

# MEMORIES OF PHYSICS IN THE ARMY HUTS AT SANDY BAY

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January 2018

While the future of the University at its Sandy Bay campus is so uncertain, it is more important than ever that its past there is not forgotten. At aged 94, I may be the only one who can remember the beginning of the University in Sandy Bay when Physics was the first department to move to the Army Huts at the old Rifle Range. This is an attempt to document some of those memories.



The Physics academic and technical staff, and senior students at Sandy Bay outside the old Lecture Theatre amongst the Army Huts ca 1952

Fred Strochnetter	Gordon Wagner						Geoff Harvey	David Brink	Bill Mollison	
	David Johns	Peter Burbury	Alex McLaren	Peter Stevens	Leicester McAulay					
Don Peacock	Russ Wheeldon	Vivienne Thurstans	Jane Huggett	Vanny Jackson	Betty Brown	Alex Hope	Fletcher Cruickshank	Geoff Fenton	Bruce Scott	Bob Jacklyn
							Tom McMahon			



The Rifle Range in about 1948. The Army Huts are at the right, with Physics in the main group at the top

## Origins of the Rifle Range

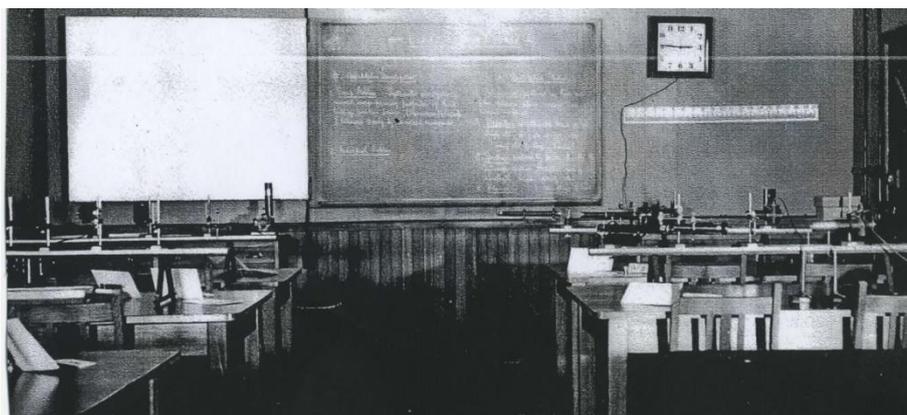
After several decades of involvement in Tasmania, mainly associated with its penal establishments, Britain announced in 1870 that it was withdrawing its imperial forces, leaving the fledgling colony isolated and defenceless. Hobart's vulnerability was particularly exposed in 1873 when two Russian warships arrived unannounced in the Derwent and left next day without making contact with anyone onshore. Various batteries had been set up around the harbour aimed at protecting Hobart, but the lack of trained personnel after the British left was a critical concern. Volunteer forces had been recruited, including the Town Artillery Company in 1858 and the Tasmanian Defence Force in 1865, and the most effective was the Southern Tasmanian Volunteer Artillery in 1878 which manned the forts right up to Federation. Training facilities were very basic until a 30 acre block of land was purchased in 1890 to establish the Sandy Bay Rifle Range. This enabled a number of rifle associations to be established and they would practice, and hold competitions there frequently. It was a convenient location for these associations, but there was increasing opposition to this site from neighbouring farmers and from residents in the growing Sandy Bay suburb.

As early as the 1920's the University had found that its buildings on the Domain were rapidly becoming inadequate and there was very little room for expansion. The Rifle Range was seen as an ideal site for the relocation of the university, and in 1934 this possibility was discussed with the State Government and the Hobart City Council. No progress could be made at that time because the Commonwealth, which had assumed control over defence in 1903, resisted any attempts to close the Sandy Bay Rifle Range until suitable alternate locations had been developed in Brighton. The Second World War further delayed the closure and it was not until the 28<sup>th</sup> April 1948 that the Sandy Bay Rifle Range was finally transferred by the Commonwealth to the State of Tasmania. The site was formally vested in the University on 13<sup>th</sup> April 1951.

