

From the President

Welcome to the March 2019 edition of TAG. The days are drawing in, and for our northern members, people can get out into the field for some serious geologising!

The new(ish) Governing Council (GC) is enthused and full of energy, and we have a long wishlist of initiatives we would like to tackle on your behalf. The 2018–2020 GC priorities are not too dissimilar to those of the previous GC — after all, the challenges do not change radically! So, building on the hard work of our predecessors, our priorities can loosely be grouped under:

- Vision and Mission — are they still relevant to geologists in 2020? Do they need to be updated?
- Visibility — GSA marketing, brand recognition
- Membership — an old nut (see below), not only focused on member retention, but also on the value offering to our members
- Major activities that generate revenue, including AJES
- Engagement and outreach — internally for members, plus Divisional committees, Specialist Groups and standing committees, and externally into the wider community.

Membership retention is a perennial problem for most societies, not just our own: apathy is our great enemy. The GSA tends to particularly lose members when they transition from one point in their career path to another — eg, from student to graduate, from graduate to full member and from member to retiree. We've known this for some time, and initiatives have already been put in place to provide incentives to join and then stay, eg, professional accreditation, Specialist Groups and GSA Earth Sciences Student Symposia (GESSS) conferences. The new GC is seeking to develop additional features that can add value to your membership experience to ensure you feel special ☺ — watch this space!



The GSA Australia Accredited Geoscience Program is live! The journey to establishing a fully operational accreditation scheme has been a long and careful one. The

result is a program that adds real value to GSA membership, and provides an excellent means to formally recognise your level of expertise and experience that can be linked to ongoing professional development. See the advertisement on page 8 for more detail. On behalf of the members, I would like to thank in particular the drivers of the program: Roger Bateman (long-time chair of the committee), Ian Withnall, Ian Pringle and Sue Fletcher, and from the 2016–2018 GC: Mike Smith, Chris Yeats and Graham Carr. Without their commitment and enthusiasm — and many hours of deliberation — this could not have happened.

I would also like to thank Angus Robinson, who moved on from the Geotourism Standing Committee at the end of 2018. Angus chaired the Standing Committee since its inception more than five years ago, and built a strong network of regional subcommittees that continue to work hard to raise awareness of the potential for, and realisation of, geotourism. He has been offered an exciting opportunity by the Australian Geoscience Council (AGC) to develop a National Geotourism Strategy. We wish him well and look forward to working with the AGC to promote and develop geotourism in Australia. The GSA, through the Standing Committee working with the GC, will continue to develop and implement our own geotourism strategy. An excellent example of the boots-on-the-ground type of activity the GSA can undertake with great effect is described by Lauren Swann in this issue of TAG. This reflects one aspect of geotourism — ie, geotrails — where the GSA sees clear opportunity to deliver impact and raise our profile in the broader community.

In late 2018, students from the SA, NSW, Qld and Tas Divisions each ran their second year of GESSS. WA ran its first GESSS, and the Victorian students (who pioneered the student-led symposium model) hosted their 31st Victorian Universities Earth and Environmental Sciences Conference! The meetings — held by students, for students — were a tremendous success and I'd like to congratulate all the GESSS committees for their enthusiasm and effort. These meetings are as much about learning what goes into organising a major conference as presenting new and interesting science. Many were on a steep learning curve, but they all pulled it off with great style, and delivered high-quality events. I attended the NSW GESSS, which stretched to two days, and included papers from students in the Geography Department. Wow, what a fabulous way to spend a couple of days broadening your horizons, learning about a huge array of Honours and postgraduate topics — from Devonian biogeography to modelling recent sediment influx to the Gulf of Papua, through to the application of machine learning and artificial intelligence to surf-wave prediction at the beach! You can find a detailed report about the meetings in this edition of TAG.

TAG The Australian Geologist

SCHEDULE & DEADLINES

ISSUE	COPY	FINISHED ART	INSERTS
JUNE 2019	15 April	22 April	2 May
SEPTEMBER 2019	22 July	2 Aug	9 Aug
DECEMBER 2019	18 Oct	25 Oct	1 Nov
MARCH 2020	20 Jan	3 Feb	10 Feb

CONTACT US: tag@gsa.org.au

Weekend geology — online, self-guided field trips

National and state parks

Victoria has more than 70 national and state parks, with many just a day or weekend trip from the Melbourne CBD. Most of these state parks — used for walking, hiking, rock climbing and even biking — have significant and interesting geological features. Some sites provide an opportunity to learn about deep time and the history of the Earth (ie, Phillip Island), with others providing great active examples of landform processes such as erosion and deposition (ie, Buchan Caves, Lake Tyrrell).

