Maintaining Scholarly Standards in Feminist Literature: The Case of Mileva Marić, Einstein’s First Wife

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Abstract

In the editorial Introduction to Women, Science, and Technology: A Reader in Feminist Science Studies, published in 2001, can be found the exemplary statement that among the norms for acquiring scientific knowledge is “skepticism (all claims should be scrutinized for errors)”. In this article, I address a section relating to historical contentions in the same volume that, I argue, fails to live up to this basic standard of scholarly research. It is now quite widely believed that Mileva Marić, Einstein’s first wife, played an active role in Einstein’s early scientific work until well after they married in 1903. Some commentators go so far as to argue that she coauthored his three major 1905 papers, while others contend that she solved the mathematical problems for him. I examine the claims made in relation to Marić in the section in question in the above-cited volume, and investigate the sources of the evidential claims that have been adduced to support them. I conclude that the several claims are without reliable evidential bases.

Keywords

history of science, feminism, knowledge, scholarship, scepticism

In a chapter by the sociologist Hilary Rose (1994) in her book Love, Power and Knowledge: Towards a Feminist Transformation of the Sciences and reprinted in Women, Science, and Technology: A Reader in Feminist Science Studies (Wyer, Barbercheck, Giesman, Öztürk, & Wayne, 2001, pp. 56-57, 66), there is a section promulgating the now widely circulated contention that Einstein’s first wife, Mileva Marić, collaborated with him on his scientific work, or even coauthored some of the celebrated papers published in 1905, including that on special relativity (Rose, 1994, p. 143-144, 271). In this article, I shall examine the evidence on which the contentions made by Rose depend.

In the section in question, Rose (1994, p. 143) begins by alluding to a biography of Marić by the Serbian author Desanka Trbuhović-Gjurić, published in German translation in 1983 with the title Im Schatten Albert Einsteins: Das tragische Leben der Mileva Einstein-Marić, followed by a second edition in 1988 containing supplementary editorial material, much of it from the newly published first volume of The Collected Papers of Albert Einstein (1987). For the contentions that follow, she relies almost entirely on a 1990 article by the Swiss linguist Senta Troemel-Ploetz (“Mileva Einstein-Marić: The Woman Who Did Einstein’s Mathematics”), who in turn relies heavily on Trbuhović-Gjurić’s biography. As I shall show, Rose reproduces from Troemel-Ploetz several contentions that are erroneous, misconceived, or without sound evidential support. Consider the first such contention: “Einstein explained to a group of Zagreb intellectuals that he needed his wife as ‘she solves all the mathematical problems for me’” (Rose, 1994, p. 143).

This is a direct quotation from Troemel-Ploetz (1990, p. 418), who reproduces it from Trbuhović-Gjurić (1988, p. 93), where details of the circumstances are provided. Before examining the credibility of the source of the quoted statement, I shall first consider its plausibility. For this task, we need first to consider the respective academic records of Einstein and Marić.

Contrary to popular belief, Einstein exhibited a precocious talent in mathematics that has been recorded by Max Talmey, a medical student who visited the Einstein family every week for some 5 years when Einstein was in his early teens. Quickly sensing Einstein’s intellectual precociousness, Talmey gave him books on mathematics and popular science, and he mastered the elements of geometry, algebra, and differential and integral calculus by self-study by the time he was 15 (Talmey, 1932, pp. 162-164). When he left his Gymnasium (grammar school) in Munich in late December 1894 at the age of 15 to join his parents who had emigrated to Italy, his mathematics teacher provided him with a letter stating that his mathematical knowledge was already at

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university entrance level (Einstein, 1987a, p. lxiv, n.59; Frank, 1948, p. 27). In October 1895, he took the entrance examinations for the prestigious Federal Swiss Polytechnic (Zurich Polytechnic), for which he had been given special permission by the Director as he was some 18 months below the normal minimum age of 18 (Einstein, 1987b, Doc. 7). Having spent 8 months without formal education, he failed in several subjects, but his performance in physics and mathematics was so excellent that the physics professor Heinrich Weber invited him to audit his 2nd-year classes (Einstein, 1987a, p. 11). On the advice of the Director, Einstein attended a Cantonal high school in Aarau in Switzerland to bring his other subjects up to the required standard. In the Matura (university entrance level) examinations that he took in 1896, he obtained maximum Grade 6 in five subjects, including physics and the three mathematical topics (Einstein, 1987a, pp. 24-25; see also http://www.alberteinstein.info/gallery/personal_life.html). In 1896, he enrolled in the 4-year Zurich Polytechnic program for intending teachers of physics and mathematics in secondary schools. Although he rather neglected mathematics, preferring to spend time on his extracurricular interests in physics, in all four of the mathematical topics in the intermediate and final diploma examinations at the Polytechnic he achieved Grades 5.5 or 6 on a scale of 1 to 6 (Einstein, 1987b, Docs. 42, 67). (Einstein records that he relied on the meticulous notes taken by his friend Marcel Grossman when preparing for the diploma examinations [Einstein, 1949, p. 17; 1956, p. 11].)

