

The Faculty of Civil Engineering ranks among the oldest schools in the University of Belgrade. The First Engineering School in Belgrade, the forerunner of today's Faculty of Civil Engineering, was founded by the Serbian Prince Alexander Karadorđević 130 years ago. The Act on the establishment of Lyceum in Belgrade, with the Natural-technical Department as one of the three departments at the Lyceum, was passed 125 years ago. The Advanced School (Velika škola) in Belgrade, with the Faculties of Philosophy, Law, and Engineering, which at that time prepared students for careers in civil engineering and surveying, was founded 115 years ago. More than 80 years have elapsed since the passing of the regulations on the division of the Faculty of Engineering into three departments: Civil Engineering, Architectural and Mechanical. The Faculty of Civil Engineering has successfully been working for 30 years now, first within the Polytechnic (Tehnička velika škola), and then as a member of the University of Belgrade.

Accordingly, the Faculty of Civil Engineering falls into the category of the oldest schools in the University of Belgrade.

Parallel with the struggle for the liberation of Serbia from Turkish slavery, the first schools were founded. These first steps were made with great difficulties because Serbia was lacking in learned persons who could efficiently educate young people for various occupations. With the advance of time, there was also an increasing need for qualified engineers. This need was especially pronounced in the field of earth surveying, construction of roads, public buildings and other structures »on water and land«. The need for the country's own engineers became particularly apparent during the building of the road to Constantinople.

The path of development from the First Engineering School in Belgrade, which received only one generation of 9 students, to today's Faculty of Civil Engineering has been long. On that path there were quite a lot of stumbling, difficulties and misunderstandings, but in spite of all that the School has been progressing steadily.

In the development of the Faculty three characteristic periods are noticeable. In the first period, which took about 50 years (1846—97), the initial difficulties in founding the School, various organizational changes and unavoidable wandering and want had to be overcome before more significant results were achieved.

In the first decades very few students decided to study engineering. For the first ten years of the existence of the Advanced School (Velika škola) only 38 students entered the Faculty of Engineering, out of a total of 380 registered at the Advanced School during that period of time.

The curricula for the study of engineering at the Lyceum and in the first few years at the Advanced School were inconsistent. Besides general, fundamental and professional technical subjects, the curricula were burdened with numerous subjects that had nothing to do with engineering. Such an unclear and inconsistent conception of study did not attract students to the engineering science, despite the fact that technical experts were needed badly.

Shortage of teaching staff was also a serious problem. For many years the Faculty of Engineering in the Advanced School had only three professors who did all the teaching of technical subjects. The oldest professor of engineering in Serbia was Atanasije Nikolić, an expert in surveying from Sombor, who at the request of the Serbian minister of education came to Serbia and later became the first rector of the Lyceum. In this first period Prof. Emilijan Josimović, from Vojvodina by origin, distinguished himself as a strong, exceptionally capable and versatile personality who meant very much and contributed to the affirmation of engineering studies. Of the other professors in the field of engineering during the first period, mention should be made also of Prof. Kosta Alković who taught Physics, Descriptive Geometry and Mechanics.

In the last three decades of the 19th century students' interest in studying at the Faculty of Engineering increased gradually. A contribution to this was certainly made by the first reform of the teaching methods carried out in 1873, after 10-year existence of the school. The purpose of the reform was to shift emphasis in the work of the Faculty of Engineering from general education towards professional training of students. It was necessary to omit a whole series of subjects from the curriculum in order to make room for the introduction of new technical disciplines, so that the Faculty of Engineering could »train engineers who can at once be employed in professional work, particularly taking into account that it seems that in a short time our country, too, will start building iron roads...« (meaning railway tracks).

The second period—the period of the Civil Engineering Department of the Faculty of Engineering—also lasted about 50 years (1897—1948).

The Faculty of Engineering carried out the greatest and most important reform at the end of the 19th century by passing the Regulations on the division of the Faculty into three departments: Civil Engineering, Mechanical and Architectural Department. In Article 3 of the Regulations it was stated very clearly and precisely that the essential part of work and the preferential task of the School had been and were to educate civil engineers. Obviously, the country needed civil engineers so much that it had to be specially emphasized in the Regulations on the division of the Faculty into departments.



