
THE SERBIAN PUBLIC IN THE FIRST HALF OF THE 20TH CENTURY ON MARIE CURIE AND HER DISCOVERIES

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Her great spirit does not reside in a male, but in a female body¹

ABSTRACT: *This article examines the reception of Marie Curie and her scientific work in Serbian-language periodicals from the early twentieth century to the late 1930s. It traces how knowledge about radioactivity, radium, and the Curies' discoveries was disseminated in the Serbian public sphere through translations, popular science texts, and articles by university professors and public intellectuals. The study shows that Marie Curie was consistently represented as a pioneering scientist, with particular emphasis on her Nobel Prizes, her experimental work, and the perceived transformative impact of radioactivity on modern physics and chemistry. At the same time, her public image was shaped by intersecting discourses of gender, nationality, and scientific authority, in which she was alternately framed as a "Slavic" figure, a model of female achievement, and an exceptional case within a male-dominated scientific world. The article further analyses the absence of systematic misogynistic reinterpretations of her work in Serbian sources, contrasting this with broader European patterns such as the Matilda effect. It argues that Serbian periodical discourse functioned as a space in which scientific knowledge and gendered meanings were jointly constructed, negotiated, and transformed.*

KEYWORDS: Marie Curie, radioactivity, radium, history of science, gender and science, Matilda effect, periodicals, feminism and science, interwar Yugoslavia, popular science literature

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¹ Жена, бпој 2, 1911.

The Public as a (Non-)Homogeneous Discursive Field

Contemporary historiography of science highlights that scientific authority in the past was not formed exclusively within the academic community, but also through public representation in the press and popular culture. In this context, scholars often refer to the media construction of (scientific) authority, with newspapers, journals, and popular science texts playing a significant role in shaping public perception of scientists. In analysing the reception of Marie Skłodowska Curie and the model of radioactivity in the Serbian public during the first half of the twentieth century, this study draws on Jürgen Habermas's discursive concept of the public sphere, as defined in his pioneering study *The Structural Transformation of the Public Sphere* (*Strukturwandel der Öffentlichkeit*).² Habermas conceptualises the public sphere as a space of social communication in which (private) individuals, through newspapers, journals, associations, and cultural institutions, participate in public debate on matters of general interest: "The bourgeois public sphere may be conceived above all as the sphere of private people assembled as a public."³ Within the context of historiographical research, such a definition of the bourgeois public sphere enables us to situate specific individuals within different social contexts, identify the signifiers attributed to them, and define the meanings assigned to them by that public. Habermas's concept of the public sphere makes it possible to view public discourse as a dynamic field shaped by various actors of civil society (signifiers): intellectuals, journalists, scientists, and cultural institutions – who collectively produce interpretations of events, ideas, and individuals. Building on this theoretical framework, the reception of scientists may be understood as part of a broader discursive space in which meanings of scientific authority, cultural prestige, and social norms are simultaneously constructed and negotiated. In this sense, public representations and interpretations of scientific work do not merely signify the transmission of specialised knowledge to a wider audience, but also constitute a process of socio-cultural construction of scientific reputation and symbolic capital.⁴

Although the public sphere shaped by the press and Serbian-language periodicals in the first half of the twentieth century was relatively small and undeniably predominantly elite, it was precisely in this period that the first women's and feminist journals began to emerge.⁵ This phenomenon introduced certain deviations into public discourse, rendering it multidiscursive, pointing to the fragmentation of the pu-

² Jürgen Habermas, *Javno mnenje: Istraživanje u oblasti jedne kategorije građanskog društva* (Beograd: Kultura, 1969).

³ J. Habermas, *op. cit.*, 38.

⁴ By this term, we mean Bourdieu's definition of "symbolic capital" as "a form of capital that derives from recognition, reputation, and prestige" [Pierre Bourdieu, "The Forms of Capital", in: *Handbook of Theory and Research of the Sociology of Education*, Editor Jonh G. Richardson (New York: Greenwood Press, 1986), 241–258].

⁵ About women's periodicals see in: Слободанка Пековић, *Часописи по мери достојанственог женскиња: Женски часописи у Србији на почетку 20. века* (Нови Сад, Београд: Матица српска, Институт за књижевност и уметност, 2015).

blic sphere, and creating a mosaic-like differentiation among target audiences.⁶ For this reason, Jürgen Habermas's model of a unified public proved insufficient for analysing the reception of Marie Curie in Serbian-language periodicals. As a useful supplement to Habermas's framework, this study also incorporates the theoretical concept of subaltern counterpublics,⁷ as defined by Nancy Fraser: "Habermas's account of the bourgeois conception of the public sphere stresses its claim to be open and accessible to all. Indeed, this idea of open access is one of the central meanings of the norm of publicity. Of course, we know, both from revisionist history and from Habermas's account, that the bourgeois public's claim to full accessibility was not in fact realised. Women of all classes and ethnicities were excluded from official political participation precisely based on ascribed gender status, while property qualifications formally excluded plebeian men. Moreover, in many cases, women and men of racialised ethnicities of all classes were excluded on racial grounds".⁸

Building on Nancy Fraser's concept of counterpublics, representations of Marie Curie in the public sphere may be understood as the result of interaction between the dominant social public and alternative (female) discursive spaces, in which women from different social positions reinterpreted the meaning of her scientific and personal authority. These parallel discourses enabled diverse understandings of the relationship among science, modernity, and gender roles to be articulated.

Marie Curie – Life, Work, and Scientific Contribution

Marie Skłodowska Curie (1867–1934) was born on 7 November 1867 in Warsaw, Poland, which was part of the Russian Empire at the time. She completed her secondary education in 1883 and, in 1891, moved to Paris, where she began studying physics and chemistry at the Sorbonne. Despite poverty and difficult living conditions, she graduated in physics and chemistry in 1893, followed by a degree in mathematics in 1894. The following year, she married Pierre Curie, who was then pursuing doctoral studies. She soon obtained a position and, together with her husband, began researching radioactivity, a phenomenon discovered in 1896 by the French scientist Antoine Henri Becquerel. After prolonged and demanding research, in 1898, she discovered the new elements radium and polonium. She made a major contribution to the explanation of radioactivity. She earned her doctorate in physics at the Sorbonne in 1903, and in the same year was awarded the Nobel Prize in Physics together with her husband and Becquerel for their research on radioactivity. The years of recognition and joint research in their own laboratory were abruptly interrupted in 1906, when Pierre Curie was killed

⁶ Snježana Milivojević, *Mediji, ideologija, kultura* (Beograd: Pešćanik, Fabrika knjiga, 2015), 126.

⁷ Term "counterpublic" we use as it was translated and defined on the case of Serbian public in the first half of the 20th century, by Stanislava Barać in monograph: *Феминистичка контрајавност: Жанр женског портрета у српској јавности 1920–1941* (Београд: Институт за књижевност и уметност, 2015), 51.

⁸ Nancy Fraizer, "Rethinking Public Sphere: A Contribution to the Critique of Actually Existing Democracy", *Social Text*, no. 25/26, 1990, 63. About theoretical concept of the feminist counterpublic see also: Nancy Fraizer, "What's Critical about Critical Theory? The Case of Habermas and Gender", *New German Critique*, no. 35, 1985, 97–131.

in a street accident involving a horse-drawn carriage. That same year, Marie succeeded her husband as a professor at the Sorbonne, becoming the first woman to hold this position. Despite numerous hardships and challenges, she continued her work and in 1911 received a second Nobel Prize, this time in Chemistry, for the discovery of radium and polonium. In the same year, the French Academy of Sciences rejected her membership application. During the First World War, she organised mobile X-ray units to treat wounded soldiers at the front. After the war, she continued her work at the Radium Institute (founded in 1914, today known as the Institut Curie), which the French government funded. She led research in physics, chemistry, and medicine, particularly in the application of radium in cancer treatment. She died on 4 July 1934 of aplastic anaemia, largely as a result of decades of radiation exposure.⁹

The life of Marie Skłodowska Curie was marked by intense labour, dedication, professional success, ground-breaking discoveries, but also by personal dramas and tragedies. The phenomenon of radioactivity – the property of certain elements to spontaneously emit invisible, penetrating radiation without any external influence – captivated leading scientists at the end of the nineteenth and the beginning of the twentieth century, guiding the world towards the “atomic age”, a period defined by revolutionary discoveries concerning the structure of the atom and new subatomic particles, the properties and effects of various types of radiation, the possibility of transforming radioactive elements from one into another, and the release of vast amounts of energy contained within the atom. Radium, which she discovered, was a new element found in extremely small quantities in uranium ore, from which it was a million times more radioactive. In addition to its striking properties, such as the emission of light and heat and the ionisation of the surrounding air, it exerted a powerful effect on the human organism. It was initially presented as a “miraculous cure” for cancer and numerous other diseases. However, its harmful health effects were soon recognised. Together with Pierre Curie, Antoine Henri Becquerel, Ernest Rutherford, Frederick Soddy, Jean Perrin, André-Louis Debierne, and other scientists, she was among the pioneers of this scientific revolution and a herald of the “atomic age”.¹⁰

However, the arrival in Paris of a poor yet intellectually gifted émigré from Poland, where women at the time were not permitted to pursue higher education, her

⁹ Eva Kiri, *Madam Kiri (Madame Curie)*, prevod Predrag N. Ilić (Beograd: Predrag Ilić, 1939); Françoise Giroud, *Marie Curie: A Life* (New York: Holmes & Meier, 1986); Susan Quinn, *Marie Curie. A Life* (New York: Simon&Schuster, 1995); Barbara Goldsmit, *Opsesijuni genije. Unutrašnji svet Marije Kiri* (Smederevo: Heliks, 2006); Dava Sobel, *The Elements of Marie Curie: How the Glow of Radium Lit a Path for Women in Science*. (London: Fourth Estate, 2024); <https://www.britannica.com/biography/Marie-Curie> (accessed 12 January 2026). She was buried next to her husband in Saus near Paris, but in 1995 they were both moved to the Panthéon. Their daughter Irene and her husband Frédéric Joly received the Nobel Prize in 1934 for the discovery of artificial radioactivity.

