Anton Lampa: The man who brought Einstein to Prague[1]

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Anton Lampa: The man who brought Einstein to Prague: Lampa had studied physics in Vienna and became full professor of physics at the German university of Prague in 1909. He was a pioneer in producing and measuring short electromagnetic waves. Strongly influenced by Ernst Mach, he considered Einstein's theory of special relativity as a triumph of Mach's philosophy. Therefore, he supported Einstein as a candidate for the chair of theoretical physics at his university. In the conflict between Czechs and Germans, he openly supported the ambitions of the German-speaking minority in Bohemia. In 1919, he returned to Vienna where he served as a promotor of adult education and public librarianship.

Keywords: Anton Lampa – Albert Einstein – German university in Prague – theory of relativity – Ernst Mach – Czech-German conflict – public education

Einstein scholars agree that experimental physicist Anton Lampa (1866–1938) played a decisive role in Einstein's appointment to the German university of Prague in 1911. In his obituary for Lampa, the Vienna physicist Felix Ehrenhaft recalled the opposition encountered by Lampa in his position as professor of experimental physics:

> Supported by very few people in his department and opposed by most of them, this courageous man pushed through the plan to bring Albert Einstein to Prague as a full professor of mathematical physics. Long before others, Lampa had realized Einsteins significance, that was still controversial at this time.[2]

Lampa's support of Einstein's candidacy in 1911 was a real highlight in his scientific career, one of those moments that Stefan Zweig would have called a *Sternstunde*.

[1] Revised version of a lecture held at the conference "Universities in Central Europe – Crossroads of Scholars from All Over the World", Prague, September 30, 2011. I am grateful to Philip Beeley (Oxford) for revising my English.

[2] F. Ehrenhaft, "Anton Lampa", *Neue Freie Presse [Wien]*, 29. 1. 1938, p. 6 [my translation]. This statement is confirmed by P. Frank, *Albert Einstein. His Life and Times,* A. A. Knopf: New York 1947, p. 77: "The decisive man in the selection of the candidate was the physicist Anton Lampa."

Although it would be unfair to characterize him (in Stefan Zweig's words) as "some insignificant individual",[3] it must be admitted that, apart from his successful effort to bring Einstein to Prague, Lampa has left no significant legacy in the history of physics.

Nevertheless, Lampa is in more than one respect a typical figure of the political and intellectual climate in Austria at the turn of the 20th century. People like him were characteristic of the social and cultural environment into which Einstein immersed when he came to Prague in 1911.

1. Biography

When Anton Lampa was born, his parents lived in Budapest, where his father served as an engineer for the Austro-Hungarian railway company. In 1874, his father entered the service of a private railway company, the "Prag-Duxer Eisenbahn" (*Pražsko-duchcovská dráha*), and the family subsequently lived in different locations along this railway line. He therefore grew up in Bohemia, the country where he was going to live later. From the age of 16 onwards, he attended a high school in Vienna where he passed his final exam (*Matura*) in 1887. He studied physics at the University of Vienna, earned his doctoral degree in 1894, and served as a physics teacher in a girls' high school for two years. Afterwards, he returned to the university. He passed his *Habilitation* in 1897 and was appointed associate professor in 1904. In the same year, he became a member of the prestigious "German Academy of Natural Scientists" (*Deutsche Akademie der Naturforscher Leopoldina*), now the German National Academy. One of his students was Lise Meitner, who was to become a co-discoverer of nuclear fission in 1938.[4] From 1909 to 1919 Lampa was a full professor of experimental physics in Prague, and after the First World War, he resigned from his chair and returned to Vienna, where he became a civil servant in the ministry of education. In 1927 he became president of the *Urania*, a public educational institute and observatory in Vienna. He retired in 1934.

[3] In his novel *Die Weltminute von Waterloo*, Stefan Zweig writes about such unimportant individuals: "Only rarely does one of them powerfully snatch up the opportunity and himself with it. Greatness abandons itself to the insignificant person for only a second; he who misses it is never blessed by it for a second time." Obviously Lampa did snatch this opportunity when he successfully supported Einstein's candidacy. S. Zweig, *Decisive Moments in History,* Transl. by Lowell A. Bangerter, Ariadne Press: Riverside CA 1999, p. 105.

