children's interest decided what they would be taught. He describes in his report: *A Year in an Experimental School*, rich observation of how children were acting and thinking in different class procedures, adding many self-observations that cast interesting light on a teacher's readiness to cooperate with child spontaneity. He scattered the three R's throughout the projects and taught them only in connection with occasions that required them. There was no planning for the next day's work. The immediacy of the child's spontaneous interest was the only criterion for selecting the matter for each day. He tried to prove that even with such extreme freedom of children and of the teacher, it was possible for pupils to learn what was required.

Although all these experiments contributed to enhance the teachers' interest in child mental life and in school procedures that might be shaped in harmony with child psychology, the effect of their particular features on the teaching practice in public schools was not great. The atmosphere of private schools differs considerably from that of public schools, where many pressures of the uncompromising necessities of life must be observed. The responsibilities of compulsory education bind the teacher more rigidly to follow goals to be achieved by *all* pupils in each class. There is not much time for a mere discussion about what to deal with in the class, especially when different children show different interests. The subject matter must be planned in advance. Economy of time and energy – required by good methods – are the order of the day. Such economy concerns the pupil, primarily, but also the teacher's output of his powers and time. Romantic experiments proved that it is possible to teach by projects without articulating matter in special subjects, but today we know that it imposes on the teacher an unusual responsibility for using readily and skillfully each oppor-

tunity for training in the three R's. The enthusiasm of some experimenters seduced them into neglecting drill, and then, in higher grades, the children paid dearly with unusually high stress for indulging spontaneity of interest too much.

Such conclusions might be called mere conjectures, had it not been for the voice of one experimenter late from the "children's paradise," Ladislav Švarc. He left the "Children's Home" and returned to public schools. The education of orphans was then entrusted to public schools. Švarc's experience was surprising: Orphans were living in the institution fully protected from disturbances of the usual life. They were happy, as if in a dream or in a play. Says he: "They were growing like flowers in a greenhouse." After entering life, they were exposed to all kinds of strains and stresses they could hardly resist. Like flowers transplanted from a sheltered atmosphere into a storm, some succumbed, since they had not learned how to resist stress and endure hardships. Their tolerance to stress was very low. According to Švarc, life in the institution was too far from real life. Thus, such education was not preparation for life as it is, with its hardships, conflicts, compromises and struggles.

It is interesting to note how much of Mr. Švarc's experience agrees with the observations of Hans Selye (*The Stress of Life*, in New York, McGraw, 1956) concerning the adaptation syndrom and the need for training each organism to mobilize inner energies in emergency situations.

All these experiments were followed with eagerness by the superintendent of public schools in Boskovice, Moravia, Alois Menšík, who sympathized with child spontaneity and the artistic orientation of young minds, since he himself was a poet and a man who loved children sincerely. But he was in his fifties, a realistic man. Emotional advertisements did not convince him, since the responsibilities of the public education system were strict and cool. He encouraged teachers of his district to improve their professional education in psychology and then to plan their experiments realistically. He put most emphasis on elaboration of methods that enable children to reach their achievements more economically. In this approach he assumed a transitional orientation from the romantic to the scientific stage of experiments.

THE SCIENTIFIC STAGE

The main difficulty of romanticism was the impatient approach to problems. Education is a complex function of life; thus, its improvements presuppose a patient analysis and then handling each particular component with caution, so that its function and importance may appear clearly. Obviously, this takes time. But romanticism wanted to see changes immediately. Romantic experimenters believed that they could do it by a daring leap of their intuition. This irrational vision revealed to them the spontaneity of children as the "surest" way to the creativeness of the modern man. It sounded so nice, but it oversimplified the complexity of school life and ended in self-deception. There is involved a whole series of questions, such as: What is the creativity of children? Is it real, as compared with that of adults? Can inexperienced children really create? What is the role of guidance or freedom in it? How much of each is the optimum? Disregarding such questions, romanticists interpreted a few cases of talented children, who profited from the freedom given to their interests, as a proof of the creed in spontaneity. But their enthusiasm for a few talented children (usually not of the first order) limited their vision, so that they could not see large gaps in the mastery of the three R's in the majority of children involved in the experiments. These children showed lack of self-mastery when exposed to disagreeable tasks, inability to mobilize powers in emergency situations, and, even, inability to make independent decisions.

The deceptive character of the belief in spontaneity is clearly shown by children's spontaneous drawings. They appear like artistic creations to those who see in primitivism a modern progress in art. Each average child can produce something along this line – is each child then an artist? Remnants of such intuition, leading to simplifying schemes, persisted in an aftermath of romantic "experiments" in the early thirties, as the "global method" of teaching elementary reading and as the "uniform school", abolishing differentiated types of schools and keeping one single type for all children throughout their development. Both innovations were not psychologically explored before inception, but only politically forced and advertised. Their weaknesses were justly criticized by teachers and parents from their very beginning. They were kept going only due to the political support of the Social Democratic and Communist Parties. Thus, we shall not consider them further.