By these first Regulations on the division of the Engineering Faculty into departments there were established 25 basic and technical subjects, which with small alterations and supplements have been kept in the curricula up to now, of course with an entirely new syllabus. A number of chairs of the Civil Engineering Department were also founded.

At the turn into the 20th century the Engineering Faculty already had a considerably increased number of professors and collaborators. The best known among the professors of that period were Ljubomir Klerić, professor of Theoretical Mechanics, Milan Andonović, professor of Plane and Geodetic Surveying, Kosta Glavinić, professor of Statics of Structures and of Bridge Building Science, Nikola Stamenković, professor of Hydraulics and Hydraulic Engineering, Andra Stevanović, professor of Building Structures Science, and Dimitrije Nešić, professor of Mathematics.

Shortly after the division of the Engineering Faculty into departments another, great and far-reaching reform of the entire advanced-school system took place in Serbia. The Advanced School (*Velika škola*) changed into the University of Belgrade in 1905. The foundation of the University and the accompanying reforms had a positive effect on the increase in the number of students. Thus, in the academic year 1906—07 there were enrolled 149 students at the Engineering Faculty: 99 at the Civil Engineering Department, 26 at the Architectural, and 24 at the Mechanical Department.

With the foundation of the University and with the coming to the Engineering Faculty of new teachers, educated at the best known foreign schools, a new chapter in the development of science and engineering was opened. Unfortunately, shaken by various political conflicts, turbulences, wars and other misfortunes — teaching and the scientific thought could not develop, neither could their progress, as expected.

The best known professors of the Civil Engineering Department in the first decades of the 20th century were Bogdan Gavrilović, Dragoljub Spasić, Milenko Turudić, Jevta Stefanović, Vladimir Mitrović and others.

During the First World War the Engineering Faculty suffered heavy losses. In the well-known students' battalion as well as in other army units, together with others, many students of the Engineering Faculty and of the Civil Engineering Department were killed. Their professors took part in the war together with other soldiers. In that war 95 engineering students were killed.

Almost after a 5-year interruption, regular teaching was resumed in the latter half of 1919. Lessons were held at several places in town because of lack of school space. More convenient conditions resulted only after the Engineering Faculty had been moved into the new building in *Bulevar revolucije* in 1930.

Between the two World Wars, from 1919—1941, the Civil Engineering Department rose and developed step by step. Several institutes and laboratories were founded. The number of teachers increased gradually. Several gifted experts who, after graduating from the Engineering Faculty of the Advanced School (*Velika škola*) or from the University of Belgrade, spent a certain time at some of the well-known schools in Europe for study and advanced training, came to the Civil Engineering Department. In the academic year 1932—33 the Department had 27 teachers, and in the last pre-war academic year 1940—41 there were 36 teachers and 6 assistant lecturers.

However, the period between the two World Wars was a tumultuous period at the University, full of dramatic events and shocks because of unsound political conditions in the country. Engineering students together with other students of Belgrade University, headed by the Communist Party of Yugoslavia, participated conspicuously in

various political actions in the country, in demonstrations and strikes, fighting against social injustice and regimes whose policy was contrary to the interests of the people, for freedom and democracy, and for the preservation of University autonomy.

Immediately before World War II the image of the engineer produced by the Faculty was changed. Instead of engineers of a general type, education of specialists oriented to four teaching groups began. The studies were overburdened with numerous subjects, with a great number of classes and practicals, as well as with a lot of assignments and designs. However, the Civil Engineering Department during this period, in spite of all difficulties, gradually acquired the features of a serious school. All that contributed to a gradual increase in the level of teaching, to students' interest in studying civil engineering, and to the reputation of the Civil Engineering Department.

The best known professors of the Civil Engineering Department in the period between the two World Wars were Petar Bajalović, Radivoje Kašanin, D. Sc., Ivan Arnovljević, D. Sc., Jakov Hlitičjević, Vojislav Zadića, Petar Micić, Kirilo Savić, Milan Nešić, Dragomir Andonović and others.