[4] Ch. Kerner, *Lise, Atomphysikerin. Die Lebensgeschichte der Lise Meitner*, Beltz & Gelberg: Weinheim 1986, p. 23.

2. Physics

Lampa was a typical physicist of the 19th century. He perfectly mastered classical theoretical physics and published a number of remarkable papers, in which he explained newly discovered phenomena with Maxwell's electrodynamics. But he was also a highly skilled experimenter, and his most outstanding results were in the field of experimental physics. Most of his 36 original papers were published in the proceedings of the Vienna Academy of Science; only one of his articles appeared in the most prestigious German physics journal of that time, *Annalen der Physik*, in 1896.

With this paper, Lampa earned a world-wide reputation. He had found a method of producing and measuring short electromagnetic waves with a wavelength of 4 mm. For nearly 20 years, he held the world record in the art of generating short electromagnetic waves by electrical means.[5] But all his research was within the framwork of established classical physics and not really original or pioneering. It is therefore not surprising that in 1909 he was not the first candidate for the chair of experimental physics in Prague. Number one on the nomination list was a man of quite a different caliber, namely the German physicist Johannes Stark, the future Nobel Prize winner of 1919. But the minister of education in Vienna decided that there was no need to appoint a foreign scientist as long as qualified Austrian physicists were available, and so Lampa obtained his position in Prague.

3. Spiritism

Like William Crookes, Friedrich Zöllner and number of other scientists of the late 19th century, Lampa was strongly interested in supernatural and occult phenomena associated with spiritualism. In his first monograph, printed in 1893 and dedicated to his parents, he describes personal spiritualistic experiences and meditations in a mystical language that is quite unusual for an experimental physicist. The book is entitled "The nights of the searcher. The human need for salvation and the twofold way of obtaining knowledge" (*Die Nächte des Suchenden. Das Erlösungsbedürfnis des Menschen und die doppelte Form seines Erkennens*).[6]

[5] For the details of Lampa's experiments on short electromagnetic waves, cf. A. Kleinert, "Anton Lampa, ein Pionier der Hochfrequenzspektroskopie", in: W. Hermann (ed.), *Bibliothekarische Arbeit zwischen Theorie und Praxis. Festgabe für Wolfgang Thauer*. Fachhochschule für Bibliothekswesen: Stuttgart 1976, pp. 119–129.

[6] An example of his esoteric style that continues for another 114 pages: "Meine Seele schreitet durch Gefilde, die kein Fuss betrat, über Wasser, die keine Brücke überspannt und kein Fahrzeug durchfurcht – weit hinein in die düstere Welt der Qualen, in die

Lampa also published poems and articles in the theosophical journal *Sphinx*. In an article about his own experiences with spiritist phenomena, he suggested that telepathy might be explained by the propagation of Hertzian waves. Lampa abruptly stopped publishing about such matters after he had obtained his doctorate in 1894, but nevertheless one might ask whether there is some connection between his enthusiasm for Einstein's theory of relativity and his hope of explaining paranormal phenomena with new scientific insights.

4. Philosophy

Lampa was not a philosopher, but he was very much interested in epistemology (*Erkenntnistheorie*). In a letter to Einstein of February 1, 1920, when he remembered their discussions in Prague, he wrote that "anybody interested in epistemology would want to talk to you",[7] and three months later, he explained that in 1911, he had still been trying to integrate Einstein's thoughts into his own epistemological world view. On this occasion he explicitly mentioned how much his thinking was shaped by the ideas of Ernst Mach.

Philipp Frank and others claimed that Lampa had been one of Ernst Mach's students.[8] This is definitely wrong, but it is true that he had close personal ties with Mach and that he was deeply influenced by his thought. He published several articles and a book on Mach, and in 1938 he was invited to give a speech in Prague on the occasion of Mach's one hundredth birthday. Lampa's strong devotion to Mach's philosophy was certainly the main reason for his open support for Einstein. His first encounter with Einstein was in September 1909, at the 81st Annual Assembly of the Association of German Natural Scientists and Physicians (*Naturforscherversammlung*) in Salzburg, where Einstein for the first time presented his ideas to a broad audience. For Lampa the theory of relativity was perfectly consistent with Ernst Mach's ideas about time and space. In a letter to Mach of May 5, 1910, he contends "that the [special] theory of relativity is the beginning of a phenomenological period in