Besides simplification, the criticism of the romantic experiments may be summarized as follows:

1. The experiments were not realistic. Private schools differ too much from public schools, as mentioned above.

2. There was a lack of scientific criticism. Romantic experiments were not compared with normal schools. Higher efficiency was not proved.

3. The principles assumed were not scientifically tested (spontaneity creativeness, globality, uniformity).

4. There was a lack of guarantee in planning, no analysis of complex problems, no adherence to scientific methods.

Scientifically planned experiments in education require an exploratory attitude toward problems, systematically planned research, and long-range experimentation. Therefore, the present reporter, in 1934, established the Institute for Educational Research in Prague, and with a group of teachers set in action systematic research into student learning capacity and individual differences in it. The first results were reported at the International Congress of Psychotechnique in Prague in 1934. ("Deux Lois de la Variabilité Intraindividuelle" in *Compte Rendu de la VIIIème Conférence Internationale Psychotechnique,* Prague 1935, pp. 798-80; and "Est-ce-qu'on peut élever le niveau de l'éfficacité du travail scolaire'?' *Pour l'Ère Nouvelle*, 1932, pp. 144-8). We have found interindividual and intraindividual differences about of the same range, both expressed by the normal probability curve. That fact proves the regularity of both kinds of differences among students. Thus, the uniformity of textbooks, methods, and requirements from students in all schools seemed to contradict psychologically founded facts. Another search of the content of textbooks uncovered a great variety among authors in material facts, but almost no difference in methods and other factors of the learning process. Thus, we concluded that schools needed first to explore possibilities in providing for individual differences.

The Institute prepared an experiment concerning methods of teaching, with about twenty experimental and 20 control classes. The objective was to give individualized instruction based on differentiated extents of assignments, according to learning capacities articulated into three levels: below average, average, and above average. Autodidactic material was prepared by the Institute. Systematic written testing in both kinds of classes provided results for the comparative study. The level of students was 10-14 years, i.e. the regular classes of the public junior

high school. The semester and the final results showed the advantage of individualized practice. The diagram shows in the upper curve scores arranged in the rank for the experimental classes. The lower curve corresponds to the control classes. Since the vertical dimension shows the amount of knowledge, the experimental classes are systematically higher. The greatest gain was found in the average students, who could devote more time to slightly restricted matter and thus better digest it.

Encouraged by these results, we tried to win the sympathies of the secondary school teachers for experiments with teaching methods on the secondary level. In 1935, we organized parents in an Association for Individualized Education and, with some support of the Ministry of Education, we started a private experimental school on the secondary level in Dejvice, a residential suburb of Prague. The school operated until 1941 with five grades and over 250 students. After the Nazi occupation, the school was ordered to close, along with other private schools (in 1941) as part of the cultural effacement of non-German nations. It was a spiritual and material loss for the nation and the city of Prague. We had just received from the city a plot of land for a new building; the plans for a modern, new kind of school were made by Professor Theodor Petřík, money having been guaranteed by the parents. After 1945, the Communists were not interested in individualized instruction.

The school for individualized education started, first of all, with the task of meeting individual differences in academic capacities as fully as possible, to provide more adequate opportunities to raise the effectiveness of students' work. Students were selected as for public secondary schools. The traditional selection process was rather one-sided and on a very gross scale. We have found that individual differences occur in a large variety of dispositional aspects, thus, there was need for a more refined variety of opportunities. Individual differences were found, not only in overall IQ's or so that a student would be superior or average in general, i.e., in all kinds of school work. There are some general talents among students here and there, but the overwhelming majority varies from subject to subject, even from lesson to lesson. They vary relative to the difficulty of new lessons, to the quality of new data to be grasped, from teacher's instructions, to the power of assimilation of new matter by their earlier experiences, to the tempo of work, etc. (Many studies of this kind are gathered in the author's *Individualization of Methods,* vol. I., (Prague, 1931, chap. III-XII).

We tried to meet such differences by substituting workbooks for text-

books, and paralleling the text with detailed directions on how to master the material; where to start with solutions of given problems; how to proceed; how to control the results; how to improve errors, etc. The extent of lessons was differentiated into three levels of length and difficulty, as well as of cultural importance. The major part of each instruction period was spent in independent study of workbooks. Students could consult the teacher or their neighbor, or they might use other aids and instructional devices. From subject to subject, they changed their place in the class to join the appropriate group, the class being divided to enable the teacher to give more help to those who were in need of it. For each kind of individual variation, we tried to find adequate opportunities to enable each type of student to achieve his maximum by the means best suited to him.

If we take into consideration the whole spectrum of individual differences, we realize that school practice needs more flexibility in all its phases and aspects. Much remains for further experiments in this respect.