It is known that history has not been gracious to the people of this country. The School survived four wars. During these wars, particularly during the last two wars, all the remarkable deeds created and built until then were practically destroyed; the development of the School and scientific thought was stopped; many innocent victims fell in bloodshed, and among them also a great number of youths and students, as well as some of the protagonists of science and engineering.

In the National Liberation War and Socialist Revolution, headed by the Communist Party of Yugoslavia, during World War II, on various battlefields and in Fascist concentration camps, many civil engineering students, as civil engineers, former students of this School, were killed. The names of the fallen engineering students are engraved on the commemorative plaques in the School's entrance hall. They stand as an eternal sentry to warn any possible future aggressor that the peoples and nationalities of Yugoslavia are ready for the greatest sacrifices for the defence of their freedom and independence.

Soon after the liberation of Belgrade, in 1944, while fights were still going on in its close vicinity, a board for the restoration of the University was formed. For the third time in its forty years long history of aspiration to freedom, the University of Belgrade started practically from the very beginning. The teaching staff of the Engineering Faculty together with the other personnel had a difficult task — to create minimum conditions for the beginning of teaching in the bombed building in *Bulevar Revolucije*. Thanks to the exceptional endeavour of all the employees of the Faculty and to the unrestricted support of the social community, teaching started on December 9, 1945.

At that time all over the new Yugoslavia another extremely difficult battle was fought, a battle in which the School's former students also took part. After the thunder of the guns had ceased, the country was rising like the phoenix from the ashes and ruins. In these enormous and superhuman efforts civil engineers, this School's former students, together with the other working people and with the whole nation, went through thick and thin, spending day and night on the reconstruction and building sites of the country and living under conditions of the greatest possible hardships. Hundreds and hundreds of unknown heroes, students of this School, unselfishly put all their mental and physical abilities into the service to the people, with the desire to reconstruct railway tracks, roads, bridges, factories, streets, various municipal and other structures as soon as possible. They remained, in the main, unknown to the broader public, as did the School in which they had acquired the fundamentals of engineering



and the fundamentals of patriotism. But this Society does not forget its children. Therefore we use this opportunity to give credit to all those modest builders, this School's students, who in a difficult period of our history and under the most difficult conditions carried out their tasks as civil engineers and as honest patriots of this country. They deserve this recognition because their work contributed to the achievement of other far-reaching and significant successes in the conduct of war operations by our Army, in the restoration of economy and building of the country. In the last thirty-year period from 1948—78 our school had its highest rise. Significant results in the education of new engineers, maybe three times as big as those in the previous centennial period, were achieved. Great progress was made in the development of scientific research and in the cooperation with the economy.

Thirty years of existence and activity of a University institution which trains and educates experts and scientific workers in the field of civil engineering is not a very long period. There are much older schools and universities in the world. However, this thirty-year period in the development of our school represents an exceptionally significant and successful epoch, thanks to the great care of the socialist Yugoslavia and President Tito, first of all, in ensuring a peaceful development of the country in a particularly complex and tumultuous historical period, as well as in providing the necessary teaching staff, and material and other conditions needed for the activity and development of the Faculty.

Development of the Faculty in the past 30-year period may be illustrated by several basic data. In the first academic year after the liberation of the country about 900 full-time students studied at the Department. Today 2600 full-time and part-time students and postgraduates study at the Faculty. Graduate civil engineers and surveyors take courses at the Faculty in four departments: Structures, Hydraulic Structures, Road and Railway Engineering, and Surveying.

In the last few years interest in the study of civil engineering at this School has markedly increased. Demand of associated producers for graduate civil engineers is also on the increase. In order to satisfy this need, the School has introduced classes in two shifts, but because of limited space it is not in a position to essentially expand its capacity.

In the academic year 1948—49 the entire teaching was conducted by the teaching staff comprising 36 teachers and 18 assistant lecturers. Now the Faculty of Civil Engineering has 59 teachers and 79 assistant lecturers.

