History of Relations between the Uzbek and Azerbaijani Peoples in the Field of Science in the Second Half of the XX Century

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Abstract
The article highlights the relations between the Republics of Uzbekistan and Azerbaijan in the field of science in the second half of the twentieth century, the exchange of personnel, news in the field of scientific research based on periodicals and archival sources.

Key-words: Science, Education, Collaboration, Research, Processing, Equipment, Selection, Vaccine, Listeriosis, Genetics, Architecture, Hyperazneft, Brotherhood, Nation.

1. Introduction

Science relations play an significant role in the development of the countries of the world. In recent years, a period of radical reforms has begun in the science of Uzbekistan. On December 30, 2016, President of the Republic of Uzbekistan Shavkat Mirziyoyev met for the first time with leading scientists of our country. According to the results of the meeting, it was noted that Uzbekistan will pay more attention to science.

On the basis of the Presidential Decree of February 17, 2017 “On measures to further improve the activities, organization, management and funding of the Academy of Sciences” [28], 9 research institutions were returned to the Academy of Sciences, a number of scientific organizations were reorganized. Three departments of the Academy of Sciences and the Navoi branch were established, and the activities of the Public Council on the Recent History of Uzbekistan were established. This resolution provides for fundamental, applied and innovative research in the natural, technical and social sciences, strengthening and developing mechanisms for the integration of science with
education and production, study and analysis of world and national scientific achievements, including the Republic of Uzbekistan. Development of recommendations for the use of science, scientific potential, scientific and technical achievements of our country, international cooperation with foreign academies of sciences, research organizations and foundations, organization of international scientific forums and conferences [28] and demonstrated its practical results in a short period of time.

It is known that the last elections to full members of the Academy of Sciences of Uzbekistan were held in 1995. The number of academics has more than halved over the years, and by 2017 there were only 63 full members left at the academy. The historical decree of the President of the Republic of Uzbekistan dated December 29, 2017 “On approval of full members of the Academy of Sciences of the Republic of Uzbekistan” [23] approved 32 new full members of the Academy of Sciences after a long break of 22 years. As a result, 400 research institutions have been registered, employing 36,000 specialists in the field of science, including more than 2,000 doctors of sciences and more than 9,000 candidates of sciences. At a meeting with rectors of higher education institutions and representatives of science, the President of the Republic of Uzbekistan said: “It is necessary to strengthen the work on finding talented young people and their targeted education. If we make science and education right, all areas will be developed by qualified specialists themselves,” he said. [18] Recognizing the above points, the relations in the field of science between the fraternal peoples are of great importance.

2. The Main Findings and Results

It occupies an important place in the history of relations between Uzbekistan and Azerbaijan in the field of science and education in the middle of the XX century. However, in the late nineteenth and early twentieth centuries, relations between the two peoples in all spheres of economic life, science, education and culture had somewhat weakened. This is due to the colonial policy of Tsarist Russia, its bans, and the repressive policies of the national intelligentsia during the Soviet era. Such problems were recognized by the local Jadids and they worked together to overcome the problems and shortcomings in the field of science. The reason for the closeness of the fraternal peoples, whose language, religion and way of life are similar, served to further revive the ties, as the historical roots of the relations between the two peoples go back to antiquity.

In covering this issue, it is possible to analyze the processes of the period after the 20s of the XX century by briefly covering them. By the 1920s, the establishment of economic ties between the Uzbek SSR and the Azerbaijani SSR was based on science. Therefore, geologists, technicians and
qualified specialists from Azerbaijan have been sent to Uzbekistan. Among them, A.Aliskerov, G.Barkhudarov focused on the training of local staff [12], local workers were attached to oil workers, engineers, masters, and the secrets of their specialties were taught to local workers.

Given the close ties between the Azerbaijani and Turkestan intelligentsia, the Soviet government did not justify sending religious students from Baku to Moscow to study, citing religious and ideological problems. Sending local youth to Baku did not cause such problems. As a result, we can see that the number of students sent from Uzbekistan to Baku to study has been growing from year to year [24].

In 1920-1930, 95 Uzbek students were sent to study at such educational institutions as the Baku Pedagogical Institute, the Baku United Military School, the Baku Pedagogical College, and the Baku Theater College in Azerbaijan. The most famous of these students are Vahid Zohidov, cultural figures and scientists Gayratiy, Olim Khodjaev, Hamid Hakimov, Yusuf Latifov, Hadji Murad Abdullah, Hodi Zaripov and others. In particular, in the 1930s, a special boarding school for Uzbek students was established in Azerbaijan and favorable conditions were created [3]. Shuhrat, S. Rakhimovs studied at the Baku United Military School to improve their skills.