¹⁰ See: Bernard Fernandez, Georges Ripka, *Unravelling the Mystery of the Atomic Nucleus: A Sixty Year Journey 1896–1956* (New York: Springer, 2013); Marjorie Malley, *Radioactivity: A History of a Mysterious Science* (New York: Oxford University Press, 2011); Michael F. L'Annunziata, *Radioactivity. Introduction and history* (Amsterdam: Elsevier, 2007); Diana Preston, *Before the Fall-Out: The Human Chain Reaction from Marie Curie to Hiroshima* (London: Corgi Books, 2006); Milorad Mladenović, *The History of Early Nuclear Physics (1896–1931)* (Singapore: World Scientific, 1998); Stevan T. Jokić, „Otkriće radioaktivnosti i hemijskih elemenata polonijuma i radijuma“, *Phlogiston*, br. 8, (1998), 7–32; Ivan Draganić, *Kroz svet radijacija i radioaktivnosti. Sto godina atomske ere* (Beograd: Muzej nauke i tehnike, Geoinstitut, Zavod za udžbenike i nastavna sredstva, 1996).

successful studies under conditions of extreme poverty, and her painstaking research conducted in a “dilapidated shed”, along with numerous details and episodes from her personal, emotional, and family life, attracted public attention from the earliest days of her fame and continue to do so today. These aspects often overshadowed the science itself and her discoveries. Particular significance was consistently attached to the fact that she was a woman: a successful woman working among men, independent, determined, and unwavering in her pursuit of success and the realisation of her ambitions despite the obstacles imposed by life, society, and her professional surroundings. Numerous examples illustrate such “trouble with gender.” It is worth noting that, for the 1903 Nobel Prize, only Pierre Curie and Antoine Henri Becquerel were initially nominated, while Marie Curie was not mentioned at all. She was included only after the insistence of the influential Swedish mathematician Gösta Mittag-Leffler and Pierre Curie; even at the award ceremony itself, her contribution was almost entirely overlooked.¹¹ Both within professional circles and, even more so, among the broader public, it was often maliciously suggested that she had merely been her husband’s assistant and that the credit for their discoveries belonged solely to him – an interpretation that persisted even after Pierre’s death, her second Nobel Prize, and her subsequent scientific achievements. It was also frequently noted that, even at the height of her fame, she was rarely referred to by her full name, but rather as “Madame Curie”, “Mrs Curie”, or “the wife of the French scientist Pierre Curie”.¹² In such an atmosphere, it is hardly surprising that the “elite male institution” of the French Academy of Sciences refused her admission in 1911, with some members exerting strong pressure to prevent her candidacy from being considered because, they argued, a woman did not belong there.¹³ These setbacks, malicious commentaries, the general social climate, press scandals, the pressures of fame, admiration, hostility, respect, and envy, along with personal and family crises and trials, combined with the immense efforts and consequences of working with hazardous materials, as well as everyday difficulties, placed a heavy burden on Marie Curie and diverted her attention from scientific work, while also becoming a focal point of public interest. Echoes of this popularity, her life story, and her scientific contributions could also be found on the European scientific and social periphery, within the Serbian public and Serbian-language press during the first half of the twentieth century, that is, until the death of Marie Curie and the outbreak of the Second World War.

Marie Curie and Her Discoveries in Serbian Periodicals before the First World War

Marie Curie and her discoveries were mentioned in the Serbian press in 1903 in “*Prosvetni glasnik*”, in the “Science and Education” section. The reference appeared in the article “A New Form of Radiant Energy” (which actually dealt with “Becquerel rays”, i.e., radioactivity), translated from German by Jovan Bademlijić

¹¹ Dragana Popović, *Žene u nauci: Od Arhimeda do Anštajna* (Beograd: Službeni glasnik, 2012), 107.

¹² E. Kiri, *op. cit.*, 200–217; B. Goldsmit, *op. cit.*, 110–115. Hélène Langevin-Joliot, “Marie Curie and Her Time”, *Chemistry International*, January-February 2011, 5.

¹³ E. Kiri, *op. cit.*, 268–280; B. Goldsmit, *op. cit.*, 176.

(Bademlić).¹⁴ Before presenting the translated popular science text, Bademlić provided a brief introduction to what he described as this “new and highly significant field of scientific research.” At the outset, he wrote that, following the observations of the French scientist H. Becquerel, and especially after the exceptionally careful and extensive investigations conducted by Curie and his wife, the scientific community became acquainted with a substance – a chemical element – possessing properties previously unknown in the physical nature of matter. He then described the most important characteristic of this element, namely its “continuous emission of energy”, based on which it received the name “radium”, as well as other features: its ability to render the surrounding air conductive, the visibility of its rays as intense light, and the property of its salts to emit a bluish glow in darkness. Bademlić further noted that “the French natural scientist Curie and his wife, his collaborator in this joint scientific investigation, believe that such bodies, distinguished by their radiative activity, possess a certain property enabling them to retain these imperceptible rays, which penetrate all other bodies without attenuation, and to transform their energy into visible rays.” The article also outlined the difficulties encountered by the Curies and other researchers in working with radium, which contributed to the extraordinary cost of this rare element (at the time, one gram of radium cost 8,000 German marks).¹⁵ Bademlić concluded, perceptively, that “the discovery of radioactive substances has opened to physics and chemistry an entirely new scientific domain – an unknown territory full of unprecedented wonders and surprises – and, if all indications are not misleading, future research in this field will yield remarkably significant scientific insights into the structure and behaviour of chemical elements, from which all material nature, indeed the entire universe, is composed.”¹⁶ Although he clearly recognised the importance of radioactivity, in this introductory text Bademlić did not mention Marie Curie by name, referring to her only as the “wife” and “collaborator” of the French scientist.

In the same year, radium was also discussed by Svetislav Kolarović in the December issue of journal *Brankovo kolo*, published in Sremski Karlovci. He devoted particular attention to the work of the English chemist William Ramsay, to Röntgen and Becquerel rays, and to radium as a “mysterious element of the future that promises much to science”. He concluded by noting that radium, as well as polonium, had been “discovered by the Polish woman Skłodowska, married in Paris to the chemist Pierre Curie”, and informed readers that Becquerel and the Curie couple had “just

¹⁴ Jovan Bademlić (1842–1919) was a professor, writer and translator from German and Russian [Мирослав Ранков, „Јован Н. Бадемлић“, in: *Српски биографски речник*, том 1, ур. Чедомир Попов (Нови Сад: Матица српска, 2004), 340–341].

¹⁵ „Нов облик зрачне енергије, од Елпеа, прев. Јован Бадемлијић“, *Просветни гласник*, бр. 8, август 1903, 219–220. We are not familiar with the identity of “Elpe”; it is likely that this was an Austrian or German populariser of science who, in the early twentieth century, wrote on various topics within the natural sciences, as Bademlić published several translations of his texts on evolution, meteorology, and related subjects.

¹⁶ *Ibid.*, 221. The text provides an overview of radiation research by Roentgen and Becquerel, through Curie and other researchers, but Marie Curie’s name is not mentioned (“Curie-vi”, “Curie and his wife Skladskobaska”); it is stated that polonium was found by professor Curie and that he named it that way “certainly out of gratitude to his wife, Mrs. Slatkowska, who is Polish and who is his collaborator on that research” (*Ibid.*, 232). The last name is wrong in the original.

recently”, at a session of the Academy of Sciences in Stockholm on 9 December, been awarded the Nobel Prize in Physics in the amount of 100,000 francs. Kolárović briefly explained the nature of the Nobel Prize, first awarded in 1901, which would certainly have been a novelty for the readership of *Brankovo kolo*, published in December 1903. He also noted that Pierre and Marie Curie had, in the same year, received the Davy Medal, awarded by the Royal Society in London for achievements in chemistry.¹⁷

Following translators, secondary-school teachers, and popularisers of science, from 1904 onwards, prominent scientists and university professors also began writing in Serbian periodicals about radioactivity and radium. These authors were distinguished scholars in the natural sciences, educated at European universities (as were the aforementioned grammar school teachers), who at that time were preparing the transformation of the Great School into the University of Belgrade (1905).¹⁸ Marko Leko,¹⁹ Professor of Chemistry at the Great School in Belgrade, delivered a public popular lecture on radium on 9 May 1904 in the Great School hall, which was subsequently published in the journal *Delo*. The lecture included presentations of materials and simple experiments. At the outset, Leko noted that “no recently discovered element has attracted the interest of the entire educated world as strongly as radium, particularly physicists and chemists, who in this new element find an entirely new field of joint scientific endeavour”. The reasons for such interest lay in the physical properties of radium – its penetrating radiation, its emission of light and heat, and its effects on living organisms, which were original and previously unknown in science.

