



Tea Tree Gully Gem & Mineral Club Inc. (TTGGMC)
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**September
Edition
2020**

"Rockzette"

Tea Tree Gully Gem & Mineral Club News

President's Report

Hi All,

Hopefully, Winter is on its way out, as our Cabbers have had enough of using a bowl of warm water to defrost their fingers every 5 minutes. Unfortunately, as we do not own the building, we are unable to make modifications to supply warm water to the machines, so we are all looking forward to warmer weather.

The Committee met at the beginning of August to discuss finances and other business. We have been made aware that, as a not-for-profit group, we are able this year to indefinitely defer our Annual General Meeting, due to the COVID issue. This is welcome news as we were not quite sure how we would be able to conduct an AGM while keeping members 1.5 metres apart.

I have some sad news to report this month, in the passing of our oldest Life Member - June Davis. June and her husband Les were among the original members of the Club and remained active until well into their retirement. Les died many years ago but was the Club faceting instructor for a number of years, also a gifted machinist, having built faceting machines for himself and other members, two of which the Club still has. They both represented the Club as GMCASA delegates for many years.

Both June and Les will be fondly remembered by those who knew them.

Till next month,

Cheers,

Ian.

Diary Dates / Notices

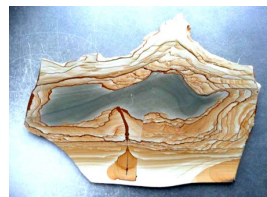
Happy Birthday

Members celebrating September birthdays:

02 nd - Sue Beaucaris.	19 th - Neal Chambers.
03 rd - Chris Browne.	24 th - Betty Anderson.
06 th - Mal Knott.	27 th - Rod Bungey.
08 th - Tom Afford.	30 th - Jude Lewis.
14 th - Pat Mabbitt.	

General Interest

Pages 2 and 3:
Augie's September 2020 Jasper Selections...



Page 3 and 4:
Augie's September Birthstone Selections...



Pages 5 to 8:
Ian's September 2020 Quartz Collection Selections...



Pages 9 to 13:
'Newcastle and Rail - The Never-ending Story' ...



Pages 14 to 22:
General Interest, humour, etc...



Page 23:
Members' Noticeboard and Links...

Club Activities / Fees

Meetings

General monthly meetings have not resumed yet due to SA Covid-19 Pandemic physical distancing requirements.

Library

Librarian - Augie Gray

There is a 2-month limit on borrowed items.

When borrowing from the lending library, fill out the card at the back of the item, then place the card in the box on the shelf.

When returning items, fill in the return date on the card, then place the card at the back of the item.

Tuesday Faceting/Cabbing

Tuesdays - 10 am to 2 pm.

All are welcome. Supervised by Doug Walker (7120 2221).

Wednesday Silversmithing

Wednesdays - 7 pm to 9 pm.

All are welcome. Supervised by Augie Gray (8265 4815 / 0433 571 887).

Thursday Cabbing

Thursdays - 10 am to 2 pm.

All are welcome. Supervised by Augie Gray (8265 4815 / 0433 571 887).

Friday Silversmithing

Fridays - 9 am to 12 noon.

All are welcome. Supervised by John Hill (8251 1118).

!!! Subs Are Due Now!!!

It is that time again.

Because monthly meetings are not happening, there are several options by which you can renew your membership...

- Calling in to the Club on a Tuesday or Thursday between 10.00am and 2.00pm
- Posting a cheque to the P.O. Box or Club street address, or
- By Direct Deposit to the Club's bank account BSB - 105-117 Account - 425140140 "TTG GEM & MINERAL CLUB INC."

Please make sure you include your name, so we know who the payment is from.

Membership fees are listed below...

Club Subscriptions:

\$25.00 Family	\$20.00 Family Pensioner
\$15.00 Single	\$12.50 Single Pensioner
\$10.00 Joining Fee	

The Tea Tree Gully Gem & Mineral Club Inc. is not and cannot be held responsible or liable for any personal injuries, loss or damage to property at any club activity, including, but not limited to, meetings, field trips, all crafts and club shows. An indemnity is to be signed by all participants before each and every field trip activity they attend.

Tea Tree Gully Gem and Mineral Club Incorporated, Old Tea Tree Gully School, Dowding Terrace, Tea Tree Gully, South Australia, 5091.

Contributed by Augie Gray...

Cripple Creek Picture Jasper...

Cripple Creek Jasper from the Owyhee Mountains of eastern Oregon is a well-known Picture Jasper characterized by its distinctive flow patterns which were created by petrified or silicated mud and occasional dendrites. The earth tone colours make remarkable landscape scenes often with a contrasting blue as a sky or water in the scene.



Cripple creek Picture Jasper 01.



Cripple creek Picture Jasper 02.



Cripple creek Picture Jasper 03.



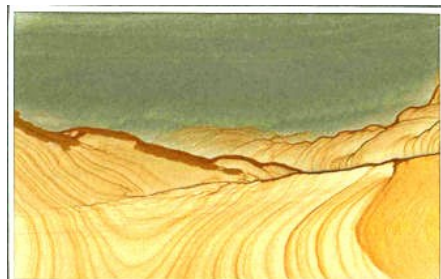
Cripple creek Picture Jasper 04.



Cripple creek Picture Jasper 05.



Cripple creek Picture Jasper 06.



Cripple creek Picture Jasper 07.



Cripple creek Picture Jasper 08.



Cripple creek Picture Jasper 09.



Cripple creek Picture Jasper 10.



Cripple creek Picture Jasper 11.



Cripple creek Picture Jasper 12.



Cripple creek Picture Jasper 13.

**Cripple Creek Picture Jasper...
Continued**



Cripple creek Picture Jasper 14.



Cripple creek Picture Jasper 15.



Cripple creek Picture Jasper 16.



Cripple creek Picture Jasper 17.



Cripple creek Picture Jasper 18.



Cripple creek Picture Jasper 19.

Contributed by Augie Gray...

Sapphire – Birthstone for September



1. Montana.

Sapphire is one of the two forms of Corundum, the other being Ruby.

While Ruby is always red, Sapphire comes in every colour of the rainbow, not only blue, as many people imagine.

Corundum is the 2nd hardest of all gemstones, a 9 on the Mohs hardness scale, being surpassed only by Diamond.

Sapphire is found in many countries - Sri Lanka, Burma (Myanmar), Thailand, Cambodia, Madagascar, Tanzania, Australia, and the U.S. (Montana) among the most prominent.

Tanzania has 3 important Sapphire fields – Umba, Tunduru and Songea, which produce beautiful fancy coloured stones in a variety of hues, while the Yolo Gulch area of Montana produces delightful pastel shades of blue, green, lavender, pink & gold. The Queensland Sapphire fields produce blues, greens and parti-colours.

The most valuable color of Sapphire is an intense blue color, known as Kashmir or Cornflower Blue. These stones are primarily from Kashmir (northern India) or Sri Lanka, which was formerly known as Ceylon, hence the old name “Ceylon Sapphire”. Another extremely valuable Sapphire colour is the very rare, orange-pink Padparadscha. Colour-change Sapphires are also realizing high prices. These stones display a different colour depending on the light source – natural or artificial.

Star Sapphires are found at most locations where Sapphires are mined. These stones will display a 6-rayed (and occasionally 12-rayed) star when cut as a cabochon rather than a faceted stone.

These days over 90% of natural Sapphires for the commercial market are heat treated to improve colour. This is accepted industry standard.

