JOHN MAKEPEACE BENNETT

A SPEECH DELIVERED AT THE DINNER IN HIS HONOUR IN THE GREAT HALL

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When I realized that today was the 11th of November I wondered if John would look back on tonight as the anniversary of the day Ned Kelly was shot, the anniversary of the day Gough Whitlam was sacked or as Remembrance Day, a day for looking back at victories, at defeats and above all for remembering all those who have shared life's path with him. I trust he will remember today as Remembrance Day.

John Bennett arrived at Sydney University almost 31 years ago, on 4th January 1956, to take up a position as Numerical Analyst and later Senior Numerical Analyst in the Adolph Basser Laboratory.

John, a graduate of the University of Queensland in civil engineering, had considerable experience working with radar and computers during and after the war.

The Adolph Basser Computing Laboratories as they came to be known, were a product of the vision of Professor Harry Messel and the generosity of Sir Adolph Basser who gave L50,000 to have a computer built by Australian industry. The laboratories were to become synonymous with John Bennett.

The computer to be built was desperately needed to perform calculations for theoretical and experimental physics: but a commercial computer would cost too much to buy and to design and build the computer from scratch was going to take too long. Fortunately Dr John Blatt had worked on ILLIAC, the Illinois Automatic Computer at the University of Illinois at Urbana-Champagne, and the friendly ties with that university allowed us to obtain all the drawings, operational experience, the accumulated library of programs and "knowhow" freely. In grateful tribute to Illinois, the Sydney version of ILLIAC was called SILLIAC. The first research calculations were performed on 5th July 1956.

I thought you might find the following quote from NUCLEUS penned by John Blatt in 1955, still relevant:

"Organisations well endowed with ready cash, such as the Department of Supply, don't have to worry about such mundane matters as money. Their purpose is to provide ever bigger and better weapons; there always appears to be unlimited money for this purpose. But Universities, who try to educate people and show them how to live, are notoriously short of funds, and we must make the most of what we can get."

In those early days there was considerable rivalry and envy between the groups surrounding SILLIAC, UTECOM (the University of Technology DEUCE machine) and CSIRAC (the Commonwealth Scientific and Industrial Research Organisation' computer).

CSIRAC, one of the first computers in the world became operational in 1952 and was heavily used in Radiophysics.

The politics surrounding computers and the competition for resources was fierce so that a committee was set up to decide whether the development of CSIRAC should continue. The committee decided that Australia should concentrate on primary industries and not waste resources attempting to compete with Britain and the US in computers. In hindsight this was a most unfortunate decision.

CSIRAC was given to the University of Melbourne in 1956.

At the official opening of SILLIAC on 24th September 1956 Dr Basser announced he was making a further donation of L50,000 to the Nuclear Research foundation "to help Australia retain its leading, hard won position in the field of automatic digital computers".

By co-incidence UTECOM was officially opened the day before SILLIAC giving Molnar material for one of his best cartoons.

From the very beginning the Nuclear Science Foundation saw its role as teaching the community about the use and uses of computers.

During the years 1956 to 1958 courses were run on computing but were not available for credit, this led to course numbers dwindling as examinations arrived. Hence in 1959 a **Postgraduate Diploma in Numerical Analysis and Computing** was instituted. This name was later thought to be a hindrance to employment and so the name was changed to **Postgraduate Diploma in Computer Science**. This diploma survives today and is still taken by about 20 students each year. The laboratories had become a centre for the teaching of computer science and the provision of computing services to the University.

In 1961 the Basser Computing Laboratory was elevated to the status of a Department of the University and renamed the Basser Computing Department. John was appointed to the new Chair of Physics (Electronic Computing) and in 1982 his title was changed to Professor of Computer Science.

