

KARST SCHOOL IN BULGARIA, 2015

Taking up the challenge presented by the Latvian National Commission for UNESCO, this year, the *Jaunsilavas pamatskola* participated, for the first time, in the international competition on the protection of the Karst territories. It was organised by the Bulgarian Academy of Sciences and the National Institute of Geophysics, Geodesy and Geography. This was a big challenge for us because Latvia has relatively few Karst territories, and the primary school Geography syllabus offers but a scarce overview of the topic. Having studied the available literature and internet resources and having listened to the stories of travellers, the primary school students created three-dimensional works using natural materials, sketched, painted and wrote essays. We then sent several works to the jury of the competition. In June, we got an unexpected yet very delightful message that a number of our works had received awards and that the twelve-year-old Kristiāna Zvirbule had received the First Prize for her painting “The SOUL of the Earth” and therefore was invited to join the Travelling Summer School to visit the most attractive and unique Karst territories in Bulgaria.

I am the UNESCO ASP coordinator at my school, hence I undertook to organise the competition. However, my subject is Philology, thus anything relating to the Karst topic was new to me, so I learned new things together with my students.

On 21 July, Kristiāna and I landed in Sofia to get ready to take part in an extraordinary adventure with people of different nationalities scheduled to start the next morning. During the ten days of our trip, we visited the Karst territories of the northern part of Bulgaria, as well as cultural and historical monuments and industrial objects. We enjoyed the spectacular scenery, delicious meals and the hospitality of Bulgarians. The most important part to it was, however, that we learned new things.

The initiator and author of the project, Professor Petar Stefanov, was undeniably not only the soul of the Summer School, but also a great organiser. Bulgarian teachers from different regions of Bulgaria, interpreters, the mountain safety service, and the entire lovely and friendly Stefanov family all worked together as a consolidated team.

Exciting excursions to caves and cliff-top monasteries were followed by educational seminars, during which we learned about the conditions necessary for the formation of the Karst, allowing the nature to create treasures of national and global significance. Nature is the most talented artist, and it is often that we – humans – stand in awe of the phenomena and mightiness of the processes occurring in nature.

Besides being professionals, who are well versed in the Karst processes, the Bulgarian teachers are also patriots of their native country and language. So are their students. We, the participants of the Summer School, were lucky to travel around places such as Veliko Tarnovo, Gabrov, and Varna with such outstanding guides – the residents of these cities and districts. We also enjoyed listening to the melodious Bulgarian language. The young people demonstrated good knowledge of English, they were quick to translate whatever their teachers-guides were saying to the rest of us. By the rest of us, I mean Latvians, Germans, Czechs, Russians, Montenegrins, and Albanians. Some of the group were communicating in Italian, however, we mostly communicated in Bulgarian, Russian and English.

In mutual conversations we highly appreciated the competency and well-considered methods of the “Karst team”. On many occasions in caves or a forest, Professor Peter Stefanov used the equipment of the Geophysics Institute lab, carried out experiments that clearly demonstrated how the chemical composition of water changed when exposed to various rocks. Rocks are subject to the dissolution process, as a result natural phenomena such as funnels, underground rivers, lakes, springs, waterfalls and tectonic caves emerge. One can truly admire the determination of Professor Petar Stefanov and his wife Assoc. Prof. Dilyana Stefanov and the curriculum of the Summer School events, because experiments were complemented by schemes, as well as formulae of proof and tables of geophysical calculations.

I really enjoyed the reciprocity of the selected attraction objects and the presented scientific substantiation. It was nothing like a game, playing around or entertainment. Everything was for real: the steep mountain paths and slippery slopes, the orchestra of cicadas, the splashes of the Black Sea, and labyrinths in caves.

The huge mines are true mining objects, which are also very important to Bulgarian economy. Unfortunately, the white layers of potassium can be found in the lower part of mountains. The upper – red – layers have iron premixes. They are interspersed with grey and yellow layers, which when excavated, result in rock mountains without any application possibilities. And who would take it to predict how human intervention in natural processes can affect the future of the Earth?

Professor Stefanov thinks that the Karst could be viewed as the sword of Damocles, and people should be ready to face the consequences of their wrong and irresponsible actions. Nature protection was looming high on the curriculum of the Summer School. The differing agendas of the various owners of national parks (private sector, municipalities, and the State allegedly are at the root of problems. An obvious example of this is the famous Ledenika cave, which is one of the most visited tourist attraction objects in Bulgaria. There is a safe staircase in the huge cave and the light show. Outside it, there is a cobble-paved sloping land and an open-air stage. The latter, to say the truth, resembles a colourful plastic toy in front of the grand natural mightiness and spoils the overall impression of the protected territory. As for the cobbled pavement, while its décor is lovely, its infrastructure is completely wrong, because nothing prevents the flowing of the wild streams of rainfall water straight into the cave. Last year, some tourists were allegedly stranded there, but they managed to survive in the upper small caves.

