

## **History of the Department of Physics at UWA**

### **Issue No. 2: “Early Days in Irwin Street”**

Presented by John L. Robins

#### **Introduction.**

The Departments of Mathematics and Physics and of Chemistry continued to be housed in the timber-and-iron building in Irwin Street in Perth from 1913 until 1935. These were the formative years of the University and I have two reports that are relevant to this period. One presents an overview of conditions and developments within the University as a whole whilst the other focuses solely on the Physics Department. An interesting feature of these articles is the information provided of names of the early staff members, particularly in Physics, who were very few in number.

#### **Sources.**

The first article is another that was published in the “The Western Mail”, Vol. 50, No. 2,593, on October 31, 1935 on the occasion of the opening of a new Physics and Chemistry Building at Crawley – about which I have already promised to report more in the future. The portrait photos are taken from the same source.

The second report has been extracted from an article by S.E. Williams and J.B. Swan, published in the "Australian Physicist", Vol. 13, pp 20-22, February 1976. The article was a review of Physics in The University of Western Australia with an emphasis on the contribution of Professor A.D. Ross.

The pen-drawing has been copied from “Campus at Crawley” by Fred Alexander (1953) but originated in the “Black Swan” as detailed in the caption.

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#### **The Western Mail article:**

##### THE UNIVERSITY'S HISTORY.

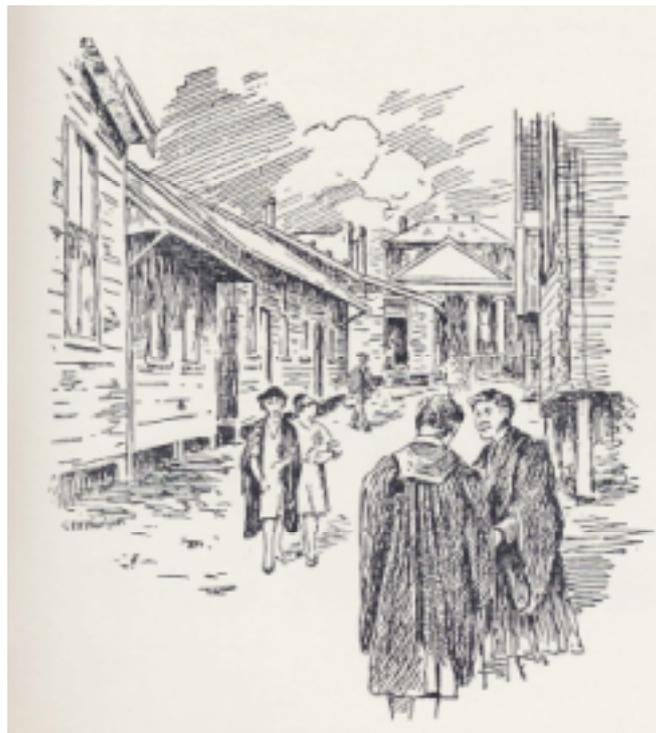
##### An Inspiring Achievement.

Two years before the turn of the century the Adelaide University Examination committee was founded in Perth to conduct public examinations, some of them designed to cover portion of the degree work in various branches of learning. This was the first step. Then, in 1901, Mr. R. S. Haynes moved in the Legislative Council advocating the establishment of a university. The motion was carried with an amendment suggested by Dr. (later Sir) J. Winthrop Hackett urging immediate consideration upon the Government.

Next came the first concrete move. In 1904, Parliament, under the Premiership of Sir Walter James, passed an Act creating a University Endowment Trust and granted to the trustees about 4,000 acres of suburban and other lands as the nucleus of an endowment. Two years later a University Graduates Union was formed banding university men together to educate public opinion in favour of a university in Perth. This led, in 1909, to the appointment of a

Royal Commission. They reported that a university should be established, and on February 15, 1911, a Bill to this end was passed, coming into force a year later, when the first Senate was nominated by notice in the Government "Gazette". At its first meeting on March 13, 1912, Sir J. Winthrop Hackett was elected Chancellor.

During the ensuing year eight professors were appointed, namely, N. T. M. Wilsmore (Chemistry), Walter Murdoch (English), A. D. Ross (Mathematics and Physics), W. G. Woolnough (Geology), H. E. Whitfeld (Mining and Engineering), W. J. Dakin (Biology), E. O. G. Shann (History and Economics), and J. W. Paterson (Agriculture—this chair being founded by an endowment from Sir Winthrop Hackett). They and the three lecturers also appointed to the teaching staff took up their duties in 1913, students then numbering 156, including 68 women. The first lectures were delivered on March 31 in the temporary home, consisting of asbestos-lined huts roofed with corrugated iron alongside the old Criminal Court, which earned for itself the name of "Tin Pot Alley."