Mileva Marić followed a very different path on her way to Zurich Polytechnic. Institutional obstacles facing a girl wishing to study physics at school in the Austro-Hungarian empire had to be overcome before she left the Royal High School in Zagreb in 1894 with excellent grades in mathematics and physics (Krstić, 2004, p. 30; Trbuhović-Gjurić, 1988, pp. 26-27). To prepare for university, in the autumn of 1894, she traveled with her father to Switzerland to bring his other subjects up to the required standard. In the Matura examinations at the Federal Medical School in Bern. Neither of her biographers Trbuhović-Gjurić and Krstić provide her grades at this time, as these were evidently unavailable.¹

After completing one semester of a course in medicine at the University of Zurich Medical School in the summer of 1896, Marić transferred to the Zurich Polytechnic course for teaching secondary school mathematics and physics, having first been required to take the mathematics entrance examinations, which she passed with a grade average of 4.25 (scale 1-6). Her end-of-semester coursework grades in mathematical topics at the Polytechnic were moderate, averaging 4.35 (Trbuhović-Gjurić, 1988, pp. 60-61). (Einstein’s mathematics coursework grades, while averaging a relatively modest 4.65, exceeded Marić’s in three of the four topics they took in common, the other being equal to hers [Einstein, 1987b, Doc. 28].) Although she obtained an average grade close to 5 in the three mathematical topics in the intermediate diploma examinations, her grade in the 1900 final diploma examinations for theory of functions was a very poor 2.5, leading to her failure to graduate. (The other four students in her small group, all but Einstein specializing in mathematics, obtained at least 5.5 in this topic [Einstein, 1987b, Doc. 67; Trbuhović-Gjurić, 1988, pp. 63-64].) When she retook the examinations the following year (under the adverse circumstances that she was some 3 months pregnant), she improved her mathematics grade only moderately (3.5), while her overall grade average remained the same (4), resulting in a second failure (Stachel, 1990 [2002, p. 29]; 1996, pp. 209, 332, n.22).

Marić’s undistinguished higher education record in mathematics would be of little consequence if there were any sound, documented, evidence of mathematical achievement after she left the Polytechnic, but there is none. On the other hand, when Einstein was awarded a PhD by Zurich University in 1905, the physics professor Alfred Kleiner wrote in his “Expert Opinion”: “The arguments and calculations to be carried out are among the most difficult ones in hydrodynamics, and only a person possessing perspicacity and training in the handling of mathematical and physical problems could dare to tackle them.” The mathematical difficulties (especially in the handling of differential equations) were such that the expert opinion of the head of mathematics, Professor Heinrich Burkardt, was sought, and he reported that what he checked he had “found to be correct without exception, and the manner of treatment demonstrates a thorough command of the mathematical methods involved” (italics in original; Einstein, 1995b, Doc. 31). (It may be worth adding that it is hardly likely that Marić, whose record shows she found some of the Zurich Polytechnic mathematics courses challenging, would have been able to assist Einstein in the much more difficult mathematics required for his PhD thesis.)

In summary, given Einstein’s mathematical talent, Marić’s relative shortcomings in the subject at university level, and the fact that prior to 1912 (in which year he was embarking on the final stage of his ideas that would lead to General Relativity), Einstein’s work in theoretical physics did not involve him in mathematical material beyond his capabilities, it is highly implausible that in the years following their marriage in January 1903 he would have needed his wife to help him solve mathematical problems. As the historian of science Jürgen Renn observed in relation to the 1905 special relativity paper: “If he had needed help with that kind of mathematics, he would have ended there” (Highfield & Carter, 1993, pp. 114-115).

