In Memoriam

Adolf Prag
(1906–2004)
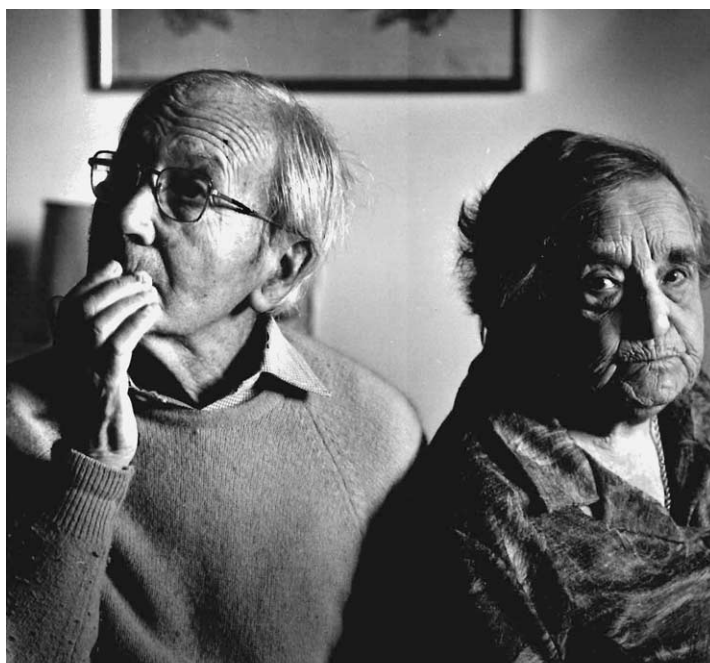
Adolf & Frede Prag

At the age of nearly 98 years, Adolf Prag passed away on 27 March 2004 in Oxford. Forced to emigrate when Nazi anti-semitism did not permit him to become a schoolteacher in Germany, his promising career as a historian of mathematics was abruptly cut short—a great loss for our profession. Only late in life was he able to return to his passion, when he assisted D.T. Whiteside in the publication of *The Mathematical Papers of Isaac Newton* [1967–1981, 8 vols.]. In the preface of vol. VIII (p. viii), Whiteside wrote: "It is wholly just that my old friend and colleague Adolf Prag endures to share the title-page of this final

volume of Newton's mathematical papers with me. In his seventies he remains the ever-willing, near-omniscient helper that he has always been, and without his furnishing and correction of a wide spectrum of matters literary, technical and historical this edition would have been much the poorer in its detail."

Adolf Prag had been introduced to the history of 17th-century mathematics in the pioneering historical seminar of Max Dehn at the University of Frankfurt; this topic had accompanied him even beyond the publication of Whiteside's monumental edition. More specifically, John Wallis, James Gregory, and Isaac Newton occupied the central places in Prag's historical studies.

Born on 27 June 1906 in Baden-Oos, at the edge of the Black Forest in Germany as the only son of Leo and Betty Prag, he soon moved with his family (he had an older sister named Else) to Frankfurt (Main). In this city, known for its liberal spirit, he attended the humanistic *Goethe-Gymnasium* and, after graduation, was expected to study classical languages at the university. But he decided to choose mathematics as his major field of studies, supported by a grant from the *Studienstiftung des Deutschen Volkes* for his excellent performance. During those years from 1925 to 1929, a lifelong friendship developed with his fellow students Ruth Moufang (1905–1977) and Wilhelm Magnus (1907–1990), both of whom much later became professors at Frankfurt university.

Prag and Magnus, especially, participated in a small private reading circle (*Lesekränzchen*) conducted by the mathematician Max Dehn (1878–1952), in which the professors Paul Epstein (1871–1939), Ernst Hellinger (1883–1950), and also Carl Ludwig Siegel (1896–1981) took part. In this private seminar, Dehn directed the study of classical mathematical texts in the original languages—among works discussed by this group were those of Euclid, Archimedes, Bombelli, Cavalieri, Kepler, Wallis, Barrow, Newton, and Euler. Dehn, with his wide historical and philosophical interests, must have sparked a congenial vein in Prag. In addition, the outstanding linguistic abilities of this student, who was able to translate Latin and even Greek texts fluently into the German language, were a welcome asset for the discussions of this circle.

