

– Jim Kilsby (President DSWAA)

Walls and fire



In this edition we find again a diverse span of articles and as always we welcome the contributions of DSWAA members. It is interesting the range of topics that fit under the heading of dry stone structures and fascinating the viewpoints presented. Congratulations and thanks to all for your terrific stories.



I do want to single out the project that Laurie Atkins is leading on dry stone wall databases. This work aims to use accessible technology that facilitates the consistent recording of dry stone walling structures throughout Australia. A major stumbling block to now has been the difficulty of managing the information collected. The stimulus to revisit this ambition now comes from technology: digital records, accessible data on the cloud, geographic information systems, mobile phones and tablets, and other things enable a fresh look at the database idea because data is now so much more easily collected, recorded and managed.

If we can be successful with this ambitious project, it will be an extremely valuable tool for the Association. We aim to preserve and protect Australia's important dry stone assets but can only do that if we know what we have got.

I also wanted to put forward a quick word on the upcoming field days in South Australia in April this year (see page 17). You will receive more information on this soon but please look to join and indicate your interest early to help the coordination team.

Since our previous edition this country has changed. Many Australians have had a very challenging summer, with much of our country ravaged by bushfires. Members of the DSWAA committee and their families have not escaped unscathed. Now as I write, rain (torrential in some cases) is falling on many areas and hopefully the land can start to recover. To the various agencies and volunteers who have worked tirelessly fighting these fires – we can only say THANKY-OU. It is just amazing the job that these folk have done and as Australians we are forever grateful.

All the best and see you in South Australia in April!

Jim

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The Traditional Art of ... Databasing

– Laurie Atkins (DSWAA committee)

The DSWAA is very interested in expanding the use of information on walls to support its advocacy across Australia in relation to dry stone structures. The use of geographic information system (GIS) technology appears to be well suited to the task of managing data and is available to the Association. However, the design and implementation of such a project involves more than just the technology. The following article poses some principles which should be applied to the project and discusses ways in which the project could be progressed.

The purposes to which the data base will be put need to be identified.

The DSWAA has a number of objectives in its Rules of Association which provide direction. Objective 2 outlines the scope of the Assoc interest:

To document dry stone walls and dry stone structures and draw on historical records in order to encourage appreciation, conservation, maintenance, repair and interpretation of those of cultural significance.



The objective broadens the scope of documentation (i.e. data collection) to include dry stone structures (DSS) in addition to walls, to describe the structures themselves as well as melding historical contextual information to enrich the knowledge of these structures.

The objective also outlines areas in which the Assoc should advocate. Logically a body of reliable

information could raise appreciation of DSS and inform conservation, maintenance and repair efforts by a range of stakeholders who intersect with the Association's interest in DSS. A more complete inventory of DSS may identify greater opportunities to engage with the community.

Information needs to be provided in a form that can be understood and used

For information to have influence, it must be fit for its intended purpose and audience. For example, in order to advocate for the recognition of cultural significance of a wall, the analysis should be in an appropriate form for heritage bodies to digest.

The Department of Environment, Land, Water and Planning Victoria uses the following recognised criteria for the assessment of the heritage values of a heritage place. These model criteria have been broadly adopted by heritage jurisdictions across Australia:

Criterion A – historical significance: Importance to the course or pattern of our cultural or natural history.

Criterion B - rarity: Possession of uncommon rare or endangered aspects of our cultural or natural history.

Criterion C – research potential: Potential to yield information that will contribute to an understanding of our cultural or natural history.

Criterion D - representativeness: Importance in demonstrating the principal characteristics of a class of cultural or natural places or environments.

Criterion E – aesthetic significance: Importance in exhibiting particular aesthetic characteristics.

Criterion F – technical significance: Importance in demonstrating a high degree of creative or technical achievement at a particular period.

Criterion G – social significance: Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of their continuing and developing cultural traditions.

Criterion H – associative significance: Special association with the life or works of a person, or group of persons, of importance in our history.

Data collected in a DSS database must be interpretable in terms of these cultural heritage criteria, along with advocacy, conservation, maintenance and repair, and encouraging appreciation of dry stone structures.

Descriptions of DSS need to be relevant to purpose and unambiguous

The usual thinking around a data collection is about walls and the following discussion will use walls as the example. However, there are a wide range of DSS that should be captured in a database: stone circles, coastal and river fish traps, eel races, indigenous huts and village complexes, buildings, yard complexes, sheep washes, dry stone faced wells, retaining walls, bridges and cairns. The basis on which structures might be included or excluded from the collection needs to be clear.

A primary focus of documenting walls is a physical description. Discrete attributes such as height, thickness, build type and features are examples of measures or

Databasing *(cont.)*

observations that might be involved. The challenge is to ensure that observations recorded from different observers in different geographical areas and over time are consistent so they can be objectively assessed. Yes, all characteristics of walls need to be well defined or the resulting records could be useless. For example, the wall height could be estimated or measured. If it's measured, is it measured in the vertical? Is the measurement from ground to the top of the copestones, from the foundation trench to the top of the build or top of the cope stones. Definitions also need to be standardised so wall height (for example) can mean only one thing.

A second issue with amassing data is whether there is appropriate fine description that could provide the granularity necessarily to differentiate between classes of walls when there is a legitimate difference but not create a multitude of artificial groupings. Building method such as double or single wall or Galloway, and attributes such as batter angle, presence of through stones, courses and copestones and their placement provide additional differentiation, but is it useful? Another discriminant may be the geological origin of the stone used and its size, shape and texture.