Welt des hoffnungslosen Sehnens, der flackernden, blutigen Feuer mit den tanzenden Schatten. Der Dämonen mit den schweren lastenden Flügeln – meine Seele liebt diese Welt, denn sie wittert in ihr eine Wahrheit, ein Jenseits der Natur." A. Lampa, *Die Nächte des Suchenden: das Erlösungsbedürfnis des Menschen und die doppelte Form seines Erkennens*, Schwetschke: Braunschweig 1893, p. 10.

7 "Wenn man nach der Erkenntnistheorie hin gravitiert, hat man eben oft den Wunsch, mit Ihnen sprechen zu können!"

8 P. Frank, *Albert Einstein. His Life and Times*, p. 81.

physics".[9] In an article of 1916, he refers to the modern theory of relativity as a late triumph of Ernst Mach,[10] and in his Mach biography of 1918, he agrees with Einstein's statement that Ernst Mach would have been the founder of the theory of relativity if at the time when Mach was a young man, the invariability of the speed of light had already preoccupied physicists.[11]

5. Politics

Lampa's life in Prague was overshadowed by the permanent conflict between Czechs and Germans. Correctly speaking, I should say German speaking and Czech speaking people in Bohemia, because legally they were all Austrian citizens. There is evidence that Lampa spoke Czech fluently.[12] In his childhood, his parents often changed their place of residence, and when they lived in the city of Laun (*Louny*), halfway between Prague and Dux (*Duchcov*), young Anton attended a Czech school for three years.

While he lived in Prague, Lampa was strongly committed to supporting the ambitions of the German-speaking population in Bohemia. He was an active member of the "Society for the promotion of German science, art, and literature in Bohemia" (*Gesellschaft zur Förderung deutscher Wissenschaft, Kunst und Literatur in Böhmen*). In 1913 he became co-editor of the monthly newspaper *Deutsche Arbeit,* a journal with open and often aggressive anti-Czech tendencies, in particular in its periodically published column "About our Enemies" (*Von den Gegnern*), which referred to the Czech fellow citizens. In his Einstein biography, Philipp Frank relates some anecdotes concerning Lampa's hostile attitude towards Czechs,[13] but I have some doubts about the reliabilty of this book.[14] At any rate, in 1919, Lampa refused to become a loyal civil servant of the new state of Czechoslovakia,[15] and as far as I know he

[9] "… daß die Relativitätstheorie die Einleitung zu einer phänomenologischen Epoche der Physik ist," quoted by G. Wolters, *Mach I, Mach II, Einstein und die Relativitätstheorie. Eine Fälschung und ihre Folgen,* de Gruyter Verlag: Berlin, New York 1987, p. 28.

[10] "Die moderne Relativitätstheorie freilich hat ihm [Mach] einen späten aber umso gewichtigeren Triumph gebracht." A. Lampa, "Ernst Mach", *Deutsche Zeitung Bohemia (Prague)*, vol. 57, 26. 2. 1916, p. 3.

[11] A. Lampa, *Ernst Mach*, Verlag Deutsche Arbeit: Prag 1918, p. 33.

[12] This is confirmed by P. Frank, *Albert Einstein. His Life and Times*, p. 81.

[13] Ibid.

[14] E.g., Frank falsely claimed that Lampa had studied in Prague. Ibid.

[15] Cf. W. Hofmann, "Anton Lampa zum Gedächtnis", *Werk und Wille. Zeitschrift zur Büchereiund Kulturarbeit des Deutschen Kulturvereines Südmark*, vol. 5, 1938, p. 33–36.

was the only full professor of the German University who did so. He resigned from his chair of experimental physics and returned to Vienna, where he found a position in the ministry of education.