I research, write and publish self-guided geological tours for these sites on my website www.weekendgeology.com, as well as publishing these tours on the mobile app, Rock.d.

The website

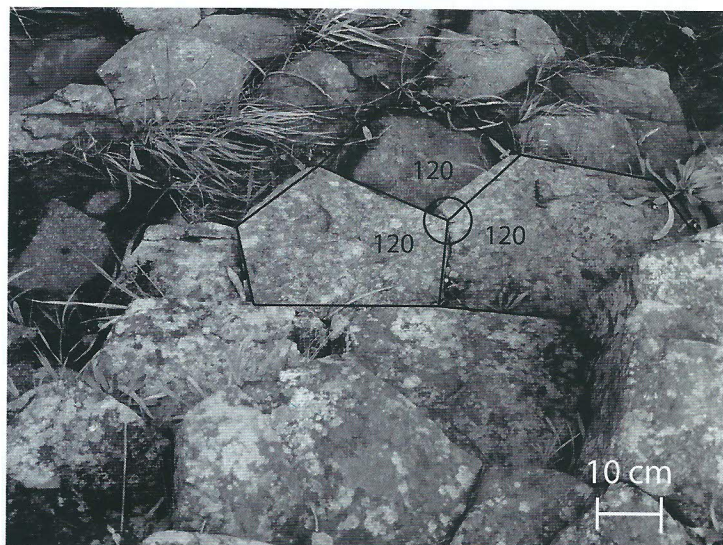
The weekend geology project was originally born out of a frustration at the lack of signage or awareness for many of the geological sites we visited on undergraduate university trips. An internet search would rarely turn up anything more than a technical paper or a ParksVic Park Guide. I often thought: 'How are people supposed to find out what a rock is if they do actually have an interest in knowing?'

Each field guide I write is different. Some sites only involve one significant feature: for instance, a fossil cliff (Beaumaris, Vic) or

a salt lake (Lake Tyrrell, Vic). For these sites, I usually provide an illustrated diagram relating the rocks you can see and touch in front of you to the regional geology, as well as its place in the scope of geological time. Some areas have numerous sites that can be linked together to form a geological story, such as at Lake Eppalock (Permian glaciation) and Studley Park (folded Silurian turbidites). For these, I create a targeted geological map that includes the walking path, major roads and other important features, such as toilets. Sites of interest identified on the map are referred to in the text and usually explained with an annotated picture, slide show or diagram.

The app

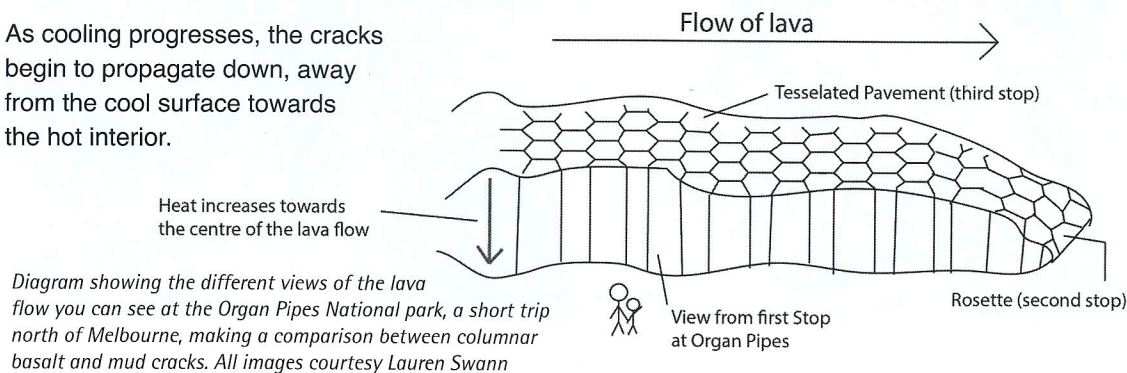
The Rock.d app allows me to create 'check-ins' of geological sites on a map with an overlay of the geology and major faults, linking the sites to create a 'trip'. The app is GPS-enabled, allowing you to trace your steps over the landscape and through the different geological units simultaneously. As I (regrettably) neglected to take a computing or coding class at university, I could never make something as fluid and attractive myself! I think technology is a barrier to many geologists who may have an interest in creating guides to favourite geosites. Open-source apps like this one could be a good solution.