In conclusion, Leko devoted several sentences to the isolation of radioactive elements based on measurements of the radioactivity of their compounds, stating: “In these investigations, the greatest merits belong to the Polish chemist, Mrs **Skłodowska**, the wife of the French physicist Curie, and, in honour of her homeland, the first isolated radioactive substance was given the name **polonium**. Thus, thanks to Slavic intellect, these new and highly interesting radioactive substances have been obtained, and from material that was likewise first provided by a Slavic land”.²⁰ Marie Curie’s nationality would subsequently remain foregrounded, both in specialist and popular texts.

¹⁷ Светислав Коларовић, „Нешто о новом елементу радијуму“, *Бранково коло*, год. IX, бр. 50, 1903, 1592–1595. See also: С. Коларовић, „Још нешто о радијуму“, *Бранково коло*, год. XII, бр. 17, 1906, 533. Svetislav Kolarović (1865–1909) was a professor, publicist and politician, involved in the popularization of science [Радован Вујошевић, „Светислав Коларовић“, у: *Српски биографски речник*, том 5, ур. Чедомир Попов (Нови Сад: Матица српска, 2011), 177].

¹⁸ On education of Serbian intelligentsia in Europe in 19th century see: Љубинка Трговчевић, *Планирана елита. О студентима из Србије на европским универзитетима у 19. веку* (Београд: Историјски институт, 2003), and about funding of University of Belgrade in: Арсен Ђуровић, *Модернизација образовања у Краљевини Србији 1905–1914* (Београд: Историјски институт, 2004), 685–740.

¹⁹ Marko Leko (1853–1932), chemist, professor and rector of the Great School [Снежана Бојовић, „Марко Т. Леко“, у: *Српски биографски речник*, том 5, 572].

²⁰ Марко Леко, „Радијум“, *Дело*, год. 9, књ. 31, 1904, 262–273. The text was reprinted almost a century later: Marko T. Leko, „Radium“, *Флогистон*, бр. 8, (1998), 237–251. The names are marked in bold, in the original.

Subsequently, Miloje Stojiljković,²¹ Professor of Physical Chemistry at the Great School and later at the University, published in the same year, in the July issue of *Srpski književni glasnik*, an article entitled “Radioactive Substances and Their Energy”. Drawing on foreign specialist literature, Stojiljković provided a detailed account of “Becquerel rays” and the properties of uranium, radium, and other substances that “emit invisible rays of varying intensity”. He emphasised that radioactive rays were already being applied in radiography and radiotherapy, and that they would have significant potential in radiodiagnostics “were it not for their harmful effects on the organism”. As the discoverers of “the most active radiating substance”, radium, he identified “Mr and Mrs Curie”, that is, “Mrs Skłodowska Curie”, who had also determined its atomic weight to be 225.²² Thus, the information presented in Serbian periodicals became increasingly detailed and was accompanied by more extensive scientific explanations.

The discovery of radioactivity and radioactive elements at the end of the nineteenth century not only stimulated further description and investigation of this phenomenon in the early twentieth century, but also encouraged the search for new radioactive elements and substances. This search was briefly undertaken by the chemist Sima Lozanić, Professor at the Great School, the first Rector of the University of Belgrade, and a member of the Serbian Royal Academy. In a study published in German in 1904 and in Serbian in 1905, Lozanić described his research into the radioactivity of various materials from the surroundings of Belgrade and across Serbia (including minerals from mines and mineral waters from spas).²³

In *Prosvetni glasnik*, in the “Education and Science” section, a text on radium appeared in 1906, based on a lecture by Pierre Curie at the Royal Society in London and translated by St. Marinković. Curie outlined Becquerel rays, radioactive substances, and the discoveries of polonium and radium before providing a detailed discussion of radium’s properties and radiation. In conclusion, Marinković briefly presented “the method by which this element was discovered, in which Mrs Curie had a very considerable share”. This referred to the slow, costly, and laborious process of tracing

²¹ Miloje Stojiljković (1873–1962) was a professor of physical chemistry at the Great School and University in Belgrade, the founder and manager of the Institute of Physical Chemistry from 1908 to 1948. *Сто година Филозофског факултета 1863–1963*, ур. Радован Самарцић (Београд: Народна књига, 1963), 567–573; Снежана Бојовић, Слободан Рибникар, „Милоје М. Стојиљковић (1873–1962)“, у: *Живот и дело српских научника*, књ. 8, ур. Милоје Сарић (Београд: САНУ, 2002), 201–211.

²² Милоје Стојиљковић, „Радиоактивна тела и њихова енергија“, *Српски књижевни гласник*, књ. 12, св. 6, 1904, 1092–1109. In this article, Stojiljković explained the properties and the difference between alpha, beta and gamma radioactive rays, which were new scientific findings achieved between 1899 and 1903.

²³ Sima Lozanić, “Die radioaktiven Cinnabaryte”, *Berichte*, 37, 13, 1904, 2904–2906; Сима Лозанић, „Радиоактивни минерали у Србији“, *Глас СКА*, 69, 1905, 139–168; Снежана Бојовић, *Сима Лозанић 1847–1935* (Београд: Принцип, 1996), 130–132. Lozanić was a chemist, university professor, rector, minister of foreign affairs, minister of industry and diplomat, see: С. Бојовић, „Сима М. Лозанић“, *Српски биографски речник*, том 5, 612–613. The research started by Lozanić continued during the following years; The radioactivity of spa mineral waters in Serbia was first undertaken by Marko Leko, who gave a lecture on it at the meeting of the Serbian Geological Society on February 10, 1910 [*Просветни гласник*, бр. 2–3, 1914, 239].

radioactive uranium minerals to identify new radioactive substances and isolating them through chemical procedures. The difficulties involved are illustrated by the fact that “from one tonne of uranium ore, only one decigram of radium could be obtained”.²⁴

In the journal *Nova iskra*, within the “Science” section, a translation of a text by a certain Ž. Danić, described as “an assistant in Madame Curie’s laboratory”, was published in 1911 under the title “Polonium and the Contemporary Theory of the Formation of Matter”. The text focused on the work and results of “Mme Curie” in the study of radioactivity, radium, and polonium. It began with the statement: “In recent times, science has been enriched by the highly significant discovery of Marie Skłodowska Curie, full professor at the University of Paris. By studying the properties of the previously discovered polonium, Mme Curie uncovered a whole series of phenomena that explain the foundations of the contemporary theory of the formation of matter”.

After describing the discovery of new elements and their properties, particular attention was drawn to their capacity to transfer radioactivity to other substances. The text indicated that the investigations of Marie Curie and other scientists into radioactivity over the previous decade had revealed an entirely new field of knowledge and enabled an understanding of the structure of matter on fundamentally new grounds. In addition to the existence of minute molecules and atoms constituting all matter, it was becoming evident that atoms themselves were not indivisible, but consisted of a positively charged nucleus and negatively charged electrons orbiting around it. The article further explained that recent research into radioactive substances had demonstrated changes occurring within the atom itself: radioactive bodies undergo disintegration, emitting “emanation”, and thus transform into a new radioactive element (“transmutation”). The concept of the decay period of a given radioactive element (the time required for half of its quantity to decay) was also explained. In this way, the text effectively conveyed the contemporary state of scientific knowledge on the subject, as well as the most current theories that Marie Curie was confirming through her experiments. The author concluded that modern science was bringing about profound changes, having confirmed the possibility of transforming one element into another, thereby achieving “that which had preoccupied medieval alchemists”.²⁵

Two years later, in August 1913, the feminist journal *Žena*,²⁶ from Novi Sad (Hungary), published an article on radium and its therapeutic properties by an author signing with the initials S.T., from Jáchymov and Karlovy Vary, described as “towns where people are rejuvenated”. The article provided basic information on how Mme Curie discovered radium and its properties. However, the text displayed literary ambitions and focused more on the consequences of the discovery of radium and the widespread belief in its power, potency, and healing properties. Among other remarks, the author wrote: “Radium is no fairy tale. It exists, although it has been

²⁴ Ст. Маринковић, „Радиијум, Е. Суре“, *Просветни гласник*, бр. 5, 1906, 393–403. The title states E. Curie, although the text makes it clear that it is Pierre Curie speaking about working with his wife, Marie. A similar text was published earlier in the Belgrade monthly periodical *Nova iskra*: „Радиијум његово развиће и његова будућност“, *Нова искра*, год. VI, бр. 4, 1904, 121–123.

²⁵ „Полонијум и савремена теорија о творби материје, Ж. Данић, асистент у лабораторији госпође Кири“, *Нова искра*, год. X, бр. 2, 1911, 60–62. Uporedi: B. Goldsmit, *op. cit.*, 104–108.