The art in data collection design is to be able to interpret the assemblage of discrete observations into a fit-for-purpose story. Questions of historical significance may be informed by location, build date and associations with property owners or estates. Statements of rarity and representativeness may be informed by a comprehensive coverage of walls across specified geographic areas. Aesthetic or technical significance may be informed by observations on build quality or design features. Identification of the builder may assist interpretation of associative significance. Many of these judgements can only be made having a knowledge of the whole population, or at least a representative sample, of structures.

Data collections need to achieve a certain critical mass before they are useful

It is one thing to design a data collection and put the systems in place to store, analyse and report, but it is another to guarantee a stream of reliable, good quality data on which to act. To collect good detailed information is likely to be a particular challenge.

In this age of mobile communication it could be possible to have a "Wall Spotter" application (App) available to the public which can allow a picture of a wall to be taken, automatically record the location, add some description using tick-boxes and submit it to a central database. One advantage of this is that it might raise DSS public profile and new walls might be identified. The disadvantage is that it is likely to be a biased sample and require manage-

ment to eliminate the repetition. However, on balance, it might be a useful base level of data collection.



A more managed approach may produce efficiencies that expand the effort from finding walls to making the more detailed observations. For example, mapping whether walls are present or not could focus searches in areas where walls are more likely to exist. Promoting wall documentation within the association and forming partnerships with interested groups such as historical societies, landcare groups, local government and utility companies might significantly boost the appreciation of walls within a wider distribution of localities. A strategic approach to data collection in areas where walls are threatened may lead to greater impact. Desk top surveys using a range of earth imagery may be used to fill in gaps in coverage.

Finally, we need to be mindful that most DSS are privately owned structures and owners should have control over the attention given to their property under this project. Governance rules will be needed to ensure provisions such as opt in/out, maintaining privacy, discouraging trespass, and secrecy are in place so that this key stakeholder group is not alienated from the cause and malevolent agents can't misuse available information.

Conclusion

The potential for a high quality data collection to support the advocacy of dry stone structures is immense. The technical challenges of data recording and management appear to be largely overcome. However, our ability to engage with the broad range of potential stakeholders and the capacity to achieve an ongoing supply of reliable data remain challenges for the future. For the time being, these challenges only encourage the effort towards achieving that long held ambition to have a DSWAA dry stone structures database.

Quantity & Quality – Finding the Balance

Geoff Duggan (DSWAA committee; Master Craftsman DSWA(UK))



Xena: 'That was a big job!' Ziggy: 'Yeah, but it looks good'

When building a dry stone wall professionally, it is essential to build a quality product in a timely manner. Especially in a contract situation, this is an important aspect of the craft in order to run a viable business and/or to be of value to your employer. For the purpose of this article, I will focus on this aspect of walling: speed.

I loved the quote in the last issue of *The Flag Stone* (#46, Sept.2019) by one of Jon Moore's team: 'A good waller can build about four metres in a day; a bad waller can build six metres'. This is so true, and I have also heard of the term 'Ten metre a day man' to describe wallers who build to a very inferior quality. They are more focussed on how much they can build rather than the quality of the work. There really needs to be an overriding balance between quality and quantity.

One way to address this issue is with the craftsman's certification scheme developed by the Dry Stone Walling Association of Great Britain. Within the four levels of certification, the candidate is required to build increasingly complex structures and also an increased amount of wall within an allotted time (see [here](#)).

Before we focus on speed, the first priority in your development as a dry stone waller is to learn the basic principles, rather than trying to get up as much wall as you can in a day. From the beginning be strict and honest with yourself in applying those principles so you don't develop bad habits. There really are no short cuts but with practice and experience your speed will increase. There are however 'tricks of the trade' which I believe

can improve efficiency and therefore productivity and speed. I am sure there are many more.

Spatial ability is the capacity to understand and remember the spatial relations among objects. Some people will have this gift, a natural capacity or aptitude for this craft, while others may need to work harder at it. This can greatly assist your ability to avoid picking up many stones, or the same stone several times to fill a gap or space on the wall. A casual observer would say 'you need to be incredibly strong to do that type of work'. I usually counter with 'the more you use your mind and brain, the less you use your muscles'.

Reasonable physical fitness does help significantly as does mental freshness. You will find after a time your body will become accustomed to the type of physical work involved, which can also correlate to practice and experience noted above. To further illustrate, the combination of mind and body happened to me while undergoing my Master Craftsman test in Yorkshire. In preparation for my timed test I had trained for around 6 months in the lead up to it. Around mid-afternoon of the test I was feeling physically fine, however I couldn't see the shapes of stone I needed. It was as if my spatial ability was exhausted. The examiners encouraged me to take a five-minute tea break and look at the countryside. Returning to the wall refreshed mentally, I completed the section of wall on time.

If you get the opportunity, work with as many credible wallers as you can. You will always learn something from someone, you will never know all there is to know.

Quality and Quantity *(cont.)*

Working with others gives the opportunities of competitiveness, skill sharing and plain old good craic.



Competition walling ([above & TFS #42, June 2018](#)) which is popular in the UK and USA is also great for working on speed. People entering competitions are given an individual stint or small section of wall, usually in some need of repair. Competitors pull down and repair their section against the clock and each other while being marked at each stage by a group of judges. Competition walling is a great way to push your mind, body, skills set and competitiveness to the limit. There are preliminary talks regarding the possibility of competition walling in Australia, so keep your eyes open for news of this.

