INTRODUCTION

OFF AGAIN, ON AGAIN, GONE AGAIN

‘Off again, on again, gone again!’ This is a great catchcry from yesteryear discovered by ABC Radio’s Great Train Show and arising from a frustrated stationmaster in Victoria, Australia, not long after the reign of Queen Victoria. It was of course a shorthand way of describing one of many frequent derailments in the Western District of Victoria, last century.

The Victorian Railways stationmaster had been chipped by HQ about the length of his reports on the various derailments of goods trains using the lightly ballasted Irish broad gauge system of 5 feet 3 inches (1600 millimetres). So he thought, in his best Australian manner, ‘Stuff them!’ and henceforth sent just these six words back to HQ every time a freight train departed the rails.

The phrase took off and was also used around Roma, in central southern Queensland, where a very light form of Anglo Cape narrow gauge of just
3 feet 6 inches (or 1067 millimetres) operated, and derailments on branch lines such as Roma-to-Injune and Warwick-to-Dirranbandi occurred ever so frequently. Unless it involved passenger trains, for a period the shorthand report sufficed.

Too often it might also be the catchcry of the railways of the world, as they reach the 200-year mark of their extraordinary activity.

It was George Stephenson more than any other person — more than the great engineer Isambard Kingdom Brunel, famed for his tunnels, bridges, viaducts and even steamships — who might be described as the ‘founder of the modern railway’. Stephenson started devising, planning and building the first locomotive-hauled ‘proper railway’ around 200 years ago, leading to the opening of the Stockton and Darlington railway in northern England in 1825. Then, shortly after, as chief engineer he completed the first double-track all-purpose exemplar railway to the world: the Liverpool & Manchester Railway. It was officially opened on 15 September 1830.

In the USA, also in 1830, the Baltimore & Ohio Railroad led the way with the opening of a line westward from Baltimore to Ellicott City in Maryland. The original track is still a railway today, with excursion trains from the Baltimore & Ohio Railroad Museum running most Sundays a few kilometres along a tranquil corridor to the exact point where the main opening ceremony was conducted.

The first railway in France opened in 1830 near Lyon, while in Australia, the oldest private company with a continuing name, the Australian Agricultural Company (AACo), opened Australia’s first railway in Newcastle, New South Wales, in 1831, for the haulage of coal over a distance of 3 kilometres. Conversely, Mauritania, in Africa, waited until as late as 1963 to establish its first (iron-ore haulage) railway.

Technically railways and their cousins the so-called plateways (cast-iron flat rails with an outside rim for guiding wagons) go back through the seventeenth century to around AD1500, when they were used in collieries in the north of England, but serious legislation on railways emerged on
1 May 1801, when the *Surrey Iron Railway Act* was passed by the British Parliament, and originally concerned horse-hauled railway. This changed when Cornish mine owner Richard Trevithick developed the first steam locomotive, in a fragile way, in 1804. It was the first-ever case of steam propelling a vehicle forward, a kind of road locomotive, but, alas, in celebrating its first moves, the crew became distracted in the local inn. They allowed the boiler to run dry and it exploded. However, notwithstanding the explosion, steam locomotion was on the move and over the next few years the modern-day railway began to emerge.

If the nineteenth century, the first century of the modern railway, saw massive expansion and development worldwide, the 20th century saw the near-death of the railway, with two world wars, the Great Depression, but more particularly the advent of the mass-produced motor car, truck and aeroplane taking effect. Railways fell off the pace, and only towards the end of the 20th century were two big breakthroughs obtained, guaranteeing their future. As a curtain-raiser along came the *Staggers Act* deregulating the railroad industry in the USA, and on its heels double-stacking of containers on trains, most notably in Australia, Canada and the USA, thereby nearly doubling freight transport productivity.

Secondly, in Europe and even earlier in Japan, along came very fast passenger trains, such as Japan’s Shinkansen (Bullet train), the TGV in France, the AVE in Spain and the ICE (Intercity Express) in Germany. More flexible work practices and labour laws also contributed to improvement, as trade unions slowly but surely began to see the ever-changing and bigger picture.

Hence, I contend we are now at the start of the third century of the railway and in much improved shape, with massive increases in both passenger and freight. Although there have been some troughs due to recession in parts of the world, railways have continued to make gains in energy efficiency and by degrees in profitability.

It is a case of ‘21st Century Trains Unlimited’ without a shadow of doubt, and this book will carefully lay out the case for a big future in rail,
albeit one that learns from and builds on all that has gone before. The expression ‘21st Century Trains Unlimited’ is a take on the famous luxury passenger train the ‘20th Century Limited’, which operated on the water-level route between New York and Chicago from 1902 until 1967 and has nothing to do with travel companies of related name. It thus looks back to the past but emphasises the scope for the future. Railway is needed more than ever, and through the massive revamp of just about every aspect of the system over the last 50 years, it is set to deliver greatly to a congested, fossil-fuel scarce, polluted world.