A very neglected aspect of the child's mind in the public schools is the field of individual variations of interests – not their intraindividual fluctuations, but steady trends of activities that attract young minds outside the academic field. Hobbies or avocations were not admitted to traditional schools.

We are aware today of individual interests as a very important way toward the future occupation of students. We know that their interests may give us unusual insight into the dispositional structure of each individual which might be useful for vocational guidance and decisions. Schools may also contribute to the development of worthy interests, skills, and inclinations which may become a real asset to the national creative potential.

Our experimental school organized systematic meetings of our students in afternoon "interest circles", in which each student might participate by his project, making it a cooperative undertaking of a group. University students were hired as consultants. Many parents took part and even supplied material for projects.

Great differences were found in the structure of personalities. In the earlier years, such differences derive mostly from physical and mental components. But when puberty approaches, the social components advance to the foreground and individual variations increase. The individual is growing toward an active participation in social life, he becomes aware of being a member of a group that has the upper hand

over him – obligations, allegiances, and responsibilities start to play their role. Egoism and altruism easily clash. Home guidance and temperaments interfere. Social stratification, the degree of individual maturity, models from the student's environment, all differentiate the youth even in the same age and class groups. Ability to handle social problems varies also individually; this motivated E. L. Thorndike and Henri Piéron to recognize a special social intelligence. But the majority of patterns for handling social problems is acquired, and needs a cautious guidance by an understanding person. Afternoon circles, sports, discussion groups, and parties, all initiated by students, gave quite a few opportunities for social orientation individually shaped.

A large area of differences disclosed itself within the realm of cultural and spiritual values when students were approaching maturity. Some reach the level of appreciating values sooner, some later. Attitudes, beliefs, prejudices, idiosyncrasies, animosities, sympathies, ideals, are, at first, chance combinations according to their incidental appearance and occurrence, but as the age rises they start to assume some regularity. Purposeful guidance in the early years may prevent deviations and aimless groping later. Our school provided esthetic and ethical education. We introduced especially the technique of the Boy and Girl Scout movement, with student administration in each class. All students participated in consultations with the faculty members. In this respect, we found that we needed to change the teacher-student relationship from its prestige form of the traditional school to a consultant-consultee form where friendly trust and understanding would prevail.

In this realm of values, which is the highest level of complexity of inter-human relationships, much remains to be done in preparing youngsters adequately for life. The task consists mainly in building in each individual his personal philosophy of life as a guide for various problems ahead.

In all these tasks, cautious guidance, respecting the mental structure of developmental stages and all different kinds of individual variations appeared to be of primary importance. Since guidance is the teacher's task, the student-teacher relationship is decisive. When we observed these two-way relationships, we became convinced that many times the conflicts between teachers and students were caused by misunderstanding from one or the other party. Thus, a mediator appeared to be a useful factor in school problems. The school psychologist might fit such a role. His training in different fields of psychology prepares

him professionally; he takes no direct part in such a conflict and thus might be impartial; he does not give grades, thus might be trusted by students. We tried such a mediator, and found him useful, after our teachers admitted that partiality might be involved and an impartial observer might have more realistic insight into a conflict. Of course, a psychologist cannot be only an "angel protector", but must also admit errors of the students and must help them by tactful guidance. He must be a guide, not a judge.

The psychological tasks and characteristics of individualized education in our experimental school may be summarized as follows:

1. The individualization of the extent of lessons to a minimum of essentials for the below-average student, with some extension for the average, and further additions for the above-average.

2. Grouping children within each class and subject into three levels according to achievement, so that the teacher might have the below-average group at hand for the most frequent guidance, the average group for less, but still enough, guidance, and the above-average group for rather remote supervision.

3. Self-education, promoted in the form of independent work from each student as an individual worker, or in small groups, according to the nature of lessons. Most learning had to be done in regular periods. Thus, active schooling was promoted with aids, such as self-instructive workbooks, self-examination sheets, auto-corrective material.

4. Laboratory experiments were done by students as much as possible in cooperative groups. The direct contact with reality was imperative.

5. Psychological counseling was systematic for educational guidance. Remedial means were individually recommended, including temporary tutoring.

6. Individual interests and talents were supported in afternoon circles and by individual guidance in arts, skills, and study.

7. Psychological selection was done by psychological testing. Grouping within classes and subjects respected achievements and individual differences.

8. For personality and character formation, students' self-government was encouraged. Scout patterns were introduced in cooperation with students. Guidance was in the hand of the psychologist in close cooperation with the whole faculty.

9. Autodidactic material was prepared and used instead of textbooks. Subject matter was regularly differentiated in each lesson.

Lesson in a modern foreign language. Students, grouped by two's, train themselves to use sentences in the current conversation language.

