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Introduction

In 1958, Canberra University College, which was then an academic adjunct of the University of Melbourne, decided to introduce a Faculty of Science with Departments of Botany, Chemistry, Geology, Physics and Zoology (and subsequently, Psychology and Geography, which had formerly been sited in the Faculty of Arts). To this end, five professors were appointed (Plate 1), and Dr David Brown, Reader in Geology at the University of Otago in Dunedin, New Zealand, arrived in Canberra for the beginning of the 1959 academic year. By 1960, the Prime Minister, Sir Robert Menzies, had become convinced that The Australian National University (an institute of advanced studies comprising research schools only), should include a School of General (Undergraduate) Studies, to wit the former Canberra University College with its new Faculty of Science. This merger is detailed in The Making of the Australian National University 1946–1996 by S. G. Foster and Margaret M. Varghese (Allen & Unwin).

Plate 1 Science faculty in 1960. Front row centre (from left to right): the five original science professors, D. A. Brown (Geology), L. D. Pryor (Botany), A. N. Hambly (Chemistry), D. F. N. Dunbar (Physics), D. Smyth (Zoology). Back row: Geology technical staff Ross Cliff and George Halford (fourth and ninth from left), and students Ian Lambert and Fred Doutch (second and sixth from left).

Photographer R. E. Barwick (inset).
At the beginning, teaching was undertaken by the Chemistry, Geology and Physics departments in the huts formerly occupied by the John Curtin Medical School near the Menzies Library, and, when the new buildings for Chemistry and Physics were opened in 1961, Geology moved temporarily into the Physics building.

A new purpose-designed building on the corner of North Road and the old University Avenue was occupied in 1963, and its eastern wing was added soon after (1965). It featured a main lecture theatre and separate laboratories for each year, which allowed students to have a home base for study. A Geology Branch Library—so essential for this scientific discipline—was also established but with continuing battles with the Central Library. We received generous contributions from the US Geological Survey, the British Museum (Natural History) and from several institutions in the Soviet Union. As the Research School of Earth Sciences (RSES) also built up its collection, a joint committee was set up to deal with location and duplications—mostly on an amicable basis.

Professor Brown attempted to build subject coverage with two staff in each sub-discipline. By 1968, a core complement of staff was in place, with two each in palaeontology, petrology and economic/petroleum geology, and one each in sedimentology, structural geology and mineralogy. The geophysics position was never filled, and this important field was covered by staff from RSES and the Bureau of Mineral Resources (BMR). Further development was forestalled by slow increases in student numbers, and later by competition from the newly set up Canberra College of Advanced Education (CCAE).

The wide experience of this staff nucleus welded into a friendly, competent team with a strong emphasis on teaching field geology, for which the local area was abundantly endowed. Unlike the northern hemisphere, here, the clash of teaching with the field season encouraged staff to undertake laboratory research. Nevertheless, many students were supervised in field projects in the outback with logistical support from the BMR and the Australian Geological Survey Organisation (AGSO) and exploration companies.

Collegiality was maintained with weekly seminars, Friday-night drinks at the old Staff Club and the practice of having the librarian circulate journals among all the staff. Inevitably, staff moved on—first to the much sought after field of economic geology as the mineral boom exploded, and later to promotional appointments elsewhere. Retirements also resulted in changes to the team. Emphasis in the courses offered also changed, with strong developments in geochemistry, computer applications, and regolith and marine studies.
Introduction

There have been three distinct administrative periods in the university: autocratic, democratic and bureaucratic. Initially, financial control was in the hands of a professorial board and, with a benevolent professor, the department flourished. With the aid of ANU and external grants, important major equipment was acquired, including X-ray fluorescence analyser (XRF), X-ray diffraction analyser (XRD), induced neutron-activation analyser (INAA), a large flume, rock saws, acid and palynological laboratories. End-of-year spending of remaining allocated funds enabled the purchase of a large globe, on which several vacation students painted ocean and continental tectonics from the then recently published international maps (Plate 2). Professor Brown acquired an original (fifth edition) *William Smith Geological Map of England, Wales and Lowland Scotland*—‘The map that changed the world’ (from the book by Simon Winchester, published in 2001) (Plate 3). This map and the globe became major display and teaching tools.

*Plate 2 Tectonic Globe, Geology Department Foyer*
Initially, practical teaching specimens were obtained from the University of Melbourne, courtesy of Professor Sherbon Hills. Gifts, as well as purchases from the Kyancutta Museum in South Australia, augmented the teaching collections of minerals, rocks and fossils. The initial specimens for vertebrate palaeontology were plastic dinosaurs from cereal packets. Professor Brown also purchased a series of classic photographs of geological features from the UK Geological Survey. These adorned the first-year lab for many years, and some are still displayed in the present building.

During the democratic period, students gained access to most university committees, including finance. Students also demanded a say in course content and assessment—thus, faculty education committees were set up. A major change in course-work offerings came with the introduction of a semester system in 1969–70 (two 15-week semesters, instead of three terms) with a 20-point degree. This impacted on the large amount of fieldwork in geology courses as each field trip had to be allocated points or be incorporated into specific units.

Professor Brown relinquished the chair at the end of 1976. By then, university rules had changed and non-professorial heads of departments were allowed on three-year appointments. Ken Campbell served as head from 1977 to 1980. Then Mike Rickard was appointed head, from 1980 to 1982. Ken Campbell also served as Deputy Dean for one year, and then Dean of the Faculty of Science for two years, until he was appointed Professor in 1983. Ken stepped down as Head of Department in 1988; then Mike Rickard was reappointed, serving until Professor Richard Arculus joined the department in 1994. From 1997, several other staff took turns as Head of Department: David Ellis (1998–2002), Patrick De Deckker (2002–05), Richard Arculus (2005–06) and 'Bear' McPhail (2007).

