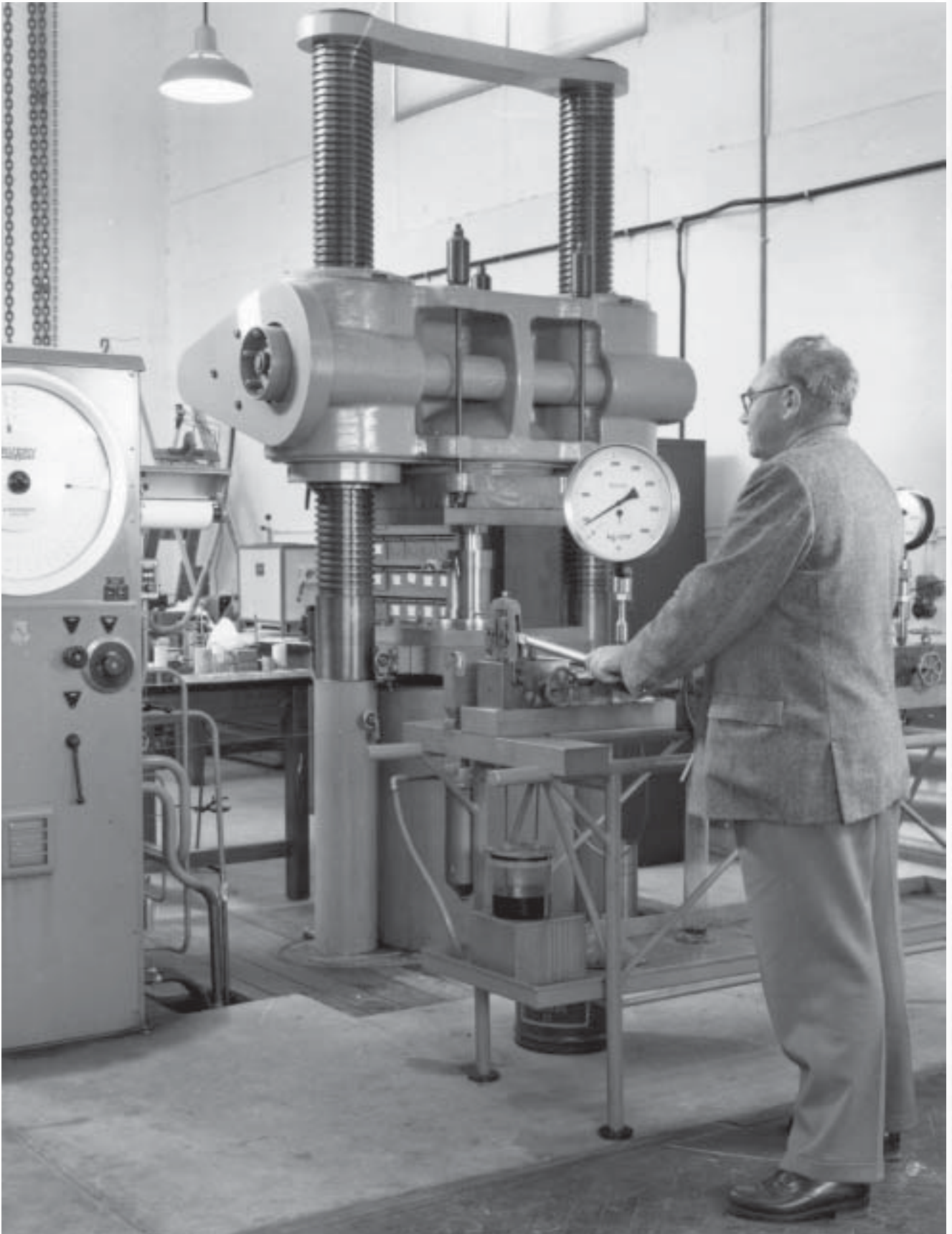


Departments of the Research School  
**Geophysics & Geochemistry**



*John Jaeger at the controls of the large rock mechanics testing machine.*



The following five areas may be seen as constituting the most significant work done in the Department of Geophysics (after about 1962, the Department of Geophysics and Geochemistry) within the Research School of Physical Sciences, listed according to the principal participants.