Examining the Sources of Hilary Rose’s Contentions

It is time to consider the source of the story quoted by Rose, namely, Trbuhović-Gjurić’s biography of Mileva Marić.
Trbuhović-Gjurić’s research for her book included contacting relatives, friends, and acquaintances of the Marić family in the 1960s, after she retired from posts at Belgrade University and the Institute of Technology (Trbuhović-Gjurić, 1988, p. 7). Many of these reports are third hand, recorded some 60 years after the episodes in question, with all the unreliability of such statements from interested parties after such a lengthy time interval. Highfield and Carter (1993, p. 110) aptly describe them as “home-town folklore,” while noting that Trbuhović-Gjurić (1988, p. 95) herself wrote of her patriotic pride in Marić as “our great Serbian woman.”

The quotation reproduced by Rose cited above (“Einstein explained to a group of Zagreb intellectuals that he needed his wife as ‘she solves all the mathematical problems for me’”) was reported to Trbuhović-Gjurić by Dr. Ljubomir-Bata Dumić as having been said at a gathering of friends of Marić’s student younger brother Miloš at which Einstein was present when the couple were visiting Marić’s family in August 1905 (Trbuhović-Gjurić, 1988, p. 93). Dr. Dumić is also quoted as follows:

“We raised our eyes towards Mileva as to a divinity, such was her knowledge of mathematics and her genius . . . We knew that she had made [Albert], that she was the creator of his glory. She solved for him all his mathematical problems, particularly those concerning the theory of relativity. (Trbuhović-Gjurić, 1988, p. 93, author’s translation)

However, the information documented above about Einstein’s considerable mathematical abilities, Marić’s undistinguished record at university-level mathematics, and the undemanding mathematics in the 1905 relativity paper calls into question the reliability of such testimony from an interested party obtained more than half a century after the episode in question.

We now come to an account by Rose relating to what she describes as one of two key episodes demonstrating processes by which Marić’s work was “lost by her to him”:

In one episode Mileva, through the collaboration with a mutual friend, Paul Habicht, constructed an innovatory device for measuring electrical currents. Having built the device the two inventors left it to Einstein to describe and patent, as he was at that time working in the patent office. He alone signed the publication and patented the device under the name Einstein-Habicht. (p. 143)

This report is based on Troemel-Ploetz’s translation of a passage from Trbuhović-Gjurić, which is devoid of any source reference (Trbuhović-Gjurić, 1988, p. 83; Troemel-Ploetz, 1990, p. 418). However, the original documents pertaining to this episode tell a very different story. The Einstein Collected Papers contain 16 letters exchanged between Einstein and one or other of the Habicht brothers (Conrad and Paul) in the years 1907-1911 in which the “little machine” (Maschinchen) is discussed, but there is no mention of any contribution from Marić (Einstein, 1995b, Docs. 48, 54, 56, 69, 86, 104, 108, 122, 124, 134, 150, 177, 190, 198, 202, 332). The development of this device is well documented from the time Einstein reported his discovery of a new method of measuring very small quantities of electricity in a letter to Conrad and Paul Habicht dated July 15, 1907. (He had suggested the theoretical basis in the final paragraph of a paper he wrote in December 1906 on thermodynamic equilibrium Einstein, 1989b, Doc. 39.) Einstein and Conrad Habicht had been close friends since Einstein had moved to Bern in 1902, before his marriage the following year; Paul Habicht, who in 1907 had started a small instrument-making company, used his laboratory for constructing and improving the device.

In six letters from Paul to Einstein giving details of stages in the manufacture of the device, there is no indication that Marić played any role. Ad Maas (2007), Curator of the Leiden Museum Boerhaave, has researched the origins and development of the Maschinchen, and states, “There is no evidence that Einstein’s wife was involved in the development of the little machine as has been alleged by Trbuhović-Gjurić” (p. 309). At most there is a report from the Einstein biographer Carl Seelig (1956) who, while lending no support to the story of Marić’s supposed leading role, writes of Einstein’s and Habicht’s “attempts to perfect [the little machine] with occasional help from Mileva” (p. 60). On the other hand, in November 1908, Einstein wrote to Jakob Laub:

The Maschinchen is ready and works well for higher voltages. In order to test it for voltages under 1/10 volt, I built an electrometer and a voltage battery. You wouldn’t be able to suppress a smile if you saw the magnificent thing I patched together myself. (Einstein, 1995b, Doc. 125)

Again, in March 1910, Einstein wrote to Conrad Habicht: “I am inviting you herewith to stay with us, so that the two of us together can do the final experiments with the Maschinchen & piece together the paper” (Einstein, 1995b, Doc. 198).