6. Adult education

Lampa's appointment in Vienna after the First World War brings me to the final point of my report: his lifelong commitment to adult education. As a member of the "Social Democratic Workers' Party" (*Socialdemokratische Arbeiterpartei*),[16] he was somewhat on the left of the political spectrum. Making higher education available to less privileged sections of the population was a concern that he shared with many other university professors of his time.[17] As a young doctoral student, he gave his first public lecture in the "Association for People's Instruction" (*Wiener Volksbildungsverein*) on the blue colour of the sky. He organized popular university lectures, the so-called *Volkstümliche Universitätsvorträge* of Vienna University, and, in 1901, he was one of the founders of the *Wiener Volksheim*, the first Austrian "People's University" (*Volkshochschule*). Also in Prague, he gave several popular university lectures. Six of these were published in the weekly journal "Knowledge for All" (*Das Wissen für alle*), of which he was one of the editors. The picture on the title page of this journal is a self-explaining illustration of the goals of the adult education movement.

After 1919 Lampa completely switched over from physics to adult education and was appointed as the head of the division of public education at the Vienna ministry of education. A new field in which he now became involved was that of public libraries, the so called *Volksbüchereien*. He organized meetings with the leading figures of this movement which went under the name *Öffentliches Büchereiwesen* ("public librarianship"), and he published more than 100 reviews of popular science books in journals for librarians. He strongly believed in the importance of science as part of general education, and he tried by all means to enlarge the number of science books in public libraries. Through these efforts he became an intimate

[16] In a letter of March 26, 1894, he addresses the recipient as "Esteemed Comrade" (*Werter Genosse*) and concludes with the expression "With social democratic greetings" (*Mit socialdemoktratischem Gruß*). The letter is preserved among the papers of Victor Adler, the founder of this party, in the archive of the *Verein für Geschichte der ArbeiterInnenbewegung* (Vienna). I am grateful to Georg Spitaler for providing me with a copy of this letter.

[17] Another Vienna scientist who shared Lampa's commitment to popular education and public librarianship was the geology professor Eduard Reyer. Cf. P. Vodosek, *Eduard Reyer 1849–1914,* Deutscher Bibliotheksverband: Berlin 1976.

friend of the German pioneer of public librarianship Walter Hofmann, to whom Lampa's widow gave a portion of his papers and correspondence after her husband's death. Hofmann's son lived near Stuttgart and gave all these papers to the Stuttgart *Fachhochschule für Bibliothekswesen* where I was an instructor of science in the early seventies. That is how I came to study Lampa's life and work, and from there comes the origin of my book on Lampa.[18]

Summary

Born in Budapest in 1868, Anton Lampa spent his childhood in different locations in Bohemia. In 1887 he enrolled as a physics students at the University of Vienna. After his doctoral exam and his *Habilitation*, he was appointed associate professor in 1904. In 1909, he became full professor of experimental physics at the German university of Prague. As an experimental physicist, he was a pioneer in producing and measuring short electromagnetic waves. Like various scientists of his time, he was also interested in apparently supernatural and occult phenomena and published a book, poems and articles on such subjects. He had close personal ties with Ernst Mach and was deeply influenced by his philosophy. He considered the theory of special relativity as "a late triumph of Ernst Mach". This was the main reason for him to support Albert Einstein's nomination as professor of theoretical physics in Prague in 1911. While living in Prague, he became involved in the permanent conflict between Czechs and Germans. He strongly supported the ambitions of the German-speaking minority and became co-editor of a newspaper with open and aggressive anti-Czech tendencies. After the First World War, he was the only full professor of the German University in Prague who refused to become a loyal civil servant of the new state of Czechoslovakia, and resigned from his chair. In 1919, he returned to Vienna where he became head of the division of public education at the ministry of education. In this position, he devoted the rest of his life to the promotion of adult education and public librarianship.

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[18] A. Kleinert, *Anton Lampa: 1868–1938; eine Biographie und eine Bibliographie seiner Veröffentlichungen*. Bionomica Verlag: Mannheim 1985.

Anton Lampa (1868-1938)

1896

10. Über die Brechungsquotienten einiger Substanzen für sehr kurze elektrische Wellen.
Sitzungsberichte der kaiserl. Akademie der Wissenschaften in Wien. Mathem.-naturw. Classe. 2 a, 105. 1896. S. 587-600.

