

Vocational education of stonemasons and rock breakers in Poland: history, present, prospects

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The professions of stonemason and rock breaker have not achieved a stable position in Poland for the past few dozens of years. In order to present the situation as it is nowadays, I shall first describe the history and structures which formed the bases of education of the staff who built the stone industry and craftsmanship in the past.

Like everything in the communist Poland, the mining industry, including rock raw materials quarries as well as rock processing plants were subject to central planning and was owned entirely by the State Treasury. Vocational education found its place in the most detailed "arrangement". As early as in 1946 in Świdnica, Lower Silesia stonemasons were educated at the Vocational School and, a year later, at Junior and Senior Secondary Schools of Stone Industry.

Two professional specialties were envisaged in the curriculum of the training, i.e. one to train rock breaker technicians, specialists in mining resources and mechanical processing of rock into aggregates, and the other in the frame of which stonemasons and stone industry technicians were educated.

Particular attention was paid to practical training within the profession both within the frame of school workshops and apprenticeship in quarries and stone processing and machining plants. Students worked manually in the nearby quarries (in Strzegom and Kostrza among other towns) as rock breakers, drillers, loaders, stonemasons for manual processing or machining of stone.

In 1952, as a result of reorganization and further centralizing of the industry, the school was brought to Krakow and as the Secondary School of Strip Mining it used to educate middle level staff (technicians) for strip mining, including rock mining. The education lasted 5 years and, depending on the specialty, the emphasis was put on mining or processing and machining of stone. The school was "the apple in the eye" for the Association of Building Stone Industry in Krakow, it was supported scientifically by AGH University of Science and Technology, it had workshops and a dormitory. The structure of the school was part of the Ministry of Industry and not Ministry of Education.

The graduates of the school have been creating the image of Polish strip mining. They are owners, CEO's, directors of big and smaller enterprises which are active in excavation, processing and machining of stone. Many of them graduated from AGH University of Science and Technology or Wrocław University of Technology. Many of them work at these universities as researchers.

However, in time, the school focused more and more upon excavation. Less and less attention is paid to processing and machining of stone. Stronger and stronger emphasis was put on brown coal mining, strategic industry for the national economy while less and less interest was shown in rock mining, particularly rock block acquisition which stonemasons were most interested in. The school used to go

further and further away from stone industry, but it was still there. Until 1997 when, deprived of the protectorate of the Ministry of Industry, unable to find itself in the post-communist reality, it was closed.

It should be mentioned that stonemasons have practically not been educated in their profession in Poland in a separate organizational unit since 1952 when the school in Świdnica was closed. There has been no three-year vocational school which would prepare skilled workers in this profession! Few attempts to revive the vocational training were in Gacki in the 1960's or in the years 2005-2010 (the initiative of Eng. Stanisław Sitarz) in the Group of Schools in Strzegom. A few dozens of young people used to study then at the school in Strzegom but the specialization was closed due to minute number of students interested in this profession. It is a pity as the efforts directed to lobbying and revival of the profession of "stonemason" in the list of professions accepted by the Ministry of Education was really huge. It required development of curriculum, i.e. a consolidated document depicting all the goals and skills which graduates of such specialization should achieve.

Owing to the specialization existing in some construction engineering secondary schools and historical monument conservation offices, in the past, artistically talented young people had an opportunity to become educated and skilled stonemasons and sculptors. However, this path was available for few only and it does not exist any more.

Despite of this, few skilled workers appeared and still appear in stone industry owing to multi-profession classes which are attended by people who would like to have niche professions or those which are disappearing (stonemasons are educated there together with watchmakers, shoemakers or confectioners). The students learn general subjects (Polish, foreign language, mathematics, etc.) together and they learn their profession from craftsmen who offer practical training for them. An old scheme applies here, i.e. master – apprentice relation. The scheme is improved by the young men's general intellectual development at school.

