



We look backwards as well as forwards in this issue of *Preview*. David Denham reminds us that 2015 was a dismal year for commodity prices and that exploration spending is at very low levels. Noll Moriarty peers into the future and suggests that the end of this downturn is in sight. He is even brave enough to predict the timing of the next downturn! Mick Micenko reflects on the year that was and Guy Holmes imagines the year that will be. Roger Henderson tells us something about Australia's first lecturer in exploration geophysics, who was appointed in 1949 in a burst of post-war enthusiasm ('The first lecturer

in exploration geophysics in Australia – later to become a world renowned seismologist'), and Ruth Murdie shows us where GSWA is heading over the next decade ('End of the Flat Earth – a new era at GSWA').

Roger Henderson's article on the first gravity meter, which was published in the last issue of *Preview*, sparked a lot of interest, as described in Roger's Letter to the Editor. It is clear from the nature of the feedback that *Preview* is being read internationally as well as nationally. In 2015 nearly 200 of 1000 plus ASEG Members were based overseas but, as the digital version of *Preview* is currently freely available online, our readership extends well beyond our membership. In 2015 over 1000 non-Members subscribed to the digital version of *Preview* and over 300 of these non-Member subscribers were based overseas; in the Americas, the Pacific, Asia, Africa, the Middle East and Europe. Many of these non-Member subscribers (in Australia and overseas) are not geophysicists but they are clearly interested in what is happening in the geophysical world. Non-Member subscribers include

geologists, geochemists, hydro-geologists, agricultural and environmental scientists, science educators, policy makers and journalists. They also include future geoscientists. My hard copy of the December issue of *Preview* was prised from my grip, as I left the Millaa Millaa Post Office, by a 10-year-old boy; a passionate collector of rocks and minerals who was desperate to read Don Emerson's article on lapis lazuli!

So, it would seem that *Preview* is not just fostering and facilitating interaction between geophysicists in Australia and the Asia Pacific region. It is also fostering and facilitating the interaction between geophysicists and other earth scientists throughout the world. *Preview* contributors can make and shape opinions. So, keep those *Preview* contributions coming. *Preview* is your magazine and your chance to speak to the world. The world – those bits that count anyway – is listening!!

Lisa Worrall
Preview Editor
previeweditor@aseg.org.au

Letter to the Editor

Dear Lisa,

Readers of my paper on the first gravity meter (*Preview*, 179, 53–61) might like to know that I have received not only very nice compliments from some ASEG Members and others in North America, but also some further information tending to verify my contention that the Threlfall and Pollock meter is the first in the world.

Richard Smith (Active ASEG Member since 1983) of Laurentian University in Canada thought my paper was worthy of being made known to those on the Grav Mag list server (grvmag-l@ideo.columbia.edu) and kindly arranged it. Following that, Edgar Wright of Canada sent me a reference to Mr Boys and Lord Kelvin from *Astronomy and Astro-physics* 12 (1893), p. 366 by searching 'boys' and 'gravity meter' in Google Ngram. The result is; "It will be remembered that the 'differential' [equals 'relative'?] gravity meter devised by Lord Kelvin and described by him at the Birmingham meeting of the British Association (1886) was abandoned not only on account of elastic 'fatigue' in the flexed spring which he employed, but partly because Mr. Boys, then just out with his quartz

fibres, proposed to use torsion in a horizontally stretched fibre, after the manner of a catapult whose arm is held back by gravity. It was hoped thus to obtain an instrument which would surpass Lord Kelvin's spring both in delicacy and precision. But if anything farther has come of Mr. Boys' torsion balance, it has escaped your reviewer."

Thus we learn that Lord Kelvin was unsuccessful because he wasn't using fused-quartz and that Boys proposed its use of which nothing was known by 1893. Threlfall and Pollock had a working unit by 1893 but did not announce it in London until 1899. Also, in my paper, I had expressed ignorance of the terms 'catapult' and 'bow and arrow' used to describe the drawing of the thread. However, the catapult method is partly explained in the above.

References to papers in the British Association Reports by both Lord Kelvin and Vernon Boys are given in the Bibliography of Threlfall and Pollock's paper.

Then, our own irrepressible Doug Morrison, who seems to have a bottomless source of historical documentation, provided me with a copy

of a paper in *Geophysics* by E. A. Eckhardt 1940, (A Brief History of the Gravity Method of Prospecting for Oil: *Geophysics*, 5, 231–242). On page 240, Eckhardt states, after discussing pendulums to 1932 that; "These considerations [such as pendulums being 'ponderous'] led geophysicists to turn their attention to the development of gravity meters, or gravimeters. The earliest instrument of this type seems to be that of Threlfall (sic) and Pollock". Then he gives the reference to their 1899/1900 paper as a footnote. He goes on to say; "In the United States gravimeter development appears to have been first undertaken by the Humble Oil and Refining Company. This development resulted in the Hartley, Truman and later models. The first Humble-Truman meter was sent to the field in June, 1930".

One other commentator of my paper (who I suspect hadn't read it) stated: "Fused quartz element meters was the invention of Gulf Oil but refined by many others starting the mid 1930s". This is clearly a 'USA perspective' of history.

Roger Henderson
rogah@tpg.com.au