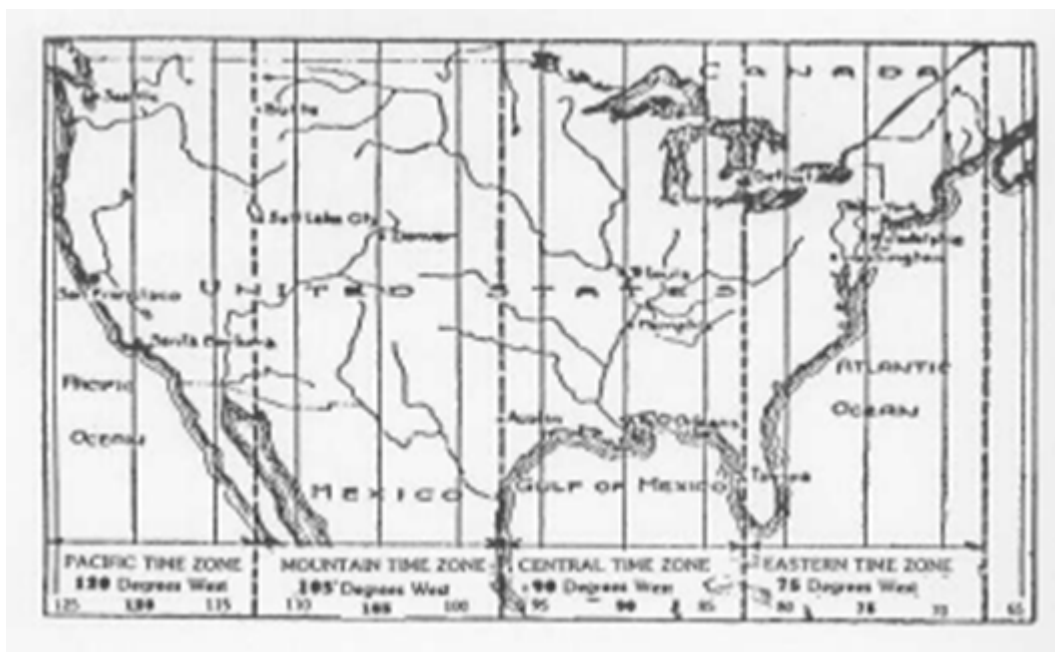
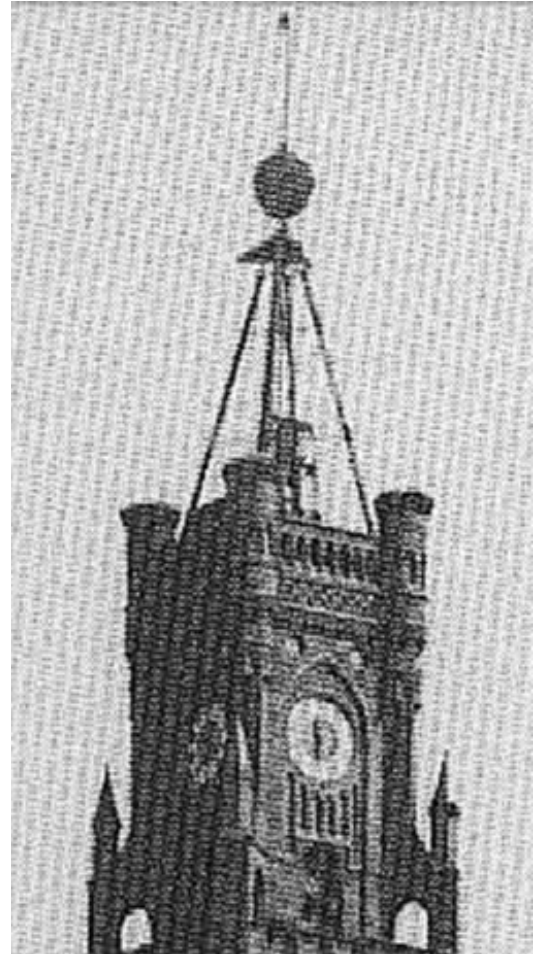




The Times

July 2009

A journal of transport timetable history and analysis



Inside: The Japanese School-bus
The Day of Two Noons
Railway Paper
Last Train over the Zig-Zag

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—Contents—

AN UNUSUAL BUS TIMETABLE– THE JAPANESE SCHOOL	3
THE DAY OF TWO NOONS	4
RAILWAY PAPER	9
LAST TRAIN OVER THE ZIG-ZAG	16

On the front cover

These illustrations are taken from the book– *The Day of Two Noons*, one of a number of publications devoted to the adoption of Standard Time in the United States of America and particularly to the role of the railroads in bringing it about. It was all done for timetables' sake of course, as the running of an extensive network and the production of simple and conflict-free timetables was a nightmare without Standard Time.

Derailments: In last month's story on bank engine timetables, it was inadvertently stated that the average gradient encountered by trains banked in the rear from Valley Heights to Katoomba was 1 in 30. This of course was wrong, as pointed out by reader Jim Wells– 1 in 30 was the *ruling* grade. The *average* grade was lower at 1 in 47 because of the existence of several short respites of level track. It was still hard work though.

The bank engine story for the Blue Mountains line also produced a spin-off which appears in this issue– the "last" and "first" trains over NSW's famous Zig Zag and the subsequent Zig Zag deviation.

Last month's history of the AATTC attracted several favourable comments and members were kind enough to fill in some of the gaps in Victor Isaacs' narrative. These will be compiled and published once all of them are in. As a companion to Victor's history article, this month we publish a survey of what all the fuss was about. Read about *Railway Paper* starting on page 9. An analysis and a review of the history of "*Public Railway Paper*" would extend this article vastly– perhaps YOU would like to write it?. Corrections and additions to this month's article are vigorously invited

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An unusual bus timetable: Ku-ring-gai Bus Co, to the Japanese School

JIM O'NEIL

Until recently school buses not following the regular bus routes were not generally included in timetables issued for the use of the public. A timetable issued solely to show buses operating to a school some distance from the operator's area was quite unusual. The timetable I am examining here was issued by the Ku-ring-gai Bus Co. for services to the Sydney Japanese School, Terrey Hills. I acquired it in 1996, and at first the girls in the office didn't want to give me a copy, since I am clearly not Japanese, and therefore would not have children needing to use it.

On its front cover (not shown here) it says "No services on Sundays or Public Holidays". Well, that seems reasonable, but there were no services which went to the Japanese School on Saturdays either. The bus company had a template for the bus timetables issued at this time with the name of the company, then "Timetable for", a space in which the details of the particular timetable were entered, followed by the days on which service was not provided, the phone and fax numbers, and finally the address of the depot. Nobody

thought to change the days not operated for this particular timetable, because it was the only timetable without any service on Saturdays.

In the morning we find two buses operating on Mondays to Fridays, the first identified as ROS left Roseville and then Lindfield stations on the east side of the railway line. The time of departure from Lindfield is given in error as 4.40 (a.m.?) – it should be 7.40. The second bus, identified as KRA left Killara from the east side at 7.47 and five minutes later from the west side of Gordon at 7.52. The timings suggest the buses did not make intermediate pickups.