## Physics in the Army Huts

The Professor of Physics, Leicester McAulay was a strong advocate of relocating the University from the Domain to the former Rifle Range site at Sandy Bay, and it was no surprise to find that Physics was the first department to move when the Army Huts, which had been built there during the war, became available in 1948, The move of Physics was shortly followed by Biology, Geology and Mathematics. The Huts were modified to provide teaching laboratories, offices and workshops, and there was a lecture theatre and student facilities, not to mention lots of MUD in the early years! It was not uncommon for staff and students to arrive on campus wearing gum boots! Nevertheless it was a pleasant rural location with a large paddock adjacent to the Huts, traversed by a small creek.

An optics undergraduate laboratory in the Army Huts



Despite the modest facilities, the Department flourished in the next 15 years before its permanent building was constructed, and occupied in 1963 Geoff Fenton established his Cosmic Ray research, Mike Waterworth prepared to set up an optical observatory at Mt Canopus on the eastern shore, Fletcher Cruickshank was awarded a DSc for his work on Geometrical Optics, Hans Buchdahl was in correspondence with Albert Einstein on an aspect of theoretical physics, and Leicester McAulay and I expanded our studies of plant biophysics. The undergraduate program was also in good shape. With one particularly talented group of 18 students in their second year, it was decided that we would forego the usual formal laboratory program and instead it participated in a research-type experimental study of a topic (it was "Elasticity and creep in metals"). Each pair of students undertook an aspect of the study, wrote up the results of their observations and the group orally presented a report to the whole department. There was an enthusiastic response to this approach, and it is no surprise that two of those 18 students subsequently received professorial appointments.

## Leicester McAulay

Undoubtedly Leicester McAulay continued to be the focus of the Department through those early years in Sandy Bay. As professor he stood out in appearance in a profession not noted for being conventional. He was tall and thin with hawk-like features, long untidy hair and shabby clothes. His trousers were just prevented from responding to the pull of gravity by a three inch leather belt (or sometimes a piece of string). His lecturing style was unconventional. He would pace up and down while he talked, flexing a metre stick through what appeared to be impossible large angles. Then he would step to the blackboard and might lose his way through a mathematical derivation. His style was not liked by those students expecting to be able to take notes with a minimum of thought or effort. One student, realising that she was not going to pass the examination for which she was sitting, decided it would be more profitable for her to spend the time writing a poem to express her feelings:



Once upon a time there was a Physics class  
Full of high spirits, every lad and lass,  
They trooped into the Lecture room, full of laughter free  
When in strode the Lecturer – dead was glee.  
He stood before the blackboard and paced upon the floor  
He talked before the film screen and perched beside the door  
And the students' heads drooped lower – one heard a muffled snore;  
For the truth was that this lecturer was an awful bore.  
The students all felt dismal, and fury filled their heart  
Because no sooner would he stop then once again he'd start.  
From the doorway back again – walk, walk, walk  
And then before the blackboard - talk, talk, talk.  
So they vowed to kill him, kill him where he stood  
Because they knew that this would do the world a lot of good  
The students made a plan out, they'd even got a gun

And so they decided the game was good as won  
But the bore was a physicist, a clever one as that  
And so I hate to say it, their lovely plan fell flat  
He escaped them in a manner I really hate to mention  
For what he went and did was – climb up the 4<sup>th</sup> Dimension.

While some students might feel like this, others found inspiration in his lectures, particularly those in which he discussed those concepts in physics which excited him most – time and space, relativity, matter and energy, the uncertainty principle and man's interaction with the environment

His unusual abilities were probably most evident in research. He had studied under Lord Rutherford and had many of the qualities of that giant of experimental physics. His experiments were always simple, aimed at the basic problem. His students learned to think carefully about the aims and underlying principles of their work because any limitations were quickly exposed in his searching questions.