Sapphire is also synthesized. Synthesized Sapphires are stones which are identical to their natural counterparts in physical, chemical, and optical properties, but have been produced in a laboratory. Synthetic Sapphires have been in production since 1902.

Tech. Stuff

Chemical composition: Al₂O₃

Hardness: 9

Crystal System: Hexagonal (trigonal)

Crystal Habit: Commonly bipyramidal

S.G.: 3.9 – 4.1

R.I.: 1.76 – 1.77

Lustre: Vitreous to Adamantine

Fracture: Conchoidal

Cleavage: None

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2. Rough Crystal.



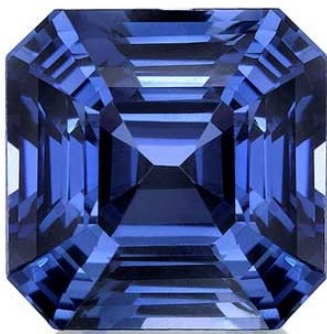
3. Rough and Cut.



4. Colour Range.



5. Colour Range.



6. Burma.



7. Ceylon.



8. Kashmir.



9. Umba.



10. Umba beads.



11. Montana.



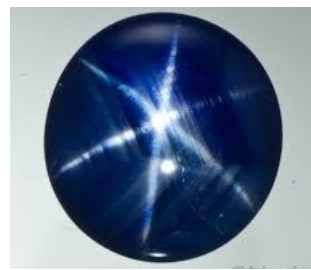
12. Montana.



13. Queensland.



14. Parti-colour.



15. Star.



16. Star.

Contributed by Ian Everard...



0085 Quartz, Cavnic, ROMANIA.



1024 Quartz, Broken Hill, NSW.



1371 Quartz, Muttama, NSW.

Contributed by Ian Everard...



0239 Quartz 'Phantom Amethyst', Amethyst Castle, QLD.



1987 Quartz Calcite & Pyrite, Hunan Province, CHINA.



0432 Calcite on Quartz, Rio Grande do Sol, BRAZIL.



0902 Quartz, Hot Springs Area, Arkansas, USA.

Contributed by Ian Everard...



0071 Quartz & Fluorapatite, Panasqueira, PORTUGAL.



0840 Pyrite & Dolomite on Quartz, Panasqueira Beira Co, Baixa, PORTUGAL.



1022 Quartz with Lepidolite, MADAGASCAR.



0096 Quartz, Jeffery Quarry, USA.



0902 Quartz, Hot Springs Area, Arkansas, USA.



1357 Prehnite, Schorl & Quartz, kharu Bolochistan, PAKISTAN.



0271 Quartz with Chlorite Inclusions, BRAZIL.



0983 Calcite on Quartz, Cavnic, ROMANIA.



1358 Prehnite on Quartz, kharu Bolochistan, PAKISTAN.



0730 Smoky Quartz, BRAZIL.



1372 Quartz, Muttama, NSW.



0841 Dolomite on Quartz, Panasqueira Beira Co, Baixa, PORTUGAL.



0985 Quartz on Barite, Murray Mine, Elco Co, Nevada, USA.



Quartz, Muttama, NSW.



0986 Quartz Apatite Arsenopyrite, Panasqueira, PORTUGAL.

Contributed by Ian Everard...



0010 Quartz & Pyrite, RUMANIA.



0063 Amethyst Geode, Agate Creek, QLD.



0072 Quartz, Fluorapatite, Mica, Panasqueira, PORTUGAL.



0156 Tourmaline on Smokey Quartz, Lake Boga Quarry, VIC.



0157 Tourmaline on Smokey Quartz, Lake Boga Quarry, VIC.



0176 Quartz, Pyrite & Calcite, Trepeca, YUGOSLAVIA.



0442 Quartz on Fluorite, Silverton, Colorado, USA.



0657 Calcite on Quartz, Cavnic, ROMANIA.



0676 Pyrite on Quartz, Huaron Mining District, Pasco Dep, PERU.



0686 Calcite on Quartz, ROMANIA.



0966 Quartz Calcite & Goethite, Marrakesh, MOROCCO.



1167 Quartz 'Jap Twin' Mundo Nuevo, PERU.



1385 Calcite & Quartz, Trepeca, YUGOSLAVIA.



1753 Quartz with Fuchsite Incl. Fianarantsoa Prov, MADAGASCAR.



2681 Calcite on Quartz, Bajuts, ROMANIA.

Contributed by Mel Jones...

‘Newcastle and Rail – The Never-ending Story’ by Garry Reynolds Part 23 of 24...



The Newcastle City waterfront today where Aborigines once fished from canoes, convicts hewed coal and a railway system developed and disappeared over a period of 160 years. Source: *Familypedia*.



A wet Sunday afternoon in the 1960s around a Broadmeadow Turntable reveals the first wave of dieselisation in the Hunter Region as big brooding Beyer Garratts are flanked by 4003 an ALCO diesel – a member of the twenty 40-Class locomotives imported from Canada in the early 1950s. Source: *user.nex*.

Steam to Dieselisation in the Hunter

Newcastle marked its 150th anniversary of European settlement in 1947 with many grand ceremonies. However, amidst the celebrations, it was suffering from the run-down state of the NSW Government Railways after World War 2 as were other railways across the nation. They entered the War, after they had barely survived the Great Depression and struggling to compete with the rising challenge from the motor car and truck and now after the War, the airlines as well.

The NSW goods locomotive fleet was mainly made up of standard goods engines (50, 53 and 55 classes) dating back as far as 1896 and 25 large 57-Class engines which were in need of major overhaul since their launch in the Great Depression.

Initially after the War, the railways across Australia ordered more steam engines and NSW went really big by purchasing dozens of the mammoth AD 60-Class articulated Garratt steam locomotives from its favoured manufacturer, Beyer-Peacock in Manchester, England. They were designed to reduce labour costs arising from double and triple-headed goods trains especially on the branch lines where agricultural and mine production was increasing.

It also urgently purchased 20 Baldwin locomotives 59-Class Mikado locomotives from America able to run as oil burners because of the ongoing industrial action on the coalfields and from its own NSWGR workshops at Eveleigh and Cardiff near Newcastle, twenty-five improved 57-Class steam engines – the 58-Class – and twenty-five 38-Class Pacific locomotives.

While the Garratts were the epitome of steam technology when they arrived in the early 1950s, they really were too late on the scene.



A 'toast rack' tram trundling down Newcastle's main street, Hunter Street, in 1947. Source: *Wikipedia*.

They had been bought when the advantage of running on prime Hunter coal was being negated by constant industrial action in the mines and on the waterfront. As well, there were still ties to Britain and the Empire. As the Mother Country was struggling economically after the War with a shortage of dollar purchasing power with the United States dominated the world scene, Australian State rail systems were pressured into buying rail equipment from England when it couldn't be efficiently produced locally. Operationally, they would have done better to buy American diesels straight away rather than delaying the inevitable.

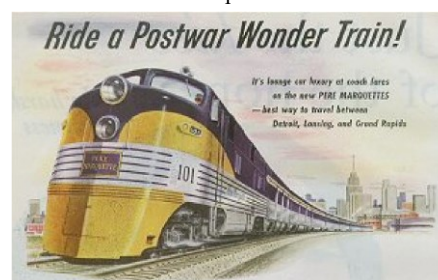


Double-heading Beyer Garratts hauling a heavy coal train on Fassifern Bank. Source: *David Patterson*.