Dry stone walling is a process and it does take time. If you can save a few minutes here and there during this process, it can add up to a considerable amount of time

by the end of the day. Keep your stone at hand. Begin by correctly sorting your stone into categories that you will need at each stage of the building process. For example, store large foundation stones close to where the wall face will be. Grade your stone in order of size away from the wall face. Do not spread the stone too far away from the wall face or you could end up walking several extra kilometres over the course of a day picking up stone. Keep hearting stone for the middle of the wall in piles readily accessible rather than scattered around. Keep copes and through stones to the side or toward the back of the pile. In this way, as the day progresses you will use the stone in an order which is not only logical, it also gives you an increasingly clear and safe work area as the wall is built up.

At various times throughout the day you will need to raise, lower or repair broken string lines. Learn how to use a binder hitch ([right](#)) where the pressure and friction of the string line hold it on to your batter frame ([video 9:34min](#)). This simple line attachment will take a few seconds rather than minutes untying knots throughout the day, especially if you are wearing gloves.



Stone laid out for easy access: foundation stones closest; copes furthest

Quality and Quantity *(cont.)*



Thinking ahead for the next course

Casual observers of a wall being built often say 'it's like a giant jigsaw'. I say it is more like a game of chess, you need to always think of the next move. When walling or laying a course of stone, rather than just sitting or balancing a stone on the two below, focus also on where the next stones above will sit. Spend a few extra minutes with each stone at this stage to ensure you will be able to wall over it. Failing to think ahead like this can leave you searching much longer than a few minutes for some obscure shaped stone to get around the problem you created below.



The pale stone will be difficult to wall over. It covers the joint below, however it has left a step, the top side sloping forward and too long into the wall leaving little space on the other side to build. (note hearting stone readily accessible in a pile)

During the building process, a fair amount of time is spent correctly pinning stone and filling the middle of the wall. Try to keep buckets of fill at hand. I usually have a pile of fill and shards of stone sitting on the actual wall or section I have completed. When I lay my next stone on the wall, I have pins and fill ready at hand, rather than having to leave the wall face to search for pins and fill to secure the stone I have just laid.

Avoid laying the stone with excessive hammering and/or chiselling. You need to find a balance; it is always very tempting to take bits and pieces of stone off here and there to get an even better fit. Sometimes it gets to the stage where you begin manufacturing every stone for the wall. The more time you spend hammering, the less time you will spend walling. This can be exaggerated even more when power tools are about. They do come in handy though and I'm not going to deny using them where necessary. However, purists would turn their nose up at them in traditional dry stone construction; besides they are very noisy, dusty and dangerous.



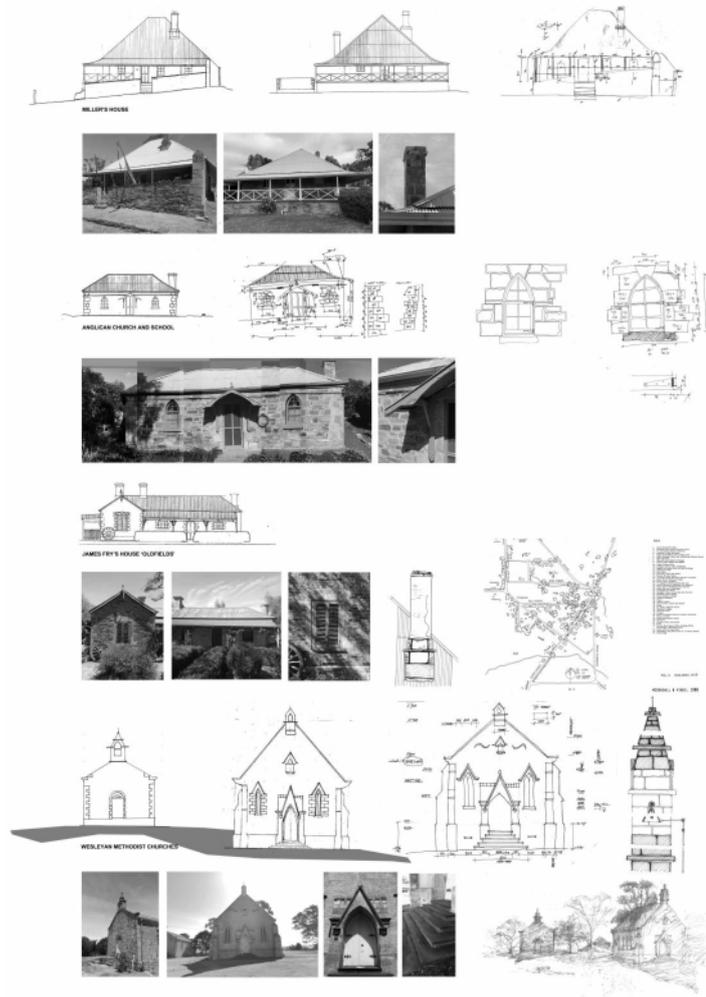
The chisel might look like fun, but it can slow the job right down

Don't burn out physically; remember slow and steady, looking after yourself. I think it is much better to work within your capacity rather than risk injury through strains or exhaustion. An injury now could cost you hours later on the wall. Stand back occasionally, take a critical look at your work, admire it, or correct mistakes early. Early detection could prevent you wasting time building over a mistake that may need to be stripped down and rebuilt.

