

NEWSLETTER

AUTUMN 2015

NUMBER 83

FRIENDS OF THE WAITE ARBORETUM INC.

www.waite.adelaide.edu.au/waite-historic/arboretum

FORTHCOMING EVENTS

FRIENDS OF THE WAITE ARBORETUM EVENTS

Free Guided Arboretum walks

The first Sunday of every month
at 11.00 am.

Walks meet at Urrbrae House

Film *Woman in Gold*

Sunday, May 31, 2.45 pm

Capri Cinema. Enquiries and
bookings please contact Marilyn
Gilbertson on 8271 6112 or
marilyng@adam.com.au

Visit Sophie's Patch Wed May 6
10 am - 12 noon

Jacob Cordover August 26, 6 pm

Guitar and Performance

Enquiries and bookings please
contact Beth Johnstone on
8357 1679 or
bg rich@ozemail.com.au

Spring visit to the historic house
and grounds of Anlaby.

Details in the Winter Newsletter.

FWCR AGM May 27, 7.30-9.30
pm. Pam Catcheside 'Fabulous
Fungi'.

More details at:

[http://www.adelaide.edu.au/
waite-historic/whatson/](http://www.adelaide.edu.au/waite-historic/whatson/)



Patron: Sophie Thomson

President: Beth Johnstone OAM, **Vice-President:** Marilyn Gilbertson OAM

Secretary: Jane MacDonald, **Treasurer:** Dr Peter Nicholls

Editor: Eileen Harvey, **email:** eileengarden@y7mail.com

Committee: Henry Krichauff, Robert Boardman, Norma Lee, Ron Allen,
Dr Wayne Harvey, Terry Langham, Dr Jennifer Gardner (ex officio)

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Photography: Eileen Harvey



Stenocarpus sinuatus, Firewheel Tree

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PRESIDENT'S ANNUAL REPORT

The presentation of this, the 20th annual report of the Friends of the Waite Arboretum is my last and concludes my five-year term as President. I wish to start by thanking all of you, as members, volunteers and guides for your support. Your committee has continued to work hard to achieve the aims of fostering interest in and raising funds for the development of the Arboretum. This is very much an ongoing project and with our well-attended bi-monthly committee meetings all are kept abreast of various projects and future plans. Our pleas each year for more committee members have resulted in the pleasing situation this year of now having a full quota of committee members, a first for several years.

At last year's AGM Professor Hans Griesser described his team's ground-breaking research into the antibacterial properties of chemicals from certain species of *Eremophila* and their use in the development of antimicrobial coatings for medical implants and equipment.

National Tree Day, in July, was given special recognition with a morning walk titled "Remarkable Trees in the Waite Arboretum". Then in the afternoon Charlie Buttigieg, from Melbourne captivated us with his illustrated talk, "The Heritage Trees of Anlaby", when he described the history, features and provenance of the extensive range of trees growing at Anlaby Station, many of which are heritage listed.

In August we were treated to an extensive tour of the Mallee Collection at the Adelaide Botanic Gardens by its horticulturist in charge, Steve Higgins. We were impressed by his enthusiasm, detailed knowledge and attention to detail.

The first Friday in September we hosted the second day of the Treenet Symposium, as we have been doing for a number of years. This, the 15th Treenet National Street Tree Symposium had as the theme for the tours of the Arboretum, "Remarkable Trees". Venues for this year's Treenet Symposium are not yet finalised

Later in September we very successfully celebrated the 20th Anniversary of the Friends by hosting a well-attended afternoon tea, with appropriate birthday cake and bouquets for the original members present. The first ten years was recognised in our Newsletter No .42 with then President Cicely Bungey's article, "Ten years of the Friends of the Waite Arboretum" where various events and activities were summarised. I have compiled a similar list for the subsequent ten years, which appears in this Newsletter.

In November another successful classical guitar concert was presented to a full house by our old favourites, Jacob Cordover and Rupert Boyd. These concerts are always very enjoyable and have the added bonus of being good fundraisers; in this case over \$600 was contributed. They are booked in again for later this year.

The construction of the "Waite Arboretum Bee Hotel" has been a dream realised. Committee member Terry Langham with Friends and supporters of the Arboretum has produced an eye-catching structure, which soon after its official "opening" in December began accommodating a range of native bees.

Winding up the year, the joint Friends Christmas Party was

held at the beginning of December, always an enjoyable get-together for the three groups. Christmas carols were heartily sung in the Drawing Room.

The big event for the beginning of 2015 was the official launch by our Patron, Sophie Thomson, of the Waite Arboretum app. in late February. An enormous amount of work has gone into the data collection and functionalities to set up this first class device. Jennifer together with colleague Marian McDuie must be congratulated on achieving this welcome milestone. The amount of data available on this app now and more in the future will make this device a wonderful adjunct to the Arboretum.

On the subject of web sites, Terry has again been busy, this time undertaking the editing and management of the new Arboretum Wiki-website. Past Newsletters, a Visitor's Book and a Gallery page are all available. Photos and other relevant material are welcome. This project has involved much work and Terry is to be commended on his effort.