During the war years he had teamed with Eric Waterworth to set up an optical munitions industry that was producing high quality lenses and prisms within a few months, despite a lack of any previous experience in their production.

Failing health caused him to retire in 1959 and he died in 1969.

Although the Physics Department only spent a relatively short time in the Army Huts , a number of interesting or memorable things happened during that time, and these should be documented in the Department's history before they are forgotten. They include the following:

### **Propsting Dam**

The Physics workshop was headed by a Mr Propsting (I don't remember his Christian name; he was always "Proppy"). He decided that we should take the opportunity of our location on the old Rifle Range to dam the creek running through it to make a swimming pool. So he harangued some younger members of staff during the lunch hour to collect logs and rocks to make the dam. This resulted in quite a good pool to be created during the winter months but there was doubt whether there would be sufficient flow in the creek to maintain it in summer when it would be warmer for swimming. However the existence of the pool was short-lived because a massive downpour created a flood in the creek and the dam collapsed. Logs and rocks were washed down and deposited across Sandy Bay Road. I think that the authorities accepted that the flood was an "Act of God" and the mayhem was never sheeted home to the Physics dambuilders.

### **Mrs Hinsby**

Mrs Hinsby was a 5 foot ball of energy, who was the Physics cleaner. She was intensively proud of "her staff", including "fesser McAulay" Like many of the cleaners at that time, Mrs Hinsby could not read or write and this presented a problem when we wanted to leave a note to take special care when cleaning around a sensitive piece of equipment. With one instrument I remember I attached a note with a skull and crossbones and "Danger, 1,000,000,000 Ohms", which seemed to work. The cleaners were paid by cheque which had

to be endorsed before they could be cashed. The cleaners would take them to any nearby member of staff who would forge their names and sign the cheques on their behalf! My lasting memory is of Mrs Hinsby riding on her bicycle towards the Sandy Bay township with an alarming wobble after imbibing too freely with apricot brandy at the Christmas celebrations.

## Glennis' knickers

McAulay always had plenty of ideas that he wanted to test out, but in those days there were few postgraduate students who could provide cheap labour for experimental research. Instead he employed young female laboratory assistants, amongst whom there were THAT Anna, DREADFUL Glennis and WICKED Pauline. McAulay wanted Glennis and Pauline to make measurements using some very sensitive instruments called electrometers. These instruments behaved quite well for Pauline but went haywire with Glennis. It was discovered that the reason for this disparity was the underwear worn by the girls. Whereas Pauline was wearing sensible cotton underwear, Glennis had the newly fangled nylon garments that readily picked up electrostatic charges which interfered with the electrometers. Glennis quite reasonably asked that if she is required to change her underwear, will the Department pay for it? We took the problem to Leicester who immediately picked up his phone to Torleiv Hytten, then the Vice-Chancellor: "McAulay here; will you authorise me to use research funds to buy underwear for a female member of my staff?" There was a stunned silence at the other end of the phone, while Hytten, mindful of the furore over Bill Smith's trousers, pondered this request. Smith, a technician in the university at the Domain, had apparently managed to charge a pair of trousers to university accounts and this expenditure had been picked up by an eagle eyed auditor, with adverse comments appearing in the press. So McAulay's request was not approved, and I remember a money box subsequently appearing on the tea table labelled "Underwear Appeal".

## N+1 Legged Race

Physics wanted to maintain contact with staff and students at the Domain, and challenged them in a sporting competition. A new race was invented called an "N+1 Legged Race where N=5". This was to be an extension of the well-known Three Legged Race for which N, the number in a team, is only two. It was further proposed that the winning team would receive a prize of X guineas, where  $X = 5/21$  (ie 5 bob). With 5 participants in a team, the sport would be not without its hazards, especially for the one in the centre of a team if those on the outside got out of step or ran on diverging paths! The illustration is from "Smith's Weekly"



A total of eight teams accepted the challenge, including three of women. The race was duly run without any of the foreshadowed mishaps, and the Physics team came second.