Einstein went on to include Paul Habicht in the invitation, but there is no mention of Marić other than in a postscript in which Einstein passes on “best regards from my wife.” The resulting technical article on the writing of which Einstein collaborated (“Elektrostatische Potentialmultiplikator nach A. Einstein”) was published in the Physikalische Zeitschrift in May 1910 under the names of the Habicht brothers, with an acknowledgment to Einstein for “the extraordinary stimulation that our work got from his help” (Einstein, 1995a, p. 53; Maas, 2007, pp. 314, 327, n.45).

In short, the documentary evidence shows that it was Einstein who supplied the scientific knowledge and basic ideas that enabled Paul Habicht to manufacture the Maschinchen. There is not a single document to substantiate
the unreferenced account by Trbuhović-Gjurić of Marić’s supposed close collaboration with Paul to the exclusion of Einstein, and several that contradict it. In the passage of Rose's quoted above, she writes that after building the device, the two inventors (Paul Habicht and Marić) “left it to Einstein to describe and patent, as he was at that time working at the patent office . . . He alone signed the publication . . .” (p.143). None of this is accurate. The device was not constructed to the inventors’ satisfaction until 1910, by which time Einstein was no longer working at the Bern patent office. As we have seen, although Einstein helped draft the technical article describing the device, it was published with the Habicht brothers as authors. In the article, they stated they had applied for a patent, but Maas writes that it is uncertain if one was actually granted (Einstein, 1995a, pp. 51-55; Maas, 2007).

In relation to her assertions about the design and manufacture of the little machine, Rose continues,

When asked why she had not given her own name of Einstein Marić she asked, “What for, we are both only ‘one stone’ [Einstein]?”. Later when the marriage had collapsed she found that the price of her selfish love and affectionate joke was that her work had become his. She also lost her personal health through trying to do the mathematical work to support his theorizing and simultaneously take care of their children. (p. 143)

The evidence that Marić did not play the role in the development of the device claimed for her undercuts the “one stone” story, for which Trbuhović-Gjurić supplies no reference, merely asserting that “one of the Habicht brothers asked Mileva Einstein Marić why she had not given her own name in the application for the patent” (Troemel-Ploetz, 1990, p. 419).

Rose’s writing that Marić lost her personal health “through trying to do the mathematical work to support his theorizing” (p. 143) serves to demonstrate further that she uncritically accepts everything that Troemel-Ploetz (following Trbuhović-Gjurić) claims on no better grounds than that she read it in the 1990 article. Given their respective academic accomplishments in mathematics, the notion that Marić did the mathematical work for Einstein has been shown to be outside the bounds of credibility, and the relevant passages in Trbuhović-Gjurić’s and Troemel-Ploetz’s publications are tendentiously misleading. Both greatly exaggerate Marić’s prowess at mathematics, for example, extolling “her mathematical genius,” and Troemel-Ploetz’s depreciation of Einstein’s knowledge and abilities in mathematics only serves to illustrate her ignorance of the true nature of Einstein’s mathematical limitations (Troemel-Ploetz, 1990, pp. 420-421). (See, for instance, Einstein’s own account of why he did not explore pure mathematics beyond what he needed in the early part of his career where he explains that “my interest in the study of nature was no doubt stronger; and it was not clear to me as a young student that access to a more profound knowledge of the basic principles of physics depends on the most intricate mathematical methods” [Einstein, 1949, pp. 15-17]. This more profound mathematical knowledge he acquired, with the assistance of his pure mathematician friend Marcel Grossman, when he needed it to develop his theory of General Relativity in the years 1912-1915.)