In October Una Wagner sadly passed away, having been a stalwart of many years standing through her tireless work in both the precinct and the Arboretum. At the age of 71 she was the first volunteer in 1993 to help Jennifer and continued for 17 years, reluctantly retiring at 87.

Now to the Arboretum, Jennifer has had two particular concerns: the Elm Leaf Beetle continues to be a threat, but so far this year hasn't caused much damage and with autumn approaching, the danger period diminishes. The insidious march of the rapidly proliferating Declared Noxious Weed, Caltrop or Cathead *Tribulus terrestris* has been a real challenge. Groundsperson Andrew Walters has been untiring in his physical removal and disposal of plants and their unpleasant spiny jack-like seed heads. Other ongoing work includes new plantings, with watering in the first year or so if required, mulch spreading and seasonal mowing. Minimal use of chemicals for weed control is always practiced. Volunteers are finding and replacing tree labels where possible. However, with the new app now available the importance of these is somewhat diminished.

I cannot conclude without expressing my sincere gratitude to all those whose input throughout the year has helped us run so smoothly. Jennifer is as ever tireless her unbounded enthusiasm and promotion of our wonderful asset especially with untold hours of extra work either in her office or out in the grounds. Within the Committee, special thanks go to VP Marilyn and to Beth for the work involved in being the main organisers of various functions and the preparation of appropriate flyers. To retiring Secretary Norma for all she has done over not only this year but several previous, including Membership officer, to Treasurer Peter for keeping firm control of the financial side and to Eileen for her much appreciated Newsletter editorship. Others to whom we are grateful include the Mitcham Council for the grant to help publicise the Basketry exhibition held last March.

We are grateful to this year's AGM guest speaker Dr Pamela Smith for her fascinating presentation on the cultural history of the Adelaide Hills Face Zone.

It is with pleasure that I move the adoption of my report.

Henry Krichauff

IN THE ARBORETUM FROM THE CURATOR

On 26 February FWA Patron Sophie Thomson warmly welcomed guests to the launch of the 'Waite Arboretum' app and spoke enthusiastically about the value of the Arboretum and usefulness of the innovative app. A challenge was issued to those present to download the app and use it to navigate to the Dragon Tree #467. Those who rose to the challenge were rewarded with a chocolate treat.

The app is a culmination of many months of collaborative effort by my colleague Marian McDuie and myself working with app developer Carlos Carvalho of (the appropriately named) Oak Systems. The app marries the geospatial data of every tree in a high resolution aerial image with the Arboretum catalogue data. The 'Near Me' function enables the user to call up label information on each of the 2,300 trees in the Arboretum. A 'Search' by scientific or common names or distribution brings up a list of matches: a touch of the map icon drops a pin on each search result so that the visitor can navigate to the specimens. The app features a choice of self-guided walks with tracks to follow, images and descriptions for each station. There is also a 'Favourites' function so that users can bookmark, save and sort their favourite trees, and locate them again. A sharing functionality enables

users to upload images and comments to Facebook and Twitter, and over time more themed walks and images (all from the Arboretum) will be added. The app includes Visitor Information such as amenities and wildlife and a Tutorial.

I believe the app will enrich visitor experience and make the information embodied in the collection accessible to a much wider audience worldwide. By using current technology I hope it will also engage researchers, educators and young families.

University Communications team assisted with the publicity and the combined potential audience for the app story across print, broadcast and online media was 427,155 people. There have been over 600 downloads of the app to date. Feedback has been very positive and there has been a noticeable increase of visitors to the Arboretum with mobile devices in hand, especially students on campus.

Please download the free app from iTunes App Store (iphones, ipads) or Google Play (android devices) and tell your friends and family about it. Once down loaded using WiFi the app is stand alone. Be sure to activate your Location Services when you visit to make the most of the functionalities.

Jennifer Gardner

The second 10 years of the Friends of the Waite Arboretum: 2005 - 2015.