To summarise, keep true to the craft. Focus on quality rather than speed. Speed will come with experience and following the simple principles outlined above. Beyond experience, physical and mental abilities, walling faster is not about speed, it is about efficient, safe work practices and finding that balance.

When you find that balance you will develop a flow that is hard for me to describe other than 'being in the zone'

Mintaro Stone – Phil Harris (DSWAA member)



In April 2019, with a handful of friends, I participated in a 'beginners' dry stone walling weekend workshop led by Jon Moore for DSWAA.

Six months later I ran my own workshop at Millers House in Mintaro.

Mintaro is a State listed Heritage Town, renowned for its local stone buildings and dry laid stone garden walls, resourced in the main from its famous slate quarry (still in operation).

Millers House, which hosted the week-long studio, is the town's oldest extant building (1853) and was built by Thomas Miller, haulier, who's horse teams shifted copper from Burra to Port Wakefield, and later slate from the quarry. A fair amount of enormously dimensioned slate flagging appears to have fallen off the truck at Thomas' ever-expanding house, which also retains its original timber shingles (under its crazy steep and characterful, now tin) roof.

Troppo Architects seek to build using 'real' materials, with connection to their site/region, that will age gracefully with little or no applied finish. This approach overlays with the practice pursuit of Ecologically Sustainable Development (ESD), of which a key element is to deploy low embodied energy material and construction systems.

Through the University I'm working toward not only building student skills in understanding regional and traditional construction, but also in connecting with

the earth. This particular studio was part of an ambition to document over (say) 5 years Mintaro's very particular architecture, and to support and extend traditional stone-laying skills within the community.

So in November 2019 eleven 4th year students of the University of Adelaide's Architecture or Landscape Architecture courses journeyed to Mintaro, never having produced a measured drawing study (*see above*) of an old building – and with soft student hands... !

Context

The objective of this studio was 'to consider 'earth', in its many forms as a rich and varied architectural resource, and to measure, draw, feel and build with stone'.

Day 1: Introduction to the geology and 'terroir' of the 3 Clare Valleys and the rain shadow country of Mintaro

Day 2: Tour led by Traditional Owner, Quenten Agius, via Burra, to his Ngadjuri Country in Redbanks Conservation Park and the southern run of the Olary Ranges, visiting 40,000-year old Petroglyphs and early contact history homesteads of stone, cypress pine and tin.

Days 3-5: Measured drawings of the old stone buildings of Mintaro.

Days 6-8: Dry laid stone wall workshop – learn, repair and rebuild.

Guest lectures by Joc Schmiechen and Bruce Munday.

Outcomes

Beautiful drawings and posters (*example above*); 40m of restored/rebuilt dry stone wall; steps; and a firepit (*above*).



Mintaro Stone (cont.)

The stone wall



The walling workshop was led by Jon Moore ([JRM Stone-work, above](#)). The old boundary wall running along Young Street was free-standing for most of its length, becoming a retaining wall as it curved around a mound to some steps. Much of the wall was badly damaged, mainly on account of the slate developing efflorescence over time – a familiar occurrence in the garden walls of Mintaro. This arises because shallow quarried slate was relatively less dense with micro fractures allowing moisture to penetrate, bringing dissolved salts that precipitate in the stone causing degradation. Denser stone from deeper in the quarry does not have this property and was used in buildings; poorer quality in fences. However, there was so much history in this wall that it was not to be demolished on a whim.

Jon demonstrated the principles of dry stone walling to the students then set them to supervised work. It was a big job, building with quite thin slate from the better parts of the old wall. Further along Jon's team (Aaron, Nick and Sussex) rebuilt their section to a professional standard using traditional form and technique ([below](#)).



Respecting history we left a few metres of good extant wall leading on to the final section built by Troppo architects Nguyen Le and Ryan Hornell, old mate Henry Martin, and Mr Dry-Laid Bruce Munday.

To make up for discarded stone we fetched trailer loads from a flattened former dry stone wall elsewhere within the property.

Building a wall with so many pairs of hands calls for teamwork and here the students excelled: using their diverse abilities; fetching and lifting heavy stones; sorting copes and throughs; grading and selecting building stone; stockpiling hearting. Finally, we had some fun turning the broadest cope stones into something a little 'Leunig-like'.

Some of the atmosphere was captured and broadcast on Radio National's [Blueprint for Living](#).



The home bend



Phil Harris is Founding partner of [Troppo Architects](#): a practice of regionally based studios aiming to develop regionally responsive architectures.

He is also Professor, [School of Architecture and the Built Environment, University of Adelaide](#).

Among other gongs Phil was 2014 AIA Gold Medallist and 2010 Global Sustainable Architecture Award laureate.

He can sometimes be found gardening at [Café Troppo](#), Light Square, Adelaide.