While the UK and Australia initially clung to enhanced steam power, diesel power was

making rapid advances in North America because of its lower-cost operational advantages especially in the context of the post-War economic and wage boom.

So, what were the advantages and disadvantages of diesel-electric powered locomotives and steam power?



Promotion of diesel-hauled rail travel in the US in the 1950s.

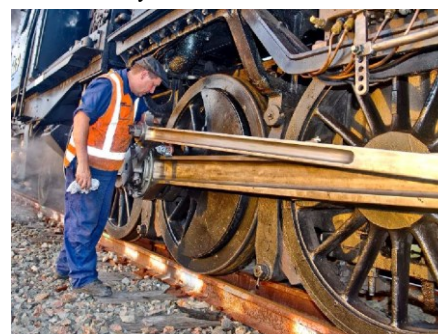
Source: *Richard Leonard*

Steam versus diesel

Generally, steam could start off with a heavier load than diesel-electric locomotives without losing traction. This was because all the driving wheels were solidly linked, so no wheel could spin independently. However, the linkage between the wheels exacerbated the hammer-blow problem that put a speed limit on steam locomotives as the railways were keen to minimise maintenance and replacement of track.

So, what was the hammer-blow problem?

Most NSW steam locomotives had two cylinders – one on each side of the front of the engine. The individual cranks that moved the pistons in and out of these two cylinders were said to be "quartered" — set at 90° apart. This was so the four power strokes of the double-acting pistons were evenly distributed around the 360 degrees rotational cycle of the driving wheels. This left no points at which both pistons were at top or bottom dead centre simultaneously



Alan Gardner inspecting heritage Garratt 6029 'The City of Canberra' at Telarah in the Hunter in 2016. Note the counter balancing weights on the driving wheels. Source: *Canberra Railway Museum*.

However, these were only a few of the forces to be counteracted in steam engines to smooth their passage from rocking and rolling and surging. Essentially, a two-cylinder locomotive with the horizontal actions of its pistons, rods and valve gear which were only balanced for rotation will surge fore and aft putting pressure on the draw gear with the carriages and wagons behind and causing discomfort to passengers. Diesels have far less rocking and rolling action.

Additional balance weights — "overbalance" — were added to the steam locomotives' driving wheels to counteract this, but this produced a new problem by adding out-of-balance vertical forces - hammer blow. This can cause severe damage to the track, and in extreme cases can cause the driving wheels to leave the track entirely.

After the War, the problem with steam locomotives in the Hunter Region heightened as they got larger, heavier and more powerful, spurred on with the expansion of the coal export industry and rapidly rising wage costs for multiple locomotive operation. There was an increasing demand to pull heavier and longer trains to the Port of Newcastle and supply the massive power stations being built around the Northern Coalfields as aging plants in Sydney started to be decommissioned mainly for environmental reasons.

While not causing a hammer-blow problem (although there was some vertical forces from the unsprung weight of the traction motors sitting driving wheels' axles), diesel locomotives were heavier than steam locomotives of equivalent power and had their weight spread over fewer wheels, meaning that the track and bridges would have to be strengthened for larger locomotives.



The Newcastle Flyer powering out of Sydney Yard in the early 1950s. Source: NSWGR.

There was also a challenge to increase passenger train speed to compete with the car, with services typified by the promotion of the speed of the 'Newcastle Flyer' pulled by 38-Class locomotives.



The Newcastle Flyer experience re-created in a heritage run. Source: 3801 Limited.

As locomotives got larger and more powerful, their reciprocating machinery had to be made stronger and heavier, so the challenges posed

by imbalance and hammer blow became more severe. Higher passenger speeds also increased unbalanced forces which rose rapidly with the mathematical squaring of the wheels' rotational speed.



Heritage Garratt 6029 showing how the weight and driving forces are spread over numerous wheels in its 30-metre length. Its inaugural workings in 1953 were on Enfield-Broadmeadow runs. Source: David Patterson.

A partial solution to this problem were articulated locomotives, like the AD 60-Class Garratts. They spread the driving power over multiple sets of pistons, thus greatly reducing hammer blow. While they were predominantly used on mainline operation especially in the Hunter, they were also suited to many branch lines because their 265 tonnes weight fully loaded with coal and water was spread over 16 axles and 32 wheels.



Garratt showing the complex of rods, pistons and driving wheels when it arrived in 1952. Source: Bing Images.



An AD 60-Class Garratt tops the rise at Cowan Bank on the way from Broadmeadow. Source: Wikipedia.

In the 1950s, the fastest and most powerful steam locomotives were quicker and more powerful than diesels, however, their range of efficient operation was severely limited. Steam locomotive performance depended greatly on the quality of the coal. The Newcastle area produced some of the world's best so the resources were there to maximise firebox efficiency.

No matter what the class of steam locomotive, they required large pools of labour to clean,

load, maintain and run. They also required extensive service, coaling and watering facilities spread through the network.

This was their biggest drawback as compared to diesel locomotives in the number of ton-miles or passenger traffic miles either could run. However, diesels initially had a significantly higher price per unit-horsepower in the 1950s. This was offset by their far greater range between fuelling stops, the absence of water stops, and the much higher unit availability between inspection repair and maintenance stops, than steam. Diesels simply required significantly less time and labour to operate and maintain resulting in a tremendous reduction in operating costs.



Double-heading Garratts hauling a heavy coal train out of Fassifern Station. Source: Steam Train Pics.

Part of the cost equation came about because diesel power was also more scalable to train load and topography requirements owing to their electrical control systems tethered between locomotives. These enabled multiple units to be operated by one two-man crew. Double and triple heading steam power required a crew for each locomotive. They were often operating in very challenging physical conditions, especially those in the following locomotives while as they got bigger the crews in the lead locomotives struggled even more than normal with poor line of sight to signals or to hear warning track detonators. As well, it was dangerous to run most tender engines backwards at speed so turntables and turning triangles were needed across the network.



One of the two turntables at the massive Broadmeadow Depot. Source: Ken Magor and Greg and Sylvia Ray.

Succession planning for crewing and servicing also had to consider that as driving and maintaining a steam locomotive was hard and dirty work, there were many more congenial opportunities in the booming Post-War economy for people who wanted a job in an era of relatively full employment. Victorian-era technology as against diesel technology and motor vehicles often did not cut it.

So, while there was an additional purchase cost combined with a strong inertia of traditionalism and union fears of lower employment, in replacing the large investment that the railways and regional Hunter coal-based economy had in



Garratt 6020 with a detailed livery for the centenary of NSWGR in 1955. Source: International Hobbies.

existing steam power, there were dramatic increases in flexibility and efficiency offering with diesel power. Once diesel penetration increased, though more complex to produce with more exacting manufacturing tolerances than for steam engines, diesel locomotive parts were easier to mass produce.

So, while there was an additional purchase cost combined with a strong inertia of traditionalism and union fears of lower employment, in replacing the large investment that the railways and regional Hunter coal-based economy had in existing steam power, there were dramatic increases in flexibility and efficiency offering with diesel power. Once diesel penetration increased, though more complex to produce with more exacting manufacturing tolerances than for steam engines, diesel locomotive parts were easier to mass produce.

Additionally, even when stationary, diesels used much less fuel and manpower when idling. They could be parked idling for hours unattended, whereas steam engines needed to be constantly tended if not completely shut down.