Year	Executive	Committee Members	Exhibitions/Events	Speakers & Topics
2005/6	Pres: Cicely Bungey AM V.P.: Bryan Milligan Sec: Rosemary Sawley Tr: Norma Lee Ed newsletter: Jean Bird	Roger Bungey Colin Jenner Lynda Yates Judy Tyler Dr Peter Nicholls Bryan Milligan Daniel Carocci Dr Jennifer Gardner (ex officio)	Launch Denise Schumann's book "Girls with Grit" by Hon Diana Laidlaw, in the Garden of Discovery 26 May 05 Treenet 1-2 Sept 05 A Brush with Nature – Beryl Martin 9-25 Sept 05 Visit the Food Forest 9 Oct 05 Linked by Essence – Roses and Lavender Day (Jointly with Carrick Hill) 13 Nov 05	Denise Schumann - Women who pioneered science at the Waite Institute (1920s-1940s) 26 May 05 Graham Brookman – "Permaculture – a design for sustainable living" 15 Aug 05 Jill Woodlands – from the Mediterranean Garden Society 13 Feb 06 Prof. Chris Daniels – "Adelaide – Nature of a city" 5 Apr 06
2006/7	Pres: Bryan Milligan V.P.: Cicely Bungey AM Sec: Dr Peter Nicholls Tr: Norma Lee Ed newsletter: Jean Bird	Colin Jenner Rosemary Sawley Lynda Yates Judy Tyler Jeannette Lord Henry Krichauff Dr Jennifer Gardner (ex officio)	Science Hub at the South Australian Museum. Joint stand with Treenet 12-20 August 06 Treenet 7-8 Sept 06 Waite Campus open Day Arboretum participation 19 Nov 06 Arboretum, 3ha badly fire damaged 20 Nov 06	Robyn Barker – Napoleon's Willow 31 Jul 06 Dr David Harrison – "Growing Unusual Fruits in a Temperate Climate" 26 Feb 07 Heinz Froehlingsdorf – "Growing palms and cycads in Adelaide" AGM 30 Apr 07 Sophie Thomson – "Waterwise Gardening" 12 Apr 07



Year	Executive	Committee Members	Exhibitions/Events	Speakers & Topics
2007/8	<p>Pres: Bryan Milligan V.P.: Cicely Bungey AM Sec: Dr Peter Nicholls Tr: Norma Lee Ed newsletter: Jean Bird</p>	<p>Colin Jenner Rosemary Sawley Lynda Yates Judy Tyler Jeannette Lord Henry Krichauff Cathryn Hart Heather Beckmann Dr Jennifer Gardner <i>(ex officio)</i></p>	<p>Classical Guitar Concert – Aleksandr Tsiboulski 11 July 07 SA Tree climbing Competition in the Arboretum 1 Sept 07 Treenet 6-7 Sept 07 Basketry SA Exhibition 7-16 March 08</p>	<p>Sophie Thomson – “Waterwise Gardening” 12 Aug 07 Sheryn Pitman – “Sustainable Landscaping and Gardening”. AGM 31 March 08</p>
2008/9	<p>Pres: Bryan Milligan V.P.: Beth Johnstone OAM Sec: Rosemary Sawley Tr: Dr Peter Nicholls Ed Newsletter: Jean Bird</p>	<p>Colin Jenner Lynda Yates Judy Tyler Jeannette Lord Henry Krichauff Cathryn Hart Heather Beckman Dr Jennifer Gardner <i>(ex officio)</i></p>	<p>Australian Flora in Verse, read by David Symon 15 Jun 08 The Arbor Wind Quintet Inaugural Concert 20 Jul Excursion to Ian Roberts' property at Blythe 24 Aug SALA Week tour of Arboretum artworks Aug Treenet 4-5 Sept 08</p>	<p>Richard Heathcote – “Creative Garden Developments and Innovative Storm Water Harvesting at Carrick Hill” 18 Aug Prof. John Argue – “Adelaide's Water – Understanding the Crisis” AGM 6 Apr 09</p>
2009/10	<p>Pres: Bryan Milligan V.P.: Beth Johnstone OAM Sec: Rosemary Sawley M'shp Sec: Norma Lee Tr: Dr Peter Nicholls Ed newsletter: Jean Bird</p>	<p>Colin Jenner Lynda Yates Judy Tyler Jeannette Lord Henry Krichauff Dr Jennifer Gardner <i>(ex officio)</i></p>	<p>Poetry reading by Dr David and Mrs Judy Symon 28 Jun 09 Treenet 3-4 September 09 State Tree climbing championships 19 Sept 09 Arbor Wind Quintet 20 Sept 09 Classical Guitar concert – Aleksandr Tsiboulski 23 Sep 09 Visit to Dean Nicolle's arboretum 18 Oct 09 Basketry SA Exhibition – “Warp on the Wild Side” 27 Feb – 8 Mar 10</p>	<p>David Lawry – The Avenues of Honour. AGM 12 Apr 10</p>
2010/1	<p>Pres: Henry Krichauff V.P.: Beth Johnstone OAM Sec: Norma Lee M'shp Sec: Norma Lee Tr: Dr Peter Nicholls Ed newsletter: Jean Bird</p>	<p>Lynda Yates Judy Tyler Bryan Milligan Marilyn Gilbertson OAM Kieren O'Neill Prof Mark Tester Jennifer Gardner <i>(ex officio)</i></p>	<p>Classical Guitar concert – Aleksandr Tsiboulski & Jacob Cordover 18 Aug 10 Treenet 2-3 September 10 Dr David Symon's 90th birthday celebration 13 Oct 10 “Celebrating Spring” – Beryl Martin 10-17 Oct 10 Meliesa Judge – ‘Twilight Sculpture walk and talk’ 19 Nov 10</p>	<p>Sophie Thomson – “From the Ground Up – the Basics of Climate Compatible Gardening” 16 May 10 Meliesa Judge – ‘Twilight Sculpture walk and talk’ 19 Nov 10 James Smith – Hollow Habitats” AGM 19 Apr 11</p>