Initial cracks on the surface of basalt flows (left) have the same hexagonal shape as mud cracks (below), however whilst mud cracks form through shrinking by drying, joints in lava form through contraction by cooling.



As cooling progresses, the cracks begin to propagate down, away from the cool surface towards the hot interior.



Education and community outreach

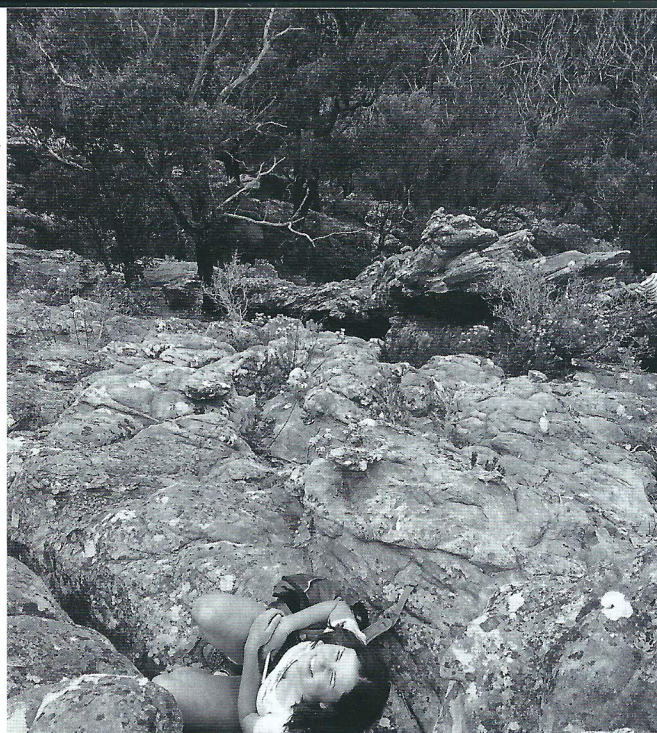
In my research of specific sites, I will often visit a nearby information centre to see if there are any printed pamphlets or maps. I usually find an assortment of geocaching guides and maps created by local field naturalist clubs — even discovering at one point a lovely poem about a local anticline (Castlemaine)! These resources are infinitely more useful online than in the dusty corner of an information centre.

The internet is full of blogs, apps and websites (including Instagram) for special interest groups — everything from knitting to rock climbing and cooking. I think it would be great for geology to have a similar online presence, making geoscience accessible for everyone. Having worked in the mining industry and volunteered as a guide at a tourist mine, I have grown a greater appreciation of the importance of educating the public about geoscience.

Most people, when they hear you are a geologist, haven't the slightest idea about what that means — we mine coal, right? Understanding geology is far more than just mining; it's arguably the closest anyone will ever get to time travel! If nothing else, I hope my guides help a non-geologist get much more out of a holiday or a car trip through the country — helping them notice features in road cuts or strange collections of boulders, or question the colours and shapes of the changing landscapes.

LAUREN SWANN

Guest columnist and avid geotourism advocate



Me doing 'field work' at Cathedral Range State Park, an hour or so east of Melbourne, researching my article by hiking around the state park and taking photos of any geological (or biological) features I find interesting

Annotated image of folds and faults in Silurian turbidites at Studley Park, just minutes from the Melbourne CBD