This brings us back to ‘Off again, on again, gone again!’ It is a catchcry that still applies around the world, for there are always new challenges emerging.

To take the UK, the ‘on again, off again, on again and gone again’ project of renown has to be the very high-speed rail project for the main trunk route London–Birmingham–Manchester–Leeds–Newcastle–Edinburgh–Glasgow, along the spine of Britain. Over decades this has been mooted and dropped but has recently surfaced again with the completion and opening of the magnificently revamped St Pancras Station, as the London terminal for high-speed Eurostar trains from the Continent.

A few years back, the concept had been somewhat dammed in the massive Eddington Report on British infrastructure, headed up by Sir Rod Eddington, ex-head of British Airways and a West Australian of renown. To be fair and more accurate, the Eddington Report simply made no strong recommendation with regard to high-speed rail. The relatively small loading gauge in Great Britain — that is the height and width of rolling stock and locomotives using the Stephenson standard gauge — vis-à-vis, say, France or the USA, has always meant that whole new corridors and tracks would have to be found and developed for TGV-type operations, initially northwest then further north of London.

It took over a decade after the tunnel — or Chunnel — was completed under the English Channel in 1994 for the high-speed line from Folkestone to London to be eventually built. During this period, I recall vividly the acceleration upon leaving behind Ashford and the Southern rail system,
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with its antiquated third rail for power supply greatly limiting speed, speeding up into the Chunnel and travelling faster again on the French side past Calais. Now a two-hour fifteen-minute service prevails London to Paris, and 24 minutes less — an incredible one hour 51 minutes — London to Brussels Midi.

In the USA the Obama administration has unveiled a set of high-speed train projects as part of the 2009 stimulus package to help overcome the global financial crisis. Pro-rail Vice President Joe Biden has played a key role in this and so it will be interesting to see if and how many of these projects come to early fruition. There is more on this in the North America chapter (Chapter 6).

The large hub of Chicago has been a major zone of congestion over the decades for passenger trains in the past but now it is freight train congestion dominating. Mark Twain once wrote that a pig could pass through the Chicago train hub faster than a passenger. At last an ‘off again, on again’ project has emerged to provide extra key lines and more grade separation, including east–west rail pathways at a different level to north–south rail pathways, eliminating dreadful double or quadruple diamond crossings. The whole business is being given focus and some priority with an overarching project called CREATE.

CREATE is a good pointer to how to get big projects up across several layers of government, big business and a critical public. CREATE stands for Chicago Region Environmental and Transportation Efficiency program. Note the use of both the words ‘Environmental’ and ‘Transportation Efficiency’ to confer focus and leverage, along with community understanding of the project. This is a smart approach to help engender the right kind of media and momentum in the community and relevant legislatures.

Even with CREATE some mistakes have been made, such as allowing railway companies rights of veto and priority setting. As one of the key drivers of CREATE, John Rinard has pointed out this has meant the common overall good was derailed by degrees, or waylaid in favour of particular advantages for railroad company x or y or z.
In South America, modernisation of rail has struggled along, not helped by the fact that the huge economy of Brazil has a railway network in 5-foot 3-inch (1600-mm) Irish broad gauge, versus Argentina and Chile with imperial broad of 5 feet 6 inches (1676 mm) dominating, but even in these two southern neighbours, there are large distances of narrow-gauge networks. At least when another ‘off again, on again’ project is completed, namely the provisionally titled ‘John Paul II Peace Tunnel’ between Argentina and Chile through the Andes, at a much lower level than the existing disused narrow-gauge Mendoza Pass Tunnel, the main gauge in both these countries will be the same.

You might ask why gauge matters so much. There is more on this down the track but the massive cost of break of gauge matters a great deal and can influence history. One extra problem Hitler had on the Eastern Front was the delays and congestion in the supply lines created by the gauge breaks between Poland and Russia.

Australia has gradually removed the worst of its gauge breaks, with every mainland capital city now connected in Stephenson standard gauge, but almost all of Australia’s main lines remain on steam-era alignment (that is, with the sharp curves and steep grades necessary in the era before big earth-moving equipment) still slowing down trains. Further, Australia is ‘off again, on again’ with high-speed rail, and do not mention the word ‘metro’, as Sydney juggles the prospect of matching its largely overground and overcrowded heavy-rail commuter system with some cut-through underground metro lines.

Asia has many projects on the board, with some excellent progress already made, such as high speed in South Korea from Pusan (or Busan) to Seoul, and in Taiwan, Taipei-to-Kaohsiung in the south. The Shinkansen leads the way on many fronts in Japan, but maglev (magnetic levitation) remains uncompleted on a direct route Tokyo-to-Osaka.