The afternoon services were more complicated. On Mondays to Thursdays we find two buses, identified as KRA and ROS, as in the morning. The different times of departure from the School, 3.35 for Killara and 3.45 for Roseville show we have two separate buses. This indicates that even though one bus could have operated the timings for both ROS and KRA in the morning, they were in fact run by two different buses.

On Fridays we have three buses. The first

left at 1.30; the younger students got Friday afternoons off at the Sydney Japanese School. The bus ran first to the two stations serviced by KRA, Gordon and Killara, then to those covered by ROS, Lindfield and Roseville. After that it turned back north, stopping at Pymble and the stations close to the Pacific Highway as far as Hornsby. The two other buses both left at 4.30, nearly an hour later than on Mondays to Thursdays. One ran to Gordon, then turned north to Pymble and Hornsby. The other ran to Killara, thence Lindfield and Roseville. It is possible that these buses picked up and set down at East Killara on their way to and from Roseville, but, if so, what provision was made for younger students returning there on Friday afternoons? I think it more likely that the buses did not make intermediate stops? And what are we to make of the students travelling to Pymble and points north on Friday afternoons: did they travel by train to and from Gordon station at other times, or did Shorelink run a bus to and from Hornsby except on Friday afternoons?

A.M. MONDAYS TO FRIDAYS		P.M. MONDAYS TO THURSDAYS	
ROS ROSEVILLE		KRA KILLARA	
1. Roseville	7:35 Roseville Station/Hill Road	1. Dep.	3:35 SJS Terry Hills
2. Lindfield	4:40 Lindfield Station/ Lindfield Ave	2. Gordon	3:53 Gordon Station, Henry St.
3. SJS		3. Killara	3:57 Killara Station, Werona Ave.
KRA KILLARA		ROS ROSEVILLE	
1. Killara	7:47 Killara Station/Werona Ave.	1. Dep.	3:45 SJS Terry Hills
2. Gordon	7:52 Gordon Station/Henry St.	4. Lindfield	4:05 Lindfield Station/Lindfield Ave.
5. SJS		5. Roseville	4:10 Roseville Station/Hill Road

		P.M. FRIDAYS ONLY 3 BUSES	
1	Bus	Dep.	1:30 Gordon, Killara, L'field, R'ville, Pymble, Turramurra, Wahroonga, Waitara, Hornsby.
1	Bus	Dep.	4:30 Gordon, Pymble, Hornsby.
1	Bus	Dep.	4:30 Killara, L'field, R'ville.

The Day of Two Noons

By **CARLTON J. CORLISS**, *Association Of American Railroads*

Preface to the sixth edition, 1952:
For nearly a century the American railroads, large and small, have been working together with a view to providing the public with the best possible transportation service. Their cooperative effort has included the standardization of gauge and equipment, the adoption of a uniform code of operating rules, a uniform plan for the interchange of freight cars, joint rates and fares, and numerous other arrangements without which there could be no through schedules, billings or services.

The story of the adoption by the railroads of Standard Time, told in the following pages, strikingly illustrates the benefits of cooperative action on the part of the railway industry. Although the lives and habits of people everywhere are regulated by Standard Time, few persons are aware that it was through the joint efforts of the American railroads, working together to improve their services, that this orderly method of reckoning and keeping time was introduced more than two-thirds of a century ago.

The work of standardization and coordination of railway operations which began many years ago is carried on today through various branches of the Association of American Railroads. Railroad men are constantly working together on scores of research and standardization projects involving equipment, materials and methods — all for the purpose of effecting economies and increasing the efficiency and safety of railway operations.

Yes, there really was "a day of two noons!" This 'phenomenon occurred November 18, 1883, when the railroads introduced Standard Time throughout the United States. The time between noons varied from 1 to 50 minutes, depending upon the distance between local sun time or local railroad time and the new Standard Time. The story is told here in detail.

Precision Railroad

Modern railroading is precision railroading. There was a time when fractions of minutes, or even whole minutes, were given little notice in railroading; but modern railroading counts seconds as well as minutes.

The remarkable performance of the American railroads in operating many thousands of passenger and freight trains daily, with precision and safety, has been fittingly characterized as a "miracle of human accomplishment." This great transportation machine functions so smoothly and so

efficiently hour after hour, day after day, despite darkness, storm and other hazards, that most of us are likely to accept good railway service as we do the rising and setting of the sun or the procession of the seasons. It is only when something happens to interrupt railway service that we are brought to realize what a vital part the railroads play in our everyday lives.

Imagine what would happen if the train dispatcher, the man in the signal tower, the conductor, the locomotive engineer, the switchman and every other person connected with the railroads were suddenly to be deprived of their timepieces or other means of telling the time of day and were compelled to operate the trains without aid of clocks or watches. The chaos and confusion that would inevitably result would be nothing short of calamitous.

Confusion Before Standardization

There are many persons now living who recall the period when railway operations were in a state of confusion due to the lack of a uniform time standard. Prior to the adoption of Standard Time on November 18, 1883, the only "time" that existed in this country was local time, commonly called "sun time," which was based upon the transit of the sun across the meridian, and which varied in the latitude of Boston, Chicago, and Salt Lake City approximately one minute for every thirteen miles, or one second for every 1,140 feet of longitude.

In Washington, D. C, there is a difference of 7 seconds between sun time at the Capitol Dome and sun-time at the Lincoln Memorial, Sun time at the eastern and western extremes of Chicago differs by about 67 seconds. It differs about 30 seconds between the two ends of the San Francisco-Oakland Bridge.

So, of course, such a thing as true local or sun-time was never observed at all points in the country. This would have led to unending confusion, because the longitudinal variation is constant. Moreover, owing to the eccentricity of the earth's orbit, there is a seasonal variation of several minutes, so that exact sun-time at a given point on the earth's surface in January will not correspond to exact sun-time at the same location in April or August or November.

But each of numerous cities or towns adopted a time standard which was based upon mean local sun-time at the city hall or some other designated location. Many another city or town adopted the time standard of one of its railroads or of the principal city in its area. Each railroad adopted



the time standard of its home city or of some other important city on its lines.

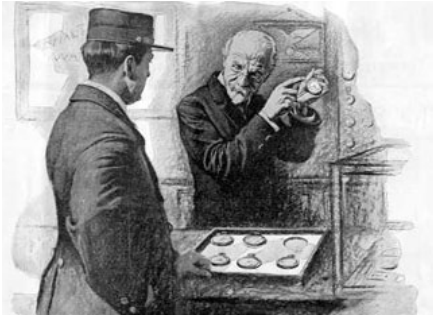
For instance, the Pennsylvania Railroad in the East used Philadelphia time, which was 5 minutes slower than New York time and 5 minutes faster than Baltimore time.

The Baltimore & Ohio used Baltimore time for trains running out of Baltimore, Columbus time for trains in Ohio, Vincennes time for trains running west of Cincinnati, and it scheduled some of its trains under New York time, Philadelphia time and Chicago time. The Michigan Central Railroad operated its trains on Detroit time.