As well, bringing a steam engine boiler up to operating temperature was often regarded as both an art and science requiring much training and experience whereas a diesel was much simpler to start and shut down.

Also, major cities such as Newcastle and their railyards had grown to become unhappy neighbours in post-war Australia. People were no longer content to endure the large amounts of soot and smoke that coal burning steam engines produced. Early diesels, while dirty by today's standards, offered a major improvement in air pollution over steam.

Additionally, as people not only became more aware of the health effects, especially in Newcastle which had heavy air pollution from the steelworks, public liability became highlighted as did the higher risk of steam locomotives causing lineside fires.

In 1947, Newcastle recorded appalling levels of air pollution but by 1961 it had been reduced by 70% and trending downwards.

Diesels

Instead of generating steam in a large boiler, the diesel-electric locomotive burned oil to power a generator that, in turn, powered electric motors on the wheels.

Steam locomotives, in comparison to diesels had a low thermal efficiency. In a landmark article in the Washington Post by the quaintly named Gareth Garrett, he showed that as early as the 1930s: "Only about one-twentieth, or 5 per cent, of the potential energy in what a steam locomotive devours is delivered to the wheels in the form of effective driving power."

In contrast, the early diesel locomotives could deliver more than 25 per cent of the potential energy of the fuel used to the wheels.

He pointed out that steam engines used a vast amount of energy to build up pressure, which was virtually discarded whenever the locomotive stopped for a time or shut down.

Another consideration was that steam locomotives generated most of their pulling power at very low revs, which combined with normally less than half their weight available for traction, because the rest was over the non-driving tender wheels which meant they were prone to slipping when starting.

Among the costly maintenance items on steam locomotives, which had to be attended to, were the boilers needing to be regularly cleaned out. Extensive overhauls meant that they were available for work on industry average just 35 per cent of the time. Diesel engines, which needed less maintenance, had 95 per cent availability.

Interestingly, in a scathing report in the 1960s by the NSWGR's Chief Mechanical Engineer quoted by rail historian, Steven Baker:

"The CME also noted that the dieselisation program was being seriously affected by the excessive number of 60 Class locomotives continuously under repair and out of traffic at Broadmeadow..."

Yet these Garratt locomotives were the epitome of steam technology when they were purchased in the 1950s and there had been very little development in the following decade as rail networks all over the world were switching to diesels.

The same was happening in Australia, especially in the states like Victoria, constrained by lack of good quality coal and others like the Commonwealth Railways by both coal and water across the Nullarbor. The Hunter Region had both coal and water in plentiful supply, but it did not stop the gradual encroachment of mainline diesels. Of course, the NSW Government Railway (NSWGR) already had some experience with diesel power with four American Army shunters it acquired during WW2 especially for work around munitions stores. Before that, there was the development of the 'Tin Hare' railmotors and the famous diesel-engine 'Silver City Comet'.



A pair of B-Class double-ended diesels on Victoria's 'Spirit of Progress'. Source: Wikipedia.

The steam versus diesel debate also entailed an image issue. Victoria was racing ahead with classic streamlined B-Class mainline diesels made in Sydney, yet NSW plumped for a design for its first mainline locomotive which was not much more than a diesel shunter in America and



A pair of 40-class diesels rolled out for the press on the Short North. Source: ARHS.

it was made in Montreal in Canada.

This unusual situation arose because to support a struggling Britain trying to recover from WW2 and a shortage of US dollar purchasing power, Australia's Commonwealth Government would not allow the use of foreign currency to purchase United States diesels. Victoria negotiated with GE in America to provide a licence agreement to Clyde, a traditional steam locomotive manufacturer, to make the US-based design in NSW and ship the completed locomotives over the border.



Looking more like a shunter than a mainline locomotive, 4002 at Hawkesbury River Station. Source: ARHS

This was not to say that NSW hadn't tried to produce a mainline diesel locomotive locally. After the War it had attempted to within the NSWGR's own design resources and mainly using English components. But the project, nicknamed 'The Thoroughbred' was dropped when there were too many risky and limiting aspects of the strange design.

Prior to Victoria's purchase of a mainline diesel type, the NSW Government took another route, in encouraging ALCO in the USA to manufacture twenty 40-Class diesel locomotives in its Montreal Works in Canada, a Commonwealth country, to avoid the US dollar embargo imposed by the Australian Government.

Meanwhile, showing enormous loyalty to Great Britain, the NSW Government, despite the benefits of dieselisation, chose to order more steam locomotives in the form of massive Garratts from its traditional supplier for over a century – Beyer Peacock.

After ordering 25 initially in the early 1950s, it then erred in ordering another 25. Halfway through the second batch it cancelled part of the order as it realised it had made a mistake and it was much better to buy diesels but chose to stick with ALCO but get new models made in NSW under licence by private firms such as Goninan in Newcastle.

Continued next page...



6042 and 6037 work the last double-headed Garratt coal train up Fassifern Bank in December 1972. Source: Steam Train Pics.

Meanwhile, the NSWGR had what was now called the 40-Class diesel with all its limitations. Some of its problems emanated from the fact that it only had four driving wheels rather than six like most of the NSWGR's subsequent diesel models. It also had a 21-pin plug to join it with other locomotives for multiple unit operation but subsequent diesels in NSW had a 27-point joining cable and there were very few adapters available. So, practically, a 40-Class locomotive could only run with one of the other 20 members of their batch. In any case because they had manual transition arrangements each locomotive was often crewed – virtually like a steam engine.

Compared to the Victorians and other states, NSW's first mainline locomotive decision looked: hasty in response to a motive power shortage; governed by Empire emotion; and smothered in inertia in not being able to let go of steam – and big steam at that.

Still, the NSWGR was left to make the best of it and chose to run the big steam Garratts supposedly purchased for lighter line operation, because they only had a 16-ton axle load, instead for mainline operation predominantly in the Hunter initially. The same with the 40-Class diesel, its early allocation was to the Enfield-Broadmeadow run on the Short North to Newcastle. Later on, in the search for more power some of the Garratts had their pistons bored out and heavier weights added to their wheels which created a locomotive now with an 18-ton axle load which restricted it more to main line operation.

The 1954 Royal Tour

The NSW Government tried to put the best gloss on its purchase of what was a relatively underpowered diesel (with only four traction motors they were only marginally more powerful than a 50-Class steam locomotive) by rolling two out for the Royal Visit in 1954. It even painted the pair (which were initially verdant green similar to some 38-Class steam locomotives) a light blue which was a fashionable colour which the Queen wore. When ordered, the Government had required the removal of handrails and other fittings which came standard in America which gave the appearance of its true genealogy – a shunter! In later years they were added.

Meanwhile, steam was relegated to an auxiliary role with a gleaming green 38-Class locomotive serving as the Pilot running 30 minutes ahead of the diesel-hauled Royal Train.

At the time, the Royal Tour was the single biggest event ever planned in Australia. The focus had got down to the finest details. For example, what would be the sanitary arrangements should the Royal Train be stationary as the practice in those times was the toilets discharged to the track? The Queen's dresses were often stiffened with 'atoms of lead' in the hem so that it stayed down on the viewing platform or alighting the train. There was also an enormous effort to educate the staff serving the Royals on the train in 'planned spontaneity'.



Fed by Governments and the media the Royal visit heightened popular support for the monarchy and hundreds of thousands saw the special Royal Train glide by in NSW. Source: UOW.