A mineralogy lesson: crystallographic, chemical, and fire test identification of minerals: a cooperative group effort.

Honor pledge ceremony. Each student promises to observe the School-Scout Order. Oral pledge is accepted by the President of the Parents' Association, Dr. Bohumil Rak.
After that, each student receives an honor badge from the Secretary of the Association, pins it to his coat, and wears it as long as he does not violate he Order.

10. Instructional material and equipment for student laboratory practice was devised.

11. The furniture was also individualized: each student had his independent seat and table. These were easily movable for group work, when a larger desk area could be provided by putting tables together.

These principles may be illustrated by a few pictures taken in our school, not as staged propaganda, but as documentary material, during regular classes.

These results were compared with those of normal schools during regular inspections by official state inspectors and by the members of the secondary school teachers' association. They were found fully satisfactory, with the special advantage that our students were found to be more independent and self-reliant in their work. Students and parents found the work in our school more pleasant and encouraging.

This experimental school was planned to become a demonstration and training school for candidates for secondary school teaching. The school had to be attached to the university to serve as a laboratory for student teachers, for research in developmental and educational psychology, and for devising new methods.

CONSEQUENCES FOR TEACHER EDUCATION

After we had observed all components of the teaching process, as outlined above, we had to admit that the teacher's job requires more specialized education than before, if the school is to meet all the psychological requirements of modern life. The teacher cannot only supervise the children; he must also guide and help them in many individual problems concerning subject matter, interests, character, and personality formation, as adequate preparation for democratic responsibilities. The teacher must, obviously, get a more thorough preparation in child psychology, in functions and components of the mind, in handling class problems, in methodical procedures, in handling deviated, especially subnormal and supernormal children, in emotional and disciplinary problems, in vocational and educational guidance, as well as in foundations of school administration. Today we look at a child as a depository of problems, as a patient is to a physician. Thus, university education for all teachers seems the only solution.

University education for teachers is an old requirement. In the 1850's

Karel Havlíček, a Czech journalist and fighter against Bach's absolutism and for the improvement of the democratic forms of life, required for teachers the same level of education as for clergymen, i.e., a university education (*Epištoly Kutnohorské* [Letters from Kutná Hora], Havlíčkův Brod, 1949). To him, both professions were, in fact, one. He proposes only one common type of clergyman, a spiritual leader in general (without denominations, which were to him a wholly private affair). Each worker in this field should start as a teacher. After his practice showed that he might be a good spiritual leader, he would be promoted to the position of a clergyman. University education for teachers materialized in Czechoslovakia in 1947 by adding pedagogical faculties to universities, with great emphasis on psychological training of future teachers. After 1948, the Communist régime pushed teacher education back to the secondary level. In spite of that, our conviction is unchanged: the shortest period for training elementary teachers should be two years of university after eight years of secondary education. (See our: *Přibližme školu životu* [Life-Centered School], Prague, 1946, p. 137ff.)

FUTURE NEEDS FOR PUBLIC EDUCATION

Experimental schools have shown beyond any doubt that education deals with problems of the greatest complexity, due to the complexity of the mind and individual variations. Much systematic research is needed in this field to enable the teacher to handle educational problems with more security and efficiency. We have to learn from medicine: educational research should be permanent, should cover the pupil's mind, problems in class, society, and family; should focus on methods of learning and teaching concerning each detail of the educational practice. To enhance each student's eagerness to know, socio-psychological research on conditions and effects of the cultural atmosphere is urgent. Means of its intensification must be studied.

Education for ethical and social improvements must be built on the new interhuman basis elaborated on thorough research showing the dependency of social forms on man's creative effort. A wide area for educational endeavor appears time and again on the horizon of all human interests: living with respect for the other man, living altruistically by contributing to other people's satisfaction. Here, educational means have been used very inefficiently up to now. Formulation of goals, fitting incentives, and efficient methods must be experimentally tried.

Very recently, a new task has been emerging from the world crisis of this century. The importance of systems of values appears decisive. Waves of cultural and spiritual nihilism, caused by crises, are devastating the social edifice of superindividual values and threaten the cultural standing of man, the proper basis of his existence as a human begin. How can we prevent such cultural disasters? How can we prevent the fall of youth into a spiritual vacuum? The problem is to build reasonable personal philosophies as guideposts for the occasion of inner conflicts. How can we convince man that he can reach real happiness only if he lives in harmony with the Cosmic Order? These are a few urgent and difficult psychological problems (discussed in our book: *The Cosmic Order and our Mental Health*, 1963, Interpress, London, and Interhuman Library, Shorter Apts 345, Rome, Ga.) we must, even if the public and narrow-minded specialists show little interest in them. The present state of human knowledge lets us see more promising signs in showing man his leading position among cosmic beings and in disclosing to him the direction of further evolution by the principle of ascendence that governs all beings and all happenings in the whole Universe.