The Claims That Mileva Marić Coauthored Einstein’s 1905 Papers

Rose next directs attention what she describes as “the even more disturbing episode of the articles published in 1905 in the Leipzig Annalen der Physik.” She continues,

Of the five key papers, two of the originally submitted manuscripts were signed also by Mileva, but by the time of their publication, her name had been removed. These two articles, written in what was widely understood as Einstein’s golden age, included the theory of special relativity which was to change the nature of physics, and for which he alone received the Nobel prize. (Rose, 1994, p. 143)

Rose is here reproducing Troemel-Ploetz’s account, in turn recycled from Trbuhović-Gjurić’s book (Trbuhović-Gjurić, 1988, p. 97; Troemel-Ploetz, 1990, p. 419). Trbuhović-Gjurić purports to provide the substance of a passage by the Soviet physicist Abraham Joffe in his article, “In Remembrance of Albert Einstein,” published in 1955. However, she fails to quote Joffe’s actual words, and instead gives a paraphrase that includes the basic contention followed by supporting information that misleadingly reads as if it also came from Joffe. She asserts, without references, that the experimental physicist Wilhelm Röntgen was asked to review the papers in question, and that, as Röntgen’s assistant, Joffe had the opportunity of seeing the original manuscripts. But the purported supporting evidence is without foundation, as is the main contention that Joffe wrote that (in Troemel-Ploetz’s words) the three epoch-making original manuscripts “were signed Einstein-Marić.”

It is impossible in a short space to fully document the errors in Trbuhović-Gjurić’s contentions about Joffe, and cover the arguments made by defenders of her claims, but this has been done in meticulous detail by John Stachel in his Introduction to the 2005 edition of Einstein’s Miraculous Year: Five Papers That Changed the Face of Physics (Stachel, 2005). He quotes the full passage from Joffe, with its opening words celebrating Einstein’s entrance to the “arena of science” in 1905, and its stating that the author was at the time employed at the Patent Office in Bern. He also points out that the editor of Annalen der Physik, Paul Drude, was a theoretical physicist familiar with the relevant areas of physics, while his advisor on theoretical physics was Max...
Planck, so there would have been no reason to call upon Röntgen, an experimentalist in Munich, to vet Einstein’s purely theoretical manuscripts. After covering every aspect of the claims made in respect to Joffe’s paragraph, Stachel (2005) concludes,

We have seen that, in order to give credence to Trbuhović-Gjurić’s claims, we are forced to pile one improbability upon another: the improbability of Röntgen having had the manuscript, the improbability that Joffe saw it, the improbability that his assertion that the papers were written by one person should be interpreted as meaning they were written by two people. The simplest and most natural course is to reject all of these implausible claims. (p. lxiii)

In summary, as Alberto Martínez writes, “Joffe did not claim that Marić co-authored or collaborated in any of Einstein’s papers. And he did not claim that her name was on the original manuscripts” (Martínez, 2005, pp. 51-52; Martínez, 2011, pp. 198-200). Martínez adds that in multiple places throughout his career, Joffe acknowledged Einstein as sole author of the three papers. Moreover, in a passage in his book Begegnungen Mit Physikern (“Meetings With Physicists”), Joffe (1967, p. 23) describes his experience as a graduate student with Röntgen, and reports that the latter suggested to him that when he defended his doctoral dissertation in May 1905 he should discuss what one could describe as the prehistory of the theory of special relativity. Significantly, there is no mention of Röntgen showing him Einstein’s 1905 relativity paper shortly afterward. Had he had the opportunity to see the original manuscript at this time it is inconceivable that he would not have mentioned such a momentous experience in this context.

Rose also adds her own minor errors in her account of the Joffe story, misreading Troemel-Ploetz on two items. She alludes to two of the celebrated 1905 papers, instead of three, and states that Einstein received the Nobel Prize for special relativity, whereas it was his discovery of the law of the photoelectric effect that was mentioned in the award citation.

On the basis of her erroneous assertions, Rose goes on to castigate Einstein for “withholding recognition of Mileva’s contribution to the achievement [the Nobel award]” (p. 143). This leads on to her referring to “the puzzle of Einstein’s gift of the [Nobel] prize money to Mileva Marić even though they were by then separated” (p. 143). (Rose, 1994) She suggests that perhaps the money was meant to compensate for his “appropriation” of Marić’s collaborative work. But there is no puzzle. In 1918, the couple had been separated for 4 years and Einstein wanted to be free to marry his cousin Elsa. To overcome Marić’s resistance to a divorce, he proposed that the anticipated Nobel Prize award should be placed in trust in her name in a Swiss bank. (Marić and their two sons were living in Zurich.) The divorce agreement contains such a clause, granting Marić the right to draw the interest, while only with his consent could she use any of the capital. In the event of her remarriage or death, the money would go to their sons (Einstein, 1998b, Docs. 449, 562).