Twin 40-Class locomotives were turned out resplendent at Eveleigh for the Royal Train in 1954. Loco 4002 ended up on ore trains in Western Australia decades later. Source: Flickr.



A wistful photograph of the Royal Train in full regalia. The twin diesels were promoted as being capable of having the train reach 115kph with its short but luxurious consist. Source: Christian Today.



The Queen's diesel-hauled train waiting at Central Station before its trip to Newcastle with the 38-Class steam locomotive as a pilot. Source: JH Martin.



The Royal Train departs Sydney headed up the twin 40-Class locomotives that had really been purchased initially to pull goods trains. Source: Flickr.

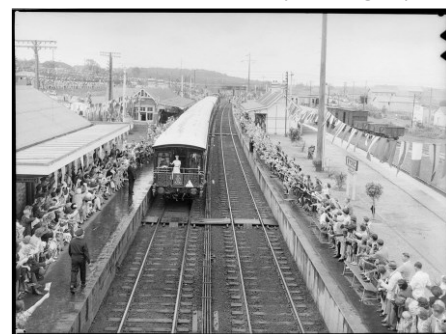


Crowds line the railway to wave to the Queen and the Duke on the Royal train. Source: NLA.



A picture that went around the world on the Royal Train when it went to the Blue Mts. The Queen just happened to be wearing a similar colour to the diesel locomotives. Source: State Archives.

Newcastle's moment of Royal rail glory



The Royal Train rolls through Wyong with the Queen and Duke waving to the wet crowd. Source: Pinterest.

As part of the Royal Tour on 9 February 1954, the dual 40-Class hauled train ventured North from Sydney to Newcastle bathing in the reflected glory and adulation of the Royal

couple even if the progress was dogged by rain. It had been declared a special public holiday just for the residents who lived between Newcastle and Kempsey. Newcastle's population at the time was 140,000 and the main part of the Station was painted white for the Queen. As a legacy, this proved to be an unfortunate choice for it soon showed the heavy air pollution and the paint proved destructive to the original brickwork from the 1880s.



The Queen and the Duke met by the Mayor and Mayoress of Newcastle, Mr. and Mrs. Hawkins, on the wet Newcastle Station Platform. Source: State Records.

The National Library of Australia's 'Trove' contains a front-page article about the Royal Visit in the Sydney Morning Herald written by a breathless 'Special Reporter'.

"The Queen's Triumphant Newcastle Visit – Rain-Sodden 150,000 in Huge Welcome"

"...the Queen and the Duke were presented to Stationmaster, Mr. Campbell. The Queen, who looked fresh and happy, told Mr. Campbell she had had an enjoyable trip from Sydney.

The usually drab station platform was gleaming with fresh paint and lined with shrubs planted in green painted kerosene tins.

Not a cheer was heard from the time the Queen stepped from the train and walked 50 yards down the platform and through the red-carpeted entrance towards the Royal car waiting in the street outside.

10 HOURS' RAIN

Then, as she passed through the entrance, the crowd let out a mighty roar which rarely diminished in volume during her tour through the streets.

More than 150,000 people crammed Newcastle's streets, and many more thousands packed into public grounds.

The light rain, which had fallen intermittently for 10 hours before the Royal train arrived, had dampened the waiting thousands, many of whom had been out in the weather all night.

The slim, graceful figure of the Queen, clad in a light frock of pale blue, standing colourfully against the drab background of people coated against the rain, electrified the crowds.

GRACIOUS GESTURE

The rain, which had dampened the people's backs, had not dampened their spirits, and they quickly put away their umbrellas and cheered lustily as the Queen moved towards the Royal car.

The Queen herself seemed to enter the crowd's mood of defiance of the weather, when she stepped from the shelter of the railway station.

She glanced along the lines of cheering people in Scott Street, looked at the grey leaden sky for a moment, then spoke to the Duke of Edinburgh.

The Duke stepped forward and, with a wave of his hand, ordered that the hood of the Royal car be taken back.

This allowed people in the upper storeys of city buildings to see the Queen and the Duke during the Royal progress through the city.

The crowd cheered the Queen's gracious gesture.

The Royal car had completed half its journey from the railway to the City Hall before a heavy shower made it necessary to replace the hood. As the Duke seemed to have trouble in closing it, the Queen reached out to help.



The Royal couple with the hood down in the special 1946 Daimler Landelette 36hp straight 8 cylinder weighing 4 tons glides down Hunter St Newcastle waving to the multitude who had waited in the rain. Source: Newcastle Herald.

In the scheduled 3 hours 35 minutes visit to Newcastle, the Queen and the Duke attended a large programme of official functions: An official ceremony of welcome at the City Hall (20 minutes), an assembly of ex-Servicemen and their families at the Sports Ground (20 minutes), an assembly of schoolchildren at the Showground (24 minutes) and an inspection of the B.H.P. Steelworks (50 minutes)."

And that was it – the Queen – the first reigning monarch to visit the country, left her sky blue 40-Class train and flew further North. Newcastle had its 3 hours and 35 minutes of exultation out of the marathon 57-day tour covering seven capital cities and seventy country towns.

In hindsight, the Royal Visit had placed extraordinary demands on the NSWGR, especially in the Newcastle Region. Aside from, the preparation and operation of the train and re-arrangement of all other traffic, a large number of trains were needed to transport people, including many of the 44,000 school children to the Newcastle showground.

Ordinary services were heavily loaded, and many special trains added. During February 1954, there were almost 23 million passenger



The ornate Governor's Car used as the Royal Lounge Car. Source: Google Trends.

journeys in the State, the highest February number on record.

As well as carrying spectators, special arrangements had to be made to transport police and their horses and motorcycles, as well as defence personnel and street barriers.

The Railways' financial results at the end of June 1954 even showed a profit for the first time since 1948.

The 40-Class locomotives soldiered on after their moment of glory and won back some freight from trucking companies because of their flexibility and turn-around times. However, increasingly they had slippage problems with uneven wheel wear exacerbated by drivers using more and more sand to get grip – it was a vicious circle.

Then with major electrical work required and their lack of power compared to other diesels, the 40-Class were withdrawn from 1968 onward. Robe River Iron Associates purchased two for use on construction trains and later as shunters (their original design) in the Pilbara region of Western Australia. The last was removed from service in 1971. But in a way, they kept on keeping on.

First, they were used as trade-ins and then provided parts when the locomotives were scrapped for the new-build 442 class diesel locomotives which went on to serve the Newcastle rail network. They were second-generation ALCO units nicknamed 'Jumbos' because of their much bigger size than say the 40-Class and they arrived at the same time as the first Qantas Boeing 747 aircraft.



A freshly painted ALCO 442 in Freight Rail livery. Source: Auscision Models.

Part 24 of 24 next month.

Contributed by Doug Hughes...

The Wine Buffs

The Wine Buffs
by Mike Payne

WOMEN ARE LIKE A FINE WINE...



THEY START OUT FRESH, FRUITY AND INTOXICATING TO THE MIND AND THEN TURN FULL BODIED WITH AGE UNTIL THEY GO ALL SOUR AND VINEGARY AND GIVE YOU A HEADACHE!

The Wine Buffs
by Mike Payne

...GOOSEBERRIES...
...ROSE PETALS...
...SMOKY OAK...
...VANILLA...
...OLD SOCKS...
...ROTTEN FISH...
...BLUE MOULDY CHEESE...
...ENGINE OIL...