### J.C. Jaeger

As the foundation professor, he set the pattern of research work in the new department and selected other early appointees, many of whom went on to be senior members of the Research School of Earth Sciences. His own research was mainly in (i) heat flow, establishing the main pattern of heat flow out of the Earth's crust on the Australian continent, and (ii) rock deformation in the brittle field, especially with applications to engineering, as in the Snowy Mountains Hydroelectric Scheme, and to the frictional properties of rock.



△ / The Department of Geophysics and Geochemistry gathered on the eve of the retirement of John Jaeger (December 19 1972).

Back Row (L to R): Z. Roksandic, D.K. Burmann, D.J. Millar, M.J. Vernon, W. Nance, W.J. McIntyre, E.H. Pedersen, J.H. Angus, J.D. Gower, C.N. Davey, B.E. Yates, P.H. Beasley, E. Kiss, W.O. Hibberson, M. Cowan.

3rd Row (L to R): G.E. Samuel, G.E. Richardson, R.W. Page, M. Laybutt, D.J. Edwards, D.J. Mayson, N.G. Ware, L.P. Black, A.W. Geatley, A. Major, R. Maier, T. Shirahase, E. Farrar, T.W. Donnelly, R. Rudowski, P.E. Muir, I.J. Weekes, L.E. Hodgson, R. Brauer, L.M. Birkic, K.V. Phillips.

2nd Row (L to R): B.J.J. Embleton, R.C. Liebermann, F.E.M. Lilley, S.J.B. Reed, D.H. Green, H. Berry, S.R. Taylor, A.E. Ringwood, J.C. Jaeger, M.S. Paterson, G.A. Joplin, M.W. McElhinny, I. McDougall, J.R. Richards, A.R. Crawford, V.M. Oversby, I.A. Nicholls, T.J. Fitch.



*Front Row (L to R): G.M. Bradley, D.J. Whitford, P.L. Hellman, P.W. Schmidt, J.W. Giddings, G.S. Lister, L.E.A. Jones, P.M. Martin, M.H. Worthington, I.N.S. Jackson, M. Barbetti, J.C. Roddick, A. Raheim, D.W. Simpson.  
Absent: P.A. Arriens, D.J. Bennett, J.N. Boland, J.R. Cleary, W. Compston, G. Milburn, K.J. Muirhead.*

▷ *Ross Taylor, who has been a Visiting Fellow in Nuclear Physics for the past six years. Taylor was awarded the 1993 Goldschmidt Medal by the US Geochemical Society, only the third time it had been awarded outside of the US.*

◁ *Marble specimens deformed under increasing pressure (L to R undeformed, deformed at 26 MPa, 46 MPa and 100 MPa respectively). The transition from brittle to ductile behaviour is illustrated.*



**M.S. Paterson**

Paterson's research concerned experimental deformation in the ductile field, with applications to various areas of geology.

**E. Irving**

Irving was engaged in palaeomagnetic work. From the fossil magnetization of rocks, he was one of the first workers to establish that the continents had moved relatively to each other over geological time. This work was done more than a decade before the general acceptance of plate tectonics, which is fundamental to the present-day view of the Earth's history.

**A.E. Ringwood**

Ringwood is widely remembered for his later work on the storage of radioactive wastes, but in this earlier period was working in experimental petrology. This research established the principal phases to be expected in the deeper parts of the Earth, below the crustal 30km or so. Ringwood was also involved in an important collaboration with D.H. Green in experimental studies on the genesis of basaltic rocks in this region of the Earth. Alan Major provided

valuable technical assistance to Ringwood, having worked earlier with Irving.

**J.F. Lovering, S.R. Taylor & W. Compston**

As the department evolved, these workers increased geochemical research activities, especially involving questions of the early planetary history of the Earth and its moon. Lovering carried out studies of meteorites, Taylor was a principal worker on the initial analysis of moon samples, and Compston was involved in the dating of moon samples. An important step had been the establishment of a dating laboratory in collaboration with the Bureau of Mineral Resources (now Australian Geological Survey Organisation).

*Mervyn Paterson*

