

**THE ACADEMIC MIGRATIONS OF BULGARIAN WOMEN SCIENTISTS  
(END OF 19<sup>TH</sup> CENTURY – SECOND WORLD WAR)**

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Bulgarian women's intelligentsia commenced its formation during the 1840s-1870s. As the Bulgarians then lived under the power of the Ottoman Empire and did not have their state educational system, the first female schools were amateur. The girls, held back by the prejudices of their families, obtained predominantly primary education before they stopped attending school. Only a few of them enrolled in basic schools and graduated from secondary schools in Russia and Czech lands in Austria-Hungary. Only the teachers constituted the women's intellectual elite during this time period, there were no women with higher education.<sup>1</sup> This sharply changed after the establishment of the Bulgarian national state in 1878. The state looked after to create female schools in all the educational degrees, to make level (in structure and subject-matter) male and female high schools. A lot of state scholarships for education abroad were provided for women, after a decade of obstacles Bulgarian women were admitted to the Sofia University in 1901.<sup>2</sup>

The entry of Bulgarian women in science commenced after the First World War. This delay was the result of several reasons. After 1878 the Bulgarian science had an insignificant number of scientific institutions and personnel. Prejudices existed in society relating to the intellectual potential of women and their ability to deal with research work. The professional career of women-scientists was troubled like that of women-lawyers, medical doctors, engineers and in all male-dominated professions. The Bulgarian feminist movement did not engage with the cause of women-scientists at the beginning of the 20<sup>th</sup> century.

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<sup>1</sup> See N. Gentchev, *Balgarska vazrozhdenska intelligentsia* (Bulgarian Intelligentsia during the Period of the National Revival), Sofia, 1991, 92-93; T.A. Meininger, *The Formation of a Nationalist Bulgarian Intelligentsia, 1835-1878*. Ph.D., University of Wisconsin, 1974. Reprint New York/London, 1987.

<sup>2</sup> G. Nazarska, *Universitetskoto obrazovanie I balgarskite zheni 1879-1944* (The University Education and Bulgarian Women 1879-1944), Sofia, 2003.

During the 1920s Bulgarian women were appointed in the universities, academies and museums. They, further to teaching and curator ship, were purposefully engaged in science. The women in these hierarchized institutions faced the “networks of power” (Foucault) at each level: they were confronted with regulations with sexist prohibitions; they signed short-term contracts; they were rejected by the academic boards; their male colleagues resorted to complaints, enquiry commissions, dissenting opinions, deliberate delay of publications, suspension of specializations, retirement on a disability; non-admission to attainment of academic ranks or their prevention by means of biased reviews and a number of clandestine techniques.<sup>3</sup>

This context is only one of the possibilities during the survey of the academic migrations of the Bulgarian women. The specific scientific and professional results, the place of foreign influences during the formation of the women’s intellectual elite in Bulgaria and, as far as possible, the review of the mutual connection of the “centre” and of the “periphery” in science are also significant.

Bulgarian women-scientists made their academic migrations either during their university studies or immediately after graduation from the university, or after their appointment at the Sofia University or in the museums. Most frequently this happened at the mature age of about 30, when motivation existed as well. Women wanted their scientific improvement above all and for that reason they were not parsimonious of their own funds and spared from the time of their leaves and vacations.<sup>4</sup> Most of them were graduates of the Sofia University and the Music Academy and considered that they had to supplement their knowledge and skills. Alumni of Germany, Austria and Russia wanted to train in other scientific schools. The work on Ph. D. theses and papers for obtaining academic ranks, which urged them to be mobile and not to remain with a specialization in one centre only, came in the second place. For instance, that is how proceeded the biologist Ariadna Dimitrova who toured round Berlin and Rostock for two years and the physician Elissaveta Karamichailova who worked in Vienna and

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<sup>3</sup> G. Nazarska, ‘*Dostapat na zhenite do bulgarskata universitetska nauka* (The Access of Women to Bulgarian University Science) 1918-1944’, *Istoricheski pregled* (Historical Review), no 5-6 (2005).

<sup>4</sup> Scientific Archive of the Bulgarian Academy of Science (BAS), coll. 1, op. 11, f. 140, p. 17 gr.; State Archive-Sofia, coll. 994k, op.2, f. 237, p. 10,17,22.