Year	Executive	Committee Members	Exhibitions/Events	Speakers & Topics
2011/2	<p>Pres: Henry Krichauff V.P: Beth Johnstone OAM Sec: Norma Lee M'shp Sec: Norma Lee Tr: Dr Peter Nicholls Ed Newsletter: Jean Bird</p>	<p>Bryan Milligan Marilyn Gilbertson OAM Prof. Mark Tester Dr Jennifer Gardner (ex officio)</p>	<p>Fungi walk in the Arb – Pam Catchside 2 May 11 Treenet 1-2 September 11 Basketry SA Exhibition – “Morphing Nature” 25 Feb - 5 March 12 Australian Guitar Duo, Rupert Boyd & Jacob Cordover 2 Apr 12</p>	<p>Dr Peter Nicholls – “Up the Creek - Down the Cooper” 16 Nov 11 Dr Suzanne Miller – “Ancient Continents – A Dynamic Earth” AGM 16 Apr 12</p>
2012/3	<p>Pres: Henry Krichauff V.P: Beth Johnstone OAM Sec: Norma Lee M'shp Sec: Norma Lee Tr: Andrew Walters Ed: Eileen Harvey</p>	<p>Marilyn Gilbertson OAM Prof. Mark Tester Andrew Walters Dr Jennifer Gardner (ex officio)</p>	<p>Tour of the Plant Accelerator – Prof Mark Tester 23 May 12 “Sunday at the Waite, a musical pot pourri” Loreto College 22 July 12 Treenet 6-7 September 12 Gala Truffle Dinner 4 Aug 12 Jane Mackenzie – Flute and piano recital 16 Dec 12</p>	<p>Dr Katja Hagendoorn – “The Buzz about Native Bees” AGM 15 Apr 13</p>
2013/4	<p>Pres: Henry Krichauff V.P: Marilyn Gilbertson OAM Sec: Norma Lee M'shp Sec: Norma Lee Tr: Dr Peter Nicholls Ed: Eileen Harvey</p>	<p>Beth Johnstone OAM Andrew Walters Ron Allen Dr Jennifer Gardner (ex officio)</p>	<p>Concert by <i>Duo Zoco</i>, Jacob Cordover, guitar & Laura Karney, oboe 13 May 13 Arboretum walk – “Fascination of Plants’ Day” 18 May 13 National Tree Day – Waite Arboretum 28 July 13 Treenet 5-6 September 13 Basketry SA Exhibition – “Waste Not....” 6-23 Feb 14</p>	<p>Prof. Hans Griesser – New horizons for ancient aboriginal plant use” AGM 14 Apr 14</p>
2014/5	<p>Pres: Henry Krichauff V.P: Marilyn Gilbertson OAM Sec: Norma Lee M'shp Sec: Norma Lee Tr: Dr Peter Nicholls Ed: Eileen Harvey</p>	<p>Beth Johnstone OAM Andrew Walters Ron Allen Robert Boardman Dr Wayne Harvey Terry Langham Dr Jennifer Gardner (ex officio)</p>	<p>Film “Grace of Monaco” – Capri 8 Jun 14 National Tree Day – “Remarkable trees in the Waite Arboretum” 27 Jul 14 Visit ABG Mallee Section 13 Aug 14 Treenet 4-5 September 14 20th Anniversary celebration afternoon tea 12 September 2014 Classical guitar concert Jacob Cordover & Rupert Boyd 21 Nov 14</p>	<p>Charlie Buttigieg – “The Heritage Trees of Anlaby – Listening to the Forgotten Stories from our Past” 27 Jul 14 Dr Pamela Smith – “Cultural history and heritage of the landscape of the Adelaide Hills Face Zone” AGM 13 Apr 15</p> <p style="text-align: right;"><i>Compiled by Henry Krichauff</i></p>

FRIENDS OF THE WAITE ARBORETUM NEWS

The official launch of the Waite Arboretum App on February 26th, 2015 was a very well attended and successful event with many of the participants testing the app on their devices and following the clues to the Dragon Tree.



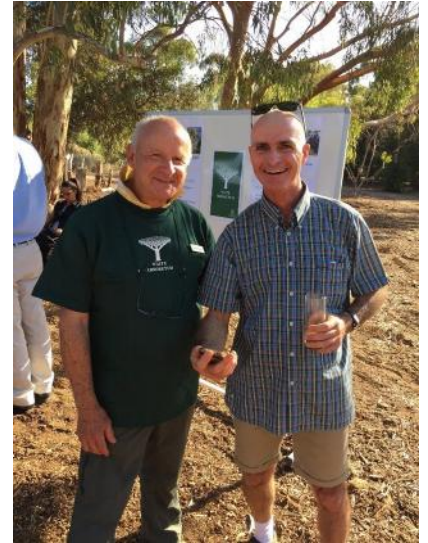
Ms Kate Robertson, Chief Engagement Officer, speaking at the App Launch. Photo Brian Richards.



