Ida Rhodes (Hadassah Itzkowitz)

Born May 15, 1900, between Nemirow and Tulcin, Ukraine; died February 1, 1986, Rockville, Md.; mathematician, pioneer programmer, and language translation specialist.

Education: BA, mathematics, Cornell University, 1923; MA, mathematics, Cornell University, 1923.

Professional Experience: Mathematical Tables Project, New York City, 1940-1947; National Applied Mathematics Laboratories, NBS, 1947-1964.

Honors and Awards: Exceptional Service Gold Medal, Department of Commerce, 1949; Certificate of Appreciation, Department of Commerce, 1976; Univac I Pioneer, AFIPS National Computer Conference, Chicago, 1981.

Ida Rhodes was born Hadassah Itzkowitz on May 15, 1900, in a Jewish village between Nemirow and Tulcin in the Ukraine about 150 miles southwest of Kiev. Her stories of her youth were not those of the poverty described in *Fiddler on the Roof.* Instead she told of a Russian countess who owned, she said, about 99 communities. “She [the countess] was a great naturalist and set up a school for the poor of the area. She was very kind and wanted to adopt me. I said that was impossible, that I already had a family. Nevertheless she often had me as a house guest and arranged for the finest of kosher food for me. She took me riding and showed me plants and explained what I could expect of the plants' development by the next time we visited. There was an island we visited in one of her parks where the swans nested. The lady was careful to instruct me never to touch the swan eggs or the mother would disown them.” Later, after Rhodes had left Russia, at the time of the Bolshevik revolution, the local communities sent a delegation to the local soviet, urging good treatment for the countess, and for a while she was spared.

Rhodes' parents, David and Bessie Sinkler Itzkowitz, brought her to the US in 1913, where she attended Cornell University (1919-1923). She was elected to Phi Beta Kappa in 1922 and received her BA in mathematics in February 1923 and her MA in September of the same year. She later studied at Columbia University (1930-1931).

One of the stories she told about these years involved Albert Einstein. About 1936 she joined a group of mathematicians who each weekend piled into their cars to race to Princeton to spend weekends in informal seminars with Einstein (she carefully pronounced it “Einshtein”). When she entered with the others, Einstein looked at her a moment and said, “It must have been in 1922 that we first met at Cornell. Have you learned to talk since then?” At the earlier meeting Rhodes had been so impressed with Einstein's reputation that she had said practically nothing.

She held several positions involving mathematical computations before she joined the Mathematical Tables Project (MTP) in New York City in 1940. The MTP was a particular effort of the New Deal within the Works Projects Administration to relieve unemployment among mathematicians by setting them to work creating mathematical tables using pencil, paper, and desk calculators.[1] It was sponsored by the National Bureau of Standards and later supported by the Office of Scientific Research and Development. Rhodes' major work for

[1] Salzer, H.E., “New York Mathematical Tables Project,” Ann. Hist. Comp., Vol. 11, No. 1, 1989, p. 52.

MTP was as a planner and supervisor of the preparation of the *Handbook of Mathematical Functions,* Number 55 in the Applied Mathematics Series of the NBS.

In 1947 Rhodes' boss in New York told her to go to the NBS in Washington and learn what she could about the new efforts by NBS to develop electronic computers. After a week there, she was so disappointed with her own incapacity, as she saw it, that she returned to New York and scolded her boss for having humiliated her. He told her to pack again, that the Washington people had been very much impressed and wanted her to work with them in the bureau's development and procurement of automatic electronic digital computers.

The purpose and first five years of progress of this part of NBS, set up in July 1947 as the National Applied Mathematics Laboratories (NAML), are recited in a contemporary paper (1953) by John H. Curtiss, its chief.[1] In this paper Curtiss specifically identifies Rhodes as one of those in the Machine Development Laboratory (MDL) of NAML who was most active in offering consulting and advisory service to the many government agencies needing it. (In this period Rhodes was moved from MDL to the administration of the NAML as a consultant.) In addition to her consulting work, she was a pioneer in the analysis of systems of programming. She designed the C-10 language in the early 1950s for the Census Bureau Univac I, and designed the original computer program used by the Social Security Administration. She was a pioneer in the application of computers to language translation, being one of the first to recognize the importance of parsing sentences and separating the roots of words from their prefixes and suffixes as initial steps in the process.

As mentioned by Curtiss, she gave orientation lectures on computers to government agencies and private firms, explaining how computers could enable them to do their work better, more easily, and faster. She taught computer coding techniques, including special classes for the physically handicapped, that is, deaf mutes and the totally blind. She also taught Russian within NBS. She lectured widely on computers and their applications.

In 1949 the Department of Commerce awarded her an Exceptional Service Gold Medal for “significant pioneering leadership and outstanding contributions to the scientific progress of the nation in the functional design and application of electronic digital computing equipment.”

She formally retired from NBS in 1964 but continued to be active as a consultant in the Applied Mathematics Division until 1971. In retirement Rhodes maintained an immense worldwide correspondence.

In 1976 the Department of Commerce gave her a Certificate of Appreciation “on the occasion of the 25th anniversary of Univac I in recognition of your services to the Information Revolution.” At the 1981 National Computer Conference in Chicago she was cited as a Univac I Pioneer.

Her long interest in the Hebrew calendar culminated in her paper, “Computation of the Dates of the Hebrew New Year and Passover,” *Computers and Mathematics with Applications,* Vol. 3, 1977, pp. 193-196.

Her benevolences went beyond generous gifts to Hebrew charities to the extent of a 1977 gift to the NBS for azaleas and rhododendrons to be planted near the Administration Building in honor of the three directors under whom she served: Lyman J. Briggs, Edward U. Condon, and Allen V. Astin.

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[1] Curtiss, John H., “The National Applied Mathematics Laboratories of the National Bureau of Standards,” Ann. Hist. Comp., Vol. 11, No. 2, 1989, pp. 69-98.

A friend of Rhodes reported that Golda Meir, later Prime Minister of Israel, who used to live in her New York apartment house, had urged her to go to Israel. The friend remarked that if it had not been for her dedication in caring for her aging parents she might have done her main work in Israel.

As she aged, her heart condition required that she conserve her energy, so she cut back on phone calls and correspondence, finally moving to a nursing home. As reading became more tiring, she comforted herself with the comment that the dimming of her eyes had a compensatory benefit: she couldn't see so many of the wrinkles on her face.[1]

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Biographical

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Weiss, Eric, "Ida Rhodes," *Ann. Hist. Comp.*, Vol. 14, No. 2,1992, pp. 58-59.

UPDATES

Portrait added (MRW, 2013)

[1] From Weiss 1992