## Sputnik

In October 1957 there was considerable excitement in the Physics Department when the Russians launched Sputnik, the first of their artificial satellites. Hobart was one of the very few locations in the world where it could be seen, as a small sunlit object moving across the darkened sky. A photograph was taken of its track and McAulay sent it to the journal "Nature" which published it as the first photograph of a man-made object in space.

A group of physics students decided to complicate our vision of Sputnik and launched a balloon with some lights and fire crackers, which was to float across the Rifle Range where we were continuing our observations. The balloon went somewhat astray and landed in a nearby garden which happened to be of a member of University Council. As a consequence of this, the University By-Laws were amended so that Item 10(c) now states that "it is forbidden to launch a fire balloon on university property"!

## Andrade

It was the practice of the British Council to send distinguished British academics and scholars for tours of the antipodes, presumably to provide enlightenment and culture in its former colonies. And so it was that E. N. da Costa Andrade, Professor of Astrophysics at the University of London, arrived at UTAS in 1957, to be greeted by Professor Keith Isles, newly appointed as the university's Vice-Chancellor. Andrade was a small, pompous man, for whom problems arose wherever he went. His visit got off with a bad start when his hotel could not provide Tasmanian IXL apricot jam for his breakfast: "At home I ALWAYS have Tasmanian jam on my toast". He was to give a public lecture in the evening at the Hydro Electric Theatre, and I took him there to check it out. He particularly wanted to see that the venue was suitable and the lectern lights were working. Come the evening, and Isles arose to introduce the speaker. When Andrade stood up to begin his lecture, the lectern lights did NOT work. For most speakers that would be an irritation but they would cope. But not Andrade. He flounced off the stage back to his seat, saying "I will not give my lecture until that light is fixed" We all rushed around, trying to solve the problem, looking for spare globes in an unfamiliar theatre, but with no success. Professor McAulay came back with a bicycle lamp, but that was waved away as "unsuitable". The Hydro caretaker arrived and was roundly criticised by Andrade. The caretaker, good Aussie that he was, was not fazed by this illustrious British visitor and gave back as good as he got. After an embarrassing twenty minutes or so, it was eventually discovered that the Hydro, for reasons only known to themselves, had TWO switches in series with the lectern light, and Isles in his introductory words had inadvertently switched the secret one. After that the lecture proceeded, except one of the slides was accidentally projected upside down. Andrade's comment to "Show them any way you like" was an unwise instruction to Tom McMahon, the projectionist, who did just that!

After the lecture, supper was to be served in the Isles' new house, but someone managed to fuse the power line and hot coffee could not be provided. By now Isles was fed up with his distinguished visitor, and he told me to take him to the airport next day and make sure he caught his flight. Following this instruction, Andrade is the only visitor that I have physically accompanied onto the 'plane and buckled him into his seat!

Later we found that Andrade had similar misadventures in his tour of other parts of the former colonies. At the University of New England, for example, a possum caused mayhem when it found its way to the supper room in the home of the Physics Professor.. It would be interesting to read Andrade's report back to the British Council of the outcome of his cultural tour of the antipodes!

## Development of the New Campus

In the fifties, sixties and later there was much activity on the Rifle Range. New buildings were constructed to house the various faculties and departments, including Physics, which moved to its new building in 1963. Most of the Army Huts had disappeared. There was a Library, Administrative offices and a Great Hall. Students acquired a Union building, and there were refectories, ovals and other sporting facilities. Churchill Avenue bisected the University land, and above it were the biological buildings, the Commerce faculty and the Colleges.

In short, the Rifle Range paddock had been transformed into a fine University campus, and Physics was pleased to be part of it, although there was a tinge of sadness to be leaving those relatively carefree days in the Army Huts.

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