Cambridge.<sup>5</sup> The professional commitment in commissioning, sometimes provoking scientific curiosity, ranked third: women traveled to get acquainted with the arrangement and the collections of foreign museums and galleries, with lecturing and experiments in institutes and universities.<sup>6</sup> The motivation relating the specialization to the finding of a future better paid or permanent job was not a priority for Bulgarian women. That was observed solely in those of them who had worked in the Western Europe and wanted to go back to their native countries as university lecturers.<sup>7</sup>

To implement the academic migrations the Bulgarian scientists predominantly relied on the financial support of their families, on some foundations (Humboldt, Rockefeller), on international scholarships, on the Bulgarian Ministry of Education and very little on their institutions where they occupied inferior positions.<sup>8</sup> The significance of the family institution was also great. Their parents rendered them moral and financial support and most of the women scientists postponed the contraction of their marriages and delivery of children for a long time because of their improvement.<sup>9</sup> They did not have any problems in their contacts with the relevant institutions during the arrangement of their specializations or during their stay there, because they spoke at least three foreign languages.

The academic migrations of the Bulgarian women scientists were most intensive from the middle of the 1920s to the end of the 1930s. They coincided with the time period of the women's "boom" in the science and with the «opening» of some inaccessible prior to that time institutions to the West European women. They were also related to the progress, especially in the natural sciences. It was not by chance that Bulgarian women specialized nuclear physics, bacteriology, microbiology,

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<sup>5</sup> Central State Archive – Sofia, coll. 1652k, op. 1, f. 29, p. 1-3 gr.; Sn. Tsoneva-Mathewson, M. F. Rayner-Canham, G.W. Rayner-Canham, 'Elizaveta Karamihailova: Bulgarian Pioneer of Radioactivity', in *A Devotion to Their Science. Pioneer Women of Radioactivity.*, eds. M. F. Rayner-Canham and G.W. Rayner-Canham, Montreal: McGill University Press, 1997, 205-208; P. Lazarova, 'Elisabetha Kara-Michailova (1897-1968). Grande Dame der bulgarischen Physik', in *Frauen aus dem Rosenland. Bulgarische Pionierinnen. Miscellanea Bulgarica*, Bulgrisches Forschungsinstitut in Österreich, Vienna, no. 16 (2004): 28-38.

<sup>6</sup> Central State Archive-Sofia, coll. 865 k, op. 1, f. 32, p.1-2; coll. 1194 k, op. 1, f. 8, p.1; f. 10, l.1.

<sup>7</sup> G. Nazarska, 'Elisaveta Karamichailova', in *A Biographical Dictionary of Women's Movements and Feminisms. Central, Eastern, and Southeastern Europe: 19<sup>th</sup> – 20<sup>th</sup> Centuries*, eds. Fr. De Haan, Kr. Daskalova, A.Loutfi, Budapest, New York: CEU Press. 2006, 222-225.

<sup>8</sup> State Archive-Sofia, coll. 994 k, op. 13, f. 29, p. 12, 102 gr.; op. 2, f. 36, p. 158.

<sup>9</sup> Nazarska, *Universitetskoto obrazovanie* (The University Education), 244-251.

biochemistry, hygiene and oncology, on enzymes and colloids. Along with that, in view of the leading role of social sciences in the country, they turned to Byzantine studies, art history, Slavonic studies, and musical folklore studies.

For this purpose Bulgarian women selected (most frequently by themselves or on the advice of their instructors) leading scientific centres. Germany, Austria, France and the United Kingdom were the most frequently visited. They were the «centre», which dictated the «fashion» in scientific activity during the interwar time period and collected international teams of scientists.

The Bulgarian women chemists, zoologists and philologists advanced to Germany – in Berlin (at the *Institut für Zoologie* (Institute of Zoology), at the *Keiser Wilhelm Forschungsinstitut*, at the *Institut für Gaerungsgewerbe* (Institute of Fermentation), at the Rostock University, in Würzburg (at the University and at the Racial Hygiene Institute), at the universities in Munich, Frankfurt on Main, Jena and Leipzig. Paris on its hand was a centre of attraction for the women specialists in inorganic and organic chemistry, microbiology, agronomy, music and archeology. They specialized at the Sorbonne, at the *Ecole de Hautes Etudes*, at the *Ecole du Louvre*, at the *L'Institute Pasteur* (the Institute Pasteur), at the Music Academy. Bulgarian women-scientists also worked at the *Institut für Radiumforschung* (Vienna Radium Institute) and at the Vienna University, at the Girton College and at the Cavendish Laboratory in Cambridge, at the Charles University in Prague, also in Italy, Switzerland and Hungary.