‘THE OLD SHOP’ Pen-drawing by G. Pitt Marison of the interior of the Irwin Street block, looking north to Hay Street from the jarrah building on St George’s Terrace – reproduced from the “Black Swan”, Vol. xiv, No. 1 (Perth, 1930).

Some of the congestion was relieved in 1914 by the transfer of the engineering department, to Crawley; but then the war intervened, and although in February of that year the Senate had accepted the offer of the Government of the Crawley site, it was not until 1925 that the first of the permanent buildings—that of the Natural Science Department—was opened. Financial embarrassment was far from relieved by an increase in the Government grant from £13,500 to £20,000 a year; but while the Senate was still wrestling with the problem the whole outlook was altered when it was made known that the Hackett bequest would place the University in possession of £425,000, primarily for the erection of the Hackett buildings and for the assistance of deserving students; while the Church of England from the same bequest received about one-third of that sum with which to establish St. George's College. The foundation

stone of the college was laid on March 8, 1928, and to the Hackett buildings in the following April. University history was made on April 13, 1932, when Winthrop Hall was officially opened by the Chancellor in the presence of a distinguished gathering.

The main University group [of buildings] now receives an important addition in the new Science building which the Chief Secretary (Mr. Drew) will officially open today [25 October 1935].

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### **An Extract from**

#### **PHYSICS AT THE UNIVERSITY OF WESTERN AUSTRALIA, 1913-1951**

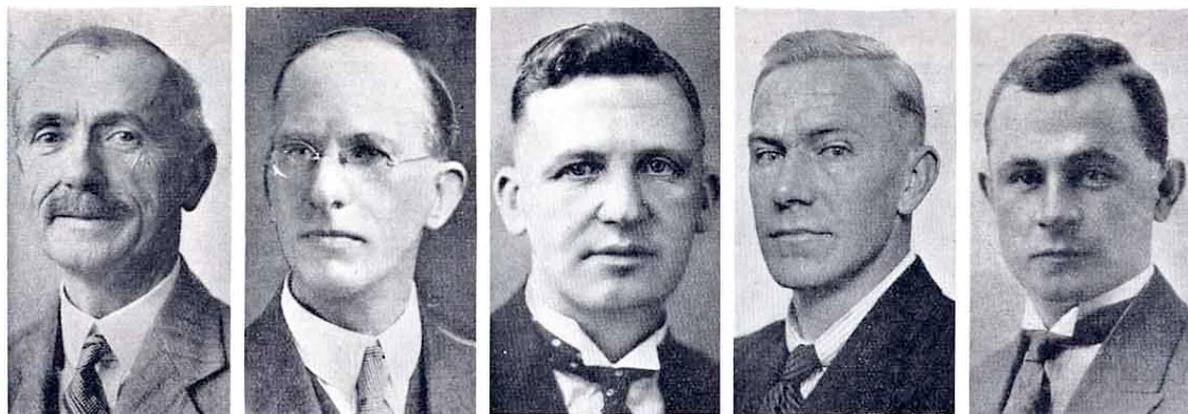
Professor A. D. Ross, CBE, MA, DSc, FRAS, FRSE, F Inst P, FAIP

Authors: S. E. Williams & J. B. Swan,  
Department of Physics,  
University of Western Australia.

Professor A. D. Ross was appointed Professor of Mathematics and Science [sic] following the establishment in 1912 of the University of Western Australia. The first lecture in the new University was given by Professor Ross on 31 March 1913, and he continued to be actively involved in the life and work of the University until his retirement at the end of 1951. Some fifty years after his appointment, and not long before his death in 1966 at the age of 83, Professor Ross took part as a guest lecturer in the celebrations marking the University's jubilee.

Professor Ross was the first recipient of the Kelvin Medal, which was awarded to him in 1914 for his research at Glasgow prior to coming to Perth. He is credited with the discovery of dysprosium in the solar spectrum, and his studies were concerned with the spectra of the rare earths and the magnetic properties of alloys. His leading role in the foundation of an Australian Branch of the Institute of Physics had been foreshadowed at Glasgow, where he was Secretary, and later President, of the West Scotland Branch of the British Astronomical Association.