In 1925, a group of 12 Uzbek students from Uzbekistan were sent to study at the Theater College in Baku. The college has drama and opera departments, especially the opera department, which is a novelty for Turkestans. In turn, it was the first international group of Uzbek students to study at the college. In 1925, the director of the technical school, Mammadsodiq Afendiev, ensured that small roles in the Baku Theater were performed by technical school students and allowed them to watch the roles of famous actors. These efforts, in turn, have had a positive impact on the growth of student experience. After graduating from the technical school in 1927, the Baku Uzbek Studio delighted the audience with its performances in Tashkent, Samarkand, Namangan, Andijan, Bukhara, Kokand, Fergana for three months. Halima Nosirova, Nazira Alieva, Sayfi Alimov, Zuhur Kabulov, Sadulla Juraboev, Hakima Khodjaeva, Bobo Khodjaev, Qori Yakubov, Rahimberdi Bobojonov, Israil Ismailov and the new theater played a significant role in the development and progress of the Uzbek theater. We can list the names of Qori Yakubov, known as the organizers [22].

In the 1920s and 1930s, there were not only students in Baku, but also Uzbek teachers. One of the teachers of the Baku Pedagogical Institute was Khalid Said Khodjaev (1893–1937). He was born in Kokand and graduated from the Faculty of Philology of Istanbul University in 1912–1918. In the summer of 1918, he came to Azerbaijan and began teaching in Ganja. In April 1920, after the occupation of Azerbaijan by Soviet Russia, he was forced to leave for Turkestan. In 1922 he returned
to Azerbaijan and began teaching in schools in Baku. He regularly recruited Uzbek youth to study at universities in Azerbaijan and conducted a number of research projects during his career [4].

Azerbaijan is a leader in the training of oil specialists in higher education institutions, union republics and even foreign countries. 33.9% of graduates of Azerbaijani higher education institutions were distributed to other republics, including those who were sent to work in Uzbekistan. In the 1950s, oil engineers for Uzbekistan were trained at the Azizbekov Azerbaijan Industrial Institute, and excavators at the October Revolution Technical School in Baku. Due to the lack of specialists, some Azerbaijani specialists were sent to Uzbekistan, and most of them lived in our country. In particular, in 1952, more than 11,000 specialists were trained at the Azneft training course in Baku, including some students who were trained in 1951-1958 and sent to work in Uzbekistan. Special training courses for excavation masters have been organized in Azerbaijan for the sister republics [1].

In turn, until 1962, specialists for the Azerbaijani textile industry were trained in Tashkent. In particular, textile equipment was delivered from Tashkent to Azerbaijan [1,10]. This shows that the light industry in Uzbekistan is well developed. After the opening of the Faculty of Technology at the Azerbaijan Polytechnic Institute in Baku in 1962, some of the scientific and methodological manuals were delivered from Uzbekistan, which in turn provided an opportunity to train local specialists in the country.

Since September 1956, the number of Azerbaijani students studying in Uzbekistan has also increased. In particular, 3 people in the correspondence department of the Tashkent Agricultural Institute [25], 1 person in the correspondence department of the Central Asian State University [25], 35 people in the correspondence department of the Uzbek State University (Samarkand) [25], 2 people in the correspondence department of the Samarkand Agricultural Institute [25], 1 person in the correspondence department of the Institute of Finance and Economics [25], 2 people in the Tashkent Institute of Irrigation and Mechanization [25], 7 people in the correspondence department of the Tashkent Institute of Railway Transport [25], 50 people in the correspondence department of the Pedagogical Institute [25], Andijan State 5 people in the correspondence department of the Pedagogical Institute [25], 19 people in the correspondence department of the Fergana Pedagogical Institute [25], 6 people in the correspondence department of the Bukhara Pedagogical Institute [25], 15 people in the correspondence department of the Tashkent State Pedagogical Institute named after Nizami [25], Central Asian Polytechnic Institute 12 [25] part-time students and 21 [25] Azerbaijani students studied at the part-time department of the Tashkent Textile Institute. Based on these data, it can be concluded that in the years following World War II, there have been positive changes in the education system in Uzbekistan.
In addition to education, there is a significant development of scientific relations in other areas of science. In May 1964, a number of Uzbek architects led by Doctor of Arts G.A. Pugachenkova visited Azerbaijan and got acquainted with modern architecture, the practice and skills of restoring old sculptures [11,6,7] and later used these experiences in their work.

