WILLIAM HENRY BRAGG AND
WILLIAM LAWRENCE BRAGG

INTERNATIONALLY RECOGNISED SOUTH AUSTRALIAN BASED PIONEERS IN X-RAY BASED SCIENCES

It is given to very few to change the course of human history.

In January 1896 the world was stunned to hear of the discovery by Wilhelm Rontgen of x-rays, powerful invisible rays which could penetrate the human body and record on film the structures within. Amongst the earliest pioneers in the world to use this technique was William Henry Bragg, professor of physics, at the University of Adelaide. With his father William Bragg, Lawrence Bragg (born, raised and educated in South Australia) developed the X-ray Spectrometer and with it x–ray crystallography which later facilitated the discovery of the structure of DNA by Crick and Watson in the laboratory that he headed. The biological revolution that this sparked is yet to reach its peak, despite its extraordinary productivity.

Professor Bragg was possibly the first in Australia to radiograph a patient, and carried out these experiments with equipment made in the University of Adelaide. Some of this equipment is still preserved and displayed in the Physics Department.

Professor Bragg went on to hold public demonstrations of x-ray techniques in the University and also the Town Hall, some of these demonstrations were recorded in `The Register' of the time. Invited guests included the Governor and his wife. Pictures of the images taken at the time still exist. One of Professor Braggs earliest patients, was his 4 year old son, Lawrence, who fractured his shoulder falling from a tricycle in March 1896. His personal memory of the examination is well documented and somewhat frightening

William Bragg arrived in Adelaide in December 1886 as Professor of Mathematics and Experimental Physics, and in 1889 he married Gwendolyn, the third daughter of Sir Charles and Alice Todd. The newly-weds rented a house in North Adelaide until 1897, and here their two sons (William and Robert) were born. This house on Lefevre Terrace was included on the state Heritage Register in the 1980's.

In 1898 the Bragg Family went to England on study leave, and when they returned William bought a block of land on the corner of East Terrace and Carrington Street, designed a large, two – story house with Edwardian Gables, and had it built with the aid of a loan of 1300 pounds from the Savings Bank of South Australia. Charles Todd laid the foundation stone on 9/9/1899. Like their earlier house it looks out over the parklands to the Adelaide Hills, a view the family loved. Here the two boys grew up and a daughter was born. Here Lawrence and Bob made toys and gadgets in the workshop and here Lawrence developed a love of gardening that stayed with him all his life. It was also here that William seriously contemplated the research that was to blossom in Adelaide and take him to international renown, and here Lawrence studied

for his examinations: at school (St Peters College) and at Adelaide University (BA. with first class honors in mathematics).

The family left Adelaide in 1909, William for Leeds, and Lawrence for Cambridge, and in 1915 they were jointly awarded the Nobel Prize in Physics for the invention of x-ray crystallography, the technique that enables the arrangement of atoms in crystals to be determined. In the same year Bob was killed at Gallipoli. Lawrence remains the youngest person ever to win the award; later he became the head of the Cavendish Laboratory at Cambridge and President of the Royal Society and Royal Institution. Both of the Braggs were subsequently knighted for services to science.

The House on East Terrace was sold to the Sandford family, and in 1960 it passed to the Public Schools Club.

In Late September 2004 Sandford House was entered on the State Heritage Register.