The University was originally located in the central Perth city area, and was housed in seven rooms in weatherboard-and-iron buildings ("Tin Pan Alley"). These buildings had been brought to Perth from the goldfields at Coolgardie, and Physics was taught in a room 10 ft by 16 ft into which Ross inserted himself and a blackboard after the class was seated. The development of the University was almost immediately affected by the First World War, but in 1917 the enclosure of a verandah provided space for laboratory classes; as this adjoined St George's Terrace, the heavy traffic and passing trams made magnetic, galvanometric and accurate weighing measurements impossible. The teaching load was very heavy, and in the early years the only assistance to Ross came from an assistant lecturer (G. Tattersall, later Associate Professor of Chemistry), a part-time lecturer (H. W. Sanders) and a laboratory attendant (D. W. Everson). The University's annual grant was then about \$35,000, approximately two-thirds of which covered academic and administrative salaries.



PROFESSOR A. D. ROSS, M.A., D.Sc., F.R.S.E., F. INST. P., APPOINTED TO THE COMBINED CHAIR OF MATHEMATICS AND PHYSICS IN 1912. PROFESSOR OF PHYSICS SINCE 1929.

ASSOCIATE PROFESSOR G. TATTERSALL, M.Sc., F.I.C., APPOINTED LECTURER IN MATHEMATICS AND PHYSICS IN 1913. IN 1917 APPOINTED ACTING-PROFESSOR OF CHEMISTRY. IN CHARGE OF ORGANIC DEPARTMENTS.

MR. D. W. EVERSON, APPOINTED MECHANIC IN THE PHYSICS DEPARTMENT IN 1915, AND DEMONSTRATOR IN PHYSICS IN 1924.

MR. J. SHEARER, B.A., M.Sc., F.R.A.S., APPOINTED LECTURER IN PHYSICS IN 1928.

MR. R. R. NIMMO, M.Sc., Ph.D., APPOINTED LECTURER IN PHYSICS IN 1929.

In 1917 the Carnegie Institution of Washington established the Watheroo Magnetic Observatory, which had close relations with Ross and his staff. J. Shearer, J. E. I. Cairns, F. W. Wood and G. Builder were graduates who found employment at Watheroo. Another graduate in the twenties, C. W. Allen, joined the Commonwealth Solar Observatory staff. Ross helped form the BAA branch soon after he arrived, and he carried his astronomical interests widely through WA by his extension lecturing and his participation, with Everson, in Campbell's expedition to Wallal to observe the 1922 solar eclipse, when the main aim was a check on Einstein's prediction of the deflection of light by the Sun's gravitational field.

From the beginning of radio broadcasting (about 1924) Ross was very much involved both as a lecturer and as organizer of musical activities. He became Chairman of the Music Advisory Board and of the Extension Board, and also served terms as Vice-Chancellor, Chairman of the Professional Board, and a member of the Senate and of various other committees. He will be remembered by the physicists for his service over 24 years as Secretary of the Australian Branch of the Institute of Physics which, as mentioned above, he had been active in establishing.

In the twenties [1920's] the Mathematics-Physics staff comprised a Professor, 2 lecturers (R. D. Thompson and Dr Margaret Moir) and an assistant lecturer (A. A. Orton) with Everson as demonstrator. In September 1928 J. Shearer joined the Physics staff, coming from Laby's department in Melbourne where he had gained his MSc. Mathematics and Physics were separated in 1929, and R. R. Nimmo (Otago) came to the staff from Cambridge where he had worked with N. Feather. C. E. Weatherburn was appointed Professor of Mathematics, but he soon found he had no staff, since both Thompson and Orton went to New Zealand and the Senate dispensed with the Services of Dr Moir to save money. The decision also to sack Nimmo upon expiry of his initial 3-year appointment was reversed only on the urgent pleadings of Ross and others, with the undertaking that Mathematics would continue to be taught by Physics staff for the duration of the depression. Five proposals for a Physics building were pigeonholed during these years and the staff was split between the city and the new campus at Nedlands, so there is little wonder that research activity was almost impossible. However Shearer, helped by an MSc student G. E. Marshall, undertook the construction of a grating spectrograph for use in the long wavelength X-ray region; and in about 1933 the Department became responsible for the supply of radon, using a plant built by Nimmo, who was a skilled glassblower.