²⁶ About journal *Žena* see in: С. Пековић, *op. cit.*

known for only a few years. No newly discovered element has caused such a great revolution in science as radium. This radium has overturned the fundamental principles of chemistry and physics as previously understood. It has created new views of the world and of its origin”.²⁷

On Marie Curie in the Serbian Public Sphere during the Interwar Period

The science of radioactivity continued to develop during the war years, from 1912 to 1918. After the First World War, efforts to familiarise the public with new achievements in this field resumed through both specialised and daily periodicals. The first such contribution appeared in 1922, when Professor Sima Lozanić published an article on radioactivity in *Prosvetni glasnik*. He wrote about the radical transformation of chemistry following the latest discoveries, which demonstrated the divisibility of atoms, the spontaneous disintegration of uranium and thorium atoms, and, more generally, of heavy radioactive elements, the release of atomic energy, the artificial disintegration of elements, isotopes (elements with identical chemical properties but different atomic weights), and the formulation of atomic models consisting of a positively charged nucleus surrounded by negatively charged electrons in orbit (the models of Ernest Rutherford and Niels Bohr, 1911–1913), among other developments. According to Lozanić, chemistry had entered its third, radioactive age, in which it began to investigate intra-atomic transformations of matter.²⁸ The following year, in 1923, the first Yugoslav feminist journal, *Ženski pokret*, published a highly precise and laudatory article on Marie Curie and radioactivity by Dr Branislav Petronijević (1875–1954), philosopher and professor at the University of Belgrade. Petronijević emphasised that radium and polonium were discovered jointly with her husband, but that “the original idea of the existence of these new, hitherto unknown elementary substances belongs exclusively to Mme Curie”.²⁹

From the 1920s onwards, the Serbian public began to receive first-hand information about the latest advances in radioactivity and atomic structure, as well as about Marie Curie and her work. All previously mentioned texts in Serbian periodicals were translations, reviews, or survey articles based on foreign scholarly or popular literature. At the University of Belgrade, despite the presence of lecturers and chairs in physics, chemistry, and physical chemistry, there were no material conditions for conducting experimental work and research in this scientific discipline.³⁰ In the early

²⁷ „Варош где се људи подмлађују“, *Жена*, 1. 9. 1913, 540–545. During this period, there were a few more mentions of the Curie couple and radioactivity in Serbian periodicals. In 1904, Spiridon Grujić's book on radium, written in German, was published in Berlin in the same year; texts on radium tests appeared in *Nova Iskra* in 1905 and 1907; and several articles were published in professional and medical periodicals...

²⁸ Сима М. Лозанић, „Радиоактивност“, *Просветни преглед*, бр. 5-6, 1922, 347–353.

²⁹ Др. Бранислав Петронијевић, „Госпођа Кири“, *Женски покрет*, год. IV, бр. 9-10, 1923, 385–387. The precision of Branislav Petronijević's analysis is hardly surprising, given that, alongside his work in philosophy, he was also highly accomplished in the natural sciences. See more in: Илија Марић, „Бранислав Петронијевић“, in: *Српски биографски речник*, том 8, ур. Бранко Бешлин (Нови Сад: Матица српска, 2025), 437–440.

³⁰ *Сто година Филозофског факултета 1863–1963*, 533–596; С. Бојовић, С. Рибникар, *op. cit.*, 201–211. The state of natural sciences was no better in other centers that entered the Kingdom of

1920s, the newly graduated chemist and assistant at the Faculty of Philosophy in Belgrade, Dragoljub K. Jovanović (1891–1970), received a scholarship that enabled him to spend a year undertaking advanced study under the mentorship of Marie Curie, at her recently established Radium Institute in Paris, where he began his research in the field of radioactivity. Due to his dedication, his scholarship was extended. In 1925, he obtained a doctorate in physical sciences from the University of Paris (Faculty of Sciences) with the dissertation “Investigation of Mesothorium II.” The examining committee was chaired by Marie Curie, with Jean Perrin and André-Louis Debierne as examiners. During his time in Paris, Jovanović established a significant scientific reputation, publishing about 20 papers in leading international journals and, for a period, working at Cambridge University under Ernest Rutherford. However, at the invitation of the Faculty of Medicine, he decided to return to Belgrade. In October 1927, he was appointed to the rank of Associate Professor. In autumn 1928, he took up his post in Belgrade as Professor of Physics at the Faculty of Medicine and Head of the newly established Radiological Institute (Institute of Physics and Radiology), positions he held until the Second World War.³¹ In addition to extensive knowledge, academic distinction, and a solid scientific reputation, Dragoljub Jovanović also brought back from Paris a strong intellectual influence from Marie Curie. He co-authored one paper with her,³² and his doctoral dissertation bore two dedications: “To Madame Marie Curie, with respect and gratitude”, and, on another page, “to my mother”.³³

Even during Dragoljub K. Jovanović’s stay in Paris, the Serbian public received information about him and his work, and, through him, about Marie Curie and the activities of her institute. In October 1925, a few months after he obtained his doctorate, the Belgrade daily *Vreme* published an interview with Jovanović enti-

SHS in 1918: Ivan Supek, „Razvoj hrvatske fizike 1930–1950“, *Prirodoslovlje*, br. 2, (2001), 221–224; Dragomir Bondžić, *Između ambicija i iluzija. Nuklearna politika Jugoslavije 1945–1990*, 2. izdanje (Zagreb: FF Press, 2025), 37–43. On presenting the Croatian public the results of radioactivity research in the first half of the 20th century, see: Tihomir Vukelja, Tino Dvoržak, „Ostvarenje sna alkemičara kao neizmerno blago i prijetnja cijelom planetu: Radioaktivnost i nuklearna energija u časopisu *Priroda* 1911–1945“, *Časopis za suvremenu povijest*, br. 3, (2003), 381–410.

³¹ *Споменица посвећена дописном члану Драгољубу Јовановићу*, ур. Петар Стевановић (Београд: САНУ, 1970); Марко Поповић, „Драгољуб К. Јовановић“, у: *Српски биографски речник*, том. 4, ур. Чедомир Попов, (Београд: Матица српска, 2009, 486–487; Stanka Jovanović, *Dragoljub K. Jovanović – život jednog fizičara*, (Београд: SAI, 2015); Славко Ментус, „Драгољуб К. Јовановић“, у: *Живот и дело српских научника*, књ. 17, ур. Владан Д. Ђорђевић (Београд: САНУ, 2020), 205–273; „Указ о постављењу за ванредног професора“, *Просветни гласник*, 1. 10. 1927, 628. From 1945 Jovanović worked as a physics professor at the Faculty of Philosophy and, from 1947, at the Faculty of Science and Mathematics in Belgrade until his retirement in 1961. He later served as a part-time professor at the Faculty of Medicine and the Faculty of Dental Medicine. He introduced modern physics into his lectures, addressed radioactivity, nuclear physics, radiochemistry, and the medical application of radioactivity, examined the influence of radiation on living tissue, and studied the radioactivity of spa waters in Serbia. From 1948, he was a corresponding member of SAN.

³² M. Pierre Curie et D. K. Yovanovitch, “Sur l’accroissement du débit de chaleur des sels de Radium par formation de Polonium”, *Journal de Physique*, 6, 39, Paris, 1925.

³³ S. Jovanović, *op. cit.*, 158, 159; Dragoljub K. Yovanovitch, *Recherches sur le Mesothorium II: 1ere these* (Paris: Les Presses Universitaires de France, 1925). The Serbian translation was published in: S. Jovanović, *n. d.*, 155–202.

tled “*A Serb, Collaborator of Madame Curie. The Radium Institute in Belgrade*”. The article opened with the statement: “We have all heard of Madame Curie, whose name is associated with the discovery of radium, but few are aware of her collaborator, the young Serbian scientist Dr Dragoljub K. Jovanović, who enjoys a considerable reputation in international scientific circles”. Alongside basic biographical information, it was emphasised that he worked at the Radium Institute in Paris “as the closest collaborator of Madame Curie”, with whom he conducted research “in the fields of radioactivity, radiation, and the constitution of matter”. It was also reported that the Rockefeller Foundation had sent Jovanović to Belgrade to examine the possibilities for establishing a radium institute. In the interview, he briefly described the discovery of radium, its properties, radiation, and the difficulties involved in its extraction: obtaining a single gram of radium required several months of chemical processing of 67 tonnes of relatively rich ore, and the cost of that gram amounted to approximately 900,000 French francs.³⁴

Jovanović continued, in his later discussions of his work and of radium and radioactivity more generally, to frequently refer to Marie Curie with admiration, respect, and gratitude. This esteem appears to have been mutual, as Madame Curie publicly stated that she was “extremely satisfied” with Jovanović’s work. In December 1928, *Vreme* reported remarks by the University of Belgrade professor and historian of antiquity, Nikola Vulić, in the article “*Bergson and Madame Curie*”: “I was no less delighted when Madame Curie, whom I greeted as a great Frenchwoman and a great friend of the Slavs, spoke a few words and paid compliments regarding a young Serb, Dr Jovanović, who works at her institute. ‘He has learnt everything that can be learnt! I am convinced that, when he returns to his homeland, he will be of great benefit to you. We professors value nothing so highly as good, gifted, and enthusiastic pupils.’”³⁵ The article in *Vreme* was one of many in this period addressing the therapeutic properties of radium, the establishment of a Radium Institute (that is, a Radiotherapy Institute) in Belgrade, and the treatment of cancer by means of radium therapy (“Curie therapy”), the purchase of radium from Prague, the harmfulness to health, etc.³⁶

³⁴ „Србин, сарадник госпође Кири. Институт за радијум у Београду. Разговор са г. др. Д. К. Јовановићем“, *Време*, 21. 10. 1925, 3.

