



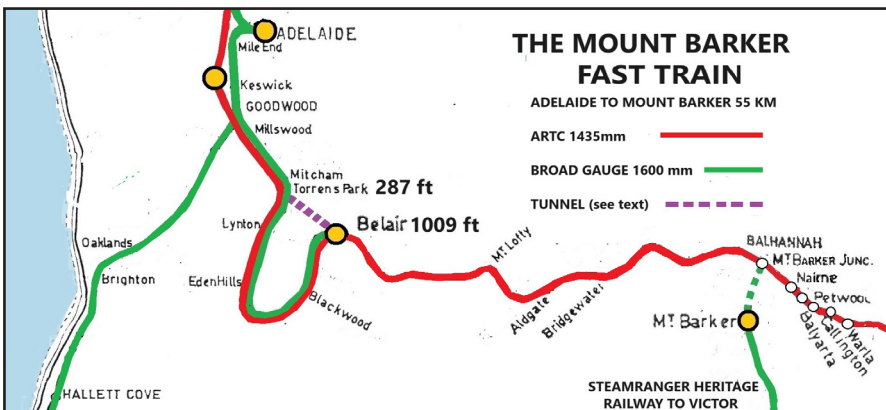
CHAPTER 13

BOGs and the TRAIN FROM SPAIN

BOGs are 'Break of Gauge' devices. They once had a place in the great order of things in that they were the railway equivalent of the Philosopher's Stone or the Holy Grail. Men of science and reason had declared, as far back as 1846 that the quest for these to be futile, but still the faithful would come forward with inventions of wheels that slide in and out on an axle, or maybe there were trucks with double axles that shifted up and down.

In 1918 the Commonwealth Government convened a group of experts to assess the worth of these BOG devices that had been submitted by their inventors. There were 126 inventions. They all failed.

Aside from concerns about mechanical mishaps causing derailments, the following have been universal disadvantages. The cost, and when there are thousands of trucks, that can be quite a lot. Delay has been an important consideration that would be related to the time it took for each truck to change gauge, as well as the congestion of trucks awaiting their turn. These devices generally required some workers at the transfer station. Logistics were an issue, especially if there were more trucks going in one direction than the other. It seemed that there was no longer a place for break-of-gauge devices but here is the surprise.



THE 'PIGGY BACK' TRAIN AT STIRLING NORTH. Attributed to John Frey. The Budd car on the near track was for the Ghan passengers while their cars rode on the narrow-gauge flat cars, which in turn were on standard-gauge flats which had narrow-gauge track welded on them. **FROM THE LIBRARY AND ARCHIVES NT.**

The railway between Adelaide and Melbourne was converted to standard gauge in 1995 and one of the legacies was a gauge disconnect at Mount Barker Junction in South Australia. (These isolated lines have recently become known as 'orphans'). There is a short section of railway between Mount Barker station and Mount Barker Junction. This 5 km section is vested to the SteamRanger Heritage Railway. The broad-gauge track is still there but rail movements over that section are a rare event. This is shown on the map as a green dotted line. Back in the days of country rail passenger services the journey from Adelaide to Mount Barker was 90 minutes. In recent times the people of Mount Barker have aspired to a modern commuter rail service to the city. It is a route of 55 km with many curves and challenging gradients.

The South Australian Government has been seriously examining this proposal and consultants have been engaged. One solution (from a consultant) to speeding the journey has been a tunnel from Belair to Torrens Park (illustrated on the map as a purple dotted line). This tunnel would have a gradient of approximately one in 14 and would come at enormous cost, far out of proportion to the population to be served. But the serious talk has continued. Another official report states that route is not suited to electrification because of bushfire risk. We are left to contemplate those hills-dwellers, who have chosen to live in the leafy-green fresh air, riding a 3 km tunnel of diesel fumes as part of their daily commute.

Enter the Spanish who have developed a break-of-gauge train that can shift its bogies between broad and standard gauge in minutes. This is the Talgo train. We are assured that they have got the technology right. It has arisen out of the fact that travel from Spain to France or Italy involves a break-of-gauge.