From 1980 onwards, university finance was reduced and departmental budgets were cut severely. Research funding was granted through an Australian Research Grants Committee (ARGC) instead of departmental allocations and these funds had to make up for reduced departmental technical support. Over a few years, the department lost most of its support staff. The tea lady, typists, photographer, toolmakers, draughtswoman, museum curator, librarian and teaching demonstrators were phased out over the years.

Bureaucratic controls tightened over this period. The Department of Employment, Education and Training demanded detailed accounts of research activity; staff were required to submit biannual reports and to prepare teaching portfolios if seeking promotion. Eventually, elected deans were replaced by appointed ones—some from outside the university. The university set up an
excellent Research Grants Office to assist staff in the increasingly important task of obtaining finance, but their instructions were often longer than the limit for grant applications.

In 1989, the ANU and the University of Canberra developed a joint Centre for Australian Regolith Studies—then the only cooperation between the two universities. Although small, it paved the way for further cooperation. Next, under the Dawkins Review, came a move for the ANU to merge with the University of Canberra, and we spent much time designing possible course structures. We also began joint teaching in three subjects (structural geology, sedimentology, and economic geology) and later joint field camps, also with ANU Geography, at Boorowa, New South Wales (see Chapter 4). The proposed merger eventually failed and, several years later, the UC geology courses were reduced and eventually closed in 2003. There is currently a memorandum of understanding with the UC on cooperation for a Capital Water Program.

Plate 4. The Musical Buildings Cartoon. Tony Eggleton’s response to the proposed ousting and move of the Geology Department to the Botany Building.
Then came a major disruption. It was decided in 1991 to move Geology out of its original building to allow housing of the new Engineering Department, and to consolidate ‘science precincts’. Other departments also suffered in this major upheaval; Botany moved in with Zoology and some Life Sciences with Biochemistry; the Psychology building became a science teaching block; and Geology—avoiding being split into chemistry and geography—reluctantly moved into the old Botany building late in 1991 (Plate 4 and Plate 3.1).

Almost a year was spent designing new laboratories and offices, and housing the museum collections. A major blow was the loss of the library, in spite of a faculty committee recommendation that it be kept. The collection was split—part going to RSES and the rest to the Central Science Library. The map collection was sent to AGSO and a new computer lab was established in the room allocated for the library. After much disruption to research, the department eventually settled in. The central courtyard became a social focus, and, on opening day in March 1992, Professor Brown planted a symbolic new ‘fossil’ maiden-hair tree (*Ginkgo biloba*) to replace the ones that had been near the original huts and the old Geology building (see Plate 7.4).

In the meantime, Geology was encouraged to associate with Geography and Forestry in a newly formed School of Resource and Environmental Management (SREM)—fields in which we had little expertise. The first-year course in geology had already been redesigned to incorporate a semester of physical geography. Remote sensing was also offered—first in Geography, then later in Geology.

Three major research programs were awarded to the department. In 1995, the Centre for Australian Regolith Studies (ANU/UC) together with AGSO and the CSIRO Division of Exploration and Mining were awarded a Commonwealth Government Cooperative Research Centre for Landscape Evolution and Mineral Exploration (CRC-LEME). Also in 1996, an Australian Research Council (ARC) National Key Centre for the Geochemical Evolution and Metallogeny of Continents (GEMOC) was granted to Macquarie University’s and the ANU’s Geology departments in collaboration with CSIRO Exploration and Mining and AGSO. The mining industry also supported the department’s research in petrology and economic geology with several industry (Australian Mineral Industry Research Association) grants over several years. Ampol, Conzinc Riotinto of Australia (CRA), and Western Mining have supported honours students and, in 1984, Esso funded 50 per cent of a tutorial post.
A gradual increase in Postdoctoral Fellows and Visiting Fellows—especially after AGSO made many staff redundant—boosted the department’s research output to one of the best in the faculties. Success in obtaining research grants and ship-time has been outstanding, and publication citation indices for several staff are among the highest in Australia.

Staff retirements have prompted a variety of functions. A large gathering at Bruce Hall farewelled Professor Brown. Tony Eggleton as MC recited his own poetic valediction, in which he mentioned all our old students (see ‘Appreciation’). The retirements of Ken Campbell and Keith Crook were marked with special national seminars on palaeontology and sedimentology respectively, and, for Mike Rickard, a dinner in the Union was graced by a poetic slide show—by Tony again—based on the hymn Jerusalem: ‘and did those feet in ancient times walk upon England’s mountains green’, and so on. Tony Eggleton’s own retirement dinner was held at Vivaldi Restaurant on campus. Other farewell lunches were held in University House. A large gathering (92) of granite workers, in Canberra for the second Hutton Symposium in 1991, met for dinner at Rydges Lakeside in tribute to Bruce Chappell’s granite research. Several American guests were bewildered by the pavlova dessert, with its passionfruit and kiwifruit toppings.

Staff retirements and new appointments—especially the appointment of Professor Arculus in 1996—ushered in a change of focus towards volcanic geochemistry and marine geology. Then, in 2004, the department’s name was changed to the Department of Earth and Marine Sciences, and subsequently a first-year course in marine science was offered.

In 1978 and 1990, the department was subjected to major reviews, which it passed with flying colours; importantly, the continuance of the chair was recommended. Another review was conducted in 2007 that again commended the department for its research and teaching efforts, but expressed concern at its budgetary situation and recommended a merger with RSES to form a School of Earth Sciences (see Chapter 9).