More generally, Rose (1994, p. 144) writes that Trbuhović-Gjurić’s book “has raised doubts in the physics community,” for which claim she cites a letter in Physics Today in February 1989 by the late Evan Harris Walker, who had a doctorate in physics. However, in contrast to the claims made by Walker (by that time president of the Walker Cancer Research Institute that he had founded), historian of science Gerald Holton and historian Robert Schulmann (1995) state that, “All serious Einstein scholarship has shown that the scientific collaboration between the couple was slight and one-sided.” The calibre of Walker’s (1991) contribution to the issue may be judged by the fact that he asserts, “Mileva Marić deserved to be a co-author [of the special relativity paper], and her name should have appeared on the original 1905 paper ‘Zur Elektrodynamik bewegter Korper’ in Annalen der Physik. And in fact it did” (p. 123). At this point, he quotes the relevant passage in Trbuhović-Gjurić’s book as if her deeply flawed contention provided conclusive evidence. In relation to other assertions made by Walker, John Stachel responded with the comment:

I know nothing about cancer therapy, but if I had to judge Walker solely on the basis of his letter [Walker 1989] on Einstein, I would have to conclude that he is a fantasist who judges reality on the basis of his own desires. (Stachel, 1990, [2002, pp. 26])

In an endnote, following the citing of Walker’s (1989) letter in Physics Today, Rose (1994, p. 271) writes that “disturbingly, John Hackel [sic], editor of The Collected Papers of Albert Einstein, Vols. I and II, ignores this evidence” (namely, that contained in Trbuhović-Gjurić’s biography), thereby endeavoring to preserve “in the case of Einstein the myth of the unaided male genius.” In fact, Stachel responded to Walker’s letter (Stachel, 1989) and to the main contentions put forward by Walker and Troemel-Ploetz in March 1990 in a talk delivered at a meeting of the American Association for the Advancement of Science (AAAS; Stachel, that was widely reported in the print media.

In that talk, Stachel (1990, [2002, pp. 33-36]) examined closely the claim that the phrase “our work on relative motion” that occurs in a letter from Einstein to Marić dated March 27, 1901, provides evidence that she collaborated on the 1905 relativity paper (Walker, 1989, p. 9). (At the time Marić was working on her 1900 Zurich Polytechnic diploma dissertation in the hope of developing it into a doctoral thesis and preparing to retake the final diploma examinations that she had failed the previous summer.) After quoting relevant passages from numerous letters of Einstein’s in the period 1899 to 1901 that make it evident that he alone was working on ideas that would eventually reach fruition in 1905, Stachel (1990, [2002]) writes the following:
In summary, the letters to Marić show Einstein referring to his studies, his ideas, his work on the electrodynamics of moving bodies over a dozen times (and we may add a couple more if we include his letter to Grossmann), as compared to one reference to our work on the problem of relative motion. In the one case where we have a letter of Marić in direct response to one of Einstein’s, where it would have been most natural for her to respond to his ideas on the electrodynamics of moving bodies, we find the same response to ideas in physics that we find in all her letters: silence. (p. 36)

Furthermore, as Stachel (1990, [2002, p. 33]) points out, it is important to appreciate the background to, and the context in which, Einstein’s words “our work on relative motion” occur. Einstein was living temporarily with his parents in Milan prior to taking up a short-term teaching position in Switzerland, so he and Marić were living in separate towns with little prospect of their being together in the immediate future. Roger Highfield and Paul Carter (1993), like Stachel, quote the whole paragraph containing the sentence in question in which Einstein is seeking to reassure Marić of his continuing love, and observe, “By italicizing the key sentence, one shows how it sat marooned, not in one of Einstein’s many passages of close scientific argument, but amid an outpouring of reassurance that his love for Mileva remained absolute despite their separation” (p. 72). And equally important, the sentence should be seen in the light of Einstein’s frequent attempts to draw Marić into his extracurricular work on physics while at the Polytechnic, his long-term hope at that time being that they would have a joint future devoted to science (Renn & Schulmann, 1992, p. 52, 73).

Stachel (1990, [2002]) also points out that while Marić’s friendship with Einstein that became close in the last 2 years of his time at Zurich Polytechnic (1899-1900) led to her acquiring the role of a sounding board for his ideas in the early years of their relationship.