Guest Speaker and FWA Patron Sophie Thomson, opens the event. Photo John Zwar.



Prof. Roger Seymour and Jennifer Gardner. Photo Brian Richards.



Graham Bald and Steve Higgins testing the App. Photo Jennifer Gardner.



Marian, family and Laurel on the way to the Dragon Tree. Photo Emily Kemp.



Part of the crowd at the launch. Photo Brian Richards.



At the Dragon Tree. Photo Jennifer Gardner.

NEW MEMBERS

We warmly welcome the following new members:

- Tony Fearnside of Stirling, ACT
- Jane McDonald of Gilberton
- Margaret Brown of Urrbrae
- Barbara & Alan Raine, Belair.

AGM GUEST SPEAKER, Dr Pamela Smith.

Dr Smith, heritage consultant and Senior Research Fellow with the School of Humanities, Flinders University presented some of the findings from the Adelaide Hills Face Zone Cultural Heritage Project which she co-ordinated between 2002 and 2005. This study examined the cultural impact on the Hills Face Zone of the first 100 years of colonisation (1836-1936). Dr Smith illustrated her talk with slides of early paintings, maps and photographs.



The early colonists believed that the park-like appearance of the Adelaide plains and foothills was natural, not realising that the indigenous people managed the landscape by means of mosaic burning to remove undergrowth and allow grass to grow and attract the animals which they hunted.

The development and prosperity of Adelaide was dependent, to a large extent, on the resources of the nearby hills. Quarrymen extracted stone for building, tiersmen and their bullock teams brought timber from the densely wooded upper slopes of the Mt Lofty Ranges, market gardens and orchards were planted in the more fertile, well-watered valleys and plains-dwellers escaped to the hills to avoid the heat of summer.



Samuel Finn's cottage at the junction of Chambers Creek with First Creek, 1884



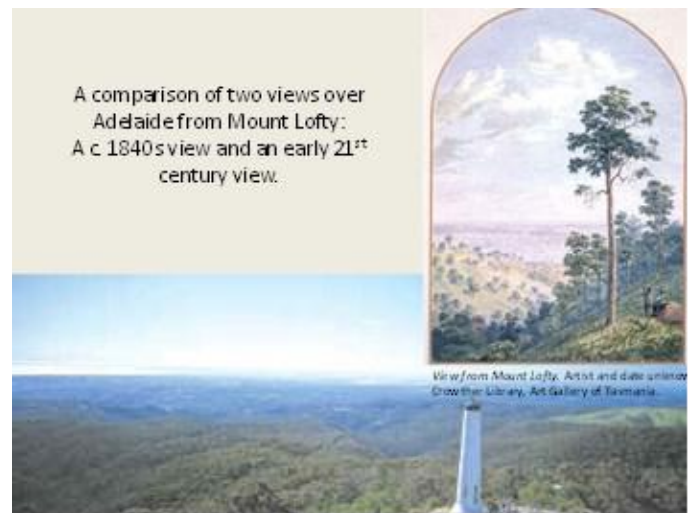
Tiersmen and Bullock Team. 1843. Watercolour by W.A. Cawthorne.

There were numerous questions for Dr Smith from the audience both during and after the presentation, showing the degree of interest aroused by topic. It is likely that the few remaining copies of the volume *Valleys of Stone: The Archaeology and History of Adelaide's Hills Face*



After a day in the park: traffic on the Old Belair Road, early 20th century. Source: Commissioners of the Belair National Park.

Zone, edited by Dr Smith will be snapped up in no time.



All photos by permission of Dr Smith, Flinders University.

On behalf of the Friends, Henry Krichauff thanked Dr Smith for her fascinating talk which has given us a new appreciation of the cultural evolution of the Hills Face Zone and presented her with a bottle of wine.

FWA COMMITTEE ELECTION

The President announced the following nominations for the new Committee:

Beth Johnstone, Norma Lee, Henry Krichauff, Eileen Harvey, Marilyn Gilbertson, Peter Nicholls, Ron Allen, Robert Boardman, Dr Wayne Harvey, Terry Langham, Jane MacDonald and Dr Jennifer Gardner (ex officio). As there were no further nominations those named were elected.

Subsequent to the AGM, the new Committee met to elect the office bearers: Beth Johnstone, (President), Marilyn Gilbertson (Vice-President), Jane MacDonald (Secretary), Norma Lee (Membership Secretary), Peter Nicholls (Treasurer), Eileen Harvey (Editor) with Henry Krichauff, Robert Boardman, Ron Allen, Dr Wayne Harvey, Terry Langham and Dr Jennifer Gardner (ex officio) forming the rest of the Committee.

Branch shedding - an act of God or Nature in the raw?

This question came to mind as I crossed a densely wooded section of the parklands. I could not take a step without treading on fallen branches, branchlets and twigs - the accumulation of several years of branch shedding.



Sydney Blue Gum, shed twigs and branches.
Photo Bob Boardman.

