

## DR. ALICE LEE (1858 - 1939)

The subject of a Blue Plaque for Dedham, Alice Elizabeth Lee was the daughter of William Lee (1821-1887), born in Sudbury, Suffolk, and Matilda Wren Baker (1822-1903), born in London. William Lee was a master coach builder and he had married Matilda on 29<sup>th</sup> July 1846 in St Mary the Virgin church in Dedham, Essex. Alice was born on the 28<sup>th</sup> June 1858 and baptised in Dedham Church on 15<sup>th</sup> August 1858 by George Murray, vicar of Dedham (1854 – 1877). At the time of the 1861 census, William and Matilda Lee were living in Upper Park Road (Coles Oak Lane) Dedham with their first five children, George (aged 12), Catherine (aged 10), Mary A (aged 9), Alice E (aged 2), and Anna G (aged 9 months).

The 1851 and 1861 census provides clues as to where the family was living and the likely birth place of Alice in Dedham. It is difficult to pinpoint the exact address but it was certainly in the Upper Park area as in 1861 they were living next to Upper Park Cottage. During the 1860's the family moved into Dedham High Street because in the 1871 census the family were living in a home attached to William's coach building premises in Dedham High Street. Their youngest child Caroline A (aged 7) had been born, George had left home but Catherine and Mary A were still living at home but working as governesses. Alice and her two younger sisters were studying at school in Dedham. Both the 1871 and 1881 census allow us to identify the exact location of their home. When these censuses were taken the Census Enumerator followed a specific route when collecting the census forms. The home and premises were on the corner of Mill Lane (Mill Street at the time of these censuses) and the High Street.



Dedham High Street, 1860's - Left to right Shermans, Ivy Lodge (School), Bakers Shop and William Lee's Shop & Coach Building business. Photograph from a collection in the Muniment Room, Dedham Church.

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When compiling the 1881 census for Mill Street, the enumerator would have gone from William Warburton's house (Octagon House), next on to Martha Davey's house and then into the High Street via William Lee (Coach Builder), Benjamin Watson (Baker) and then Ivy Lodge, Girls School. This shows that Alice lived in what is now the Essex Rose after the family moved there in the 1860's.

We know from the census record that Alice was a scholar, presumably at school in Dedham, and as she lived only a couple of doors down from Ivy Lodge which was then a girls school, it was reasonable to assume that she went to school there. This was confirmed by a report in the Essex Standard of May 1876 which published the Cambridge Matriculation results. Her headmistress was listed as Miss Barber who ran the Girls School in what is now Ivy House. 1876 was the first year of the publication of the Dedham Parish Magazine and Alice and her sister Grace feature in the April edition. Also 1876 was the first year in which girls were named in the exam lists as previously only the number of girls taking the exams was noted.

**The British  
NEWSPAPER  
Archive**

Essex Standard - Friday 10 March 1876 (Extract)

CAMBRIDGE UNIVERSITY LOCAL EXAMINATIONS. (From our University Correspondent.) The Class Lists, showing the successful candidates at the eighteenth set of Examinations conducted at various Centres by the Cambridge University Local Examinations Syndicate, in December last, have just been issued.

Senior Girls.— Class I. — 1 Passed. Bayswater Centre. r(Religious Knowledge). e(English). f(French). gn(German). \* Lee, A. E., Dedham, Dedham School, Colchester, Headmistress - Miss Barber.

*Cambridge Local Examinations.*— We have much pleasure in recording the success of Miss A. E. Lee and Miss G. Lee in the recent girls' examination held by the University of Cambridge. Miss A. E. Lee, who was examined amongst the seniors, passed in First Class Honours, and was distinguished in Religious Knowledge, English, French, and German; whilst Miss G. Lee, who was examined amongst the Juniors, passed in Third Class Honours, and was distinguished in Religious Knowledge.

Dedham Parish  
Magazine - April  
1876.