The Spanish gauge is 1668 mm (5 ft 6 in) and the standard gauge (1435 mm, 4 ft 8½ in) prevails throughout Europe. This innovation involves special track arrangement at the break-of-gauge that lifts the train while it is in motion, and takes the load off the bogies while the wheels are shifted in or out.

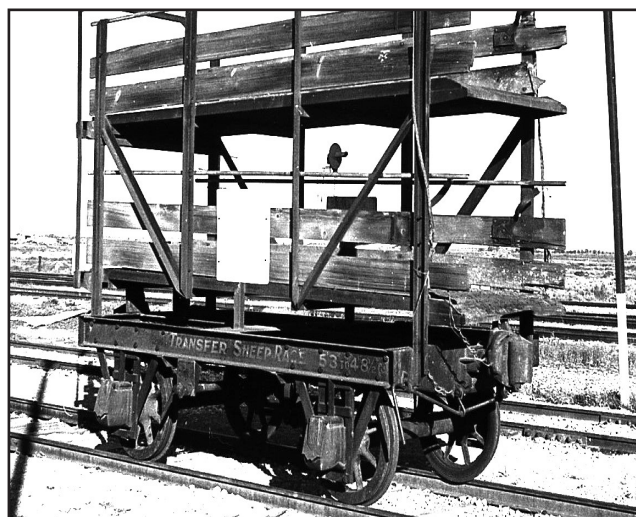
In recent months the South Australian Minister of Transport has visited Spain and observed this remarkable gauge-changing train. It must be admitted that this train is not intended as a commuter train, but as a fast express crossing borders. The Minister can see that there are many issues to consider.

The Talgo company has offered to bring one of these trains to South Australia at no expense to the South Australian Government, but it would involve the Government constructing a short section of special track.

There is a problem. To date, it does not seem to have received any mention in the reports from the Government or the community. It seems that they are assuming, when talking 'broad gauge' in Spain and 'broad gauge' in Australia, that they are the same. They aren't. A trial in Australia would need to have the train rejigged from the Spanish gauge (1668 mm) to the South Australian broad gauge (1600 mm). We suspect that such modification would be neither quick nor cheap. Nowhere in the various reports has this gauge discrepancy been acknowledged.

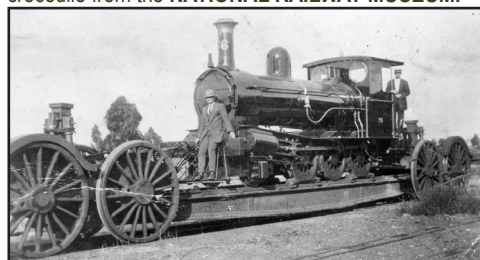
There are other operational problems. The ARTC standard-gauge mainline between Mount Barker Junction and Belair is heavily committed to freight movements. In the unlikely situation of ARTC allowing the Talgo train on its track, it would encounter delay in crossing loops. It is unlikely that the journey for those commuters would be little improved on the 1964 schedule.

In 1999 an innovative train journey concept was The *Great South Pacific Express*. This was a luxury train experience and offered journeys between Cairns and Sydney, and possibly other destinations. The carriages were built specifically for this train, and to be gauge-converted. Photographs of the interior of the cars showed them to be lavishly appointed and with an extensive application of Australian cedar and Queensland Maple. The gauge conversion was done in Brisbane, that took some hours, during which time the passengers were enjoying a bus tour around the city. The success of this venture was largely dependent on overseas tourists who were prepared to pay the money. Some sources state that the decline in the market evaporated suddenly with the attack on the Twin Towers and consequent decline in international air travel. It ceased operation in 2003 and remained in storage for over a decade. It went to Peru.