When Prag was ready to take the examination as a future teacher (the *Staatsexamen*) in 1929, Dehn suggested that he write his *Examensarbeit* not about a modern mathematical topic but about the Oxford mathematician John Wallis (1616–1703). The result turned out to be so profound that Otto Neugebauer published it (apart from one special chapter "Intermezzo. Ueber die sogenannte Pellsche Gleichung") in his newly founded series *Quellen und Studien zur Geschichte der Mathematik*.

During the following two years Prag completed the required educational training as *Referendar*. Not having any prospects as a Jew to get a permanent position at a state-run school, he accepted the chance to become *Assessor* at a private Jewish school in Herrlingen (Württemberg) in October 1931. But when political development in Germany changed for the worse, the leader of the school, Anna Essinger (1879–1960), took it to England, where (with Quaker support) the school was set up in 1933 in Bunce Court, a large house near Faversham in Kent. Here Adolf Prag continued teaching, later becoming deputy head of the school.

In the spring of 1937 he met Frede Warburg, another German emigrant and daughter of the well-known art historian Aby Warburg (1866–1929), at this school. Her excellent performance in the doctoral examination in English language and literature in June 1935 had been honoured by the Hamburg professor Emil Wolff (1879–1952) with "summa cum laude." Her dissertation *Samuel Johnson als Biograph* could only be published two years later, so that the official diploma of her promotion to "Dr. phil." bears the date of 9 April 1937. Frede Warburg and Adolf Prag had fallen in love immediately; they married in Chilham on 19 November 1938.

When after the Pogrom night in Germany of the 9th of November 1938 Britain changed her immigration policy and allowed 10,000 children to come to England (without their parents!), Anna Essinger set up a reception centre at Dovercourt near Harwich. Together with other teachers and older pupils, the newly wed couple was engaged in finding families or homes for the Jewish children who arrived from the continent by *Kindertransporte*, until at the beginning of World War II (1 September 1939) the border was closed.

On 19 June 1940 they were both interned on the Isle of Man, along with many other (mostly Jewish) refugees from Germany and further east. For five full months, husband and wife were separated in different areas, not able to speak to one another. It must have been an unnerving experience to be interned under such circumstances in the country in which they had taken refuge several years earlier.

Having been released, Adolf Prag taught for some time at St Edward's School, Oxford, as replacement for a teacher drafted to the army, and from January 1944 until July 1946 on a similar basis at Winchester College—in his eyes the finest school at which he had taught (the masters at Winchester were called "dons," just as in Oxbridge colleges).

In 1946, he finally was offered a permanent position as mathematics master at the prestigious Westminster School in London. Eventually he became head of the Mathematics Department and also school librarian. This school owns a very valuable library of historical books. Among its holdings, the Busby Library includes mathematical ones from the former possession of John Pell (1611–1685): the day he discovered this must have been a feast for the author of the unpublished "Intermezzo" on the so-called Pellian equation! (His own mathematics books—as far as he himself had not already presented them to friends—were given to this library by his sons, too.) Embedding mathematics into its historical and cultural context always was an important feature of Prag's lively and inspired instruction, and having this library near the classroom enabled him to show books such as the magnificent folio volumes of John Wallis's *Opera Mathematica* to his pupils.

A typical example of Prag's historical activities as well as of his modesty should be mentioned here. The Westminster School day began with a short service in the abbey, in which like most of the masters he took part. Here he noticed the poor condition of Newton's memorial. He searched for historical documents, including photographs, and—after several campaigns to get the memorial repaired to his liking—became tired of waiting for official action, commissioned repairs, and paid for them at his own expense!

