

Book Review: Soaring Australian Thermals, The Collected Papers of Gary Speight from 1966 to 2015

Gary Speight is the elder statesman of gliding at Lake Keepit Soaring Club. He has been gliding for more than 50 years and has nearly 9000 hours of gliding experience spread over almost 16,000 flights. He is a good competition pilot with silverware to prove it but his passion is teaching and in particular teaching pilots to understand the atmosphere they fly in. *Soaring Australian Thermals* is a collection of his writing over many years. Graham Holland of LKSC has done us a great service in assembling these and making them available to glider pilots. As they are a collection of papers it is possible to dip into one of them from time to time or, as I did, read them from start to finish in an evening.

Most of us fly through the sky trying to form a mental image of what the atmosphere around us is doing; is the prevailing wind lifting over that ridge, is that attractive coal mine producing thermals (no, it isn't), which side of that cloud has the best lift? We all wish that we had some form of sensitive infra-red vision that would let us see moving air masses. Gary has spent a lifetime pondering these matters and trying to improve his ability to find and use lift, and especially thermal lift. His writing reflects his background as a soil scientist. He is not interested in anything that doesn't arise from collecting data and using it in a logical manner. I was sitting in a room once as Gary talked to a group of pilots about maximising their cross country performance. One pilot interrupted to say that they never looked at the variometer, "I just feel the lift". Gary looked at them for a long moment and then said in his measured tones, "I am sorry, I don't think I can help you." He wasn't being rude or dismissive; he had considered their statement and decided that whether or not their technique worked, he wasn't in a position to improve it.

All of Gary's papers start from observations and from this he tries to build a model of how the atmosphere is behaving and then predict how best we can use this model to improve our performance. The papers range across a variety of topics from the shape and size of thermals to whether or not they are rotating and how that should influence our flying technique. He considers statistical issues; on a blue day with few clues to locate thermals how fast should we fly to have the best chance of finding the next thermal before finding the ground? There is quite a lot of numerical analysis in Gary's papers. It is unlikely that you will take in all of this on first reading but for those with an interest in numbers there is often quite extensive mathematical justification for his models. Despite this, the plain English descriptions that he offers mean that you can acquire the basic concepts of his papers without having to do the arithmetic; just sit back, relax and trust his numbers. This collection is a great accompaniment to G.Dale's, "The Soaring Engine" which offers a good explanation of the basic phenomena without much in the way of numerical analysis.

In amongst the analysis of thermal behaviour there is quite a lot of biographical material covering Gary's gliding history, including his time in Japan. ! How do you outland in a country where the average farm has a total area of 3 hectares? There is a nice article on improving your flying accuracy when turning in lift; the key of course is that you make objective observations and then use the data to improve your performance. These asides help to keep the collection readable even after the first glass of red. There is also an excellent treatise on out-landing in general; when you are prepared to soar in some of the conditions that Gary will attempt you are likely to make the acquaintance of more than a few local farmers. His analysis of his own performance over time is downright scary. At

the start of his career he averaged 87 km between out-landings. In recent years this has extended to 2700. It is clear that we should all be landing out more often if we are going to build our skills.

Those who know Gary will know that he is not constrained by the status quo; he is happy to consider new ideas and to put forward his own. He makes an excellent case for eliminating water ballast from gliding competitions but his foresight is, as yet, unrecognized in international competition. He offers an alternative set of tasks which would reduce the distance travelled from home when we have to retrieve outlanders, sadly the "arrow", "fox" and "star" tasks have not yet caught on. Our own GFA insists that we have to travel the full linear distance away from our home airport to earn a silver "C". It is good to see that they are doing their best to foster out-landing practice in our low time pilots.

The text is enhanced by excellent photographs from Gary's gliding history and succulent shots from around Lake Keepit which will entice foreign and domestic pilots to our shores. There is something in this collection of articles for anyone who is soaring and I suspect even ab-initio pilots will enjoy thinking about what lies ahead of them. This book will become a classic in the gliding community.

Leo Davies