China is building more new railway double track than any other country in the world. It already has a maglev system operating over a short distance of 30 kilometres (19 miles) from Pudong International Airport
to an odd location in the suburbs rather than the CBD of Shanghai. Maglev is not technically a railway, because it is a magnetic pathway hurling carriages forward guided by a raised concrete pathway, at speeds of over 500 kph. In short, maglev will have strictly limited application this century, mainly due to the enormous trackbed and energy costs required to operate.

There is another exciting approach under experimental development with no rollout as yet: it is a variation of maglev using magnets embedded in the trackbed to propel carriages carrying the reverse magnets attached underneath each the carriage, but with the weight of the carriage or wagon supported by conventional rail bogies, and normal steel wheels running on rails. Essentially this eliminates the need for any locomotive whatsoever. Imagine this! Watch this space as linear wheeled propulsion unfolds further.

Mooted are another two Greater Asia international railway projects: metre gauge from Singapore through Malaysia and Thailand and on to China (exact route to be finally agreed), then on to Lhasa, Tibet, down through the Sikkim Gap in the Himalayas, and connecting with the Indian Railway network, albeit with a break of gauge at the junction. And there is an extraordinary map in China today showing HSR routes from China through Myanmar to India, avoiding the Himalayas, and even China to Moscow and Berlin.

These routes are likely to continue in the ‘off again, on again’ category but may yet come to fruition in this extraordinary 21st century. As always, politics, both domestic and international, will play their part, along with the issue of climate change and diminishing oil supplies.

The truth is that the world stands on the cusp of another ‘railway mania’ phase, as happened in the mid-nineteenth century in Great Britain. However, do not expect revived branch lines operating to almost every town or village; rather there will be considerable hubbing with trunk railway lines dominating the landscape, but done in a way that is less obtrusive than expressways and freeways.
The fundamental advantage of rail — that when operated properly a steel wheel on a steel rail has one-seventh of the friction of a rubber tyre wheel on a bitumen surface — ensures that rail will be competitive. Per tonne-kilometre, rail is way ahead of all other modes of land and air transport, even allowing for some caveats that will be discussed as we gather our own momentum in the chapters ahead, the largest being the simple fact that railway will only stack up if operated efficiently.

‘Off again, on again, gone again’ is a timely catchcry from the past; the trick is now to see if the start-stop-start-again mentality dominant in too many railway realms of the world can be left behind once and for all, with a forward strategic approach to now apply.

Finally, along this grand route of rail activity over five decades, I have been helped by many and I thank them all, especially my long-suffering family. From riding a steam train up the Khyber Pass on the Afghanistan–Pakistan border to riding the first-ever freight train and a fortnight later the first-ever passenger train from Adelaide to Darwin (on the only new transcontinental railway built this century), I have enjoyed a diversity of direct railway interface more than most, and I am grateful for it.

However, it is the colourful people of rail that add another layer of deep interest, from those long-gone founders such as George and Robert Stephenson and Isambard Kingdom Brunel to the many people well and truly alive today to be found beavering away in all corners of the globe, such as Ted Franco of the five-generation Italian-American-Australian rail engineer family, headed up originally by Lou Franco. Ted has merely worked on major rail projects in California, Alaska, Queensland, Puerto Rico and Western Australia; he now lives in Perth, Western Australia, when not facilitating rail projects around the world, such as in Libya (more on which later).

For the record Ben Franco was born in Italy in 1883 and went to work on the railways of the USA; his son Lou Franco was born 1914 and did likewise; then came Ted Franco in 1936 with his rail work detailed above. Ted had three railroad sons: Greg, born 1958; Ted, born 1960; and Adam,
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born 1968; before a grandson arrived in 1984 — Ted the third or Ted Franco Junior, Junior, and also working on railroad development. Clearly the Franco family, no relation to the Spanish dictator, has contributed to rail perhaps more than any other family in the world, across five generations.

We will meet many colourful people who have driven the progress of rail, including Cecil Rhodes, Mark Twain, and the redoubtable rail traveller and raconteur Peter Ustinov. All of these and many more were fixated by that mode of transport fathered by just one extraordinary Englishman, George Stephenson.

So once again, all aboard for the ‘21st Century Trains Unlimited’ and a look at where the railway has been, what it is today and where it is going.
The Pichi Richi Railway offers a historic rail journey on the oldest remaining section of the narrow-gauge Ghan railway between Quorn and Port Augusta in South Australia.

At the platform in Albury, one of the longest platforms in the southern hemisphere. In the past, passengers from New South Wales and Victoria had to cross over from one side to the other to change trains, often in the middle of the night, due to break of gauge. (Courtesy Allison Jess)