In the Chicago district the New York Central and the Pennsylvania used Columbus time which was 6 minutes faster than Cincinnati time and 19 minutes faster than Chicago time. Generally speaking the railroads running westward and southward from Chicago used Chicago time ; those running westward from St. Louis used St. Louis time.

When it was noon in Chicago it was 12:31 in Pittsburgh; 12:24 in Cleveland; 12:17 in Toledo; 12:13 in Cincinnati; 12:09 in Louisville; 12:07 in Indianapolis; 11:50 in St. Louis; 11:48 in Dubuque; 11:39 in St. Paul; and 11:27 in Omaha.

The Union Pacific Railroad operated its trains by at least six different time stan-



dards — based on sun-time at Omaha, Jefferson City, St. Joseph, Denver, Laramie, and Salt Lake City.

The Chicago Tribune listed 27 local times in Michigan, 38 in Wisconsin, 27 in Illinois and 23 in Indiana.

There is no telling how many different "local times" there were in the United States prior to the adoption of Standard Time, but we do know that there were at least 68 different times used by the railroads, and according to one authority, there were, a few years prior to 1883, something like 100 different times in use by the railroads of this country.

Multiplicity of Times

A traveller going from Maine to California, if anxious to have correct railroad time, was obliged to change his watch some twenty times during the journey!

In the railroad station in Buffalo, there were three clocks — one set to New York time, by which the New York Central Railroad operated; one set to Columbus time, by which the Lake Shore and Michigan Southern and other railroads were operated; and the other set to local Buffalo time.

The situation was even worse in Pittsburgh, where there were six different time standards for the arrival and departure of trains.

In Kansas City each of the leading jewellers furnished his own "standard time," and no two of these standards agreed. Sometimes the range was as much as twenty minutes. Each jeweller took his own readings. He had his own customers who set their watches by his regulator and were willing to wager on the correctness of his time. According to one account, "the people of Kansas City never did have accurate information on the arrival and departure of trains, except such as was gained by going to the edge of the hill and looking down on the railway station." The situation became so notorious that Professor H. S. Pritchett, an astronomer of note then connected with Washington University in St. Louis, was called upon to untangle the mess. On his recommendation, the problem was solved by the city's adoption of a time ball system.

These time balls [our cover], now almost forgotten, were a great institution in their

time. Each day at official noon at a particular location, a large ball, sometimes three or four feet in diameter, so as to be visible for several miles, was dropped from a lofty mast. As the ball fell, the people — watching from many vantage points — adjusted their timepieces to noon, and thus everyone in the city was provided with uniform time. In the larger cities, thousands of persons watched the time balls daily. Scientists wrote learned papers about them, argued about the best diameter or weight and height of the mast, and whether the ball should start falling at noon or reach the bottom at noon.

Of course, with such multiplicity of time standards throughout the country, passengers and shippers, and railway officers and employees who were responsible for the operation of trains, the sale of tickets and the making of schedules, were confused and bewildered. Mistakes and errors were frequent and sometimes disastrous.

According to the New York Herald, "The confusion of time standards was the source of unceasing annoyance and trouble."

Proposals for a uniform time system were not new. As early as 1828, Sir John Herschel was urging the standardization of time in England. On December 6, 1848, partly as a result of his efforts, Greenwich mean time became the standard time of England, Scotland and Wales. One of the early advocates of standardization in the United States was Professor C. F. Dowd, of Saratoga, New York, who in 1869 proposed dividing the country into time zones somewhat similar to what we have today. Professor Dowd spent much time and energy in his efforts to obtain public approval of his plan. In 1878, Sir Sanford Fleming, chief engineer of the Government Railways of Canada, proposed a 2-1-hour time standard. Professor Cleveland Abbe, Dr. Thomas Hill, and other scientific men advocated a uniform standard of time in one form or another.

Standard Time Adopted

Like Mark Twain's observation that there had been a great deal of talk about the weather but nothing had ever been done about it, nothing ever came of these proposals until the railroads took the matter in hand. The railroad movement may be said to have had its beginning in May 1872, when an association of railway officers, a forerunner of the Association of American Railroads, held its first meeting at the old Southern Hotel in St. Louis. This was a meeting of railroad superintendents called for the purpose of arranging summer passenger train schedules. At the St. Louis meeting a permanent organization was formed which became successively the Time-Table Convention, the General Time Convention, the American Railway Association, and, finally, the Association of American Railroads.

For many years the secretary of the General Time Convention and the American Railway Association was William F. Allen, managing editor of the Official Guide of the Railways. In his capacity as Secretary of the General Time Convention, Allen worked unceasingly for the adoption of Standard Time. In the waiting room of Union Station, in Washington, there is a large bronze tablet which gives Allen the credit which is due him for his part in that very important achievement. Possibly another tablet would be appropriate — this one on the site of the once famous old Grand Pacific Hotel, in Chicago—to commemorate the General Time Convention of October 11 1883, which definitely adopted Standard Time.

The plan there adopted provided for five time zones — one, to be known as Intercolonial Time, in the Eastern provinces of Canada, and four in the United States, to be known as Eastern, Central, Mountain and Pacific times. The four United States zones were based upon mean sun-time on the 75th, 90th, 105th and 120th meridians west of Greenwich. These four meridians are approximately on the longitudes of Philadelphia, Memphis, Denver and Fresno. Having voted overwhelmingly for the adoption of the plan, the convention, through Secretary Allen, issued a notice, directing that all railway clocks governing the operation of trains throughout the United States be set to the new standard at exactly 12 o'clock noon, Sunday, November 18, 1883.

Detailed instructions and recommendations were issued, giving the exact changes which were necessary for the many railroad companies to adjust their clocks and watches to the new standard, and similar information was furnished public officials of cities throughout the country. It was realized that the success of the plan would depend largely upon the cooperation of cities and towns in adopting the new time locally, and this was stressed by the General Time Convention and by railway publications. Newspapers and local public officials enthusiastically approved the change, and only here and there was opposition encountered.

Public Reaction to Change

Change, whether for the better or not, is always repugnant to some persons. The greatest time-jump in all history was that from the Julian calendar to the Gregorian calendar. This change was adopted in all Catholic countries in 1582, though it was not accepted by the English-speaking countries of the world until 1752 when the 3rd of September became the 14th of September.

There were those in this country who felt that, by the adoption of Standard Time, they were being robbed of some of their

daylight, or that they were being compelled to reckon time "contrary to nature."

Newspaper accounts and editorial comments during the period immediately preceding and following the adoption of Standard Time reveal that the public attitude toward the change ranged from enthusiastic approval to belligerent opposition. Some editors discussed it humorously; others accepted it without criticism. The Indianapolis Sentinel for November 21, 1883, had this to say:

The Railroad Convention, recently in session, determined among other things to have the clocks and watches in the United States set, run and regulated to suit the convenience of their particular branch of business. It was a bold stroke. To regulate the time of this Empire Republic of the World is an undertaking of magnificent proportions. Railroad time is to be the time of the future. The Sun is no longer to boss the job. People — 55,000,000 of them — must eat, sleep and work as well as travel by railroad time. It is a revolt, a rebellion. The sun will be requested to rise and get by railroad time. The planets must, in the future, make their circuits by such timetables as railroad magnates arrange.