³⁵ „Грам радиума ускоро ће бити употребљен на нашем институту за лечење оболелих од рака“, *Време*, 4. 12. 1928, 5. The meeting most likely took place in 1924 in Paris at a meeting of the Committee for Intellectual Cooperation of the League of Nations in 1922, headed by philosopher Henri Bergson and Marie Curie, while Vulić was a representative of the national committee of the Kingdom of Serbs, Croats, Croats and Slovenes. („Четврта скупштина Лиге народа“, *Нова Европа*, књ. VIII, бр. 13, 1. 11. 1923, 386). About the meeting with Bergson and Marie Curie Vulić wrote in: „Успомене на Бергсона“, *Правда*, 14. 1. 1941, 2.

³⁶ „Грам радиума ускоро ће бити употребљен на нашем институту за лечење оболелих од рака“, *Време*, 4. 12. 1928, 5; „Радијум против рака“, *Време*, 27. 2. 1927, 10; „Министарство народног здравља поручило је у Чешкој радијум за борбу против рака“, *Време*, 24. 9. 1927, 4; „Кад ће почети у Београду лечење рака радијумом“, *Време*, 22. 12. 1929, 5; „Наш грам радијума још не лечи како би требало“, *Правда*, 23. 11. 1932, 3; „Радиум у борби против рака. Шест месеци радиум-терапије у Београду“, *Политика*, 18. 11. 1932, 9; etc. The articles about radium treatment were illustrated with pictures of Marie Curie, Dragoljub Jovanović and the Institute. On advertising and abuse of radium for commercial purposes in the interwar period, see: „Реклама с радијумом“, *Правда*, 25. 3. 1933, 8; Др Милутин Зелић, „Надрилекарство и варошка

Short texts on radioactivity and on “Madame Curie” appeared sporadically in the press on various occasions and across different sections. Her life and work were discussed, for example, in children’s columns, quizzes such as “Do you know?”, features titled “Through science and life,” and particularly on the women’s pages of daily newspapers. In the newspaper *Pravda* on 17 May 1927, within the column “For our children – historical calendar,” it was noted that on 15 May 1859 the celebrated scientist Pierre Curie was born, who “reached the pinnacle of scientific achievement only in collaboration with his intelligent wife, first his student and then his assistant, Marie Curie,” née Skłodowska, of Polish origin; their discoveries, the Nobel Prizes of 1903 and 1911, Curie’s death in 1906, and other details were subsequently mentioned.³⁷ An interesting fact is that on the eve of her death, on 3 July 1934, *Politika* published in its “Do you know?” column a set of questions about Marie Curie, accompanied by her photograph, with the answers appearing the following day. The questions were: What are Madame Curie’s contributions to science as the first woman professor at the Sorbonne? How was Madame Curie able to receive the Nobel Prize twice? What is polonium, and how did it acquire its name? What is a curie or a curie-gram? What is a microgram?³⁸

The following day, on 5 July 1934, *Politika* reported on the death of Marie Curie on its fifth page: “The death of the most renowned woman scientist. Marie Curie died as a victim of science. Yesterday, Mrs Marie Curie Skłodowska passed away, who, together with her husband, Pierre Curie, discovered radium”. The article, illustrated with a photograph of the scientist, provided basic biographical information and a concise overview of research into radioactivity at the end of the nineteenth century, the discovery of radium and polonium, and the application of radium in medicine. It emphasised that “Mrs Curie ranks among the greatest scientists of this century, not only because her work is of the highest importance for science, but also owing to her methodology and system of work”. It was also noted that, as head of the Radium Institute in Paris, she was “exceptionally kind, accommodating, and attentive towards all those who worked with her”, and that, as a Pole, she showed particular favour towards “our compatriots” who studied questions of radioactive substances under her guidance; the case of Professor Dragoljub Jovanović was specifically mentioned. The article concluded that, with Mrs Curie’s death, the science of radioactivity

сиротиња“, *Београдске општинске новине*, 1931, 40–45; T. Vukelja, T. Dvoržak, n. d., 387–390; M. Malley, *op. cit.*, 152–155; B. Goldsmit, n. d., 121–123; Јелена Јовановић Симић, Снежана Д. Шарбох, Саша Здравковић, „Патенти домаћих проналазача у области медицине, фармације и стоматологије регистровани у Краљевини СХС/Југославији“, *Флогистон*, бр. 33, (2025), 144–149.

³⁷ *Правда*, 17. 5. 1927, 6. During the thirties the press wrote about radium and radioactivity, as well: „Радииум у медицини“, *Правда*, 7. 3. 1931, 2; „Нова чудеса радијума“, *Правда*, 10. 2. 1933, 6; „Кири терапија и особине радиоактивних тела“, *Правда*, 6. 10. 1933, 6; etc. In addition to the aforementioned advertisements for radium-based medicinal products, advertisements for watches with “radium dials” and “radium hands” were also common. The girls employed at the American radium watch factory (US Radium Corporation) in the late 1920s suffered en masse from oral cancer because they touched the brush with their lips while painting the hands with radioactive dye (“radium girls”) see: T. Vukelja, T. Dvoržak, *op. cit.*, 392–393; J. Јовановић Симић, С. Шарбох, С. Здравковић, *op. cit.*, 146.

³⁸ *Политика*, 3. 7. 1934, 16; *Политика*, 4. 7. 1934, 16.

had “lost a great and valuable worker”, and that the science of cancer in particular owed her much, as radium therapy was among the most effective means of combating the disease.³⁹ Alongside the main report, a brief note entitled “The Last Hours of Madame Curie” stated that she had died at around six o’clock in the morning in a sanatorium in Sallanches, Haute-Savoie, where she had been treated for acute anaemia. It added that her illness and death were “primarily the consequence of the effects exerted on the organism by long years of experimentation with radium”, thus presenting her as a “victim of experimentation with radium”.⁴⁰

The following day, again on the fifth page, *Politika* published a report, reprinted from the French press, on Marie Curie’s funeral. In accordance with the family’s wishes, the burial was conducted “in the narrowest circle of relatives and immediate colleagues, without official speeches or other pomp, in keeping with the expressed last will of Marie Curie-Skłodowska”.⁴¹ As her daughter Ève Curie later wrote, “such a deceased could not, without profanation, be subjected to the ceremonial funeral that the state accords its great figures. She was buried in a rural cemetery, amidst wildflowers, in silence and simplicity, as though the life that had just ended had resembled thousands of others”.⁴² News of her death was accompanied in the international press by statements from prominent scientists. Albert Einstein declared, “The deceased was one of the most distinguished figures of our time”. Nikola Tesla stated, “Future generations will assign to Marie Curie-Skłodowska one of the most honoured places among the illustrious women of all time”. Dr James Ewing, a cancer researcher, remarked, “The principal achievement of Marie Curie and her husband, the discovery of radium, is one of the most significant events in the recent history of human enlightenment. For the treatment of cancer in particular, this discovery is of epochal importance”.⁴³

Other Belgrade daily newspapers also reported the death and, subsequently, the funeral of the great scientist. *Vreme*, on its third page, alongside a photograph of Marie Curie and Pierre Curie in the laboratory, published the news that the renowned Polish scientist, who, together with her husband, had discovered radium, had died. In addition to a brief biography, it was noted that she had died in Sallanches of acute anaemia and that news of her death had provoked “painful agitation” in her native city of Warsaw, where all scientific and medical institutions flew black flags.⁴⁴ The following day, the paper reported on the modest funeral and reproduced scientists’ statements, like *Politika*.⁴⁵ *Pravda*, on 5 July, carried a brief notice at the bottom of its fifth page reporting Marie Curie’s death and summarising her biography in five sentences.⁴⁶

³⁹ „Смрт најчувеније научнице. Марија Кири умрла као жртва науке. Јуче је умрла г-ђа Марија Кири Складовска, која је, заједно са својим мужем, Пјером Кири, открила радиум“, *Политика*, 5. 7. 1934, 5.

⁴⁰ *Политика*, 5. 7. 1934, 5.

⁴¹ „Сахрана Марије Кири-Скловске“, *Политика*, 6. 7. 1934, 5.

⁴² Е. Кири, *op. cit.*, 3.

⁴³ *Политика*, 6. 7. 1934, 5.

⁴⁴ „Чувена пољска научница умрла. Смрт Марије Кири, проналазача радиума“, *Време*, 5. 7. 1934, 3.

⁴⁵ *Време*, 6. 7. 1934, 5.

⁴⁶ *Правда*, 5. 7. 1934, 5.