For twenty years (1919—1939) about 1000 civil engineers graduated from the Civil Engineering Department. For the past thirty years (1948—1979) 4250 civil engineers and surveyors graduated from the Faculty. Up to now 105 postgraduate students have obtained the M. Sc. degree, 7 candidates acquired the academic title of a specialist. Until 1948 only one postgraduate was awarded the D. Sc. (Engineering) degree in civil engineering. From 1948 to the end of 1978 the D. Sc. (Eng.) degree was awarded to 81 postgraduates. Four professors of the Faculty are recipients of an honorary doctorate. Among the active and retired professors of the Faculty there are 7 members and 3 corresponding members of the Serbian Academy of Sciences and Arts.

In the past 30-year period the Faculty of Civil Engineering has considerably expanded, advanced and enriched its activities. The curriculums and syllabuses have been changed, improved and modernized ten times. The systems of study and methods of teaching have been altered and improved several times. Owing to such an attitude, civil engineers graduated from this Faculty are ranked in our country among good experts. Many of them have acquired a reputation abroad as well, building various structures in

different parts of the world. Civil engineers, this School's graduates, have easily found appropriate jobs in their profession and have become useful members of the social community.

In the post-war period many difficult and very complex engineering structures were built in Serbia. All these structures were mostly designed and carried out by the former students of this School, together with our working people. This is a nice tradition which clearly illustrates the high quality of the qualifications given by this Faculty. Among the engineers whom this School educated or had as its teachers there were always great and eminent builders, such as Emilijan Josimović, Vlada Mitrović, Petar Micić, Kirilo Savić, etc. There are great and eminent builders nowadays as well. Their works speak for them best.

The establishment of postgraduate studies in the domain of structures and hydraulic engineering in the academic year 1964—65 contributed considerably to the development of teaching and scientific activity at the Faculty. Somewhat later these studies were supplemented by postgraduate courses in surveying, highway and railway engineering, and in the planning of engineering works. The postgraduate studies at the Faculty of Civil Engineering have become a nursery of the scientific and teaching youth for the Faculty itself, as well as for a number of other schools in the country, for scientific-research institutes, and also for other working organizations.

The Faculty has joined the general efforts of the Socialist Republic of Serbia in research work. Now it is working on five major and long-term macro-projects, in which current and important problems in civil engineering and surveying are treated. Most teachers and assistant lecturers of the Faculty are engaged in these projects.

The teaching-scientific workers of the Faculty participate with their reports and communications at numerous domestic and international scientific meetings and congresses. Annually 130 to 150 scientific papers and professional reports are published in various journals at home and abroad. This figure by itself speaks sufficiently of the great contribution made by this School. Quite a number of these papers represent remarkable theoretical and practical achievements.

The Faculty has also developed relations with the organizations of associated labour to a rather high degree. In the past the Faculty was mainly asked for help in various critical and complicated situations, when the stability of a structure was at stake, when a complex rehabilitation of a structure was necessary after some catastrophe or other unfortunate accidents, and in similar circumstances. Now the working organizations ask the Faculty for help more and more frequently in the initial stages of work, while the structures are founded, which is undoubtedly more useful.

Practically there is no major engineering structure that was built in Serbia in the post-war period without the participation of the experts from the Faculty of Civil Engineering in the capacity of creators, main designers, consultants, supervisors, or in some other way. Long is the list of these structures. Therefore we mention here only the most important ones, such as the Belgrade—Bar Railway, Đerdap Dam, Motorway through Belgrade, Gazelle Bridge, Belgrade Railway Knot, »Beograđanka« Building, rehabilitations of silos for wheat in various areas, various bridges, tunnels, the Danube—Tisza—Danube Canal, Belgrade Water Supply System, electric power structures, and many others. The Faculty has also contributed very much to the construction of major structures in other Socialist Republics and Autonomous Provinces.

The equipment, facilities and funds of the Faculty have been enhanced substantially thanks to the cooperation with the economy. The basic limiting factor in further advance of work is lack of space for the Faculty's activities.



At the present stage of the reform of our system of education the Faculty has taken an active part in outlining the curriculums and syllabuses for the second phase of secondary guided education. All the necessary preparations for the corresponding changes in our own curriculums and syllabuses are now in progress. Also the Faculty participates actively in establishing the Basic Community of Interest for civil engineers, and links itself directly with bigger working organizations.