People will have to marry by railroad time, and die by railroad time. Ministers will be required to preach by railroad time — banks will open and close by railroad time — in fact, the Railroad Convention has taken charge of the time business and the people may as well set about adjusting their affairs in accordance with its decree. . . . We presume the sun, moon and stars will make an attempt to ignore the orders of the Railroad Convention, but they, too, will have to give in at last.

Opposition Encountered

A news dispatch appearing in the Chicago Tribune a few days before the change reported that the people of Cincinnati favoured the retention for general purposes of local time. A dispatch from Rockford, Ill., two days before the time set for the change, said: "The time here is taken from the Rockford Watch Company, and they are opposed to the change, as are the majority of their customers."

An officer of the United States Coast Survey, writing in Science Magazine said, "All ordinary business everywhere must be forever conducted on local mean solar time, and we may rightly ask the railroad companies to give in their timetables for public use the mean local time for the departure and arrival of trains."

Webb C. Ball, founder of the Ball Railway Time Service, related that many citizens were so in the habit of observing "sun-time" that they bitterly resented the change. "In one place," Ball said, "I visited a venerable inhabitant — a local literary character



— who flourished his hickory cane over my head, saying, 'Damn old Vanderbilt's time! We want God's time! The Vanderbilts cannot run me if they run the rest of the country, by Jehosephat!' "

And there were persons who felt that the railroads or the watch-makers were trying to put something over on them for selfish reasons. On the day following the change of time, the New York Herald contained an interesting article which said in part:

Of course, no good comes along in this selfish and ungrateful world without having its motives suspected. And some people were unkind enough to believe that the whole affair was a mean and sordid device of the watchmakers. It is notorious that scores of people have never managed to arrange the operations of a watch yet without putting it out of order, and everyone knows that a timepiece once sent to the watchmaker for repairs is irretrievably ruined, and spends the rest of its days passing between his hands and those of its owner. It was but natural, then, to suppose that an alteration of time which would necessitate the setting of thousands of watches, and their subsequent subjection to the malignant arts of the watchmaker, was only a gigantic scheme of plunder contrived in his interest.

Five days before Standard Time was to go into effect, the Attorney General of the United States issued an edict that government departments had no right to adopt railroad time until authorized to do so by Congress. However, this edict did not prevent the railroads from putting Standard Time into effect. But apparently the Attorney General could not or would not believe they would do so, for a few hours after Standard Time went into effect, he went to the railway station to take the train for Philadelphia and was astonished to find that he was 8 minutes too late

November 18, 1883, was called "the day of two noons" by reason of the fact that in the

eastern part of each time zone there was a noon based upon sun-time; then clocks and watches were set back from one to thirty minutes to the new Standard Time, so that there was another noon when Standard Time in the community reached 12:00 o'clock. If the community used railroad time, the difference in many instances was more than 29 minutes. For instance, in eastern Georgia where Savannah time was used, there was a 44-minute gap between the old and new time.

Humorous Comments

According to the New York Herald, "Those in the eastern half of the zone are, as it were, 'living a little of their lives over again' but those on the other side are thrown, some of them as much as half an hour, into the future. "

And New Yorkers noted with a chuckle that they had cheated old Father Time out of 240 seconds!

To quote from the New York Herald:

Had there been stretched across the continent yesterday a line of clocks extending from the extreme eastern part of Maine to the extreme western point on the Pacific Coast, and had each clock sounded an alarm at the hour of noon, local time, there would have been a continuous ringing from the East to the West lasting three and a quarter hours.

Tomorrow all clocks from eastern Maine to Buffalo and Pittsburgh on the west will strike in unison, and all clocks throughout the nation will hereafter strike in unison on the hour.

The man who goes to church in New York today will hug himself with delight to find that the noon service has been curtailed to the extent of nearly four minutes, while every old maid on Beacon Hill, in Boston, will rejoice tonight to discover that she is younger by almost 16 minutes.

On the morning following the adoption of Standard Time, the Herald said:

Yesterday numbers of persons were thrown into a condition of frenzy by the discovery that their watches did not tally with indicators and indulged in blasphemous and vituperative expressions before they recalled the chronological convulsions of the day. Full many a being dashed into a railway depot with fire in his eye and dyspepsia in his aspect only to find that he had run himself out of breath without reason, and had minutes to spare.

Naturally, those who had the event of the day in their minds, talked about it. Preachers made it a theme in their pulpits. People joked about it; people fibbed about it; and altogether it afforded such food for Sunday gossip as is only offered by something that goes beyond the public pursuits of men and enters into their private lives as part of themselves.

In a nationwide time change such as this, the railroads had no previous experience. The adjustment called for careful planning and preparation and the greatest of care and watchfulness by railroad men. Specific orders were issued on every division, instructing every officer and every employee as to what should be done in making the change. Train crews on line were instructed in every instance as to what change to make in their watches. Members of each crew were also instructed to check their watches with the telegraph operator upon arrival at the next scheduled stop.

A graphic account of what was probably a typical scene in railroad offices throughout the country at the zero hour is contained in the Chicago Tribune on the day following the change to Standard Time. It says in part:

Shortly before the new time was to be put into effect, a Tribune representative called at the office of the Train Dispatchers of the Pennsylvania, Burlington, Panhandle, and Alton railroads at the West Side Union Depot. The Division Superintendents, Train Dispatchers, Depot-master and Telegraph Operators were all at their desks. All looked unusually solemn, and their faces showed that something of an extraordinary nature was about to happen. At about a quarter of 12 o'clock, Chicago time, the conductors, engineers and other trainmen dropped in one by one, each having his timepiece in his hand and watching closely the hands of the dials. Depot Master Cropsey had his chronometer under a powerful magnifying glass to be sure that he made no mistake. When the clock on the wall in the office, by which the running of the trains in the depot is regulated, stood at 12, it was stopped. The telegraph instruments were then connected with the pendulum of the clock in the observatory at Allegheny, Pa. . . . Each move was faithfully repeated

on the telegraph instruments, and at precisely 9 minutes 32 seconds after 12, Chicago time, the movement of the pendulum stopped, indicating that it was exactly 12 noon by 90th meridian time.

And the reporter added:

The fact successfully accomplished, a general murmur of satisfaction ran through the room. . . .

Sunday was selected because there were fewer trains in operation at that time and the change could be made with the minimum of inconvenience and the maximum of safety.

Many cities and towns located on the borderline between two time zones found it difficult to decide which time to adopt. Pittsburgh and Erie, Pennsylvania, were on the borderline between the Eastern and Central time zones, and public opinion in those cities was divided as to which time should be used by business establishments, schools, churches, theaters, and citizens generally.

A St. Louis newspaper facetiously remarked that it wouldn't make much difference whether some of the Western cities, like North Platte and Dodge City, used Central Time or Mountain Time "except to a man who was about to be hanged." Said the editor, "He will be good for another hour of life if he can induce the sheriff to stage the act by Mountain instead of Central Time."