Over the years, researchers have been exchanged and scientific works have been defended in Tashkent and Baku. In particular, Alikhan Ibragimov from Uzbekistan defended his research work in Baku, and K. Tagiev from Azerbaijan in Tashkent, and the dissertations of two researchers were related to economic issues. It is observed that such cooperation has been carried out in other areas as well.

The contribution of Azerbaijani workers in the construction of the Fergana oil refinery in 1959 was also significant. “Giperazneft” Design Institute of Azerbaijan Installation of “ELOU-AVT” equipment, gas distribution equipment in the first quarter of 1959, including not later than February 1959, the specialists of the Uzbek SSR were instructed to submit design estimates for the purchase of technical equipment, ie oil drilling equipment and pumps. This shows that Azerbaijan is a major player in the oil sector throughout the Union.

No later than the 4th quarter of 1959, the development of design estimates for construction work in 1960 and the formation of a list of equipment in April 1959, the establishment of a branch of the Design Institute “Giperazneft” at the Fergana refinery, the connection of individual plant equipment problem-solving and control over the construction of the plant [26].

We can see in the examples that a number of problems arose in the construction of the Fergana oil refinery due to the Soviet-era arbitrariness and lack of interest of workers in their own labor. The reason for the long delay in the construction of the plant in 1961 was the untimely delivery of 479 pieces of equipment and 511 pieces of oil equipment to the Fergana refinery. Shortcomings in the contracts and design estimates were not implemented as planned [27]. One of the main reasons for the emergence of such problems was the fact that the administrative command system was widespread in all spheres of society.

In 1972, the Azerbaijan Research and Design Institute for Complex Automation of Production Processes in the Oil and Chemical Industry (“Neftekhimavtomat”) developed automation schemes in cooperation with the Altyntopgan Ore Plant of the Uzbek SSR and the Fergana Oil Refinery [1]. Significant shifts in this regard were evident in the 1980s, and the production process was modernized. In 1979, Andijan oil and gas workers Arkady Zverzd and Alijon Satkinov improved
their skills at the Baku oil fields. One of the main problems in the oil fields during this period was that the pump rods installed in the oil wells became brittle and broke in a short time. We acknowledge that this problem has been positively solved by the Baku oilmen in collaboration with the staff of the Azerbaijan Research Institute and the team of the L.T. Schmidt Machine-Building Plant, which means that the rods are resistant to high-frequency electricity. Arkady Zverzd and Alijon Satkinov returned from the Azerbaijan Petroleum Research Institute and the L.T. Schmidt Machine-Building Plant to study the technology of rod processing during an exchange of experience. As early as 1979, high-frequency “TVCh” equipment was imported from Leningrad and installed at the Andijan oil field. Later, Litrovenko, an employee of the Azerbaijan Petroleum Research Institute, visited Andijan and praised Alijon Satkinov’s experience in processing bars. Together with the Institute of Petrochemical Processes of the Academy of Sciences of the Azerbaijan SSR, the Institute of Chemistry of the Academy of Sciences of the Uzbek SSR studied the natural properties of new deposits.

The Azerbaijan Institute of Energy Research and the Institute of Physics of the Academy of Sciences of Azerbaijan together with the Institute of Physics and Technology of the Academy of Sciences of the Uzbek SSR discussed issues such as conversion of solar energy into heat, processing of solar energy devices and established cooperation [19].

During these years, the Institute of Physics of the Academy of Sciences of the Azerbaijan SSR and the Institute of Nuclear Physics of the Uzbek SSR, the Institute of Geophysics of the Academy of Sciences of the Azerbaijan SSR and the Institute of Seismology of the Academy of Sciences of the Uzbek SSR have been working on a number of projects. The Institute of Genetics and Selection of the Academy of Sciences of the Uzbek SSR has established cooperation with the Experimental Institute of Plant Biology of the Academy of Sciences of Uzbekistan [20,8]. In particular, the Azerbaijan Research Veterinary Institute (ARVI) has been training scientific personnel for Uzbek livestock for years. For the first time in the world, a vaccine against listeriosis, one of the diseases of cattle, was developed jointly at that time and is still widely used in Uzbekistan [1]. The Institute of Botany of the Academy of Sciences of the Azerbaijan SSR and the Institute of Soil Science and Agrochemistry of the Academy of Sciences of the Azerbaijan SSR together with the Uzbek Research Veterinary Institute named after K.I. Skryabina (Samarkand) have developed effective methods of microbiological processing of cotton and grape waste. Scientific cooperation between these institutions is reflected in the signed agreement [15]. In 1942, the Uzbek scientist Leonid Rumshevich created the 108-F cotton variety. By 1947, due to its high yield and drought tolerance, this cotton...
variety was grown in the cotton-growing allied republics outside the country, including the Republic of Azerbaijan, and accounted for 70% of the 108-F cotton field [20].

