

NOTICES

- **IN MEMORIAM: RUTH BARCAN MARCUS.** Ruth Barcan Marcus died on February 19, 2012, at her home in New Haven after a long and typically gritty battle with cancer. She had celebrated her 90th birthday the previous August 2nd at the Marcus family home in Connecticut with her children and with messages from her many friends and admirers around the world.

Professor Marcus received a B.A. in Philosophy and Mathematics in 1941 from NYU. She often recalled her private tutorial there with J.C.C. McKinsey. They met in a local cafeteria, and McKinsey provided her with his translation of bits of Hilbert and Bernays, *Grundlagen der Mathematik*, along with supplementary exercises he had devised. It was McKinsey who steered her towards modal logic. In 1941 she entered the graduate philosophy program at Yale, where she wrote a dissertation under the direction of Frederic B. Fitch, obtaining her Ph.D. in 1946.

Her dissertation, as well as a series of three papers in 1946-7, published in the JSL under the name "Ruth C. Barcan", are on the subject of quantified first- and second-order modal logic. The papers simply set up and investigate certain formal theories entirely without comment on the intuitive notion of logical necessity, and thus simply ignore what were then the orthodox arguments that quantifiers and the modal operators, necessarily and possibly, don't mix. But many of her subsequent papers concerning logic take up the conceptual issues surrounding the mix, including the issue of the *Barcan formula*, which asserts that 'possibly exists' strictly implies 'exists possibly' and which sits innocently, without comment, as an axiom in the first of her papers. Many of her philosophical papers are collected in a volume *Modalities*, published by Oxford University Press in 1993. It should be said that much of the debate over quantified modal logic preceded the advent of the neutral framework of Kripke semantics and failed to distinguish entirely questions of coherence from questions of the preferred meaning of 'necessity'.

Ruth had married Jules Marcus, a fellow graduate student at Yale, and they settled in the Chicago area in 1946. Jules joined the faculty of the Physics Department at Northwestern, where he remained until retirement. Ruth had a postdoc at the University of Chicago, where she took part in a seminar run by Rudolph Carnap. Carnap was another heretic on the subject of the mix, but with a somewhat different conception of it from Ruth's. Unfortunately, no record seems to remain of their discussions. In the years following, Ruth continued her work on the conceptual foundations of modal logic while doing some part-time teaching and beginning to raise a family. In the mid-1960's, she was given the task of building a philosophy department at the new Chicago branch of the University of Illinois, UIC. With all of the turnover between that time and this, the department still remains strong and exhibits the qualities of collegiality, openness, and cooperativeness among the faculty and students that she put in place. For those who were with her there then it would be hard to forget what she gave us. Ruth moved to Northwestern in 1970 and in 1973 to Yale, where she remained as professor emerita and senior research scholar after her retirement in 1991. In each of the years 1992-97 she was also a visiting distinguished professor at the University of California, Irvine, for one quarter each year.

Ruth served in a large number of executive, administrative, and advisory positions in academia. In particular she was president of the ASL in 1983-86. Her vice president, Yiannis Moschovakis, wrote that she made him work harder than any previous vice president had ever worked. He also wrote, "The late night discussions after the first and before the second Council sessions during ASL meetings are also very memorable, both because of the clarity