The registered academic migrations were short-term (up to 10 months), seldom a year or two. This was determined by financial reasons and by the low women's positions in their own scientific institutions. The migrations were directed to towards one centre and rarely they continued to other centres or countries due to same reasons.<sup>10</sup>

The stated brevity did not prevent Bulgarian women from doing adequate experimental work, studying scientific literature, completing qualification courses on topical problems, visiting

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<sup>10</sup> For example, see State Archive-Sofia, f. 994 k, op.2, f. 393, f. 32, 46; f. 264, p.29.

galleries, laboratories and institutes, participating at the same time in international congresses, teaching and working on their Ph. D. theses and attainment of academic ranks.

The stay in the defined scientific units placed Bulgarian women in close contact with their foreign colleagues. First and foremost they drew knowledge, advice and experience from their world-famous supervisors and professors. Physicist Elissaveta Karamichailova was supervised in Cambridge by Prof. Rutherford and Prof. W.L.Bragg (1935-1938); chemist Theodora Kovacheva worked under the leadership of Prof. Blaise at the Sorbonne (1932)<sup>11</sup>; zoologist Ariadna Dimitrova specialized at Prof. Schulze, Prof. Goldschmidt and Prof. Lindner in Berlin and Rostock (1924-1925, 1926-1927)<sup>12</sup>. Biochemist Maria Andreycheva was supervised by Prof. G. Bertrand and Prof. M. Javalier at the Institute Pasteur (1932-1933); microbiologist Ana Hranova improved her qualification in Berlin at Prof. R. Dujarric de la Riviere, Prof. A. Lacassague and Prof. Pettit (1924-1925), and worked in Greisswald at Prof. P. Buchner (1925-1926) and in Würzburg at Prof. G. Just (1942-1944)<sup>13</sup>. Prof. Millet was supervisor of the archeologist and art specialist Vera Mavrodinova in Paris (1926-1928); musician Raina Katsarova specialized at Prof. Hornbostel in Berlin (1933); Prof. Cortot trained pianist Evgenia Kovacheva at the Music Academy in Paris (1924-1928).<sup>14</sup> Bulgarian women received invitations for assistant professors' positions from these professors, but none of them accepted such an invitation. They all aspired to return to their native country. The Bulgarian women-scientists also had the possibility to establish professional contacts with many colleagues, who consequently invited them for participation in international forums, and to exchange publications and ideas.<sup>15</sup> Thus they became a part of the international scientific networks and included the Bulgarian science in them as well. Bulgarian women frequently established connections and became members of international

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<sup>11</sup> State Archive-Sofia, f. 994 k, op.2, f. 337, p. 32,51, 65.

<sup>12</sup> Central State Archive-Sofia, coll. 1652 k, op. 1, f. 29, p. 1-3 gr.

<sup>13</sup> State Archive-Sofia, f. 994k, op.2, f. 169, p. 32; Scientific Archive of the BAS, coll. 74k, op. 1, f. 101, p.2; f. 635, p. 2-5.

<sup>14</sup> Bulgarian Historical Archive – St. St. Cyril and Methodious National Library (Sofia), coll. 603, f. 690, p. 12-13; Scientific Archive of the BAS, coll. 52 □, □p.2, f. 226.

<sup>15</sup> For instance, see Central State Archive-Sofia, coll. 1194 k, op. 1, f. 8, p.1; f. 10, p.1

organizations – for instance Raina Katsarova, curator at the Museum of Ethnography in Sofia, became member of the International Folklore Music Council in London (1935).<sup>16</sup> During their academic migrations Bulgarian women-scientists made contacts with their fellows-countrymen – students, post-graduate students or artists. Partnerships of intellectuals were created in these emigrant colonies, which later on were transferred to Bulgaria.<sup>17</sup> There they became background of international contacts and cultural exchange.