The Wine Buffs
by Mike Payne

A REAL MAN IS A WOMAN'S BEST FRIEND. HE WILL REASSURE HER AND COMFORT HER. HE WILL INSPIRE HER TO DO NEW THINGS AND TO LIVE WITHOUT FEAR. MAKE HER FEEL SHE IS THE MOST BEAUTIFUL WOMAN IN THE ROOM AND ENABLE HER TO BE CONFIDENT, SEXY AND INVINCIBLE!



NO WAIT! SORRY!
I'M THINKING OF WINE. IT'S WINE THAT DOES ALL THAT - NEVER MIND!

The Wine Buffs
by Mike Payne



I'M IN A MEETING!

The Wine Buffs
by Mike Payne

THE CORK'S MISSING FROM MY LUNCH!



The Wine Buffs
by Mike Payne

I TOLD MY WIFE THAT A HUSBAND IS LIKE A FINE WINE...



NEXT DAY SHE LOCKED ME IN THE CELLAR!

The Wine Buffs
by Mike Payne

NO ARTHUR!
WHEN I SAID I FANCED SOME "BUBBLY" I DIDN'T MEAN F***!!
ALKA SELTZER!



The Wine Buffs
by Mike Payne



...GOOD NOSE...
...GOOD COLOUR...
...GOOD BODY!

The Wine Buffs
by Mike Payne

I COOK WITH WINE...



SOMETIMES I EVEN ADD IT TO THE FOOD!

The Wine Buffs
by Mike Payne

I'M GETTING WOOLLY BLANKET, TENNIS BALL AND A HINT OF MONGREL!



Contributed by Doug Walker...

Aids Warning!
Senior Citizens Are the Nation's Leading Carriers of Aids!

- Hearing Aids
- Band Aids
- Roll Aids
- Walking Aids
- Medical Aids
- Government Aids
- Most of All,
- Monetary Aid to Their Kids!
- Not Forgetting HIV
- (Hair Is Vanishing)

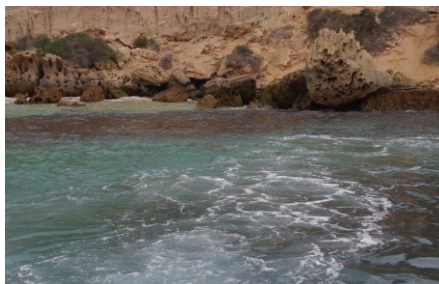
YOU'RE RIDING A HORSE FULL SPEED, THERE'S A GIRAFFE NEXT TO YOU, AND A LION CHASING YOU. WHAT DO YOU DO? GET YOUR DRUNK ASS OFF THE CAROUSEL.

Contributed by Alan Rudd...

Allan and Cherryl's Whale Watching and Fishing Safari to Fowlers Bay, SA.

Photos showing the shoreline along the western side of Fowlers Bay. The shore is composed of ancient sandhills which have compacted over the millennia; the different sands giving the banding effect.

The first, fourth and last photos in this series show the effects the wind and water has had on these ancient sandhills. The fifth, sixth, fifteenth and sixteenth photos show how unstable the shoreline is. Note the size of the fallen blocks. For example, the central block was approx. 5ft x 5ft x 3ft. Also, interesting is the number of fallen blocks in such a confined area. In some places it was like this cluster and in other areas only one or two.



Fowlers Bay (6)



Fowlers Bay (12)



Fowlers Bay (1)



Fowlers Bay (7)



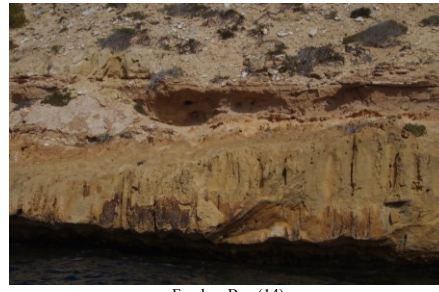
Fowlers Bay (13)



Fowlers Bay (2)



Fowlers Bay (8)



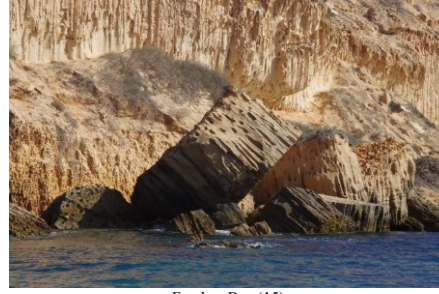
Fowlers Bay (14)



Fowlers Bay (3)



Fowlers Bay (9)



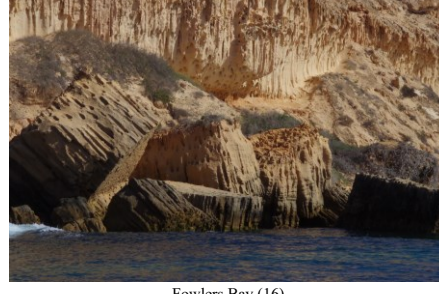
Fowlers Bay (15)



Fowlers Bay (4)



Fowlers Bay (10)



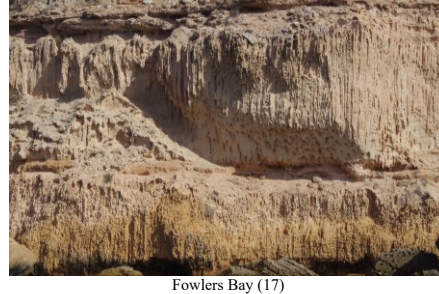
Fowlers Bay (16)



Fowlers Bay (5)



Fowlers Bay (11)



Fowlers Bay (17)

Contributed by Augie Gray...



Leaked photo of NASA taking the Sun down for maintenance.



"Err, we would like a room for two nights, please!"

DUE TO COVID 19.....
WE ARE ASKING RIOTERS
TO WORK FROM HOME
AND DESTROY THEIR OWN PROPERTY.



If you used this to dry your hands back in the 80's at the gas station you're probably immune to literally everything.

I told my suitcases that there will be no vacation this year. Now I'm dealing with emotional baggage.

Paranoia has reached absurd stages...
I sneezed in front of my laptop and the anti-virus started a scan on its own

Coronavirus throat spray



DID YOU KNOW THAT IF YOU MOUTH THE WORD "VACUUM" IT LOOKS LIKE "F* YOU."**
LORDY LORDY... YOU JUST TRIED IT, DIDN'T YOU?



New MONTHLY Budget
Gas \$0
Entertainment \$0
Clothes \$0
GROCERIES \$1624



Did you hear about the mathematician who is afraid of negative numbers?
He will stop at nothing to avoid them!

Contributed by Mel...

When employers want you to have 10 years of work experience before the age of 22



CAN WE ALL AGREE THAT IN 2015 NOT A SINGLE PERSON GOT THE ANSWER CORRECT TO 'WHERE DO YOU SEE YOURSELF 5 YEARS FROM NOW'



Take The "OLDER THAN THE HILLS" Quiz.

Do You Remember?

1. Fish & chips wrapped in newspaper.
2. Glass bottles with a refundable deposit.
3. 78rpm records.
4. Party telephone lines.
5. Milk delivered in glass bottles.
6. Television in black & white only.
7. Beat bobbies both day & night.
8. The coal man delivering.
9. Shilling-in-the-slot utility meters.
10. Your G.P. making house calls.
11. Television rental services.
12. Scouts & Guides bob-a-job week.
13. Two films shown per sitting.
14. Conductors on the buses.
15. Usherettes at the cinemas.