The large Sydney Blue Gum (*Eucalyptus saligna*) planted in the Meadowbank Rise Reserve, Urrbrae typically sheds a few moderately sized branches, generally 5 - 8 cm diameter at the base and up to 3 - 4 metres long. This gum tree has foliage borne on compact bunches of branchlets and twigs at the ends of long, large and clear branches which ascend from the

main pair of trunks. The largest branches I have seen fall there were close to 10 cm diameter and had a ragged but clean break. This break was restricted to a zone of limited breadth. These branch sizes are typical of most broadleaf tree species growing in woodland or forest.



One of the Arboretum Sugar Gums recently shed this large branch. Photo Jennifer Gardner.

Sometimes large open-grown eucalypts such as Red and Sugar Gums will shed huge boughs, occasionally with lethal results. This phenomenon was thought to occur during high temperatures in arid regions, such as Australia, South Africa, and southwestern United States, but summer branch drop has been reported in England. There are signs at the entrances to the Royal Botanic Garden at Kew warning visitors that *'The older trees; particularly beech and elm, are liable to shed large branches without warning.'*

Abscission is the shedding of various parts of an organism, such as a plant dropping a leaf, fruit, flower, or seed. Most deciduous trees drop their leaves by abscission before winter, whereas evergreen trees continuously abscise their leaves.

In deciduous trees, an abscission zone is formed at the base of the leaf stem (petiole). In this zone the top layer has cells with weak walls. The bottom layer expands in autumn, breaking the weak walls of the cells in the top layer, allowing the leaf to be shed.



SA Blue Gum showing branch stubs on boughs and main stem.
Photo Bob Boardman.

The process of branch shedding or cladoptosis has been recognised for several centuries by tree physiologists. It is the counterpart for branches of the regular leaf shedding by deciduous trees. As in leaf shedding, an abscission layer forms and the branch is shed with a ragged break. The purpose of

cladoptosis is to reduce the impact of growth as trees extend and stretch their crown to capture or maintain their share of sunlight and rainfall.

Mature trees tend to assume an optimum level of root and leaf development in order to provide enough food, through photosynthesis, to maintain vigour and to have a surplus, usually between 10 and 15 per cent, dedicated to produce flowers, fruits and set seed. They aim to be energy efficient within the limits permitted by neighbouring trees. This entails having an optimal amount of foliage and active roots able to absorb water and minerals. Too much foliage and the cost of supporting it is raised through more respiration, plus vulnerability to overheating, drought and strong winds. As a branch lengthens the diameter of the thick end must increase proportionally to withstand the wind pressure and extra leverage. Consequently, as trees grow larger, to achieve this equilibrium, they need to shed surplus older parts whilst maintaining their basic structure.

This natural process is most common in spring and early summer, but can extend into autumn, depending on the weather cycle. Trees shed excess branches and twigs by forming abscission tissue in small groups of xylem cells in the zone close to the



Typical branch shed from a Lemon Scented Gum on Sir Walter Young Avenue. Photo Bob Boardman.

point of branching of what becomes a lengthening clear branch or major bough. This suggests that the process is linked to lateral tending tissues, the medullary rays. These conduct substances from the outer woody tissue to the centre of the stem.



The three branch stubs are each in a different stage of healing over.

In eucalypts a branch breaks away from the trunk leaving behind a stub within the trunk.

Cladogenesis is distinct from death by fungi from stem rot or butt rots. These totally dead branches tend to stay in situ for many years, eventually to fall leaving a tree hollow. This indicates often that the kind of fungus is a 'soft rot', saprophytic, that take decades to weaken wood. The importance of these for nesting of native birds and animals in eucalypts has been highlighted by the guides. Cladogenesis is also a separate phenomenon from death of the lower branches of pines and firs where vital sunlight has been largely extinguished.

It appears, therefore, that that cladogenesis is an entirely natural functional process. Its determining feature is hidden inside the bough, branch, branchlet or twig, the zone narrowing down as the size decreases. It brings us into the realms of 'Acts of God' where the question of liability is concerned.

'Act of God' is a legal term for events outside human control, for which no one can be held responsible. The branch of law concerned is Tort law. In English law it is an unforeseeable natural phenomenon for which four criteria apply: a phenomenon (i) which involves no human agency, (ii) which it is not realistically possible to guard against, (iii) which is due directly and exclusively to

natural causes, and (iv) which could not have been prevented by any amount of foresight, plans and care. As for the involvement of God, we can quote St. Matthew, 5.v.45 (KJV): 'for he maketh his sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust.', to which some wit added: 'but mostly on the just because the unjust fella has the just's umbrella'. Three years ago, at Treenet practical day, a company of arborists demonstrated their method of harmonising the appearance of larger, mature trees, restoring some balance and symmetry to the appearance of the crown by selective removal of branches, occasionally long ones, especially where a crown 'flagged' or was more-strongly developed in one direction. In no way could this treatment be able to detect cladogenesis and it would also involve contractual obligations.