Kanazawa Castle

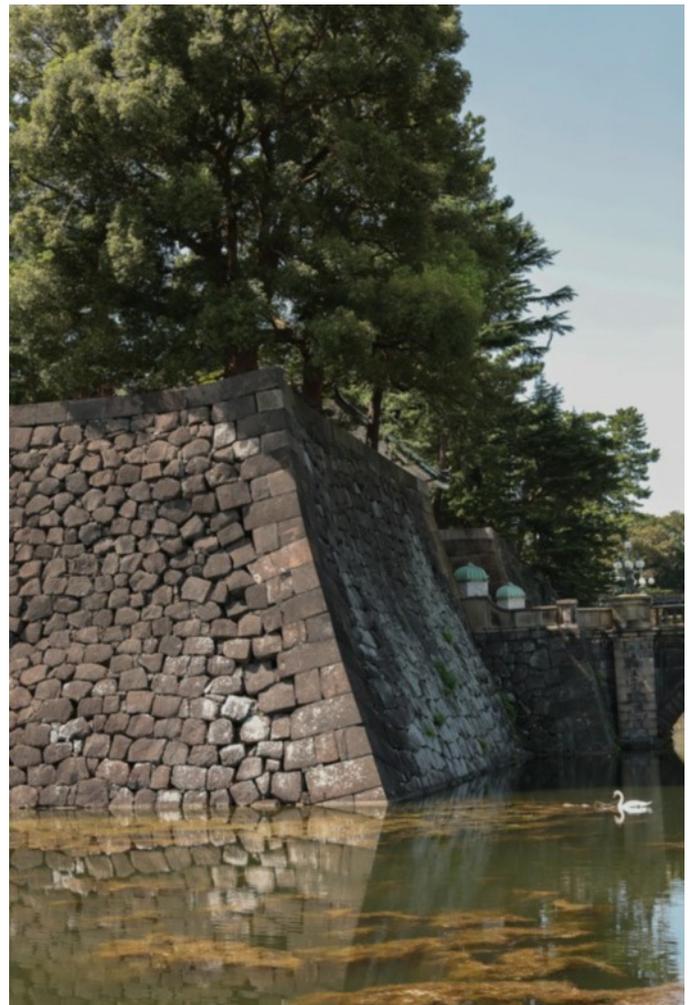
In Japan, stone is ubiquitous. Stones can be highly symbolic, deeply spiritual and, as mythology would have it, they housed the spirits of deities. Stone gardens were formed at least as early as the 8th Century and considered great works of art then and now.

Japan's long history of clan and feudal warfare necessitated mastery of both wood and stone construction that would withstand attack and so much that remains was built with neither nails nor mortar. Perhaps incidentally at first, these methods also made structures more resilient to earthquakes of which Japan has plenty.

By the 16th Century classic style Japanese castles and other strategically important sites were built with very large stone bases (*musha-gaeshi*). These were formed with precisely hewn individual stones of massive dimensions, tightly fitted to make walls difficult to scale.

The first step was to prepare the supporting earth embankment. This was done by cutting narrow terraces, topped with a thick layer of river stones elaborately arranged to facilitate rainwater runoff in times of torrential downpours that could otherwise collapse the wall.

These elegantly curved stone walls (*ishigaki*) can be as high as 30 metres. Inward pointing square stones form a wide base for greater stability - a technique called *ogi-nokobai*. The curvature also prevents pressure swelling behind the wall and this structure can support taller and heavier loads than might otherwise be the case. The engineering was sophisticated and labour-intensive, many of these walls still standing more than 400 years on.



Imperial Palace, Tokyo

Japan (cont.)

The walls surrounding the Imperial Palace in Tokyo were built with black stone from the Izu Peninsula ~100km away. Blocks could weigh several tonnes and required 100 men to haul them onto ships and on sledges to the building site.

The extraordinary gardens that surround castles, temples and shrines in Kyoto are dotted exquisite stone lanterns, roughly cut stone bridges and paving.



Can't wash it away



TFS#42 (May 2014) featured several dry stone bridges in the Lake District (UK) including Slaters Bridge (*inset*).

Gavin Rose worked for five years in Cumbria where he captured this remarkable shot of the bridge in a flood. This is not an uncommon experience – the bridge builders can feel very proud of this little masterpiece.



Dry Stone Walling on the Edge – Gavin Rose



Mt Rosea escarpment

For twelve months during 2012-2013 I was in charge of a small crew building and repairing hiking tracks in the Grampians National Park in Victoria. One of the more challenging aspects involved establishing a new track along a narrow ridge near Mount Rosea.

An abrupt five-metre bluff had to be navigated but a staircase would have had a two-metre run and four-metre rise – dangerously steep and narrow.



A tall pillar of rock that had separated from the main ridge inspired a solution – building a retaining wall on one side of it and backfilling behind the wall would enable the staircase to wind around the pillar, thus increasing the run for the same rise.

Column behind which the stairway would be built

As there were few smaller rocks to build with we had to drill and split several large boulders using plugs and feathers (*below*).



We set up an overhead rigging system of cables and hand winches to move the large stones into place. After chiselling a footing into the bedrock, we built a three-metre retaining wall in the gap between the ridge and the column – with this in place, we

then built steps behind the column to lead up, or down, to the next level.

Lastly we built a metre-high, free-standing wall on top of the retaining wall to act as a parapet. The stairway took six weeks to build and used roughly 40 tonne of stone. Each day we hiked 45 minutes to and from the site, all up lumping 270 kg of tools and rigging equipment on our backs.