Throughout the post-war period the Faculty of Civil Engineering offered help in teaching to all newly-founded faculties of civil engineering in Serbia as well as to those in Sarajevo and Skopje. The teachers of this Faculty are still engaged in teaching certain subjects at the Faculty of Civil Engineering in Subotica and at the Civil Engineering Department of the Faculty of Engineering in Novi Sad. A number of teachers of the Faculty hold postgraduate courses in certain subjects at other faculties of civil engineering (in Zagreb, Sarajevo and Skopje).

Some of the teachers from other engineering faculties and from the Faculty of Science and Mathematics in Belgrade, as well as from the Faculty of Civil Engineering in Zagreb, Sarajevo, Ljubljana, Skopje and Niš participate occasionally in the teaching at this Faculty.

Many members of the Faculty of Civil Engineering in Belgrade have won high social recognition for their achievements in science and profession and for socio-political activity. Four members are winners of the October Prize of the City of Belgrade, three members received the Seventh-of-July Prize of the SR of Serbia for science, and two members of the collective were awarded the AVNOJ Prize.

For the successful work and results achieved in the socio-political organizations many members of the teaching staff and other members of the collective have received recognition of various kinds. In addition, for their work on the accomplishment of the aim of the Society of Engineers and Technicians, as a socio-political and professional organization, a number of the members of this Faculty have been awarded honorary membership or made members of merit of this organization.

The Faculty of Civil Engineering has received dozens of charters and medallions as symbols of recognition for assistance and contribution made in the accomplishment of the tasks of the working organizations in civil engineering.

In the latest self-managing transformations the Faculty has been organized as an Integral Organization of Associated Labour, with eight Working Units. Self-management at the Faculty is developed to a rather high degree. Students are included into all self-managing bodies and take an active part in their activities.

Our School is a contemporary with the 60-year-long continuous revolutionary struggle of the KPJ (Communist Party of Yugoslavia) — SKJ (League of Communists of Yugoslavia), revolutionary Trade Union Confederation and SKOJ (League of Communist Youth of Yugoslavia), and struggle for the liberation of man and emancipation of labour. Thanks to its progressive students and progressive professors, such as Kirilo Savić, Dragomir Andonović, Petar Bajalović and others in the pre-war period, as well as to the post-war generations of students, teachers, assistant lecturers and other workers, the Faculty of Civil Engineering has been an active participant in the 60-year struggle of our Party.

Revolutionary ideas and thoughts were present in this School as early as the time of Svetozar Marković, who was a student of the Polytechnic. These ideas turned into a genuine revolutionary movement during the pre-war period under the leadership of the Communist Party of Yugoslavia, which knew how to channel and direct the student youth's revolt, to unite individual instances of dissatisfaction and many unjust acts into general dissatisfaction, which was incessantly blazing, to organize the students' movement and to prepare it systematically for revolutionary actions and for the defence of the country.

The activity of the students' movement headed by the Communist Party of Yugoslavia contributed to the ideological education and preparation of the youth for the imminent armed struggle. Most students of the Civil Engineering Department of the Polytechnic took part in the revolutionary students' movement at Belgrade University in the pre-war period. Such orientation was confirmed by the participation of a large number of students of our Department in the National Liberation War and Socialist Revolution, in which many of them were killed while two of them, Božidar Dimitrijević-Kozica and Stevan-Stiv Naumov, were proclaimed National Heroes.

In the post-war period the Faculty of Civil Engineering has been an active participant in the building of socialist and new self-managing relations, realizing this by direct action in its own surroundings and by educating students devoted to socialism and to the self-managing society.

Among the students, teaching staff and technical personnel of the Faculty of Civil Engineering there are now 750 members of the League of Communists of Yugoslavia. The League of Socialist Youth of Yugoslavia is the largest socio-political organization at the Faculty.

This School has achieved significant results in training engineers for work in civil engineering and surveying, in linking science and practice, in helping newly-founded and other civil engineering faculties, and in educating students in the spirit of socialist patriotism and devotion to our self-managing socialist society. In this way the Faculty has made a valuable contribution to the general progress of the country.