As a result of their specializations women-scientists became some of the most qualified specialists in their spheres. This was acknowledged even by their men colleagues in Bulgaria in reviews and formation of collective teams.<sup>18</sup> Their unique knowledge and skills became reason for the women scientists to preserve their workplaces and to remain “in science” even after the political changes in 1944, when, during the communist regime, many Bulgarian scientists were dismissed and repressed for political reasons. For some of the women the stay in foreign scientific institutions was devoted to research, concluded either in articles, often written in co-authorship with their supervisors, or in research works, which consequently constituted grounds for them to take part in competitions for associate professors.<sup>19</sup> Some of these publications were even awarded prizes of Western European or Bulgarian scientific associations.<sup>20</sup> The contribution of the scientists and of their works for the “transfer” of modern scientific achievements from the “centre” to the “periphery” was essential as well. Even today no one denies the fact that, for instance, Dr. Elizasseta Karamichailova, whose achieved results are quoted even nowadays, was pioneer and founder of the Bulgarian nuclear physics; that Raina Katsarova became doyen of the contemporary Bulgarian musical folklore studies; that the Theodora Kovacheva’s method for detection of strontium in the presence of barium was included in the Table of the International Commission for New Analytical Reactions and Reagents in 1938; that

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<sup>16</sup> Scientific Archive of the BAS, coll.1, op. 11, f. 140, p. 4, 16-17, 25.

<sup>17</sup> Such kind of colonies were formed by Bulgarians at Munich (in the middle of the 1920s) and at Paris (in the end of the 1920s and in the beginning of the 1930s).

<sup>18</sup> Nazarska, ‘*Dostapat* (The Access)’

<sup>19</sup> State Archive-Sofia, coll. 994 k, op. 2, f. 13,p.39; Central State Archive, coll. 1041 □, □p. 1, f. 22, p.1-2.

<sup>20</sup> Vera Mavrodiniva’s study on the Bulgarian medieval monasteries was awarded by the Bulgarian Academy of Sciences; Mara Lestova-Trunka won a grant from the Paris University and the French Academy.

Dr. Ana Hranova described a new species of yeast-fungus named after her; that Dr. Mara Leshtova-Trunka discovered a new type of parasite sacciform fungus affecting the papilionaceous plants.

Returning from their specializations, women scientists were seldom promoted in “the vertical hierarchy of power” in science. Indeed, some of them were appointed as assistant and associate professors, but this happened more with the intercession of their direct administrative supervisors than because of acknowledged scientific superiority. On the contrary, Mara Leshtova-Trunka was suspended from a participation in a competition for an associate professor and Karamichailova’s specializations were pointed out as a disadvantage for her not knowing the scientific conditions in Bulgaria in the reviews on her research work. It is a fact that most of the women physicists and chemists were dismissed from the Sofia University namely after their return from successful specializations, and others were deliberately prevented from departing by their male colleagues. This may look paradoxical from the point of view of science, but it was quite explicable in conformity with Foucault’s theory on the “networks of power”, which did not admit the emancipation of the “discriminated elites”.<sup>21</sup>

After the Second World War when Bulgaria was left behind the Iron Curtain and Stalinization was implemented in science in compliance with a Soviet model. Then the specializations of Bulgarian women (particularly in Germany) were used by authorities as an argument for political accusations in “fascism” and espionage. This resulted in the dismissals of many of them from the Sofia University and museums and in their “breaking away” from science, and with others – in the serious drama of adaptation to a different methodology of investigation and in marginal topics and problems, in rejection of previous investigations and scientific partialities, in full discontinuance of the contacts

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<sup>21</sup> Nazarska, ‘Dostapat (The Access)’

with their colleagues from the Western Europe and in the last reckoning, in life in fear from the Political police, which kept a close watch on and censored them for years on end.<sup>22</sup>

The field trips and the specializations of Bulgarian women-scientists sometimes performed twice or three times in the same centres, were undoubtedly a stimulus for the formation of the national intellectual elite, and of the women's in particular. By 1944 it enriched its knowledge and skills, acquired new competences, interacted with the scientific elites of the European countries and it may be stated that it was a part of the global scientific community. Further to that, the academic migrations, which were completed as a rule with the return of the women to their native lands, transferred cultural values to their own country, became the bearer of cultural impacts and realized true "science transfer". After the beginning of the Cold War, when the specializations were deviated solely in the direction of the USSR and of the Soviet Block countries and the contacts with scientists from the Western Europe were restricted, the intelligentsia formation model was replaced and this "old generation" of women scientists did not take any participation in the process any longer.

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<sup>22</sup> G. Nazarska, '*Nezhelani, neudobni, neprisosobimi: pionerkite v bulgarskata nauka (20-50-te god. na 20 v.)* (Unwelcome, Unhandy, Unadaptive: Women Pioneers in Bulgarian Science 1920s-1950s)', in *Rod I red v bulgarskata kultura* (Gender and Order in Bulgarian Culture), eds. M. Kirova and K. Slavova, Sofia, 2005, 10-26