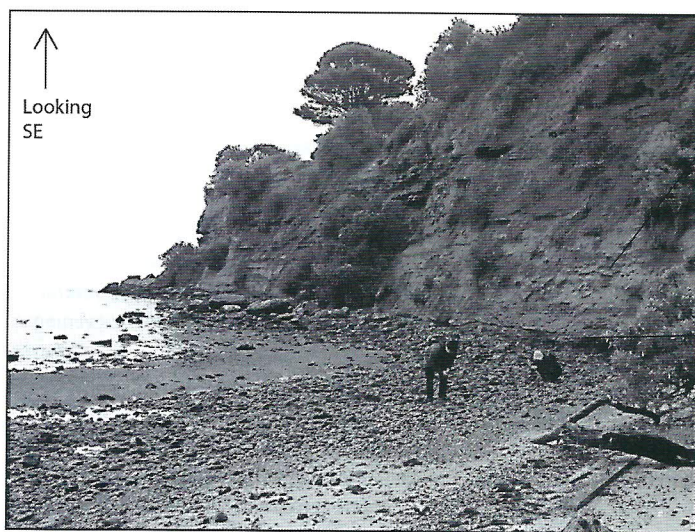
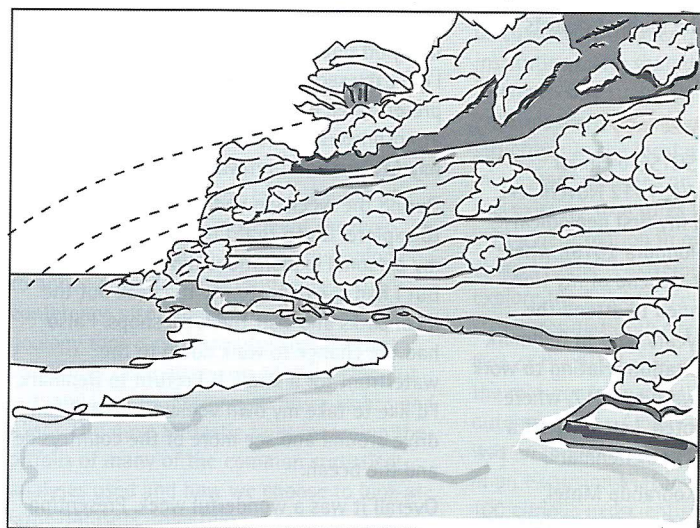
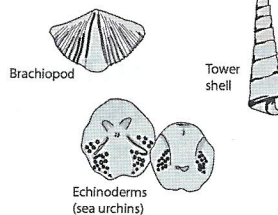


Photo of Beaumaris monocline (Fig. 2 in Map above). People for scale.

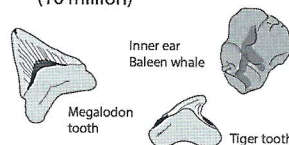


Geologists impression of photo above (Fig. 2 in Map above)

Black Rock Sandstone
(5 - 6 million)

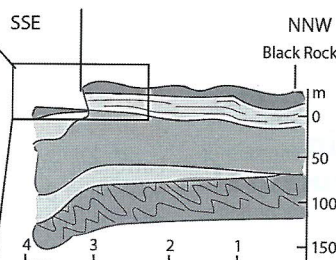


Fyansford Fm/nodule layer
(10 million)



What you see vs what
a geologist sees at
Beaumaris Fossil Cliffs

Beaumaris Monocline



- Red Bluff Sands
- Black Rock Sandstone
- Fyansford Formation

Society Update

GeoField

Do you have a story from the field? This is your opportunity to share your personal experiences of life in the field. Sometimes those stories can have a surprising twist. Please send columns to tag@gsa.org.au.

A camel tale

Back in the mid-1990s I was working as an exploration geologist in the Yilgarn exploring for gold. While us geologists had digs back at the camp, our intrepid drilling crews camped — usually with a beaten-up old caravan and canvas annexe, and their swags.

One day one of the crews arrived at the rig mid-morning looking frazzled. They were asked what had happened. Apparently, they had been woken in the early hours of the morning by the increasingly loud sound of an animal's footsteps. They didn't think much of it. Probably just a stray sheep or a goat, they thought. But then, a sound erupted that they had never heard before — a loud, guttural, primal roar that had them all sitting upright immediately.

Bloody hell, they thought. It must be a bull, or maybe a horse. But then there was a thrashing sound. Peering nervously from their

swag, they could see their caravan rocking as a giant, male camel was 'going' at their annexe. They yelled out in the night, and the camel startled and took off, the annexe tangled around the wild beast. All went quiet again, and the crew eventually drifted back to sleep.

At dawn they woke to survey the damage. Their annexe was missing — ripped from the caravan, all ropes and pegs gone. Following tracks, broken vegetation and a trail of debris, they found the annexe about a kilometre away...covered in camel semen.

They were lucky. The annexe was irreparable, so they didn't have to clean it.

But they were also unlucky. They had to ring their incredulous boss in Kalgoorlie to explain that they needed a new annexe, now that the old one had been an object of lust to an excited camel.

In truth, they were lucky it was a one-humped camel.

PHIL GILMORE