In the Belgrade women's magazine *Žena i svet*, the September 1934 issue featured an article entitled "Women in Science", the content of which clearly suggests that it was intended as a symbolic tribute to the deceased scientist.⁴⁷

Several years later, on 26 April 1939, Dr Dragoljub Jovanović, a student and collaborator of Marie Curie, paid fitting tribute to his mentor in the preface to the Serbian translation of her biography, written by her daughter Ève Curie. This text was a genuine homage to the scientist, composed of scholarly reverence, praise, and personal impressions of her personality and character. In his view, her success and fame had overshadowed her life and work, her efforts, arduous perseverance, struggles, and self-sacrifice. "The great achievement of Marie Curie lies in the fact that she opened to physics previously unimagined vistas and possibilities", thereby enabling its vast development; through her joint work with her husband Pierre Curie, "in which the lion's share belongs precisely to Marie Curie", it became possible to penetrate the "subtle structure of the atom", to inaugurate the idea of the radioactive properties of matter, and to understand the composition of material elements – atoms, which disintegrate into their constituent parts, releasing enormous, hitherto concealed energy that, in the future, might replace conventional sources of energy showing signs of exhaustion. He maintained that "not all the consequences of this ingenious scientific discovery have yet been perceived", and that "we may indeed take pride that this achievement belongs to a Slav woman".⁴⁸ He emphasised the exceptional honour and pride he took in having known and collaborated with Marie Curie: he was "proud to have had the rare good fortune to spend eight years at the Curie Institute, where work was conducted under the leadership of this great scientist". He frequently recalled anecdotes illustrating "the remarkably humane and noble character of this woman": "One day, my superior, Marie Curie, asked me, apologetically, what my income for living amounted to. I gave a fictitious figure, which I considered sufficient for a modest existence (for in reality I had even less). 'Intellectual workers, she said, 'must be better provided for if they are to devote themselves in peace to their work; it was for that reason that I asked, to propose you as a salaried researcher from the Carnegie Curie Fund'. I observed that other candidates besides myself were not foreigners, to which this woman of science replied: 'Among intellectual workers there are no foreigners, since we all labour at the same task – the search for truth. **You need only give me your promise that you, too, will assist your younger colleagues when you are in a position to do so**'"⁴⁹ (emphasis in the original). He then recalled memories of years that passed swiftly in work, "in an atmosphere of splendid friendship and collaboration that prevailed among the researchers at the Curie Institute", and in particular the ceremonial conference marking the twenty-fifth anniversary of the discovery of radium, held on 26 December 1924 in the grand amphitheatre of the Sorbonne, attended by "the elite of physicists from various parts of the world". Each spoke a few words in honour of Marie Skłodowska-Curie. Jovanović cited the "sincere and warm words" of the eminent physicist Hendrik Antoon Lorentz: "...We have admired

⁴⁷ „Жене у науци“, *Жена и свет*, бр. 9, 1934, 5–6.

⁴⁸ D. K. Jovanović, „Predgovor“, u: E. Kiri, *op. cit.*, i–iii.

⁴⁹ *Ibid.*

your activity, full of courage and fidelity, which you have carried to the utmost limits, thereby taking a share of the highest value in the development of modern physics... When future generations read the story of the wonders of science, when scientists describe the path along which science has advanced, both will always find before them the shining example of your great devotion, pure and simple devotion – to the search for truth”.⁵⁰

During the 1930s, Dr Dragoljub Jovanović endeavoured to acquaint the Serbian public with new developments in the science of radioactivity and the structure of the atom. These fields then advanced with remarkable rapidity (such as the discovery of the neutron in 1932 and of artificial radioactivity in 1934). In this capacity, he appeared as early as 12 December 1934, only a few months after the death of Marie Curie, when he delivered a lecture entitled “The Splitting of the Atom and Artificial Radioactivity” at the Kolarac People’s University.⁵¹

That was a phase in the development of the field during which Jovanović was no longer an active participant but rather a passive observer and commentator. In place of the late Marie Curie, discoveries were now being made by her daughter Irène Joliot-Curie, who, in 1934, together with her husband Frédéric Joliot-Curie, was awarded the Nobel Prize for the discovery of artificial radioactivity. Nevertheless, Professor Jovanović succeeded in maintaining a direct connection between Serbian science and contemporary developments abroad, particularly in France, through his lectures and publications, as well as by sending his assistant Pavle Savić to the Radium Institute in Paris. There, from 1935 to 1939, Savić worked with Irène Joliot-Curie on experiments that contributed to the discovery of nuclear fission. As a result, he acquired considerable scientific renown and, after the Second World War, became a leading figure in establishing nuclear research in Yugoslavia, while continuing to maintain close ties with French science.⁵²

Marie Curie as a Woman in Science

All biographical accounts of Marie Curie almost invariably begin with the word “First”. She was the first woman to achieve numerous distinctions: the first woman in France to obtain a doctorate in physics, the first woman to teach and head a scientific laboratory at the Sorbonne, the first woman to be interred in the Panthéon in Paris on her own merits, the first woman to receive a Nobel Prize, and the first

⁵⁰ *Ibid*; The story of Dragoljub Jovanović and Marie Curie concluded on 24–27 October 1967, when Jovanović attended the celebration of the centenary of her birth at the invitation of the Ministry of Foreign Affairs of France. At the ceremony, he was awarded a commemorative medal bearing the image of Marie Curie. A little more than two years later, Jovanović died (S. Jovanović, *op. cit.*, 26, 46–48; С. Ментус, *н. д.*, 215–216).

⁵¹ *Време*, 12. 12. 1934, 9; *Правда*, 12. 12. 1934, 17. Vidi i: „Чудесне тековине модерне хемије“, *Правда*, 3. 2. 1933, 4; „У лабораторијама се данас стварају чуда“, *Време*, 16. 6. 1936, 5; etc.

⁵² See: D. Bondžić, *Između ambicija i iluzija. Nuklearna politika Jugoslavije 1945–1990*, 46, 50–86; Dragomir Bondžić, “Science, Energy and Weapons: Nuclear ambitions of Socialist Yugoslavia 1945–1990”, *Savremena istorija*, god. 1, br. 1, (2026), 217–242; Dragomir Bondžić, Martin Previšić, “Stevan Dedijer in the documents of the State Security Service from the mid-1950s to the mid-1980s”, *Istorija 20. veka*, br. 2, (2025), 439–444.

person in the world to be awarded two Nobel Prizes.⁵³ As already noted, the life, work, and achievements of Marie Curie were consistently shaped, and often hindered, by the fact that she was a woman: a leading scientist at a time when women were denied many rights, including access to higher education. This circumstance attracted considerable attention, inspired some, and provoked envy and resistance in others. At certain moments, particularly in the reception of Marie Curie, one can discern the dissonant and heterogeneous character of the Serbian public sphere in the first half of the twentieth century.

The decision by the French Academy of Sciences to refuse Marie Curie admission to its membership also attracted significant attention from the Serbian public.⁵⁴ The outcome of the 1911 election, often regarded in contemporary discourse as not entirely unexpected, was addressed in several texts published in Serbian-language periodicals in Hungary by leading women intellectuals of the time. Immediately after the rejection of her candidacy, the established writer Isidora Sekulić published an article entitled “Madame Curie and the French Academy” in the journal *Brankovo kolo* in February 1911. Although the title refers to a current event, Sekulić primarily uses it as a pretext for a broader critique of the contemporary progressive European feminist movement. In doing so, she engages only selectively with Marie Curie’s position, advancing a thesis on the ambivalence of both Curie’s candidacy and that of her opponent, Édouard Branly. Sekulić suggests that Curie accepted the candidacy under pressure from public opinion, while Branly, also influenced by that same public, emerged chiefly as a counterweight to her candidacy rather than as an autonomous contender for academic recognition – an arrangement the author characterises as an “unappealing competition” and “ostensible pedantry”.⁵⁵ Such an interpretation enables Sekulić, in the subsequent paragraphs, to shift the focus from institutional discrimination to a critique of what she perceived as “extreme” emancipatory strategies, in which the figure of Marie Curie is instrumentalised as an argument against more progressive currents within European feminism. In this way, her text may be situated within the moderate wing of the women’s movement, which, while not denying the

⁵³ Natasha Obeid El Jamal, Andreia Guerra, “The Marie Curie Case Through the Cultural History of Science: Discussing Relations Between Women, Science, and Patriarchy in Science Education”, *ENSAIO: Research in Science and Education*, 2022, 2. (1–21)

⁵⁴ Marie Curie was not the first woman to be denied membership of the French Academy of Sciences. Two mathematicians, Maria Gaetana Agnesi in the eighteenth century and Sophie Germain in the nineteenth, also considered themselves deserving of admission to this prestigious institution, yet were refused. It would take many decades, and the proven achievements of numerous women scientists, before a woman was finally elected to membership of the French Academy of Sciences. The first woman to enter the Academy, in 1962, was the chemist and physicist Marguerite Perey, who was elected as a corresponding member. The first full member, the mathematician and physicist Yvonne Choquet-Bruhat, was elected in 1979 [Rita Arditti, “Feminism and Science”, in: *Science and Liberation*, Editors Rita Arditti, Pet Brennan, Steve Cavrak (Montreal: Black Rose Books, 1980), 355; Claire G. Jones, “Women, Science and Professional Identity, c. 1860–1914”, in: *Precarious Professionals: Gender, Identities and Social Change in Modern Britain*, Editors Heidi Egginton and Zoë Thomas (London: University of London Press, 2021), 64].