The alternative legal approach to 'Act of God' is known, as "*Force majeure*", from the French ('Code Napoleon' law) for chance occurrence or unavoidable accident. The critical thing here is a *contract*. Its expression is more extensive. Its importance lies in time-critical and sensitive contracts, enabling parties to draft a clause to shield them, which is used to prevent or limit the effects of outside interference when it becomes likely or actually occurs. The force majeure may be the overpowering force itself, which prevents fulfillment of a contract. There are three tests which must be passed: (i) Externality – the defendant must have nothing to do with the event's happening: the victim is not related directly to the causes (e.g. bushfire), (ii) Unpredictability – if the event could be foreseen, the defendant is obligated to have been prepared for it, otherwise, is culpable: An 'Act of God' must have been originated after the cause of the obligation (e.g. previous evidence of flooding); (iii) Irresistibility – the consequences of the event must have been unpreventable: the victim cannot overcome the effects by any means.

Robert Boardman.

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Cladogenesis. <https://en.wikipedia.org/wiki/Cladogenesis>, pp2

Act of God. https://en.wikipedia.org/wiki/Act_of_God, pp3.

Force majeure. https://en.wikipedia.org/wiki/Force_majeure, pp3.

Summer branch drop. Richard W. Harris. Journal of Arboriculture 9(4): April 1983.

The Herbig Tree

River Red Gum

Eucalyptus camaldulensis



Recently, returning home from a visit to the Barossa Valley via the scenic Eden Valley, I came across the famous Herbig Tree. Although I knew it was in Springton, I had never stopped to look at it. It is considered to be one of the most significant Red Gums in Australia, and although not very tall – only twenty-four metres it has a large girth with a diameter of seven metres at its base. The tree is estimated to be 300 to 500 years old. Much of the trunk has been hollowed out, and it only has sparse foliage, but it is amazing to look at the tree trunk and main stems with their many small burls and see where the cambium layer is still producing new bark and the sapwood continues to provide water and nutrients to the upper foliage. In 1968, to ensure protection of the tree and in recognition of its pioneer status, descendants of the Herbig family formed a memorial trust and bought the land containing the tree. The tree is now on the National Trust's Register of Significant Trees for historic significance and colonial occupation.

The greatest interest in this tree is the history of the Herbig family from which it gets its name. A German immigrant, Friedrich Herbig arrived in South Australia from Gruenberg, Silesia, Prussia in 1855. He was a tailor by trade made his way to Birdwood (then known as Blumberg) which had been settled about seven years earlier. A few weeks later he heard of work at George Fife Angas's dairy "The Springs", 19 km to the north of Birdwood. He made his home in a large hollowed-out base of a gnarled River Red Gum which had the hollow opening facing away from the direction of rain, and the tree was convenient for him as it was on the banks of a stream and 1.5 km from the dairy where he worked.

The second part of the story involves Caroline Rattey. Caroline was only sixteen years old and

together with her Aunt and Uncle, moved to New Hoffnungsthal, a small German settlement near Lyndoch. They were illiterate - Rattey is an anglicised form of the Polish name Ratachi. In 1857 Caroline's uncle and aunt moved to Black Springs (now known as Springton), but she stayed at Hoffnungsthal as she had taken a job as a maid with Johann Leske. The former Hoffnungsthal congregation now became known as St Jakobi which today is the name of a small private school to the south of Lyndoch.

While minding Johann's two young children during a funeral a stranger knocked on the door of the farmhouse, saying he was looking for lost cattle. He attacked Caroline, dragged her close to the cow shed, and hung her by the neck from a wattle tree. He stabbed her above the left breast and went inside to burgle the house. Caroline was of sturdy build, and the wattle tree was flexible so that her weight let her feet reach the ground. She freed herself and ran about a kilometre to another farmhouse before she collapsed. The doctor later thought that the reason that she had not bled to death was her plumpness. It was during this recuperation that she met Friedrich.

He married Caroline (aged 18) in 1858 and took her to live in the tree home. The first two of their sixteen children were born there. In 1860 he built a two roomed pine and pug hut nearby, and as his family increased, built a stone cottage adjacent to the hut. He leased thirty two hectares of farmland on which stood the famous gum tree and worked it during his free time. He purchased the property in 1867 and planted wheat on it while he continued his work at the dairy. He began operating as a chaff merchant, securing the contract to supply the local coaches and mail service. Later the tree was used as an out-station by them to keep straying cattle from their crops at night. Caroline gave birth to 16 children over a 25 year period,

Friedrich took an active part in the Lutheran community, serving as President Elder and Lay reader. He died in 1886, and his wife outlived him by forty years and died at the age of eighty-seven in 1927. Seven of her children predeceased her. Both are buried in the Friedensberg Cemetery at Springton.

So, although this article has little about the tree, I found the substance of the story very interesting and will see Red Gum timber through different eyes when working it in the future.

Ron Allen.