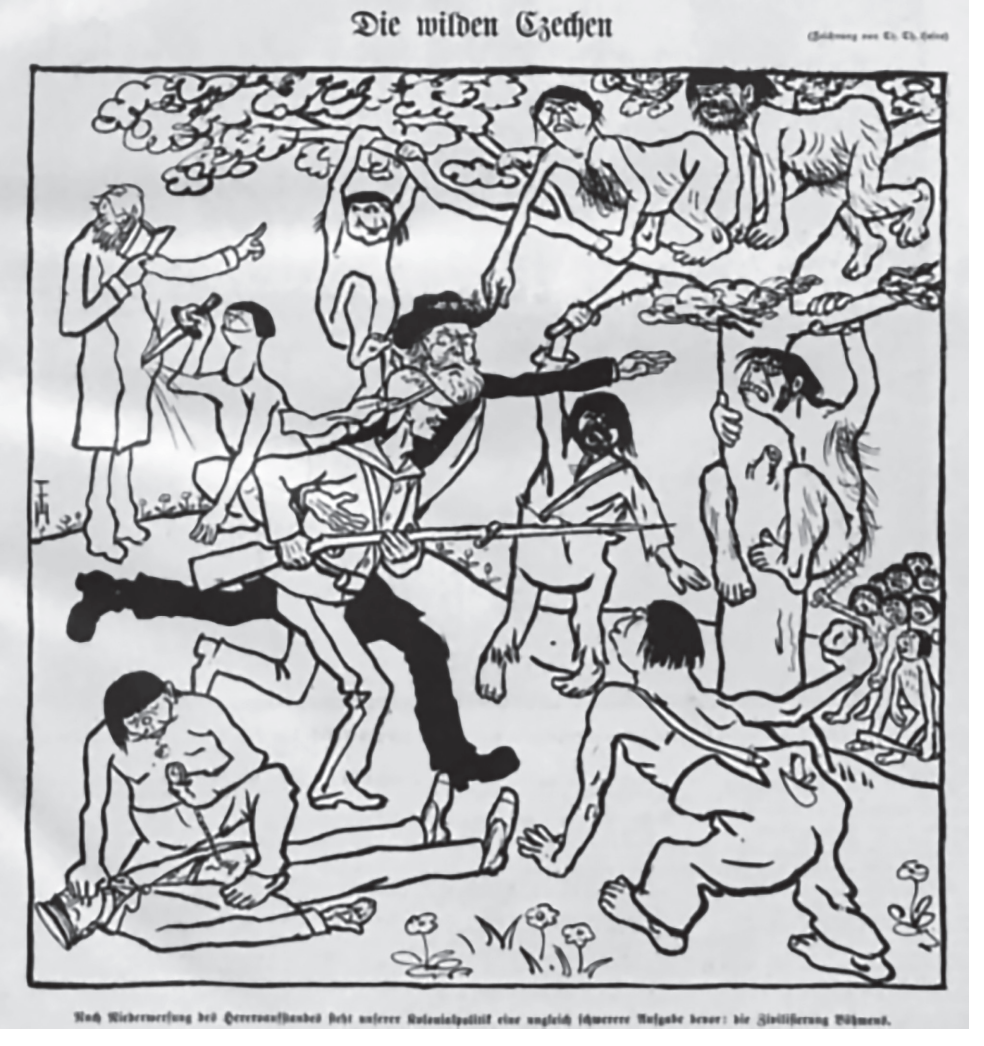
11. Über die Brechungsquotienten einiger Substanzen für sehr kurze elektrische Wellen (II. Mittheilung).
Sitzungsberichte der kaiserl. Akademie der Wissenschaften in Wien. Mathem.-naturw. Classe. 2 a, 105. 1896. S. 1049-1058.
Auch in: Annalen der Physik und Chemie. N.F. 61. 1897. S. 79-87.

12. Übersicht über die Theorien der Elektrizität.
Die Neue Zeit. 14, 1. 1895/96. S. 299-307.