⁵⁵ Исиidora Секулић, „Госпођа Марија Кюри и Француска академија“, *Бранково коло*, год. XVII, бр. 6, 10. 2. 1911, 81. (81–82)

need for emancipation, sought to confine it within limits acceptable to the dominant gender order.⁵⁶

On the other hand, the feminist journal *Žena*, edited in Novi Sad by Milica Tomić,⁵⁷ approached this event from a considerably more affirmative perspective in its February 1911 issue. In an unsigned article, it was emphasised that, at the French Academy, “for the first time a woman had been nominated for membership”, highlighting Marie Curie’s scientific achievements and the fact that she lost the election by only two votes.

This case was interpreted as an indicator of broader social “discord” in France and in the international public sphere, with the gendered basis of her rejection explicitly problematised. The assertion that Curie’s “great spirit” resided “not in a male but in a female body”, along with the clear demand that the Academy of Sciences open its doors “to equally distinguished women as it does to distinguished men”,⁵⁸ exposed the mechanisms of gender exclusion within scientific institutions. In the subsequent issue, the editorial board further radicalised its position by rejecting the proposal to establish a separate women’s section within the Academy, recognising it as an attempt to reproduce gender segregation under the guise of institutional inclusion. The concluding remark that the academicians “wish to preserve the division between men and women”⁵⁹ clearly indicates an awareness of the structural character of gender inequality.

After the First World War, alongside articles on Marie Curie’s scientific work, the Belgrade daily press also began publishing texts concerning her private and family life. In these writings, the thesis advanced in *Žena* – that “her great spirit does not reside in a male but in a female body” – was reaffirmed in an explicitly affirmative manner. Thus, in the Belgrade newspaper *Pravda*, within the section “Women’s World”, an article entitled “The Woman Who Became Immortal Twice” appeared in August 1933, with subheadings such as “The Great Merits of the Brilliant Woman Scientist Madame Curie”, “The Life and Achievements of Marie Skłodowska”, “The Woman Whose Hand Was Kissed by a King”, and “Mme Marie Curie Received the Nobel Prize Twice”. The text emphasised the poverty and difficult life path of Mme Curie, but placed particular stress on the fact that she was a woman: in 1903, for the first time, a woman received the Nobel Prize – “the wife of the scientist Curie and the mother of two children”, who, as “the most brilliant woman of all time, was inscribed in the golden book of the history of science”. It was also noted that, at the time of the 1903 award, “envious voices in the world, not knowing what else to claim, asserted that Madame Curie had merely shared the glory with her husband, who alone was responsible for the discovery of radium”. “This was malice and nothing more”, the

⁵⁶ Biography of Isidora Sekulić see in: Iva Nenić, “Isidora Sekulić”, in: *A Biographical Dictionary of Women’s Movements and Feminisms: Central, Eastern and South Eastern Europe, 19th and 20th Century*, Editors Francisca De Haan, Krassimira Daskalova, Anna Loufti (Budapest, New York: Central University Press, 2006), 491–493.

⁵⁷ About Milica Tomić see in: Sofija Božić, „Milica Tomić: Stremljenje ka modernom“, *Srbija u modernizacijskim procesima 19. i 20. veka: Položaj žene kao merilo modernizacije*, urednik Latinka Perović (Beograd: Institut za noviju istoriju Srbije, 1998), 451–469.

⁵⁸ „Знаменита женскиња и Француска академија наука“, *Жена*, год. I, бр. 2, 1. 2. 1911, 126–127.

⁵⁹ „Француска академија и жене“, *Жена*, год. I, бр. 3, 1. 3. 1911, 193.

article concludes, adding that “Madame Curie herself refuted this slander after her husband’s death, astonishing scientists and the wider public with new discoveries and with brilliant and original theories concerning treatment by means of radium”. Madame Curie thus became “immortal” twice; she was described as a “great woman”, her merits as “immeasurable”, and, “as a scientist, she occupied one of the foremost places among the greatest scholars”, while as a “private woman” she had a rather sombre life, marked by labour and hardship. Particular dramatic effect was achieved through the account that, in 1911, “still in deep mourning” after her husband’s death and with two children, Marie Curie was received by the King of Sweden, who kissed her hand and declared: “I admire your intellect and your knowledge, great woman”. “Never before has a sovereign kissed the hand of a scientist”, the text concludes, “yet when a woman rises to the pedestal of genius, it is surely deserved”. Attention was also drawn to her modesty and character, noting that on the occasion of her sixty-eighth birthday, she asked the students of the Sorbonne, who had gathered in large numbers, to disperse, “for she does not like public demonstrations”.⁶⁰

It should be noted that, in the Serbian-language press and periodicals, representations of Marie Curie’s private and scientific persona were predominantly affirmative.⁶¹ Misogynistic commentary of the kind observed elsewhere was largely absent. One does not encounter, among domestic authors, examples of what feminist history of science defines as the “Matilda effect”,⁶² whereby a woman’s scientific achievements are systematically denied or attributed to the men with whom she collaborated.

However, such a perspective was introduced to the Serbian public in the late 1920s by a foreign author. In 1928, Dr Archibald Reiss, in his polemical and overtly didactic work *Hear, Serbs! Beware of Yourselves!*, a text filled with admonitions directed at the nation as a whole, was identified as one of the more serious “faults” of the growing tendency among Serbs to encourage women to pursue university education. He argued: “It would seem that, with a kind of harmful enthusiasm, you are pushing women towards higher studies. You completely forget that a woman is, by nature, destined for a different role than a man. In some respects, a woman is superior to a man, and in others, a man is superior to a woman. Experience, now extending over almost half a century, has shown that, with very rare exceptions, women have

⁶⁰ „Жена која је два пута постала бесмртна“, *Правда*, 11. 8. 1933, 8. In the following year, also in the section “Women’s World”, an article entitled “Famous Women in Marriage: Marie Skłodowska and Nadezhda Krupskaya as Wives. How Famous Women Meet Their Husbands” was published. In the section about Marie Skłodowska, “known throughout the world as Madame Curie”, it was stated that she had worked as a governess in Poland, arrived in Paris with fifty francs, and lived in a garret, “eating bread with milk once a day”. It further recounted that she met Pierre Curie in the laboratory – “it was a quiet love” – followed by an idealised portrayal of their marriage: their union was described as “very happy and harmonious”; Marie “loved her husband devotedly, and no other man existed for her”; she paid no attention to money and devoted herself entirely to research; “Pierre often cooked in the kitchen while she worked in the laboratory”; and, although she had discovered radium, she maintained that it had been a joint achievement [„Марија Склодовска и Надежда Крупскаја као супруге“, *Правда*, 10. 8. 1934, 8].

⁶¹ These comments are mentioned in *Pravda* from 1933; See: B. Goldsmit, *op. cit.*, 110–115.

⁶² Margaret W. Rossiter, “The Matthew Matilda Effect in Science”, *Social Studies of Science*, vol. 23, no. 2, (1993), 325–341.

produced only mediocre results in science. *Name for me, apart from Madame Curie, who merely made good use of her husband's work* [author's italics], a single woman who has achieved something great in the natural sciences, medicine, literature, and so forth. You will find none. Why, then, do you push your daughters towards university studies? Do you not think that they lose their femininity there and become incapable of creating and sustaining a family, which is the essential purpose of a woman?"⁶³

Although such attitudes towards women's higher education, which was then slowly but steadily expanding, were likely shared by segments of society,⁶⁴ this kind of disparaging treatment of Marie Curie and the defamation of her scientific work were not characteristic of the Serbian public sphere. Reiss's misogynistic statement represents a paradigmatic example of the restriction of women's access to both real and symbolic capital within the field of science. By insisting on a supposedly "natural" gender division and the alleged intellectual inferiority of women, the author not only delegitimises their presence in the academic sphere but also explicitly diminishes Marie Curie's exceptional scientific contribution, reducing it to a derivative of her husband's work.

Respect for Marie Curie's work, as well as for her achievements as a successful woman in science, was also evident in the few lines published in the Serbian periodical press on the occasion of her death. In the obituary published in *Politika*, it was emphasised: "Although a woman, Mme Curie, by virtue of her original conceptions, her insight and ingenuity in formulating problems, her immense activity and extraordinary energy, ranks alongside the greatest scientists – men. In this way, Mme Curie has demonstrated that a woman is equally capable as a man of the most profound scientific work".⁶⁵

Even more striking and emotionally charged were the words of the renowned Czech writer Karel Čapek on the occasion of Marie Curie's death, reprinted in the July–August 1934 double issue of the first Yugoslav feminist journal *Ženski pokret*: "Who will remember, fifty years from now, the present ministers, marshals, and other great figures of this world? But the name of Mme Curie will endure: people will always recall that with this name is associated one of the most profound transformations in our understanding of matter and energy, of the immeasurably small atom, and of the wondrous architecture of matter. No ostentatious heroism, no power over men and history; only patient work in the laboratory, unceasing research into the curious pitchblende ore, which exists in the world only in negligible quantities – yet, what does that mean, and what is the glory of potentates and dictators in comparison?"