Commenting on the annoyance caused by the change, one newspaper editor said:

The change in time may be annoying to some, but those who are so annoyed should console themselves with the reflection that there is in the Fiji Islands a house which is so divided by the 180th degree of longitude that when it is Sunday in the parlor it is Monday in the kitchen.

A Problem For The Courts

Many legal complications resulted from the changes in time. An interesting case, reported from Iowa, involved the question of whether a fire insurance policy which expired on a certain day should be governed by solar or Standard Time. If sun-time governed, the policy was in force when the fire broke out; but if Standard Time governed, then the policy ceased to be in force 22 minutes before the fire started. The Supreme Court held that the presumption was that the parties to the contract intended sun-time and decided in favor of the policy holder.

There were many amusing incidents and a few slight hitches in changing from local to Standard Time. For instance, the mayor of Bangor, Maine, refused to recognize the new time on the ground that it was unconstitutional. He even threatened to have the

police prevent the churches from ringing their bells on the new time, but popular feeling ran against him and he did not carry out his threat. However, he continued to display the courage of his convictions, and Standard vs. SunTime became a first rate political issue in Bangor. The City Council voted for Standard Time; the mayor promptly vetoed the order, declaring that no one had power "to change one of the immutable laws of God."

While most of the clergy endorsed Standard Time, one Boston preacher opposed it on the ground that it was "a lie."

There were many persons who favored some sort of standard time, but could not agree that the system adopted was the best. Some wanted time throughout the United States to be uniform, without any time zones. For instance, there is a letter in Railway Age, for May 10, 1883, which said"

Give the railroads Washington time all over the country; say nothing about standards, or meridians, or even cosmic time. There will then be only two things to remember — Washington time and local time. The people are going to have their affairs run on local time, no matter what legislators or railroads may do.

When a judge convenes his court he will use local time; when steamboats leave for foreign ports they will leave on local time; the railways will bring passengers from distant parts to attend these courts, and to take their departures by these vessels; therefore, they must know when they will reach their objective point in the time of the place; that is all important to them.

Watches would not have to be changed to carry new faces or sets of hands like an octopus to haunt people in their dreams, giving a bad turn to the ordinary' nightmare of the peaceful citizen, and tending in the long run, to make him a fit subject for the lunatic asylum.

Some Wanted 24-Hour Time

There were others who were convinced that a mistake was made in not adopting 24-hour time, thus abolishing the necessity of using a.m. and p.m. The Richmond Dispatch strongly advocated 24-hour time, declaring that there was no good reason for not adopting that system, and attributed failure to do so to "prejudice." The Dispatch concluded its editorial with the words "Away with old fageyism about 24-hour time."

The Detroit Evening Journal actually did adopt 24-hour time and published its paper with headings reading 14 o'clock edition, 16 o'clock edition, etc., proclaiming itself ahead of the times.

The Cleveland, Mt. Vernon & Delaware Railroad, now a part of the Pennsylvania

Railroad between Cleveland and Columbus, Ohio, published timetables on a 24-hour schedule. For instance, Train No. 4 left Cleveland at 14:00 o'clock, arriving in Columbus at 21:10 o'clock. Train No. 3 left Columbus at 11:40 arriving in Cleveland at 21:04 o'clock. The timetable stated:

The system used in the above table consists in avoiding the confusing division of the day into two equal portions of 12 hours, and employing instead a continuous count from 1 to 24 hours. The days begin at midnight, as under the common system, but there is no possibility of confusion between the forenoon and afternoon hours.

But a few months after Standard Time was adopted this railroad fell in line with other roads and published its schedules in the conventional style.

The American people soon came to accept Standard Time without question, and it has since spread to other lands until today it is in almost universal use.

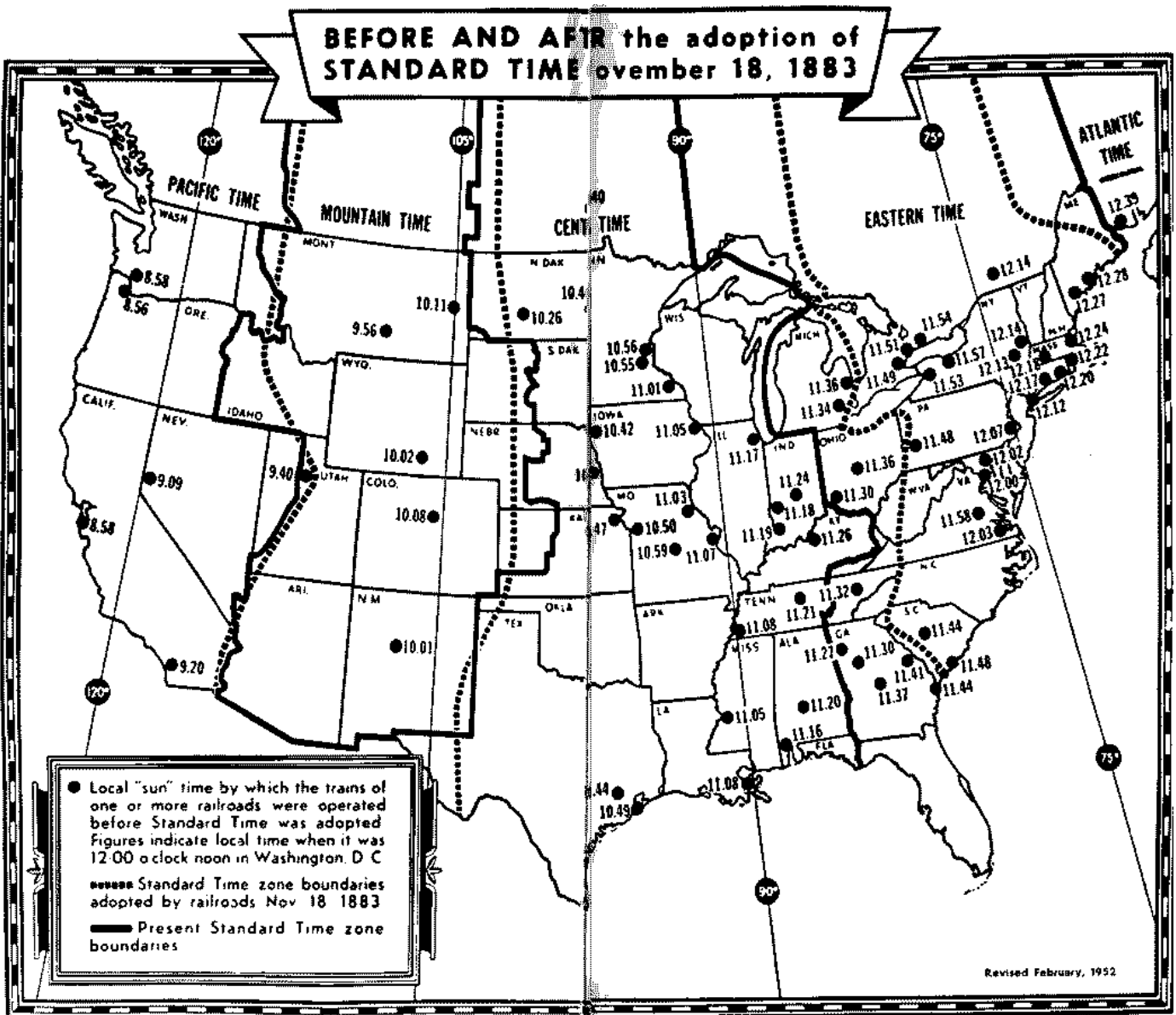
It is an interesting fact that the method of reckoning time instituted by the railroads in 1883, although adopted and used by the Federal Government and states, cities and towns throughout the country, was put into effect without federal legislation of any sort. It was not until thirty-five years later—on March 19, 1918, during the first World War—that Congress passed what is known as the Standard Time Act.