Petar was also critical of the effect of the bright light in caves because he thought they precluded enjoying the natural beauty of stones and added a cheap disco effect to underground treasures. He also drew our attention to caves, which were included in the list of tourist attraction sites; however, nobody was taking care of their management, such as equipping the sites with toilets and waste bins. I personally believe that it is the visitors who need to be responsible; on the other hand, if nobody supervises natural objects they may well turn into garbage dumps. Intensive agricultural farming poses many threats to the nature, so is animal husbandry because at times, animal herds are being moved along the protected territories.

Bulgaria has quite a few nature protection problems, however, it also has many things to be proud of, and there are many things that other countries can learn from it. For us, the participants of the Summer School, it was great honour to be the first to visit the new

information centre of the Shumen National Park. The centre was opened the previous month. It took approximately half a million leva, contributed by various funds, to construct and equip it. However, one cannot overestimate the role of educational activities in the environmental education programme. The participants of the Summer School also appreciated the advantages of modern premises – when the outdoor temperature was as high as +40 ° degrees, they viewed the presentations of the works of the participants of the contestants of the Karst competition in a cosy indoor environment.

We learnt that the Karst waters play an important role in Albanian economy, at the same time, however, wastewaters resulting from Tirana pollute the St. Mary spring, which, for many years, has been the source of the supply of clear water to the town. The girls from Montenegro and the boys from Bulgaria had developed great research and philosophical papers on nature protection territories. German teachers had engaged several schools in the Karst research process, and many lessons had taken place in the nature. Each presentation was of value in itself, because while some were presenting, others were learning how to do it.

At the start of the Summer School, participants filled in questionnaires to demonstrate their background knowledge of the Karst objects, and their knowledge was not exactly very bright. Conversely, at the end of each trip everyone could note with pride that they had been to the echo caves with wonderful acoustics and sound-producing stones – “the musical instruments”, as well as had seen the stone bridges built by the nature. We visited the Ivanovo rock monasteries, were able to look at the XIII - XIV century rock paintings included in the UNESCO list of world heritage sites, and visited Madara, considered a holy place notwithstanding power and religions: be it pagans, Ottomans, or Christians. Here, at Madara, at an open-air rock “concert hall” with perfect acoustics, at the initiative of the Bulgarians, we all sang the anthems of our respective countries to show respect to our nations, friendship between people, peace on earth, and UNESCO. Thanks to the support of this organization, Bulgarian scientists were able to create this great Travelling Summer School tradition.

We, the representatives of Latvia, were deeply moved listening to Dilyana Stefanov's story about major historical events, which were of importance to Bulgarian people, about the initiator of the national resistance movement Hristo Botev, and the only small poetry book of his, known by each Bulgarian.

We visited the ancient capitals of Bulgaria, debated on whether modern materials should be used for renewal and restoration works, we walked through a stone forest, which was, once upon a time, the bed of an ancient sea that has long since disappeared.

The young people had a one-time, unique opportunity to learn the basics of mountaineering.

We felt safe during the trip. Rescuers were just great at carrying out their duties. Without engaging in lengthy discussions, they used to block the way to dangerous places. Before entering caves, we had to put on safety helmets and listen to safety instructions. We stayed in cosy hotels, travelled in a comfortable bus, enjoyed delicious food and it felt like being among friends. We learnt that Bulgaria is a beautiful land of vast opportunities; Bulgarians came across as warm-hearted and energetic people.

For us, the Summer School was not only educational, but also deeply emotional experience, and I believe that all the young people, who participated in it, will protect nature

with true enthusiasm and will be capable of appreciating and protecting the cultural and historical heritage of their respective countries.

We are building the future today – right here and right now. However, to ensure that this common knowledge does not sound as a cliché, public institutions need to take action without delay, as only appropriate laws can protect ecosystems and historical monuments from destruction, and tourist attractions – from vulgarisation, cowardly giving in to the trends of the ever changing fashion. If the school curriculum provides for more time to exploring the Karst phenomenon, the young generation will better understand and respect the boundaries of the interaction between humans and the nature. Tomorrow may be too late. Bulgarian scientists are alerting us to this. Do we, the people of the 21st century, hear the alarm bell? We can make either friends or enemies with the nature.

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