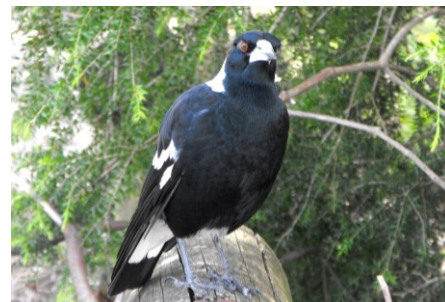
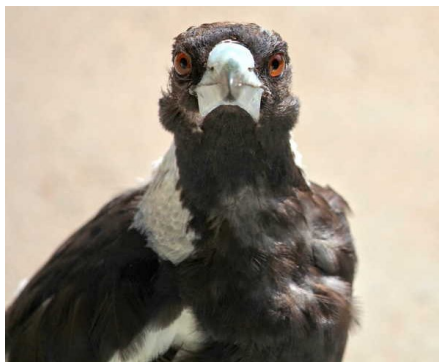
If you remember up to 5 - You're a whippersnapper.

If you remember up to 10 - You're gettin' there.

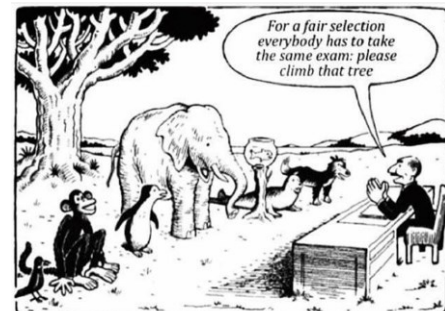
If you remember all 15 you're; "Older Than The Hills".

CALLAGAN, E. CALLAGAN, E. CALLAGAN, E. CALLAGAN, E.

Every Magpie is different but they all have a Seagull on their beak....



Contributed by Wendy Purdie...



Our Education System

"Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid."



Contributed by Augie Gray...

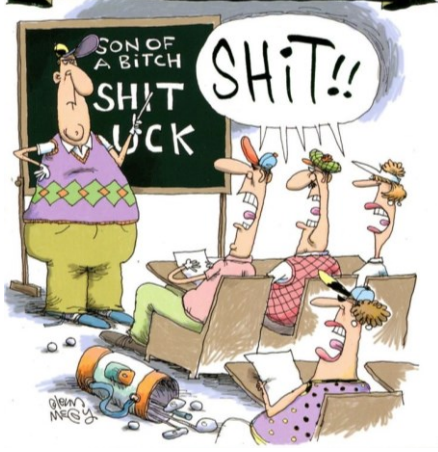
So many good sculptures (part 3)



Public Art/Pequim...by SculpLovers



DAY 1 AT GOLF SCHOOL



Contributed by Wendy Purdie...

WIFE: DID I GET FAT DURING QUARANTINE?
HUSBAND: YOU WEREN'T REALLY SKINNY TO BEGIN WITH!
TIME OF DEATH: 11:00PM
CAUSE: COVID

Contributed by Augie... Book Titles - September



- "Aren't We There Yet?" by Miles Away
- "Bows and Arrows" by Anne Archer
- "French Wine for Sex Symbols" by Brigitte Bordeaux
- "Retirement" by Collette Quizt
- "Poisonous Plants" by Dudley Nightshade
- "Who Killed Cock Robin" by Howard I. Know
- "The Gemcutter" by Jules Sparkle
- "Scots in the Desert" by Lorna Dune
- "No Appreciation of Fine Art" by Phyllis Stein
- "As Solid As ..." by Rocco Gibraltar
- "The French Chef" by Sue Flay
- "Musical Gunfighters" by Okay Chorale
- "A Warrior's Whisky" by Sam U. Rye
- "It's Magic" by Sven Gali
- "Off To Market" by Tobias A. Pigg

Back Again

A drunk staggers out of a bar and runs into two priests.

He goes over to the first priest and says, "Dude, I'm Jesus Christ!" And the priest says, "No son, you're not."

So, the drunk goes over to the second priest and says, "Man, I'm Jesus Christ!" Then the priest says, "No son, you're not."

Finally, the drunk has had enough and said, "Here, I'll prove it."

He walks back into the bar with both priests and the bartender looks up and sees the drunk and says, "Jesus Christ, you're back AGAIN!"

Hear about the new restaurant called Karma.

There is no menu: You get what you deserve.

Contributed by Doug Walker...

God is Clever



A man on his motor bike was riding along an Australian beach road when suddenly the sky clouded above his head and, in a booming voice, God said, "Because you have tried to be faithful to me in all ways, I will grant you one wish."

The biker pulled over and said, " Lord, build a bridge to Tasmania so I can ride over anytime I want."

God replied, "Your request is materialistic; think of the enormous challenges for that kind of undertaking; the supports required reaching the bottom of the Pacific and the concrete and steel it would take! I can do it, but it is hard for me to justify your desire for worldly things. Take a little more time and think of something that could possibly help mankind."

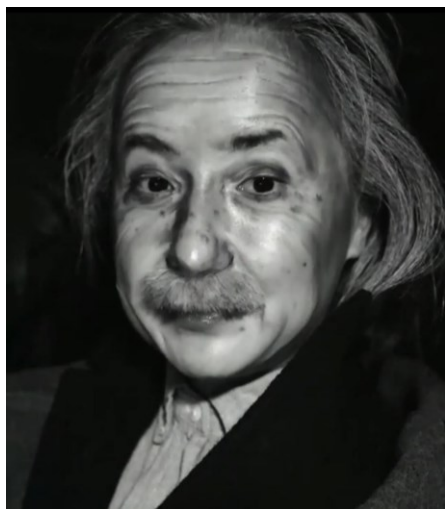
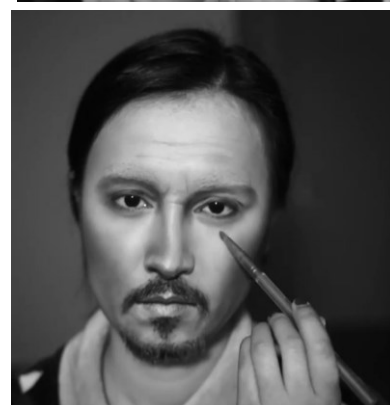
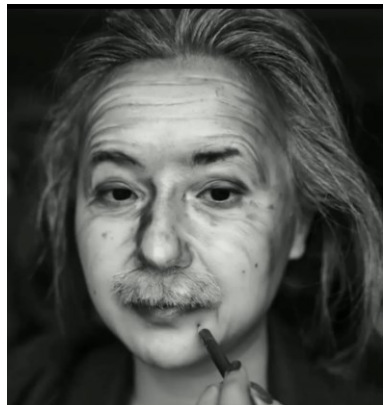
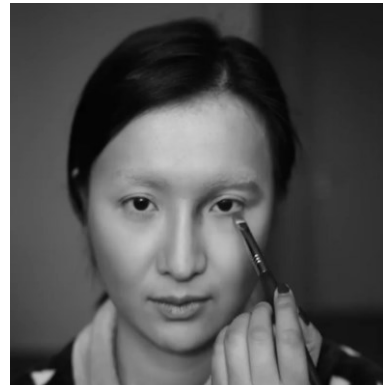
The biker thought about it for a long time. Finally, he said, "Lord, I wish that I, and all men, could understand women. I want to know how she feels inside, what she's thinking when she gives me the silent treatment, why she cries, what she means when she says nothing's wrong, why she snaps and complains when I try to help, and how I can make a woman truly happy."