The Standard Time Act gave the sanction of the Federal Government to the four-zone system adopted by the railroads and provided for "daylight saving" time to conserve fuel and increase national efficiency. The Interstate Commerce Commission was empowered to define by order the

boundaries of each Standard Time zone and to make such boundary changes as it deems necessary.

The fact that the Federal Government did not pass legislation making Standard Time official until 1918 does not mean that government officials did not cooperate in making the Standard Time system a success. The contrary is true. All branches of the government cooperated wholeheartedly in the movement, and, of course, regulated their own clocks by Standard Time.

No account of our Standard Time system would be complete without paying tribute to the invaluable scientific work of the United States Naval Observatory, which maintains elaborately equipped astronomical laboratories manned by a highly efficient staff of astronomers and technicians for the purpose of measuring the passage of time to the minutest fraction of a second.



Railway Paper

GEOFF LAMBERT examines the variety of documents that appeal to our railway-oriented members. What turns YOU on?

Engraved in now-eroding tablets of stone, under the model railway in Jack McLean's garage are these words:

We think an important role of the Association is to facilitate the exchange of information about timetables and the exchange of timetables themselves, as well as related items such as Rule Books, GA.s etc.

These words reveal a lot about the habits and preoccupations of the Founding Fathers— that their principal interest was rail and that they were interested in many forms of “Railway Paper”— a neologism of Jack's own coining I think. And the word “timetables” really meant *Working Time Tables* (WTTs). That was the way they were. It was not so very different—indeed not at all different—from our American kindred organisation, the National Association of Timetable Collectors.

The AATTC (but not so much the NAOTC) is different today and many of our members would hesitate when asked to expand the acronym “GA” into real words and to explain what it was. This article is an attempt to explain briefly the extent of the material covered by Jack's term Railway Paper and to explain (perhaps) its original and continuing appeal to those labelled “time table collectors”.

Near the end of this article (page 13) is a table of some 50 varieties of documents that might fit the bill. Lest it be thought that this is a tad excessive, let it be remembered that nearly all of them were “collected” at one time or another by the Founding Father. What was good enough for Jack is surely good enough for the AATTC? It is a moot point whether a “Time Table Collector” collects to have and to hold, or to study and read like tea leaves. The latter seems more true of the Founding Fathers and is probably true of 90% of the current AATTC membership. The fact that 70% of our members assert that photocopies are a fair substitute for the real thing is indication enough that the latter attitude predominates. If any guide be needed as to their desirability to the historian or collector— let the market decide. If people snap them up from grab-tables, order them from the Distribution List, or bid for them at auction, then surely they are desired by somebody?

A substantial majority of these documents started out as “genuine” timetable documents, appearing as distinct sections inside the WTT or sometimes inside the Appendix to the WTT (itself originally part of the

WTT). As everything about the WTT ballooned out, it gave birth to all sorts of new publications and they in turn did the same—it was more like parthenogenesis than birth. These child publications included (in no particular order): the Appendix, Engine Load Tables, Platform Lists, Station and Line Indexes, Yard Working timetables, Supplements, Addenda, Rolling Stock Lists, Network Operating Requirements, Train Operating Data, Special Instructions, and System Information Packs. The railways obviously once believed that the things found in these documents were “timetable” material even if you don't believe it now. This history is summarized in our second Table (page 14) which shows how much of this information was originally in the WTT and where it is now to be found.

Railways were arguably the paradigm for the development of the “firm” or corporation. They were the first entities to extend over a wide geographical spread; they became some of the largest businesses on Earth; they utilised probably the greatest range of “leading edge” technologies of their time; and they were the first—and for long—the only corporate entity subject to strict Government supervision and reporting requirements. These things were all new and railways had to invent their own mechanisms to cope with them. Happy-go-lucky at first, this attitude soon led them into trouble, particularly in the safety sphere.

So they began to write everything down and this necessity soon became an enforced habit— almost a religion. The Chairman of the Taff Vale Railway once opined that his employees need know only 2 books— the Company's rule book and the Bible. The TV, incidentally, seems to have

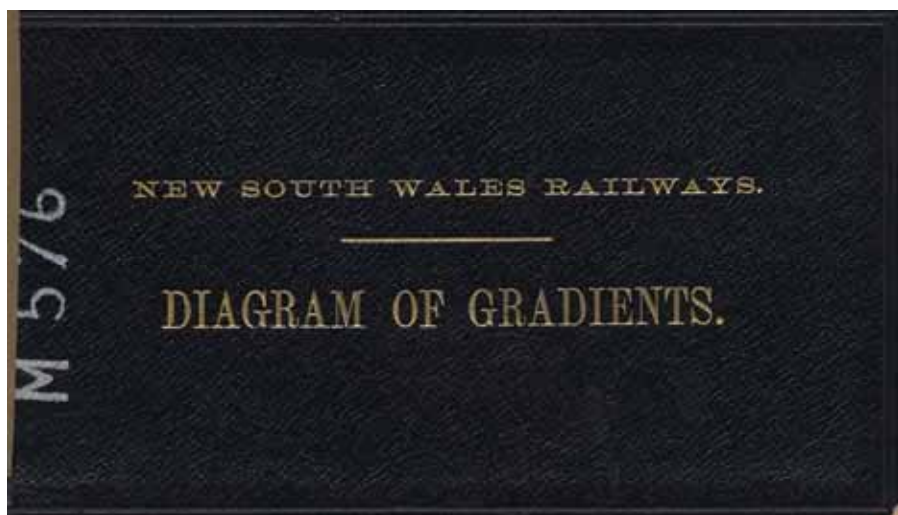
been the only railway to publish its rule book (a whopper of over 800 rules) as part of its WTT.