When, after his retirement in 1966, the family moved to a house on Harcourt Hill, Oxford, in 1967, Prag regularly visited the Bodleian Library and other historical college libraries. He used to say that he "liked to play with old books"—among them the Savile Collection with its rich holdings of mathematical and astronomical books that had formerly been in the possession of the Savile professors John Wallis (1616–1703) and Christopher Wren (1632–1723). Yet his library visits were certainly more than just a pastime: various plans developed for cataloguing early mathematics books in England. They were later restricted to the Oxford libraries where he must have spent innumerable hours writing catalogue cards. As the father of three Brasenose men, he was also given Senior Common Room rights in Brasenose College when he settled in Oxford, of which he was rightly proud.

At about this time a close cooperation developed with Tom Whiteside, who was preparing his voluminous edition of the mathematical papers of Isaac Newton for publication. (Prag had already been called in as an external examiner when Whiteside's doctoral examination took place in Cambridge in 1959—another indication that his authority on 17th-century mathematics had become well known among

mathematicians and historians of science in England.) Now this fruitful cooperation between Prag in Oxford and Whiteside in Cambridge began to absorb more and more of his time and energy.

Shortly after his retirement the suggestion was made to him that he translate into English the standard book *Die Entwicklungsgeschichte der Leibnizschen Mathematik in Paris* [1974] by the German historian of mathematics Joseph Ehrenfried Hofmann (1900–1973). After lengthy negotiations with Cambridge University Press, the plan was accepted and occupied Prag for several years. The translation was published in 1974 and finally made this informative book available to readers not familiar with the German language.

Already in 1938 Prag had actively participated in the tercentenary celebration of the birth of James Gregory (1638–1675) in Edinburgh and St. Andrews—an event at which he met not only the organiser, the mathematician Herbert Westren Turnbull (1885–1961), but also Max Born (1882–1970) and Otto Neugebauer (1899–1990), who had come from Copenhagen. The memorial volume which Turnbull edited on this occasion once more united him with his Frankfurt professors: while Dehn and Hellinger contributed an article about Gregory's *Vera Quadratura*, Prag analysed what he called "the first attempt to write a systematic textbook on what we should call the calculus," namely Gregory's *Geometriae Pars Universalis* of 1668.

From 1965 on he often attended the meetings on the history of mathematics at the Mathematical Research Institute in Oberwolfach (Black Forest). In 1967 he reported on Whiteside's Newton edition— especially about its first volume that had recently been published. In 1981 he gave a talk about the final volume. He once told me that his chief interest in attending such conferences was the chance to observe how young historians of mathematics approach the subject. This and similar remarks revealed his genuine interest as a teacher in the mental and psychological development of young people.

The friendship within the Frankfurt group of teachers and students continued through all his life. Apart from regular visits to Ruth Moufang in Frankfurt until her death and correspondence with Wilhelm Magnus, Adolf Prag met Carl Ludwig Siegel and Mrs. Dehn in 1964 in Switzerland and visited Siegel in Göttingen shortly before he died. It was Magnus who finally handed over the minutes of the Frankfurt historical "Lesekränzchen" to Adolf Prag. These, written by various participants (including Prag), are now preserved in the university archive in Frankfurt (shelf-mark *Abt. 149, Nr. 100*).

As a former master, Adolf Prag was elected an "honorary Wykehamist" (the name given to old boys of Winchester College), which gave him great pleasure not just as a mark of the school's appreciation of his teaching but also as a token of its lack of prejudice during the war years. In 1971 the *Académie internationale d'histoire des sciences* in Paris bestowed him with an honorary membership—the 13th since its creation in 1928.

Adolf and Frede Prag both died within a few weeks in spring 2004 (Frede, born on 23 November 1904, on 12 May), having been happily married for more than 65 years. They are survived by their three sons, John, Peter, and Thomas, and seven grandchildren.

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Hamburg, 23 June 2004
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