

## VAN HEYNINGEN, RUTH ELEANOR (1917 - 2019), biochemist

**Name:** Ruth Eleanor Van Heyningen  
**Date of birth:** 1917  
**Date of death:** 2019  
**Gender:** Female  
**Occupation:** biochemist  
**Area of activity:** Science and Mathematics  
**Author:** Gareth W. Griffith

Ruth van Heyningen was born on 26 October 1917 in Newport, Monmouthshire, the only child of Alan Treverton Jones (1877-1924), a ship-owner, and his wife Mildred (née Garrod Thomas, 1882-1970). Her mother was a daughter of Sir Abraham Garrod Thomas (1853-1931), originally from Aberaeron, a doctor at the Gwent Royal Hospital and Liberal MP for South Monmouthshire (1917-18). Her father died when she was six and her maternal grandfather was a strong influence on her early life. After attending primary school in Newport, Ruth went to Cheltenham Ladies' College and then to Newnham College, Cambridge, where she graduated in biochemistry in 1940. In the same year she married William Edward 'Kits' van Heyningen (1911-1989), a biochemist from South Africa. They had two children, Simon (b. 1943) who became a biochemist at Edinburgh University, and Joanna (b. 1945) who became an architect.

Ruth van Heyningen studied for a PhD at Cambridge under the supervision of Robin Hill, but because of the classified nature of the work (on antidotes to chemical weapons) the thesis could not be submitted. After moving to London she worked at the Lister Institute with Walter T. J. Morgan on antigens for blood transfusions.

Following the appointment of Kits van Heyningen to a permanent academic post, the family moved to Oxford in 1947 and Ruth began work with the physiologist Joseph Weiner on the composition of sweat and the way the human body withstands heat by sweating. She completed a DPhil thesis on this topic in 1951 and published a series of papers with Weiner.

Through her friendship with Antoinette Pirie at the Nuffield Laboratory of Ophthalmology in Oxford, in 1951 Ruth van Heyningen began research on the biochemical causes of cataracts, and the two co-authored the influential textbook *Biochemistry of the Eye* in 1956. Since diabetes causes cataracts to worsen, van Heyningen considered the metabolism of sugars in the eye to be an important factor. She discovered that the sugars are reduced to sugar alcohols (polyols) which accumulate in the lens of the eye. This insight transformed our understanding of the formation of cataracts. Van Heyningen continued to work on the biochemistry of the eye until her retirement in 1978 and well after, publishing 20 papers up to 1998. Her contribution was recognised by the award of the degree of DSc by the University of Oxford in 1973 and the Proctor Medal in 1976.

When her husband was appointed the first Master of Saint Cross College, Oxford (1965-1979), Ruth van Heyningen was elected a fellow of the college. She established the Mildred Treverton Trust in memory of her mother, a gift which enabled the college to purchase a number of artworks.

Ruth van Heyningen died at the age of 101 on 24 October 2019 in Oxford.

### Author

Gareth W. Griffith

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## Further reading

Wikipedia Article: [Ruth van Heyningen](#)

## Additional Links

Wikidata: [Q80478275](#)

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