Large boulder on skyline

On the Edge *(cont.)*

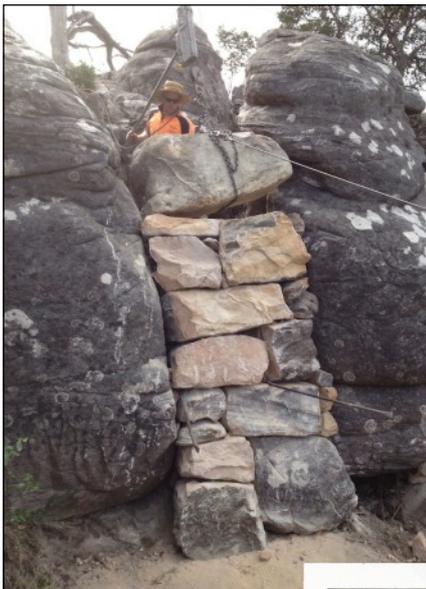


(Left) Maneuvering step-rock into place

(Middle left) Large boulder almost in position

(Middle right) Completed retaining wall with parapet

(Bottom) Walkers on upper section of stairway



For the past twenty years Gavin Rose has travelled the world (Grand Canyon, Costa Rica, Lake District (UK), Tasmanian Highlands and of course The Grampians) pursuing his passion for trail construction and working with stone in areas of natural beauty.

Issue No. 46 of *The Flag Stone* featured a dry stone bridge he built also in The Grampians.



History in Stone – Bruce Munday



Clynt Johansen farms in the foothills of the eastern Mt Lofty Ranges, between Strathalbyn and Wistow. There are many remnant dry stone field walls in this district, probably once quite a dominant feature on grazing land. There are also very significant stone quarries that continue to produce high quality dimension stone.

Evidence suggests that the main period of stone fence building activity was the 1880s, the walls on Clynt's property being built by two teams each with a qualified waller assisted by four labourers. Today the focus is on retaining in good condition what remains of these walls, partly achieved with an electric fence to protect them from livestock.



A unique feature on Clynt's property is the pair of parallel walls (*above*), a chain apart, that early survey maps mark

as the old bullock track running from Port Adelaide to Milang on Lake Alexandrina. This was an extremely important transport route in the 1800s. Prior to the building of a bridge at Murray Bridge in 1879 wagons would bring goods from Adelaide to Milang and Clayton whence they could be transported up-stream by barge. Wool from the pastoral country was back-loaded down-stream *en route* to Adelaide, again along the bullock track.

In 1910 Clynt's Norwegian grandfather went to sea as a fourteen-year-old cabin boy. Six years later he and another Norwegian lad jumped ship in Adelaide and walked 100 km to Murray Bridge where they had heard of a Norwegian market gardener who might have work. When the market gardener asked how they had managed the walk, they replied that it was fine except for the crocodiles. Told that there are no crocodiles in this part of the world the two lads argued they had seen the babies. Sleepy Lizards !!!

1915 was a drought and the Murray was dry. The young Johansen was given a gun to catch his food and to guard a loaded barge stranded on a sand bar. When eventually the barge was refloated he walked back to Adelaide along a road reserve, with every possibility that he walked across what would become Clynt's farm some 80 years later.

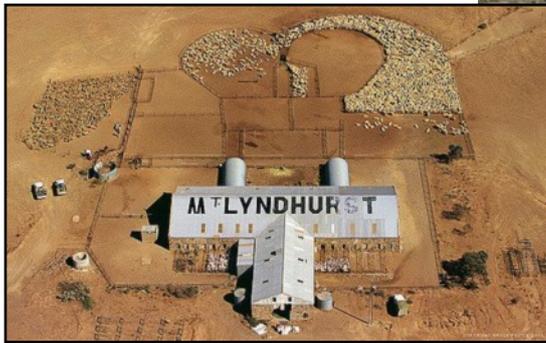
'I am always struck by the reality that every one of those stones that make up miles and miles of rural walling were picked up by somebody' said Clynt. 'Such a massive task.

'This really came home to me 25 years ago when I decided to build a dry stone retaining wall by my house. I fetched all the stone from around my property in a 6x4 trailer, unloaded and sorted it, then built my wall. As a first-time waller I just concentrated on keeping courses level, covering joints, and sloping the wall slightly into the bank. It took me 24 weekends but in the end I felt very satisfied. I just wish I had heard about batter frames before I started.'



Outback Camels – Paul Maloney (DSWAA member)

Slate camel yards, Mt Lyndhurst



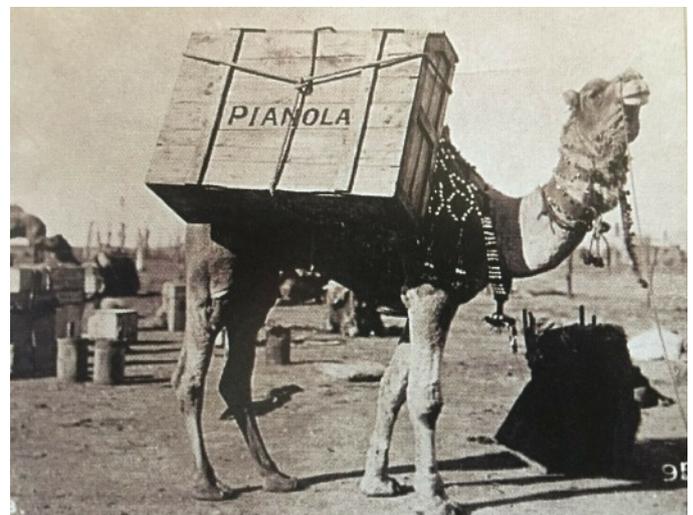
Mt Lyndhurst Station, at the head of the Strzelecki Track, is synonymous with the pioneering era of South Australian pastoralism. Covering 1347 square miles (3448 sq.km) north west of the Flinders Ranges, along with the even larger Murnpeowie and Cordillo Downs runs, it was an integral part of Thomas Elder's gargantuan Beltana Pastoral Company. Each of these properties was deficient in construction timber, but in some places blessed with stone which became the basic building material for homesteads, shearing sheds, water tanks, troughs and stock yards.

