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Einstein's Medical Friends and Their Influence on His Life

S. SRI KANTHA

5–16–305 Tsukimicho, Fukuroi City, Shizuoka 437–01, Japan (Tel: & Fax: (+81) 538 49 2274)

Abstract — Albert Einstein had at least six medical friends who influenced his thoughts. In each period (Munich, Switzerland, Berlin and Princeton) of his life, one could identify the medically qualified individuals with whom Einstein was in close contact. These include Max Talmey, Heinrich Zangger, George Nicolai, Hans Mühsam, Janos Plesch and Gustav Bucky. They probably enriched Einstein's life and thoughts significantly by being mentors, confidants, intellectual sparring partners and research collaborators to him. With Mühsam, Einstein published a paper in a German medical journal. In collaboration with Bucky, he also received a US patent for a light-intensity self-adjusting camera in 1936.

Introduction

While engaged in studying the life of physicist Albert Einstein (1–4), I was amused to find that he had at least six medical friends who were close to him. It is not unusual for a scientist, who specialized in physical sciences, to have friends trained in a medical discipline. But, in Einstein's case, this observation may have some significance. Since this aspect has not been explored by any of the Einstein scholars so far, I present my thoughts on the influence of these medical friends on Einstein's life.

Biographical sketches

The table lists six medical friends who influenced Einstein's life. The biographical sketches provided below about each of them are arranged in the chronological order of their acquaintance with Einstein.

1. Max Talmey (1869–1941)

Talmey was Einstein's boyhood mentor, who influenced the physicist's entry into science by providing popular books on science, technology, mathematics and philosophy for reading. Talmey was the brother of Einstein's family physician in Munich, and he had recently arrived in Munich from Russia to study medicine, when he became acquainted with the Einstein's and agreed to visit and join them weekly for dinner.

It was Talmey who introduced Einstein to the then popular science books such as *Naturwissenschaftliche Volksbücher* (1873) authored by Aaron Bernstein, and *Kraft und Stoff* (1876) authored by Ludwig Büchner. Frank (5) notes that Bernstein's 'popular books on natural science' were . . .'widely read by laymen interested in science about that time'. Einstein's introduction to physics came from Büchner's *Kraft und Stoff* (*Force and Matter*) which, according to Frank (5), . . .'attempted to gather together the scientific

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knowledge of the time and to organize it into a sort of complete philosophical conception of the universe'. Thus, Talmey deserves the credit for introducing Einstein to the world of science. He matriculated in 1889 from Munich University and eventually emigrated to the USA at the beginning of this century to practise medicine in New York. His own popular book, *The Relativity Theory Simplified, and the Formative Years of its Inventor*, was published in 1932.

2. *Heinrich Zangger (1874–1957)*

Zangger was Einstein's friend in Zurich, who held the position of Director of the Institute for Forensic Medicine at the University of Zurich. Zangger first met Einstein in 1905 according to Highfield and Carter (9): 'to discuss Brownian motion, and [he] gradually came to act as a personal and professional confidant'. He was also instrumental in bringing Einstein back to Zurich from Prague in 1913. When not residing in Zurich, Einstein corresponded with Zangger to express his thoughts and solicit advice on various issues affecting his life. Since he lived in Zurich, Zangger also served as a 'substitute father' to Einstein's two sons, when Einstein was living apart from them, following separation from his first wife Mileva Maric in 1914 (9).

3. *George Nicolai (1874–1964)*

An outspoken German pacifist and a professor of physiology at the University of Berlin from 1910–1915, in late 1914, Nicolai coauthored with Einstein a manifesto entitled *Manifesto to Europeans*, espousing pacifism. This manifesto, which asked the intellectuals to join forces in demanding a just peace and to work towards the establishment of a united Europe, was a rebuttal to the *Manifesto to the Civilized World* signed by 93 German intellectuals, among whom Wilhelm Röntgen, Ernst Haeckel, Paul Ehrlich and Max Planck were giants in science of that era. The manifesto coauthored by Nicolai and Einstein was signed by only two other colleagues, though circulated among all the professors employed at the University of Berlin, and many had expressed their sympathy with the document.

During World War I, Nicolai continued his campaign and published a tract entitled *Die Biologie des Krieges* (1916; with a Foreword by Romain Rolland). An American translation of this work appeared in 1918 as *The Biology of War*. Nicolai paid the price for his pacifism and was . . .'dishonored and made to work as an orderly in a field hospital' (8), and . . .'during the closing months of the war [Nicolai] made a sensational escape from Germany by plane' (6). In 1922, he also produced a movie entitled *Der Einstein Film*, on the theory of relativity (11).

Table 1 Einstein's medical friends during the specific periods of his life

Specific period of Einstein's life	Medical friend	References
Munich (1880–1895)	Max Talmey	5–7
Swiss (1905–1913)	Heinrich Zangger	7–9
Berlin (1914–1932)	George Nicolai	8, 10, 11
	Hans Mühsam	7
	Janos Plesch	6–9
	Gustav Bucky	7, 13
Princeton (1933–1955)	Gustav Bucky	7, 13

4. *Hans Mühsam (1876–1957)*

Mühsam was a Berlin-born medical doctor who, after graduation in 1900, established a private practice in Berlin. According to Pais (7), Einstein first met Mühsam in 1915 which led to 'Sunday hikes during which they discussed physics and also medical and biological problems'. Einstein published a paper with Mühsam in 1923, related to the experimental determination of the size of pores in filters (12). This is the only research paper of Einstein's which appeared in a medical journal. Pais (7) also mentions that 'Mühsam became Einstein's closest confidant in the Berlin days'. Eventually Mühsam moved to Israel to escape from the Nazis and died there.