⁶³ Рудолф Арчибалд Рајс, *Чујте Срби, чувајте се себе* (Београд: Добра, 2008), 114–115.

⁶⁴ In addition to numerous obstacles, the number of students at University of Belgrade grew slowly but steadily in the interwar period and during the 1920s hovered around 21%, which obviously bothered Rajs. In addition, at that time, the first women appeared at the University among the teaching and assistant teaching staff (Dr. Ksenija Atanasijević, Dr. Smilja Kostić-Joksić, etc.). See: Dragomir Bondžić, *Beogradski univerzitet 1944–1952* (Beograd: Institut za savremenu istoriju, 2004), 37; Ivana Pantelić, Dragomir Bondžić, „Život i rad Smilje Kostić-Joksić (1895–1981) profesorke Medicinskog fakulteta u Beogradu“, u: *Naučnice u društvu*, urednici Lada Stevanović, Mladena Prelić, Mirosława Lukić Krstanović (Beograd: Etnografski institut SANU, 2020), 351–360.

⁶⁵ „Смрт најчувеније научнице. Марија Кири умрла као жртва науке. Јуче је умрла г-ђа Марија Кири Складовска, која је, заједно са својим мужем, Пјером Кири, открила радиум“, *Политика*, 5. 7. 1934, 5.

What, indeed, is the celebrated French Academy, which refused the honour of counting among its members the small, grey-haired lady whose body was consumed by the very rays she helped bring into the realm of human knowledge? There is no need for aeroplanes to roar above her coffin with bombs, nor for cannons to fire; her eternal glory lies in the immeasurable and silent bombardment of alpha, beta, and gamma particles, of electrons, protons, and positrons. This bombardment opened for our understanding the path to the mysterious frontiers of matter. That victory will endure. Mme Curie-Skłodowska has earned her place in the history of the entire world.”⁶⁶

The most likely final text on Marie Curie published in Serbia before the Second World War appeared in 1938 in the journal *Žena danas*,⁶⁷ edited by young communist women associated with the Youth Section of the Women’s Movement⁶⁸ and financed directly by the illegal Communist Party of Yugoslavia. In terms of both content and its position within Yugoslav society in the second half of the 1930s, *Žena danas* is an excellent example of a subaltern feminist counterpublic.

The article on Marie Curie, written by Darinka Stefanović, belongs to the genre of the female portrait and presents a concise biography of the scientist, based on information from the previously mentioned biography of Marie Curie,⁶⁹ published in Serbian the following year, in 1939. The author opens the text with an atypical choice of terms, introducing readers succinctly to the life of the renowned scientist. Notably, she defines Marie Curie as a “worker and a human being”.⁷⁰ In all previous texts, Marie Curie had been presented as a scientist, never as a worker. This terminological choice fully aligns with the journal’s editorial policy and the framework of leftist feminism, whose core at the time was the Youth Section of the Women’s Movement.

The article includes photographs captioned “Marie Curie at her workplace”, “Pierre Curie”, and “Marie Curie with her daughters Irène and Ève”. These images illustrate all the main roles attributed to Marie Curie: scientist, wife, and mother.⁷¹ The text presents a chronological account of her life, with a substantial section devoted to her engagement during the First World War.⁷² The author deliberately chooses, alongside Curie’s unquestionable scientific achievements, to highlight her as a socially engaged, humane individual and patriot: “The war of 1914 finds Marie in Paris, where she remains throughout, rendering invaluable service to France... At every telephone or telegraph call, Marie hastens to hospitals filled with wounded.

⁶⁶ „Češki književnik Karel Čapek o g-di Curie“, *Женски покрет*, год. XV, бр. 7-8, 1934, 68. The same text was printed in the Ljubljana daily *Jutro* on July 11, 1934, it was originally published under the title “Pani Curie” in the Czech magazine *Lidové noviny* on July 6, 1934. In the same issue of the *Women’s Movement*, there was an article about Marie Curie in which, in addition to a short biography, it was stated that individuals called her the “queen of science” and the “greatest woman in Europe” [Helena Marhoulova, „Dr Marie Curie-Skłodowska“, *Женски покрет*, год. XV, бр. 7-8, 1934, 66–67].

⁶⁷ About the journal *Women Today* see in: S. Barać, *op. cit.*, 188–236.

⁶⁸ About the Youth Section of the Women’s Movement see in: Neda Božinović, *Žensko pitanje u Srbiji u XIX i XX veku*, Beograd: Devedesetčetvrti, *Žene u crnom*, 4, 1996, 117–121.

⁶⁹ We refer to the biography written by Eve Curie, daughter of Marie Curie.

⁷⁰ Даринка Стефановић, „Лик једне велике жене: Марија Кири“, *Жена данас*, год. II, бр. 11-12, 14.

⁷¹ S. Barać, *op. cit.*, 218.

⁷² Д. Стефановић, *н.д.*, 15.

Ten, fifty, a hundred wounded. As long as there are patients, Marie remains continuously in the improvised dark room.”⁷³

Conclusion

Taken together, these diverse representations of Marie Curie in the Serbian press before and after the First World War reveal that the reception of her scientific work was inseparable from contemporary understandings of gender and the broader dynamics of the public sphere. While early texts emphasised the novelty and epistemological significance of radioactivity, often marginalising Curie’s individual contribution or subsuming it under that of her male collaborators, later writings increasingly personalised and gendered her scientific authority. At the same time, the press served as a site where competing interpretations of women’s place in science were articulated: from implicit or explicit exclusion to moderate and ambivalent positions, to openly emancipatory and feminist claims. Curie’s figure thus operated as a powerful symbolic resource, mobilised to affirm, question, or renegotiate existing gender hierarchies within both scientific and social contexts. The shifting emphases – from scientific explanation to biographical narrative, from collective discovery to individual merit, and from anonymity to iconic status – underscore not only the growing public visibility of modern science, but also the processes through which female scientific authority was constructed, mediated, and legitimised in early twentieth-century Serbian culture.

The reception of Marie Curie in the Serbian press provides a suggestive indicator of the broader processes of modernisation in Serbian society during the first half of the twentieth century. The sustained admiration for her scientific achievements, including explicit recognition of her authority as a woman scientist, points to the gradual incorporation of new models of scientific professionalism and merit-based authority into the public sphere. While gendered stereotypes were never absent, Curie’s prominence as an internationally recognised figure of scientific excellence indicates an openness to transnational scientific culture and to revised understandings of women’s intellectual capacities. In this sense, the discourse surrounding Marie Curie reflects not only the circulation of modern scientific knowledge, but also the slow and uneven reconfiguration of gender norms within a society negotiating its own paths towards cultural and institutional modernity.

⁷³ *Ibid.*

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THE SERBIAN PUBLIC IN THE FIRST HALF OF THE 20TH CENTURY ON MARIE CURIE AND HER DISCOVERIES

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Summary

Writings on radioactivity appeared in Serbian periodicals at the very beginning of the twentieth century, initially through translators and popularisers of science, and subsequently through university professors. Contemporary scientific knowledge from this rapidly developing field was swiftly conveyed to the Serbian public, at a time when it was transforming science and reshaping understandings of the structure of matter. From the outset, the Serbian-language press also focused on the spouses Marie and Pierre Curie, primarily as the discoverers of radium and recipients of the 1903 Nobel Prize, and later on Marie Curie as the 1911 laureate and as a scientist who successfully continued her research, providing the scientific community with fundamental knowledge on radium, polonium, and the phenomenon of radioactivity. Marie Curie was portrayed as a diligent, devoted, and self-sacrificing researcher of radium and radioactivity, and frequently as a scientific genius who fully merited all the received honours and awards. From the 1920s onwards, the presentation of her private, public and scientific persona to the Serbian public was particularly shaped by Dr Dragoljub Jovanović, her doctoral student and collaborator. Considerable attention was drawn to the therapeutic properties of radium, which was regarded as a “miraculous remedy” and, from the early 1930s, was also implemented in Belgrade in the treatment of cancer and other diseases. In addition to scientific results and discoveries, Serbian periodicals placed particular emphasis on Marie Curie’s nationality, namely her Polish origin and her belonging to the “Slavic race”. As in the broader global and European public sphere, the Serbian-language press frequently addressed her as a “First”: the first woman in France to obtain a doctorate in physics, the first woman to teach and head a scientific laboratory at the Sorbonne, the first woman to be interred in the Panthéon in Paris on her own merits, the first woman to receive a Nobel Prize, and the first person in the world to be awarded two Nobel Prizes. But also noting that this very fact often generated gender prejudice, impeded her work, and posed obstacles to her scientific and professional advancement. It may also be observed that the Serbian press did not engage in the belittling or diminishing of Marie Curie’s private, public and scientific persona. On the contrary, her contribution was openly emphasised and frequently glorified.

KEYWORDS: Marie Curie, radioactivity, radium, history of science, gender and science, Matilda effect, periodicals, feminism and science, interwar Yugoslavia, popular science literature

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