In her case, we have no published papers; no letters with a serious scientific content, either to Einstein nor to anyone else; nor an other objective evidence of her supposed creative talents. We do not even have hearsay accounts of conversations she had with anyone else that have a specific, scientific content, let alone a content claiming to report her ideas. (p. 36)

In her numerous letters to her closest friend Helene Kaufler Savić, Marić always attributed his papers solely to Einstein with no suggestion she had provided any assistance (Popović, 2003). As Stachel (1996) writes, it is hard to see why she would not mention that she had made some contribution in these private letters had such been the case. The terms in which she described two early papers of Einstein’s to Savić would seem to preclude any suggestion that she saw herself as a collaborator in his researches.

Albert wrote a paper on physics that will probably soon be published in Annalen der Physik. You can imagine how proud I am of my darling. (December 20, 1900, Popović, 2003, p. 70)

I have read this work with great joy and real admiration for my little darling, who has such a clever head. I will send you a copy when it gets printed. (December 1901, Popović, 2003, p. 80)

Conclusion

Highly relevant to the issues discussed above is a wry comment by Stachel at the 1990 American Association for the Advancement of Science (AAAS) meeting, directed at Senta Troemel-Ploetz and Evan Harris Walker: “I must emphasize that bare assertions, particularly by interested parties, do not constitute proof of such assertions, even when these assertions are repeated in print, even in a book” (Stachel, 1990, [2002, p. 32]). This basic precept should be taken to heart by the several authors (e.g., Gabor, 1995) who, while evidently having little knowledge of Einstein’s academic and scientific accomplishments, have uncritically reproduced numerous unsubstantiated contentions originating from Trbuhović-Gjurić’s book as if they were historical facts.

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Notes

1. Information obtained from Das Stadtarchiv Zürich, February 29, 2012.
2. As an illustration of the unreliability of hearsay reports of conversations even within a short time span, in his book Memory I. M. L. Hunter reports an experiment undertaken by two Cambridge psychologists who, without the knowledge of the participants, recorded a meeting of the Cambridge Psychological Society. Two weeks later, they asked all who had attended to write down everything they could recall of the meeting. They found that some 42% of the recalled points were substantially incorrect, including happenings that had never taken place at all: “In short, what was recalled was not only fragmentary, but also distorted, and much was recalled which, in fact, had never happened” (Hunter, 1964, pp. 160-161). More generally, in his discussion of research into memory processes, Charles Fernyhough reports that “findings on rich false memories show that the misinformation is particularly strong when other people, especially family members, are providing the interjected information. Some benefits accrue to collaborative remembering . . . . The term social contagion is used to describe the
process whereby an account of an event incorporates erroneous information provided by other people” (Fernyhough, 2012, pp. 130-131).

3. In Volume 15 of the Patent & Trademark Depository Library Association Newsletter (2004-2005), Nancy Spitzer, University of Wisconsin-Madison Head of Resources and Patents/Reports, records that a search “for an elusive Einstein patent for a ‘Maschinchen’ he supposedly patented with Paul Habicht around 1909” had been unsuccessful (p. 41).

4. Neither Trbuhović-Gjurić nor Troemel-Ploetz refers to Marić’s undistinguished Zurich Polytechnic record in mathematical topics, her grades for which compare unfavorably with those she achieved in physics.

5. In the passage in question, which opens by celebrating “Einstein’s entrance into the arena of science” in 1905, Joffe wrote that “the author of these papers… was a bureaucrat at the Patent Office in Bern, Einstein-Marity” (Marity is the Hungarianised form of Marić), adding in parentheses that by Swiss custom the maiden name of his wife is added to the husband’s family name (Stachel, 2005, p. iivi).

6. For instance, in one of the several letters he sent during this period in which he wrote excitedly about the latest ideas he was working on, Einstein wrote to Marić in April 1901 from Milan: “Today I’m going to give you a detailed report of what I’m up to, because I can see that you enjoy it,” and proceeded to discuss his reactions to writings of Ostwald, Planck, and Drude on the electron theory of metals and the nature of radiation energy (Renn & Schulmann, 1992, p. 43).

7. This stricture also applies to the Oregon Public Broadcasting/Australian Broadcasting Corporation co-produced documentary “Einstein’s Wife” (2003), in regard to which a complaint addressed to Public Broadcasting Service (PBS) was upheld by their Ombudsman, Michael Getler (2006), who described the film as “factually flawed and ultimately misleading.”

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Bio

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