In 1961, the Uzbek scientist B.P. Straumal created a high-tech, high-yielding variety of cotton “S-4727”. This variety is grown in the cotton fields of Azerbaijan and has a high yield [30]. The results of scientific research of Uzbek scientists in the field of cotton seed have been widely used in all cotton-growing republics.

In 1977, research methods and scientific materials to increase the productivity of Santa Gertruda in animal husbandry were carried out in collaboration with the Uzbek Institute of Animal Husbandry and the Institute of Selection and Genetics of the Azerbaijan SSR. Azerbaijani experts have also been advised to increase algae [2].

We can also witness the significant achievements of Azerbaijani scientists in the field of seed production. In particular, Palladium-596 wheat was grown in Azerbaijan during this period and soon entered Uzbekistan [1]. Uzbek specialists defended their dissertations at the Institute of Zoology of the Academy of Sciences of the Azerbaijan SSR. The regular exchange of specialists between scientific institutions has made a worthy contribution to the development of science on both sides. A number of scientists conducted research in the laboratories of research institutes as part of the exchange of skills, and in the 80’s organized their scientific activities on the basis of a number of joint research plans with a number of institutes [1,14].

At the initiative of the Academy of Sciences of Uzbekistan and the Academy of Agricultural Sciences of Uzbekistan, a scientific session on cotton growing was held in Tashkent on October 15-19, 1957. The session was also attended by Azerbaijani scientists, who shared their best practices in the field of cotton picking on collective farms and farms in the Zarbdor district of Azerbaijan [14]. In the fight against grass flies, the experience of Azerbaijani scientists in attracting larvae to the cage and then destroying them has become widely used in the melon fields of Uzbekistan [8]. Another important innovation is the discovery of a mud cord by the Azerbaijan Hydrotechnical and Melioration Research Institute and glue filters by the Azerbaijan Polytechnic Institute from the innovations of Azerbaijani scientists with extensive experience in groundwater irrigation. widely used in processes [10]. Scientists from the Research Institute of Soil Science and Agrochemistry of the Academy of Sciences of the Azerbaijan SSR and the Central Asian Research Institute of Plant Protection have developed the technology of composting cotton stalks. As a result of this technology, it was able to produce 2-3 times more than before [17].
3. Conclusion

In Short, it can be said that the general socio-economic lifestyle of the peoples living in the country during the Soviet era had a positive impact on strengthening the international basis of the culture of the peoples of the USSR. In this regard, the principle of “unification of peoples into a single Soviet people”, the use of Russian as a “second mother tongue” for the Soviet peoples, “a means of interethnic communication” was promoted.

The continuation of scientific cooperation between the Uzbek and Azerbaijani peoples can be considered as a continuation of centuries-old cultural ties. The country has successfully overcome all obstacles in the field of science, personnel exchange, innovation in the field of science, and this period has made a significant contribution to the development of society.

During this period, the relations in the field of science have been playing a key role in the development of cultural, scientific and technical relations between the independent republics of Uzbekistan and Azerbaijan. It is a well-known fact that the foreign policy of any state affects the economic, scientific and technological development of the social life of that state. In the 40s and 80s of the twentieth century, Uzbekistan had international cooperation with a number of countries, but this did not mean that Uzbekistan could develop independently and pursue independent cooperation. The fact that the Soviet government strictly controlled the foreign activities of the Allied republics, and even controlled the cooperation between the Allied republics, naturally led Uzbekistan to keep the ties of friendship and cooperation in the same shell. Nevertheless, the historiography and historical roots of cooperation between Uzbekistan and Azerbaijan go back far into the past, which contributed to the strengthening of friendly relations between the two peoples. First of all, the issue of studying the history of socio-economic relations of Uzbekistan with the people of Azerbaijan in the past was systematically studied, thereby justifying the long-standing relations between the two peoples.

Relations between the two fraternal peoples In the second half of the 19th century, as a result of Russian military and economic efforts, Azerbaijanis were involved in mining and other activities. In the late nineteenth and early twentieth centuries, relations between the two peoples in all fields of science, education and culture led to the rapprochement of fraternal peoples, whose language, religion and way of life were similar. The reason for this is that the historical roots of relations between the two peoples go back centuries, which served to further revitalize relations.
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