Now, we have come to the contemporary times. We should mention here the extramural school (supplementary secondary technical school for adults) in Skala near Krakow, far away from the main centers of stone excavation and machining, which does not meet the criterion of teaching the profession also due to high tuition. It was in Strzegom where attempts of vocational training reactivation within stone industry were made in the last decade in Strzegom. The results were varied, including the aforementioned initiative concerning stonemason class in the Group of Schools. The following conclusions may be drawn from this experience:

- a school related to stone industry and rock (block) excavation may exist only in a region where such activities prevail (PLUS – in the area of Strzegom it is some 4,000 jobs in the widely understood stone industry and, in addition to that, Lower Silesia is the largest area of concentration of quarries and machining plants in Poland);
- the profession of a stonemason has a very low prestige in the society (this arises from some truth and stereotypes: the work is hard, work for "dunces", work for prisoners, work in "black market", vocational school are generally unpopular among young people) (MINUS – parents dissuade their children from education in this profession due to their welfare and future social prestige);
- employers are not interested in skilled workers (not all but many of them) (MINUS – it is quite a problem to find a place for practical training for students, and there is no significant support for the school from entrepreneurs; there are opinions that education of stonemasons is unnecessary and it is enough to teach them the profession at a plant);
- formal and legal requirements for organizing practical training for students are restrictive (MINUS – few plants employ a person prepared for education and this is a requirement for practical training tutors; strict requirements of practical training curriculum also discourage entrepreneurs);
- due to the demographic low, fewer and fewer children start their education each year (MINUS – the competition between secondary schools to "win" students becomes grotesque in its form and leads to a lower and lower level of education).

Despite so numerous minuses, under the initiatives of entrepreneurs, self-government bodies and with the involvement of managements of schools, Strip Mining Secondary School was opened in Strzegom in 2010. The intention of the initiators from the industry most of which took to teach professional subjects was to go back to the "golden age" of the school in Krakow, i.e. to include rock mining and stonemasonry in the school curriculum.

The idea was accepted and the first such class was formed but more barriers appeared apart from the thus far existing ones. After a dozen-years' break in teaching this profession, it appeared that there are no textbooks, educational aids, and the school has no classroom which would meet the requirements of education in the 21st century. Moreover, shortening of the education period from 5 to 4 years and restrictions concerning the opportunities of practical training offer the students much thinner chances to achieve good professional skills than it was in the case of students half century ago. Despite of this, the staff involved in the educational process leave no stone unturned to achieve as high a level of education of their students as possible.

Under the initiative of the "*Bazalt*" Foundation of Strzegom, a project¹ was implemented whose effects included opening of a laboratory where professional subjects may be taught (technology, blasting techniques, machines and equipment, technological laboratory) as well as majors (geology, mining law).

A few years from the school reactivation the situation is as follows:

SUCSESSES:

- 100 students learn now in four classes;
- first young people will graduate from the school in 2014, after four years of learning (they will face general secondary school examination and state professional examination);
- students and teachers are closely related to the industry via attendance in various events (trips to Kamień-Stone Trade Fair in Poznań, active participation in the Strzegom Granite Feast, St. Barbara's day, etc.);
- the staff develops: two full-time teachers improved their qualifications and completed post-graduate studies in strip mining at AGH University of Science and Technology in Krakow;
- more than 100 adults, employees of various quarries from Lower Silesia attended the supplementary secondary school to improve their professional skills;
- the Group of Schools in Strzegom declares their participation in the Stone Industry Cluster (as an organization of business surroundings), which opens new prospects of development of the specializations related to stone excavation and machining at the school.

FAILURES:

- it is still impossible to form a vocational class "Stonemason" (skilled worker);
- the facilities for professional training are still unavailable (both school workshops and enterprises which would admit trainees);
- there is no dormitory for students who do not come from Strzegom;
- vocational education system was reformed in 2012, which resulted in removal of rock processing and machining from the curriculum (negotiations to normalize the situation are being carried on in the Ministry of Education).

¹ "I understand and implement sustainable development in the Commune of Strzegom", a project of PLN 78,165 budget implemented by the "*Bazalt*" Foundation, County Office in Świdnica and the Regional Fund for Environment Protection. Students of the Strip Mining Secondary School were the main beneficiaries. owing to the project, the laboratory was equipped with multimedia and other educational aids, books, etc., and a number of workshops and practical classes were taught as well as research projects or conferences. The project included also trips to quarries in Lower Silesia and to brown coal mines in Poland and Germany.

The changes in the contemporary stone industry, application of more and more modern and advanced technology and machines make it impossible for plants to maintain their activities for a longer run without skilled workers.