Photo Ron Allen

Travellers, Artists, and Absinthe



Peter Waite and Shrimp surrounded by Wormwood.
Photo Graham Bald

Close to the labyrinth is one of the six Greg Johns sculptures which together show aspects of the life of Peter Waite. This one shows him, a Scotsman travelling from an European landscape which is represented by roses and a gothic arch. Peter Waite steps into the Australian landscape with the burnt yaccas and heatwaves. At his side is his Scottish highland terrier, 'Shrimp' - a bronze sculpture by Silvio Apponyi. The wormwood surrounding the sculpture may seem out of place - but it is quite appropriate. Wormwood is associated with arid lands, travellers and artists.

Wormwood, *Artemisia* spp., is a hardy, aromatic plant with soft grey foliage and drooping panicles of small yellow flowers. It belongs to the daisy family (Compositae) and is native to Eurasia and parts of northern Africa. Wormwood has been used for medicinal purposes since ancient times and early travellers brought the plants and seeds with them to new lands. The plant has naturalised in many warm, arid regions outside its native range and it is a declared noxious weed in parts of Canada and the United States of America.

In English herbal medicine wormwood was used as a tonic, 'particularly helpful against the falling sickness and for flatulence'. The great English botanist, herbalist and physician, Nicholas Culpeper (1616-1654) recommended a strong tincture of wormwood made with brandy and said that 'In the scurvy and in the hypochondriacal disorders of studious, sedentary men, few things have a greater effect.' Extracts of wormwood have been found to have antibacterial, antifungal, insect repellent, narcotic, digestive and tonic properties.

Peter Waite may not have needed to take advantage of wormwood's medicinal properties but it is quite possible that his staff planted wormwood around the chicken yards. The dry leaves repel insects and the hens peck at the leaves which kill intestinal worms.

Wormwood's stimulant effect comes from bitter compounds including the glucoside absinthin. The volatile essential oil distilled from the leaves and flowers contains terpenes, in particular thujone, which makes up 40-70% of the oil. The oils extracted from *Artemisia absinthium* plants from different regions vary in their chemical makeup but all have significant proportions of thujone.

Absinthe is a very strong distilled spirit flavoured by wormwood, fennel, anise and other culinary herbs. It was first made in the late 1700s in Switzerland and sold as a cure for stomach complaints. Absinthe would have stayed in the medicine cabinet if it hadn't been for some plant collectors who brought specimens of North American vines to England in the 1850s. Unknown to them the specimens carried the tiny sap-sucking insect phylloxera. Phylloxera is native to North America and the native grape species had developed resistance but the European wine grape *Vitis vinifera* is very susceptible to the insect. Phylloxera devastated vineyards in Britain and then destroyed most of the European grape growing industry.

With wine in short supply people turned to spirits. In the 19th century absinthe became the drink of choice among artists in Paris and was associated with the bohemian lifestyle. Absinthe typically has an anise flavour and green colour and was known as *la fée verte*, the green fairy. By the early 20th century, absinthe was becoming popular in America as well as Europe but the temperance movement, wine makers' associations and 'anti absinthe' writers were campaigning to have the spirit banned. The source of the complaint was the presence of thujone which was claimed to be a dangerously addictive psychoactive drug. By the end of World War I, absinthe was banned in America and everywhere in western Europe except Spain. In more recent times most of the bans have been lifted. Absinthe typically contains between 60% and 75% alcohol and it is this, rather than the small quantity of thujone in absinthe, that causes the ill effects associated with excessive absinthe consumption.

Material from:

http://en.wikipedia.org/wiki/Artemisia_absinthium

<http://en.wikipedia.org/wiki/Absinthe>

Eileen Harvey and Graham Bald

AUTUMN IN THE ARBORETUM



This creative pattern from nature appeared in the mallee block one autumn weekend. Photo Jennifer Gardner.



Pyrus calleryana 'Chanticleer' has spectacular autumn foliage. Origin cultivar.



The woody, five-valved fruit of *Flindersia xanthoxyla*, Yellowwood. Each valve contains 4 to 6 thin, winged seeds which germinate readily. Origin NSW, Qld.



Acorns of *Quercus engelmannii*, Engelmann Oak. This species is Vulnerable because of its restricted range. Origin California.



Dry fruit of *Quillaja saponaria*, Soapbark Tree. The tree's inner bark can be powdered and used as a soap substitute. Origin Chile.



Eucalyptus preissiana subsp. *lobata*, Bell-fruited Mallee occurs between Albany and Esperance in WA.



Flowers and fruit of *Brachychiton x roseus*, Wentworth Flame Tree. It is a natural hybrid between *B. acerifolius* and *B. populneus*. Origin NSW.



Eucalyptus incerata, Mount Day Mallee is native to south-west WA.



Acorns of *Quercus pubescens*, Downy Oak. Origin E., C. and S. Europe, N. Turkey.



Eucalyptus bicostata, Eurabbie grows in NSW and Vic with an unusual, small, isolated population north of Burra in SA.



The fruit of *Syzygium paniculatum*, Brush Cherry, has a pleasantly sour apple-like flavour. Origin NSW, QLD.