SOME BREAK-OF GAUGE DEVICES. TOP. An early bogie exchange at Terowie specifically for bulk cement for the mines at Broken Hill. 2 December 1969. **CENTRE.** A sheep race at Port Pirie for broad to standard gauge. 14 August 1968. **BOTTOM.** The original bogie exchange at Port Pirie. 14 August 1968. **JLW.**

BELOW. The Crocodile was a gawky-looking item of rolling stock for shifting narrow-gauge engines over broad-gauge lines. The wheels were salvaged from two of the 1856 Port line locomotives. The coloured photo is locomotive 625 at Riverton and with the crocodile immediately behind the loco with Silverton Y12 going to the Railway Museum, 2 October 1965. While the crocodile was a gawky looking creature there was one thing that was more gawky - the crocodile on the move. **PHOTOGRAPH JLW.** The other photograph of the crocodile from the **NATIONAL RAILWAY MUSEUM.**





THE MATTHEWS BREAK-OF-GAUGE TRUCK.

There was nothing particularly outstanding about this truck but it is the people that we should be looking at. It was an era when every new break-of-gauge truck was eagerly examined by newspaper reporters and members of Parliament, ever optimistic that these gauge-changing trucks were the solution. The Matthews truck was in 1922 and was the only truck that Matthews built. It is recorded that he spent 9 years developing this. **STATE LIBRARY OF SOUTH AUSTRALIA PRG 280/1/36/320.**

The invention of break-of-gauge devices became an 'industry' that was dominated by South Australia. No other colony had a need for these devices because no other colony had break-of-gauge locations within its borders. It was an industry that attracted the attention of members of Parliament, possibly because they may have been feeling guilty about being the cause of the problem. The more likely explanation for their enthusiasm was that their constituents were getting vocal about the problem and the other alternative was going to come at great expense. Tasmania, Victoria, and Queensland had sections of railway of 2 ft or 2 ft 6 in gauge but rightly did not pursue devices for these.

The Commonwealth Railways was the only other system that had a need for a solution to the gauge problem. Their one venture into the quest for a solution was spectacular and successful - the 'pick a back' train.

Or was it the 'piggy back' train? It must be acknowledged as a uniquely Australian concept that met a particular need at a particular time but does not appear to have application to the future. Monte Luke attributes its main progenitors as Bill Holmesby and Chief Mechanical Engineer, Keith Smith. It operated from April 1955 to June 1956. It was possible because they were no overway bridges or other structures along the standard gauge line. It was a concept that was developed around the campfire in a sandy creek bed somewhere north of Port Augusta. In July 2000, K A Smith wrote of the origin of the 'piggy-back' train in the *Bulletin* of the ARHS (Vol 51, No 753).

Smith had advised the Melbourne headquarters of the Commonwealth Railways of the successful first journey of the piggyback train. He subsequently received comment from Pat Hannaberry, who was the Commonwealth Railways Commissioner at the time:

He was glad that the project had not come before him in the initial stages and he said "I would have had to kill it overnight - it was too flamboyant to be real". But as an afterthought he added "I was quite surprised that you did not think of it earlier".

Des Smith is quite firm in his recollection that it was the 'piggy-back' train and not the 'pick-a-back'.

In the 1960s and 70s bogie exchange was promoted as the solution to the break-of-gauge and there was large investment in bogie exchange centres. The gauge conversion of the Wodonga to Melbourne route in 1962 was associated with a bogie exchange facility at Dynon Road in Melbourne. Prior to this time there had been a bogie exchange facility that had been established by the Army at Albury. The one at Dynon Road was followed, in November 1965, by a bogie exchange facility at Port Pirie. On completion of the standardisation of the Broken Hill line in January 1970, a further bogie exchange was established at Peterborough. With the extension of the standard gauge to Adelaide in 1983 a bogie exchange was established at Dry Creek in Adelaide. This replaced the bogie exchanges at Port Pirie and Peterborough. With the completion of the Melbourne to Adelaide standardisation in 1995, there was no longer the need for bogie exchanges, and the Dry Creek facility was closed.

THE COAL TIPPLER AT TEROWIE. A system operated by pulleys and cables for rotating narrow-gauge truckloads of Leigh Creek coal. Aside from the usual break-of-gauge inefficiencies there was a major dust problem. **STATE LIBRARY OF SOUTH AUSTRALIA PRG 1386/3/378.**