Railways across the globe had a rather predictable structure, usually “branch”-based. This was partly the result of Government legislation which laid out reporting requirements and partly through arrangements brokered by “peak bodies” such as the Railway Clearing House (U.K.), the Association of American Railroads (U.S.A.) and, in Australia, the Commissioners Conference. In Australia most railways had the following branches

- Secretary's
- Way & Works
- Rolling Stock
- Electrical
- Traffic
- Signal & Telegraph

Each issued a blizzard of paperwork, the Branch source usually identifiable by the coding of the document. An example of some ‘paperwork on paperwork’ appears on page 10— this was from the Victorian Railways Way & Works Branch, detailing some of the circulars issued by the Traffic Branch. It can be seen that such Instructions were meant to be accumulated in a loose-leaf folder and kept for future reference. In many cases, a Branch might re-issue these in bulk as a bound book. Such books present the lump and splitter with a dilemma, but in this article I have lumped them into one category. As the illustrated example shows, matters relevant to timetables can be found in most of them.

These habits and religions entrenched themselves most deeply in Government railways and more particularly in Australia which lead the way in the creation of the



“Government Corporation”. The enabling Act of the first of these—The “*Victorian Railways*” after its 1884 restructure—set the tone and made extensive provision for the creation of management documents. Some of them, most notably the rule book, became By Laws. In Queensland the Appendix also was a By Law and the QR WTT carried a statement on its cover to that effect. These provisions not only sanctioned the growth of “Railway Paper”—they positively encouraged it.

Private and Not for Publication.

To the dedicated student of railways and the obsessive collector these words act like catnip on a cat. Must have! Nearly all railway paper carried this injunction. In Government railways at least, it was probably mostly a consequence of a dog in the manger attitude, but to some extent it was to stop the public becoming confused. The WTT for instance might contain train times that were later than those in the PTT

This article discusses mainly railway paper from Australian government railways. They are mostly what an archivist or librarian would classify as “operating manuals” of the “Private and not for Publication variety. But some were documents meant for public sale and consumption. Increasingly, as new access regimes take hold and spread, many of the formerly “Private” documents enter the public sphere. Many were transmogrified in the process and it is not always easy (and certainly it is obsessive) to neatly pigeon-hole them into the old system which prompted the formation of the AATTC. A review of this entire class of documents for one railway—the English Midland Railway Company—has been published in *The impact of the railway on society in Britain : essays in honour of Jack Simmons* (Aldershot: Ashgate, 2003), 61-76.

In the heady days of interstate cooperation engendered by Federation, and under the influence of the standardization of railway practice in Britain brokered by the Railway Clearing House, Australian railways agreed to standardize practically *everything*—including the form and content of their operating manuals. The euphoria vanished and “States Rights” attitudes took hold long before much of this standardization could be implemented. Only the rule book and to some extent the WTT Appendix were caught in its net. Everything had begun to drift apart by 1910 and the drift was greatly accelerated by the railway reforms of the later twentieth century. Only now are noises being made about the lack of standardization and that a return to it might be a “good idea”.

Of the forms of railway paper examined briefly below, many are known only from one or two railways—these things naturally are sometimes a matter of taste of management. Many of these, however, may have

18. Circulars issued by the Chief Civil Engineer for the information of the staff are identified by the letters “C.E.,” and will be forwarded in sufficient numbers for issue to the employes named therein direct to the Supervising Officers, who will be responsible for their acknowledgment using card W.W.6 and for their distribution to and acknowledgment by the employes concerned (using card W.W.7.) under their supervision. Each such employe must initial and date the circular as an indication that he has perused the instructions therein and see that it is perused and initialled by each employe under his supervision, but in the absence of any advice to the contrary this responsibility applies to Special Gangers in respect to Leading Hands only.

“C.E.” circulars containing instructions of a permanent nature are punched for ready insertion in special files, which must be exclusively used for this purpose, kept at each location and not transferred elsewhere without authority, and must be periodically examined by Supervising Officers to ensure that all instructions are being observed.

Any employe resuming after annual or other leave, must peruse the file and initial, with date, any circular which may have been issued during his absence.

19. Circulars issued by the Chief Traffic Manager as Special Train Notices are identified by the letters “A,” “C” and “S.” They are to be acknowledged direct to Head Office using card W.W.240, giving grade and location of employe concerned, and in the case of gangers, the number of the length. Any number of these circulars may be acknowledged on one card, but they are not to be kept with “C.E.” circulars in the special files.

identical twins or at least close siblings in other railways.

The documents are discussed below in alphabetical order of the titles of their most well-known forms.

Appendix- General & Appendix-Local

These documents were discussed at length in *The Times* of May & June, 2001. Suffice it to say that they originated in England as a means of codifying relatively stable sets of instructions about train running and the railway network generally into a form which did not have to be reprinted every month with the Working Time Table. Australia continued this practice and, in 1907, Australian Railways reached an in-principle agreement among themselves to make them an Appendix not only to the WTT, but also to the rule book. The GA became a kind of all-purpose “how-to” book (or books). Signalling fans love Appendices because they have much about signalling and safe-working but, if one is interested in that sort of thing, one can also use them to find out how to disin-

fect urinals. Only in NSW were instructions for specific places separated out from the General Appendix into a set of Local Appendices, but this was quite common in the U.K. The only Australian systems to retain an “Appendix” are those in NSW (NSWRC and ARTCNSW) and these are now almost exclusively comprised of simplified track plans and their associated signalling instructions. The retention of the term “Appendix” must be mystifying to all concerned. These “Network Local Appendices” are now in the public domain because they contain information which an Access Seeker needs to know. NSWRC produces them in a heavyweight glossy-paper colour volume. Appendices are much in demand by a certain sub-set of the collecting and signalling cognoscenti and a number of enthusiast organisations in the UK and Australia have produced facsimile editions or have scanned old copies and turned them into PDF documents. The Signalling Record Society in the U.K. has compiled a comprehensive publication list of all known Appendices on “British-style” railways, to which several AATTC mem-

bers have made significant contributions.

Book of Signals

The Victorian Railways is the only system which I know for sure to have produced a book like this. Its subtitle "*Particulars of signals, whistles and Local Roads at places where the signals are interlocked*" describes its details, but fails to explain why so many employees were required to have one. There were at least half a dozen editions of this fat little book, the last of them appearing in 1967. The early ones are much sought after.

Branches' Instructions Books

107 Drivers Dogs: (1) Free carriage shall be allowed for two sheep or cattle dogs accompanying a Drover.

The Victorian Railways General Orders book of 1968 contained 199 General Orders, of which the above was merely one of the more peculiar. The General Orders book was just one of a number of "branch-based" books of instructions—this one was the Traffic Branch version. Books entitled "*Books of Instructions*" were also issued by the Rolling Stock Branch, the Way & Works Branch, the Signal and Telegraph Branch and the Secretary's Branch. The "General Orders" book, like all of them, was a compendium of instructions gathered from hither and yon. The numbered instructions in it appeared to be in completely random order— or perhaps the Orders appeared in chronological order of their issuance. Several editions were produced. "General Orders" are known from American passenger railroads such as Amtrak and New Jersey Transit, where they can often be a synonym for Employee (Working) Timetables. The other books were issued by (at least) the Victorian Railways and each appears to be a compendium of Weekly Notice entries or of circulars issued by their eponymous Departments. The material contained in these books is a mixture of rule-like material regulating behaviour and instruction-like material describing methods. They contain much of interest— some of it even timetable related. In last month's story in *The Times* about the Ingliston banking engine— the only confirmation that a loco depot and coal stage existed at Bacchus Marsh came from the Way & Works Book of Instructions. The books were produced at about 10-year intervals during the middle half of the twentieth century.