It had now become clear that SILLIAC would have to be replaced by a larger more powerful machine. In 1962 a donation of $500,000 to the Science Foundation for Physics by Dr and Mrs Cecil Green of Texas together with an AUC grant and a gift from the manufacturers (English Electric), resulted in an order being placed for a KDF9. After its installation in 1964 the KDF9 was linked to SILLIAC. SILLIAC ceased operation in 1968. The development of the University computing facilities continued; in 1967 a grant from the ARGC enabled the purchase of a CDC 1700; also in 1967 a PDP8/338 with graphics facilities was installed; and in the same year through the generosity of IBM Australia, one of their 7040/1401 systems was installed.

It is of interest to note the three generations of computer technology embodied in these machines:

- SILLIAC used valve technology and processed words in parallel unlike UTECOM which processed bit by bit,
- the KDF9 was a germanium transistor solid state machine but did not use integrated circuitry,
- the CDC 1700 was partly integrated circuits.

The Department's interest in hardware and systems led to the construction of a number of links between these machines and the implementation of a partially distributed operating system on them.

The teaching activities of the Department expanded. A third year and Honours year course were introduced to supplement the Postgraduate Diploma. In 1969 a course entitled Automatic Computing was offered at the second year level in the Faculties of Arts and Economics, and part of the material was also offered as Introductory Computer Science to students of Science and Engineering.

On the 1st January 1972 the Basser Computing Department was split into two separate units, the Basser Department of Computer Science (the teaching and research section headed by John) and the University Computing Centre (headed by Bob Donnelly). Both Units remained withing the School of Physics.

In 1974 the UCC became an independent unit when it moved to its new premises in Abercrombie St, where the Cyber 72 computer was installated in mid 1974. The KDF9 and the 7040 were decommissioned shortly thereafter.

The Computer Science courses became complete when Computer Science I was first taught in 1977.

During February 1979, the Basser Department of Computer Science moved from the School of Physics to the Madsen Building and a DEC VAX 11/780 was installed in December of that year.

In 1985, a General Computing Studies laboratory was opened equipped with Apple Mackintoshes to teach the first year General Computing Studies Course. Many other items of equipment have been acquired over the years.

Not only has John Bennett been the prime mover in acquiring up-to date equipment and keeping the teaching of Computer Science at the leading edge of knowledge in the field, he has also kept a lively and active interest in research, having published over 100 research articles. His research into large sparce matrices is very highly regarded and oft quoted in the literature.

John's acuity and ability astounded me last year when he read the MA Pass thesis of one of my students, in an area in which he had no previous knowledge, after a few questions he could analyse the merits of the research and suggest avenues to explore which had not occurred to us.

John's interests are many and varied and most of the staff are amazed at the variety of subject matters enshrined in his collections of books and artifacts.

The staff value John for his insight and understanding of people and that no matter what misunderstanding or disagreement has occurred five minutes later it is business as usual.

Within the University John has served widely. He has long been extremely active in the Staff Club, he was President of the Sydney Association of University Teachers (1964-65), Chairman of the University of Sydney Appointments Board (1970-74), Fellow of the University of Sydney Senate (1976-77),

1980-83) President of the Sydney Association of Professors (1977-78) and Director of the Foundation for Information Technology (1986).
John's influence on the shape of Australian society has been profound as about half the Computer Science graduates of universities in Australia today have been taught within the Basser Department of Computer Science or its Sydney University predecessors.
In his *Essay on Criticism* Pope writes

> "A little learning is a dangerous thing;
> Drink deep, or taste not the Pierian Spring:
> There shallow draughts intoxicate the brain,
> And drinking largely sobers us again."

John agrees with Pope regarding the Pierian Spring and has always sought to ensure Computer Science graduates were not only technically proficient but were aware of the social implications of computers.
Samuel Johnson in *The Vanity of Human wishes* said

"To talk in public, to think in solitude, to read and to hear, to enquire and answer inquiries, is the business of scholars."

Scholarship and imparting knowledge is John's business.
Ladies and gentlemen I ask you to join with me in saluting John Makepeace Bennett educator and scholar.