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In 1876 Alice Lee became a student at Bedford College, London. This college had been founded in 1847 to provide higher education for women; in fact it was the first college in the UK to provide such an education for women. In 1874, just before Alice began her studies there, the College moved from its first site in Bedford Square to two houses in York Place, close to Baker Street, in Marylebone. In 1879 – 80 she attended the first mathematics class at Bedford.

1881 Census – Undergraduate. Address: 9 York Place, Marylebone.

Alice was one of the first women to graduate from the University of London (Bedford College was then a women's college of the University), getting a BSc in 1884 and a BA in 1885.

1891 Census – Professor of Physics. Address: Lower Street, Stratford St Mary (visiting her mother, now widowed, and her sister, Caroline, a teacher).

From 1892 to 1894 she also worked as 'resident helper' at the college, received free board and lodging in return. Later she also helped out in Greek and Latin classes. She then stayed at Bedford until 1916, initially as a lecturer in mathematics and physics. From about 1895 Alice attended Karl Pearson's statistics lectures at University College London and became interested in his application of statistical methods to evolutionary biology. Under his direction she studied for an advanced degree. Her research topic was an investigation of variation in cranial capacity in humans and its correlation with intellectual ability.

1901 Census - Lecturer in Physics and Mathematics. Address: 9 Blenheim Road, Marylebone.

Alice courted controversy with her first published paper "A study of the correlation of the human skull" in 1901. She examined three groups - women students from Bedford College, male faculty at University College, and a collection of distinguished male anatomists.



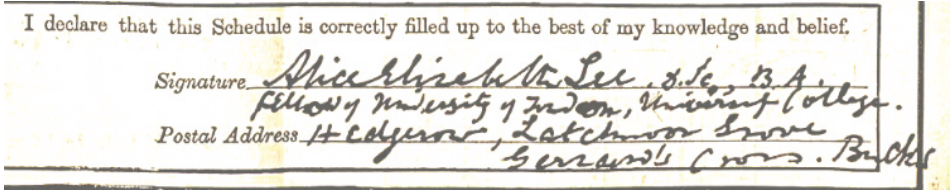
Alice Lee - 1901

The study demonstrated that there was no correlation between skull size and intelligence. Through a formula Alice calculated the cranial capacity from the anatomical measurements. The individuals in the groups were ranked in order of decreasing skull size, and identified by name. The dissertation was completed in 1899 and the findings caused considerable controversy. It was then an accepted theory in craniology that brain power increased with size, hence skull capacity was a measure of mental ability. As a consequence it was believed that men, who generally had larger heads than women, were mentally superior. Alice's findings shed doubt on that belief and her study drew considerable criticism from her thesis examiners. It was through Pearson's

intervention that Alice Lee was finally awarded a D.Sc. in 1901, the first woman to become Doctor of Science at University of London.

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1911 Census – Lecturer in applied Mathematics, at Bedford College.  
Address: Latchmoor Grove, Gerrards Cross.



During WWI, Alice Lee joined the Munitions Invention department of the Ministry of Munitions and performed computer work for the Admiralty. As for many women workers, little is known of her contribution to the ministry, except that she mainly calculated bullet trajectories.

1921 Census – Observer in the Department of Supply and Research, Air Ministry. Address: 107, Willbury Road, Letchworth.

Alice's salary at Bedford College had always been a "women's wage", and the pension scheme had started too late for her to join. When she retired she had little to live on. In 1923 Karl Pearson and Margaret Tuke, the former principal of Bedford College, petitioned the Home Office. Pearson wrote: "few, if any, woman workers of her period have accomplished as large as bulk of first class research as Dr. Lee" She was awarded a Civil List pension of £70 a year.

1939 Register (September 1939) – Retired. Address: Station Road, Worthing.

Alice died on 5<sup>th</sup> October 1939 in Rustington, Sussex, England at the age of 81.

*John Goldsbrough*

### Information Sources

Findmypast.co.uk:

Census records 1841 to 1921 and 1939 register.

Ancestry.co.uk:

London, England, Royal Holloway and Bedford College Student Registers, 1849-1931. School Lists & Yearbooks

MacTutor History of Mathematics

Alice Lee (1858 - 1939) - Biography