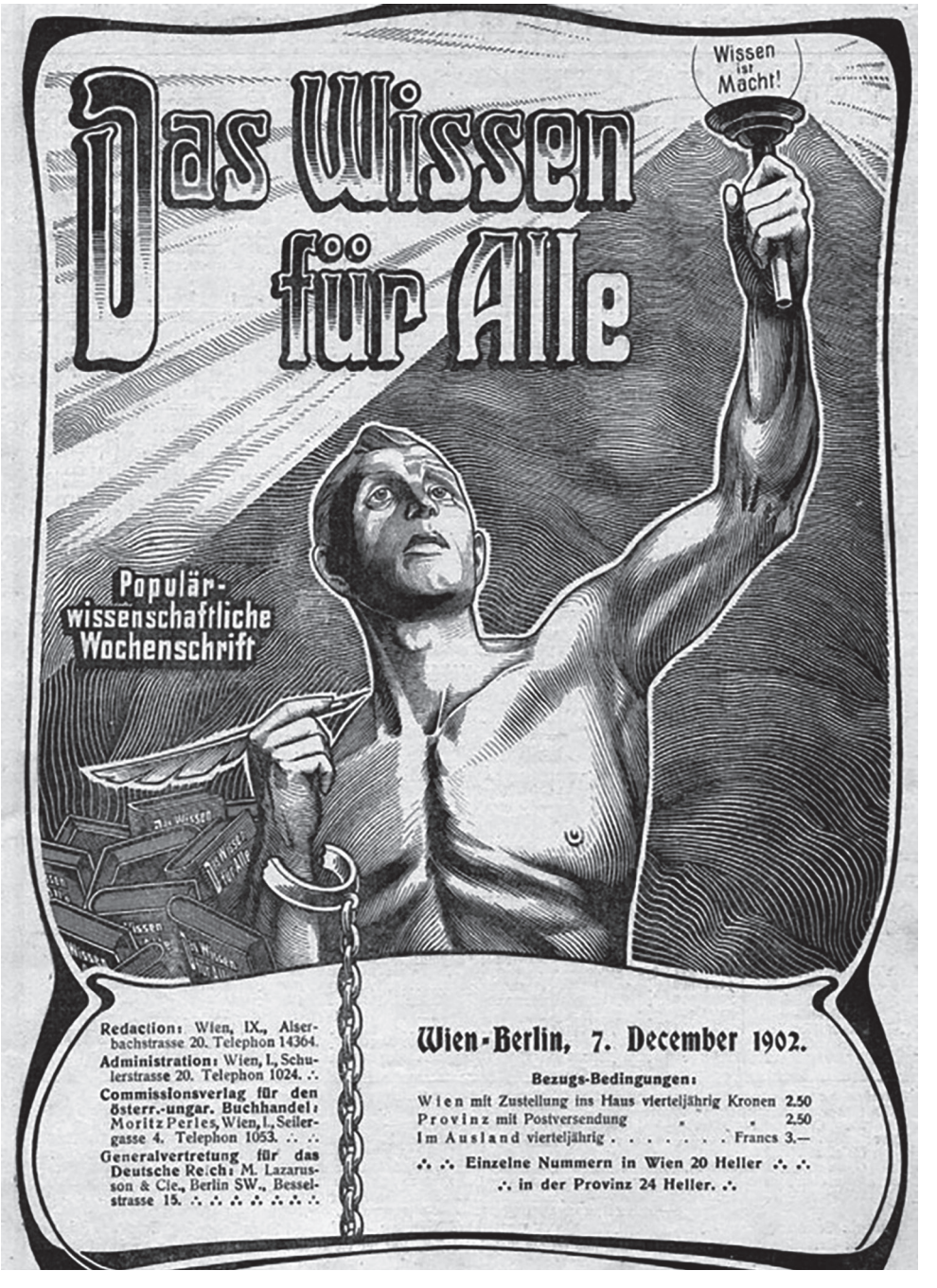
13. Über die Capacität eines Plattencondensators bei der Anwendung von elektrischen Schwingungen zu deren Bestimmung. Mittheilungen des k.k. Technologischen Gewerbe-Museums in Wien. N.F. 6. 1896. S. 93-98.

14. Über die Capacität eines von zwei einander zugehörigen Niveauflächen gebildeten Condensators.
Mittheilungen des k.k. Technologischen Gewerbe-Museums in Wien. N.F. 6. 1896. S. 145-152.

List of Lampa's scientific papers published in 1896.



This cartoon of 1904 has nothing to do with Lampa. It just serves as an illustration of the political atmosphere in Bohemia and the polemics in the context of the Czech-German conflict.



Das Wissen für Alle.