5. *Janos Plesch (1875–?)*

Plesch was a Hungarian-born medical doctor, who built a successful medical practice in Berlin. Einstein came to know Plesch in 1919, when the latter attended to Einstein's mother Pauline Einstein during her terminal illness. Then, for more than a quarter of a century, they remained close friends. In 1928, when Einstein collapsed during his trip to Zuoz, Switzerland, it was Plesch who diagnozed inflammation in the walls of Einstein's heart and guided the physicist to recovery.

Plesch also dedicated his book. *Physiology and Pathology of the Heart and Blood Vessels* to Einstein. In his autobiography, Plesch had written, 'It has always struck me as singular that the marvelous memory of Einstein for scientific matters does not extend to other fields'. Einstein himself agreed with this assessment.

6. *Gustav Bucky (1880–1963)*

This Leipzig-born physician friend of Einstein first

came to know the physicist while treating his stepdaughter Ilse Einstein. Bucky was a specialist in radiology. Like Einstein, he also emigrated to the USA and settled in New York. Einstein enjoyed Bucky's friendship at social and academic levels and collaborated with him to receive a US patent for a light-intensity self-adjusting camera (a photoelectric device) in 1936 (13,14). Writing in the early 1940s, Frank (5) observed, . . .'even today he (Einstein) is often in the company of his friend Dr Bucky of New York, a well-known physician and specialist in the construction of X-ray machines, and together they have devised a mechanism for regulating automatically the exposure time of a photographic film depending on the illumination on it. Einstein's interest in such inventions depends not on its practical utility but on getting at the trick of the thing'.

Roles played by medical friends

What benefits did Einstein receive in maintaining close contact with medically trained professionals? I venture to suggest the following:

1. *Guidance concerning health problems.* As they were medically qualified professionals, it is reasonable to suggest that the primary role played by Einstein's medical friends was in providing professional guidance about his health problems and those of his family members. Einstein first met Plesch and Bucky this way.
2. *Personal companionship and scientific brainstorming.* It appears that Einstein chose his medical friends in such a manner that they did not 'vanish' once they completed their designated professional roles. Zangger, Plesch, Mühsam and Bucky offered personal companionship to him, acted as confidants and also played the role of intellectual sparring partners. Zangger guided Einstein's budding professional career and was instrumental in leading him into the academic territory from the obscurity of an employee in Bern's patent office. Mühsam and Bucky became coauthors in Einstein's scientific papers and patents (12–14).
3. *Broadening Einstein's world view.* Einstein's first mentor was Talmey, who introduced him to the world of science and philosophy. Similarly, it is not inappropriate to state that Nicolai was significantly instrumental in moulding Einstein's political ideals of pacifism.

A lack of emphasis on the roles played by medical friends in Einstein's life needs mention. Recognized biographers of Einstein (mainly Einstein's junior colleagues such as Philipp Frank, Leopold Infeld, Banesh Hoffmann and Abraham Pais), due to their professional training and leaning towards interest in Einstein's physics, have hitherto focused strongly on the influence of physicists such as Hendrik Lorentz, Max Planck and Niels Bohr on Einstein, but not much on Einstein's medical friends. For instance, Frank failed to mention Talmey by name. The role of Nicolai on Einstein's pacifism has not been touched by these biographers.

Only when journalists (8,9) and professional biographers (6) studied Einstein's life from a human angle did the roles of these medical friends in relation to Einstein receive some attention, sometimes to the extent of titillation. For example, Highfield and Carter (9) have supplied obscure and ghoulish information in the form of a letter Janos Plesch wrote to his son Peter. This letter, . . .'dated 18 April 1955, contained the extraordinary suggestion that Einstein died of syphilis. Plesch insisted that Einstein's symptoms were entirely consistent with the disease, and boasted that in all of his years of medical practice he had never once been wrong in tracing an abdominal aneurysm to this cause' (9).

In summing up Plesch's questionable hypothesis on the cause of Einstein's death, Highfield and Carter (9) report, in fairness, Thomas Harvey's negation of this claim. However, they also conclude that, . . .'the interest of Plesch's claim lies not so much in its accuracy, or lack of it, as in the fact that he made it at all . . . but he had known Einstein well, and his writings showed a psychological insight that was often accurate even when his facts were awry'. To keep the medical cause of Einstein's death in perspective, it should be recorded that Thomas Harvey performed the autopsy on Einstein's body in Princeton, and that Plesch did not treat Einstein during his final years.

Conclusion

I conclude that, during each major period of his life (which spanned Germany, Switzerland and the USA), Einstein had close friends in the medical disciplines. Apart from providing routine diagnostic services and guidance on health problems, they served Einstein in multiple roles as mentors, confidants, intellectual sparring partners and research collaborators.

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