In 2011 I spent five days at Mt Lyndhurst and had the opportunity to explore this property that was once very significant not just for sheep and then cattle, but also for camels.

I had known the (then) owners of Mt Lyndhurst for many years, so I was fortunate to look over much of the station, including the iconic stone shearing shed. Less well known are the remains of stone camel yards that I gather are quite unique to Mt Lyndhurst.

Camels, with their capacity for heavy loads, heat tolerance and ability to survive for days with little water were instrumental in opening up the Far North. It was Elder who in 1865 brought in 100 camels, along with Afghan handlers, to service and supply the copper mines at Blinman from Port Augusta. It was not long before camels (with their handlers) were also carrying loads for the adventurous pastoralists taking up government land leases, as well as for the construction of the overland telegraph line.

There is no indication of the date these camel yards were built, by whom, or just how they were used. The 1870s would seem a probable date and we might assume that they were used as a holding yard while the camel strings were loaded or unloaded. This was an arduous and lengthy process given that camels typically carried 300-400 kg, often in awkward configurations.¹



¹ Camels carried all manner of loads: iron bars, corrugated iron, fencing material, food supplies, water tanks, bore casing, lengths of timber, furniture, food supplies and cases of whiskey – and of course bales of wool. They were generally strung together with a cord attached to the tail of the leading camel then to the nose peg of that following and so on. Should a camel be startled the nose string broke easily, not harming the camel.

Walls in Floods and Fire – Bruce Munday



Shot from a microlite shows how a stone wall contributed to arresting a grass fire advancing from bottom of photo

In July 2019 several villages and farms in Swaledale (North Yorkshire) suffered huge damage from a flash flood. What a contrast to the bushfire experience across much of Australia over the past few months.

Among the flood casualties was huge damage to several kilometres of dry stone walling, which in an ironic way reminded me of an article I wrote for *The Flag Stone* in February 2014 (#29). There I described the way in which dry stone walls had, in many instances, arrested or at least stalled fire fronts in a large bushfire that went through the eastern Mt Lofty Ranges. I ended that piece with the following words: 'We know only too well that maintaining stone walls demands both time and skill in large amounts. But the benefits (both private and public) could be considerable. Perhaps support for this is something that insurers should consider, and perhaps also state governments that inevitably are expected to fork out assistance after large bushfires'.



Heroic wall – stopped the fire!

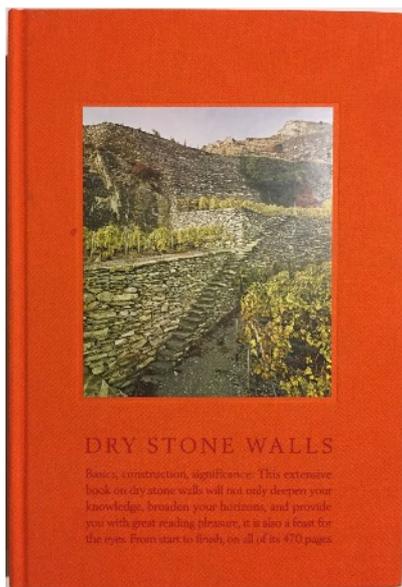
What does this have to do with floods in Swaledale? Well, DSWA(UK) was contacted on behalf of HRH The Prince of Wales, its Patron, to see if there was anything that could be done to help with the disaster. This they duly did by organising a Wallathon where volunteers, supervised by certified professional wallers, spent a weekend rebuilding 225 metres of priority walls ([see below](#)). A second Wallathon is planned for 2020.



There has been a lot of talk about how Australia might better prepare for bushfires. I believe we should put dry stone wall maintenance up on the agenda, urging Government to step up and assist in priority areas where existing walls have the potential for repair and maintenance.

Aside from their historic value they are a potential resource whose time might have come again.

Book review – Bruce Munday



Dry Stone Walls – Fundamentals, Construction, Significance, edited by the Swiss Environmental Action Foundation (EAF), is more than just a book. Who would pay \$150 for a book simply to learn how to build a dry stone wall. Nor is it a field guide you might slip into your day pack. It is a 'brick' to drool over when planning your next project

or your next trip; a manual for any and every technical walling issue; a schema for dry stone in the human, the animal, the floral, the cultural and the historical landscape.

Even the preface is interesting. Dry Stone Walls grew from an encounter in 1993 between Richard Tufnell (see TFS #46) and Marianne Hassenstein, former director of the EAF. Marianne was 'keen to stop the use of unsightly concrete in terrace walls and re-start pure dry stone'. A noble motive indeed. There followed a small manual in French and Swiss German, based on Richard's own manual *Building and Repairing Dry Stone Walls* produced for DSWA(UK). Now twenty or so distinguished contributing authors and photographers have produced 468 A4 pages of wonderful material in its 10th edition.