God replied: "You want two lanes on that bridge, or four?"



Did you hear about the actor who fell through the floorboards? He was just going through a stage.

Contributed by Augie... The Art of Makeup



AE



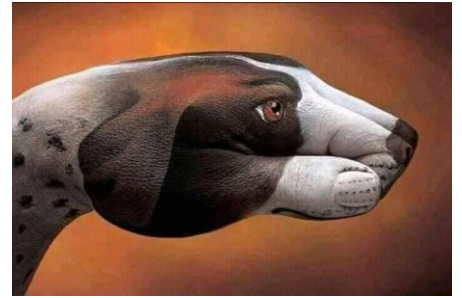
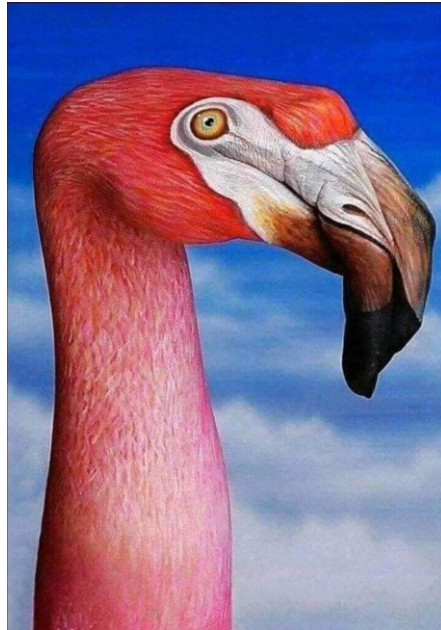
JL



JD

Art on Hands

<https://www.facebook.com/whydonyousharethiz>



Contributed by Doug Walker...



**The Good Wife's Guide
Wife Jokes**

After my wife died, I could not even look at another woman for 10 years. But now that I am out of jail, I can honestly say it was worth it.

Got an e-mail today from a "bored housewife 32, looking for some action!" I have sent her my ironing, that will keep her busy.

The wife's been hinting she wants something black and lacy for her birthday. So, I've got her a pair of football boots.

My wife asked if she could have a little peace and quiet while she cooked the dinner, so I took the batteries out of the smoke alarm.

Anyone got an owner's manual for a wife? Mine is giving off a terrible whining noise!

My wife apologised for the first time ever today. She said she's sorry she ever married me.

My wife said I needed to be more in touch with my feminine side, so I crashed the car, burnt the dinner, and ignored her all day for no reason.

Scientists have discovered a certain food that diminishes a woman's sex drive by 90 percent. It is called wedding cake.

Things turned ugly at my house last night. The wife removed her make up.

My wife shouted at me this morning for not opening the car door for her. I would have, but I was too busy swimming to the surface.

Just wait a second - so what you're telling me is that my chance of surviving all this, is directly linked to the Common Sense of others?

People are scared of getting fined for congregating in crowds. As if catching a deadly disease and dying a horrible death wasn't enough of a deterrent.

Whoever decided a Liquor Store is more essential than a Hair Salon is obviously a bald headed Alcoholic.

People start coughing and worry they have the coronavirus, I cough and just pray I don't pee myself...

Remember all those times when you wished the weekend would last forever. Well, Wish Granted. Happy Now?

So let me get this straight, there's no cure for a virus that can be **KILLED** by sanitizer and hand soap?

If you believe all this will end and we will get back to normal once we reopen everything... Raise Your Hand. Now slap yourself with it.

Did a **BIG** load of pajamas so I would have enough clean work clothes for this week.

Is it too early to put up the xmas tree yet? I have run out of things to do.

When this virus thing is over with... I still want some of you to stay away from me.

If these last few weeks have taught us anything - it's that stupidity travels faster than any virus on the planet.

Doug Walker
Happy Yorkshire Day first of August



To All! remember.

**"Ear all, see all, say nowt;
Eyt all, sup all, pay nowt;
And if ivver tha does owt fer nowt -
Allus do it fer thissen"**

What kind of exercise do lazy people do?

Diddly-squats.

Arial and Times New Roman walk into a bar.

"Get out of here!" shouts the bartender. "We don't serve your type here!"

Actions.

If we meet and I say, 'Hi',
That is a salutation.

If you ask me how I feel,
That is consideration.

If you stop and talk awhile,
That is a conversation.

If we understand each other,
That is communication.

If we argue, scream, and fight,
That is an altercation.

If later we apologise,
That is reconciliation.

If we help each other home,
That is cooperation.

And all these actions added up
Make civilisation.

(And if I say this is wonderful,
Is that an exaggeration?)

Yesterday, I saw a guy
spill all his scrabble
letters on to the road.
I asked him, "What is
the word on the street?"

The Drunk Poem

Starkle, starkle, little twink,
Who the hell are you, I think.

I'm not under what you call,
The alcofluence of incohol.

I'm just a little slort of sheep,
I'm not drunk like thinkle peep.

I don't know who is me yet,
But the drunker I stand here the
longer I get.

So just give me one more fink to
drill my cup,
'Cause I got all day sober to
Sunday up.



Mineral boxes and flats for sale

Mineral box sizes

Sold in bundles of (10) or 100

3.5 x 3.3cm.....	(\$1.50)	\$12.00
4 x 4cm.....	(\$1.50)	\$13.00
5 x 5.2cm.....	(\$2.00)	\$15.00
6.2 x 7.5cm.....	(\$2.50)	\$18.00
7 x 7cm.....	(\$2.50)	\$19.00
7 x 9.5cm.....	(\$2.50)	\$20.00
8.5 x 9.5cm.....	(\$3.00)	\$22.00
9.5 x 9.5cm.....	(\$3.50)	\$23.00
13 x 9.5cm.....	(\$4.00)	\$25.00
13 x 12.5cm.....	(\$4.50)	\$30.00

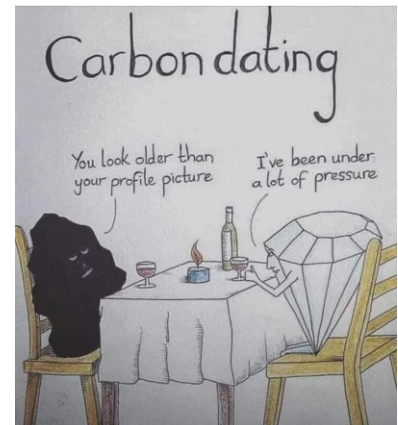
Flats sizes

395 x 265 x 50mm....	\$2.50
400 x 270 x 75mm....	\$3.50 NEW SIZE
398 x 290 x 98mm....	\$4.00

Greg Vort-Ronald

0413796279 or luv2paint@iprimus.com.au

all boxes and flats are folded together, no staples required
(Prices subject to change)



- 2020 Australian Gem & Mineral Calendar: [Click here...](#)
- Adelaide Gem and Mineral Club: [Click here...](#)
- AFLACA-GMCASA: [Click here...](#)
- Australian Federation of Lapidary and Allied Crafts Association (AFLACA): [Click here...](#)
- Australian Lapidary Club Directory: [Click here...](#)
- Australian Lapidary Forum: [Click here...](#)
- Enfield Gem and Mineral Club Inc: [Click here...](#)
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- Gemcuts: [Click here...](#)
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- Metal Detectors - Miners Den Adelaide: [Click here...](#)
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