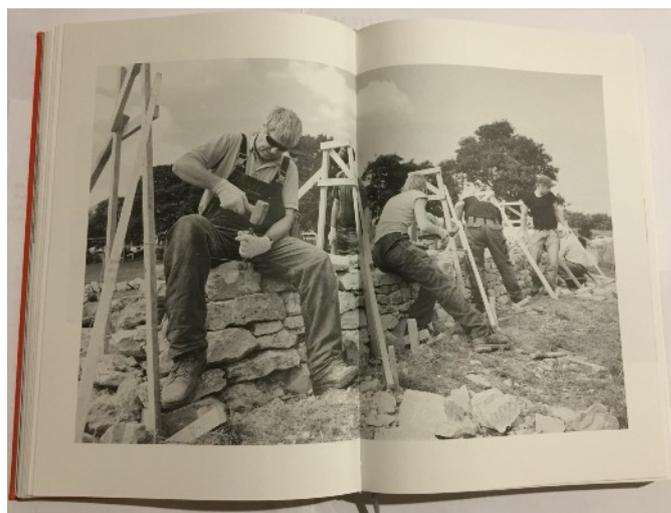
The table of contents begins on page 452 which I find annoying. However this is such an exceptional book that it is forgivable – perhaps to be an unlikely feature. Instead the book opens with a photographic essay of some of Switzerland's wonderful dry stone walls, buildings, bridges, cairns and steps by Michael Rast. If this does not entice readers in I would suggest they go back to playing with concrete.

There are hard facts here, facts that even the most casual waller must find intriguing: how stones originated; how stones vary; from the quarry to the building site. Then landscapes: natural; cultivated; and cultural; the photos all warming us up to the infusion of dry stone.

Then to the real story: how to build, restore and maintain a dry stone wall. Some 150 pages take the reader through the first principles all the way to special elements such as patterns, steps, stiles, arches and niches. In an era when all these things can be demonstrated well on Youtube,

pages in a book need to be pretty special to compete. In this book they are. The text is succinct, the sketches exemplary and the layout clean. There is also an important section showing how walls can deteriorate and what can be done to arrest this. What I particularly like about the photos is that they reflect that walling is emphatically a human exercise where hands and mind work with natural material. It can be solitary or communal, it is gender neutral, and there is no age limit. You might wonder that so much can be written about walling practice, but it is never trivial, repetitive or over-written.

This superb book is a must for wall lovers. It takes us hiking through Switzerland with essays, photos, trip notes and nature studies. Most of the photos and stories are from this small country that doesn't go to war but uses its version of military service to help build, restore and maintain dry stone walls. The book never seems parochial while at the same time there is a clear UK influence, inevitable given the key role played by Richard Tufnell. Yet there are plenty of international examples (although none from Australia) and the overall flavour is universal.



Could the reader really ask for more? Well, perhaps some examples of artistic installations from the likes of Sunny Wieler, Thea Alvin and Dan Snow (to name but a few); not so much what they do but how they do it, from idea to product. But this is nit picking over what really is a very fine book.

This is not a book to read from cover to cover and it is not always easy to navigate. There are some wonderful essays from the practical to the philosophical but I found myself stumbling across them rather than homing in on my target.

All chapters have a bibliography and some are referenced, however the book lacks an index.

Editor's notes



DRY STONE WALLS GALA WEEKEND,
SOUTH AUSTRALIA

4-5 APRIL 2020

HISTORIC AND CONTEMPORARY DRY
STONE WALLS AND STRUCTURES IN THE
VICINITY OF WILLUNGA (SATURDAY)
AND STRATHALBYN (SUNDAY)



DETAILS WILL APPEAR ON THE DSWAA
WEBSITE AND E-NEWS



The Association's vision is that dry stone walls and dry stone structures are widely accepted for their unique place in the history, culture and economy of the nation and for the legacy they represent.

Our goals are:

- *That governments and the wider community recognise the significance of dry-stone structures built by indigenous peoples, European explorers, early settlers and modern craftspeople as valued artefacts of our national identity.*
- *That this acceptance is manifested by appropriate statutory protection and landowner and community respect and celebration.*
- *That the craft of dry-stone walling grows as a modern reinforcement of the contribution that dry stone walls and structures have made to the culture of Australia.*

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Membership

Annual membership fee

Corporate	\$80;	Professional	\$50
Single	\$30 (\$80 for 3 years)		
Family	\$50 (\$130 for 3 years)		

Cheque: DSWAA Inc. and posted to DSWAA Membership, 87 Esplanade West, Port Melbourne 3207; or

Bank Deposit at any branch of the ANZ Bank or **EFT:** BSB 013 373, Ac. no. 4997 47356

Clearly indicate membership identity of payer

New members

Complete the online membership form on our [website](#): Alternatively email or post name, address, phone number/s, and area of interest (eg waller, farmer, heritage, etc) to the membership secretary (above).

Renewals

Annual fees are due May 31 after the first full year of membership. We send renewal notices prior to this.

P 1	B Munday	Photos
P 2	K Munday	
P 4	G Duggan	
P 5	K Munday (top left), G Duggan	
P 6	B Munday , G Duggan (bottom left)	
P 7, 8	P Harris	
P 9, 10	L Allison, G Rose (P10 bottom)	
P 11, 12	G Rose	
P 13	C Johansen	
P 14	P Maloney, P Jones & A Kenny ² (bottom rt)	
P 15	B Munday, DSWAPL/J Taylor (right)	
P 16	Scheidegger & Speiss	
P 17	B Munday	

² Australia's Muslim Cameleers P81