Catechisms

If one Googles on "Catechism" an overwhelming number of hits is for the catechism of the Catholic Church. But closer inspection reveals that railways had them too. Dictionaries allow for this; The word is defined as *A manual giving basic instruction in a subject, usually by rote or repetition.*

Catechisms, which covered most everything were often produced by the Railways Institute and were designed to prepare their members for examinations associated with promotions. They tended to use vernacular English to describe what was described in legalese in the official documents.

General Instructions

Most railways published within their WTTs a substantial body of work referred to as "*General Instructions*", although not always grouped under that heading. The list of General Instructions shown in VR WTTs covered loads, running schedules, rolling stock lists and speed limits to name 4 out of a list of 58 separate topics (E&SE WTT May 1968). A number of railways, at various times, separated this material out into separate volumes. The NSW, Qld., Vic. and WA Railways each did this for at least a short while. The current TOC manuals of NSWRC and ARTCNSW have evolved from the old General Instructions books.

Goods Rates Books

A much underutilised resource are the Goods Rates books. Although filled with hundreds of eye-glazing pages of goods rates between any two stations on a system, they also contain a wealth of information on what today we would call the infrastructure— in particular the facilities at stations. In this they were effectively a public-consumption version of a WTT Supplement or Index. Quickly now..... how many railway sidings were provided for the C.O.R. (Commonwealth Oil Refineries) on the NSW system? Only the Goods Rates book could answer a question like this— often this information did not even appear in the WTT. Goods Rates books were re-issued every time there was a major change of railway rates— which meant frequently after the Second World War, when sustained inflation first took hold in Australia. One could make a fair stab at writing a line history by perusing successive issues of the Goods Rates Book.

Book of Gradients and Curves

In the giddy youth of Railway Enthusiasm the Grades Book seems to have been the *ultima Thule* of collectors. It is unclear why— perhaps it was the fact that they were usually small leather bound pocketbooks that might easily have been mistaken for an oblong bible. Certainly they were esteemed and coveted enough to have been the first items of railway paper to be reproduced in facsimile form in this country— and the publisher (ARE) took pains to emulate the size, shape and leather-bound appearance in its facsimile. Modern A4 sized loose-leaf versions are of lesser interest to the collector, but the rarer older ones (which means pre-1927 in Victoria) easily fetch 3-figure sums in the market. They were be-

loved of railfan photographers and sound recordists because they pinpointed where the grades which enforced hard working of steam locomotives were located. As to why they were a mandatory item of kit and what use the railway employee made of them seems less clear.

Level Crossings book

Level crossings were very common on Australian railways— much more so than on the English railways upon which many modeled themselves. In England, very elaborate rules about level crossings were imposed on railways by Parliament and the practices they generated were likewise aped here. In Victoria, this led to practically every level crossing being fully staffed round the clock by a gatekeeper who lived in a house at the crossing. This was frightfully expensive and was soon done away with. Some of the supporting documentation for it persisted however, in the form of a free-standing "Level Crossings" book, detailing separately all Occupation Crossings and Protected Level Crossings. No other railway appeared to go this far overboard, but most did—and many still do—publish such a list within the WTT itself, or in the various spin-off documents such as "*Special Instructions*".

Load Tables

In their early history most railways published rather extensive volumes listing the loads which engines could haul over various lines, sometimes combined with an ancillary volume listing the make-up of passenger trains. Many later adopted the practice of placing this matter into the WTT, but some continued to publish a stand-alone publication in parallel with the WTT.

Network Operating Requirements

The N.O.R. is a Victorian specialty document and a companion to the Addenda and T.O.D. books. Between them these three books detail a host of information previously covered by the General Instructions section of the WTT. It is not clear that any of these (or even the WTT itself) are produced in hard copy anymore. The N.O.R. document contains material which is rather hard to shoe-horn into any other category, but might perhaps be described in terms of information on how the infrastructure determines the nature of the trains— length, weight, axle-load etc.

Passenger Fares & Coaching Rates

Like the Goods Rates book, the Passenger Fares and Coaching Rates book was ostensibly for public consumption (usually by travel agents, travelling salesmen, transport managers and the like) but could also be found behind the ticket window and contained much material purloined from in-house publications. An abbreviated form

could often be found in the Public Timetable, especially in pedantic railways such as Queensland Railways. A modern form of this book published by V/Line has proved to be a surprising best-seller in the AATTC Distribution List.

Platform lists

These are true timetable documents— we know this at least for NSW because they were often bound into the Traffic Manager's yearly compendium of Working Time Tables. But they only have one time for each train— either the arrival or departure time from a terminal station. They often contain much other material such as the make-up of passenger trains and details of services connecting with each particular train.

PTT— Public Time Tables

As with the WTT (below), there is little useful which we can add that has not already been covered in the last quarter of a century of *The Times* and *Table Talk*, but a couple of specialty variants might call for further comment:

PTT- Wall sheet

By their nature, Wall Sheet timetables are rather hard to collect once pasted to the wall. However spare copies were usually produced to allow for wear and tear and these have occasionally fallen into the hands of collectors. In the early days of railways, wall-sheet timetables were often the only type of timetable available. The Victorian Public Record Office has a few such timetables from very early days, although they are not in good condition. In NSW, at least, early Working Time Tables were also published in wall-sheet form. The earliest working time table known from NSW is of this form, although it is only a photograph of the original. Wall-sheet time tables have been published in facsimile form and appear to sell well. Occasionally these have been mistaken for the real thing.

PTT-Holiday

For holidays and special events, railways often published details of the extra and altered trains in the press or on wall-sheet timetables. But especially in later years, separate leaflets devoted to particular lines or even books devoted to the whole system were issued. The latter were not particularly common, but the former were and are very common. The NSW Railways seems to have issued these from time immemorial and it is interesting to note that district-specific holiday PTTs were issued on coloured paper which matched that used on the covers of the district WTTs. This would have meant nothing to the passengers, but was probably done as an aid to station staff who handed out these things from the ticket wicket window. People obviously collected these things because

whole batches of them covering a decade or more sometimes show up in the AATTC Grab-boxes or auctions. The NSW State Archives contains a number of bound volumes of these timetables, fairly obviously compiled for the use of staff in the Traffic Manager's office. In the mid 1960s, the Victorian Railways briefly tried its hand of producing a system booklet holiday Public, but these were more in the nature of a Platform list or ABC guide.

Rolling Stock list

Lists of Rolling Stock, including locomotives, were originally published in the WTT and continued to be on some railways. They were also usually published also in the General Appendix and in descendant publications such as the Train Operating Conditions Manual.

Rosters and Zig-zag books

These are a form of timetable directed specifically at the rostering of crew and the routing of trains. They have sometimes been issued as a combined volume, which is why they appear together here. The zig-zag diagram is a type of extended and stylized graphical timetable, which plots the path taken by a particular train set as it runs over the system from day's beginning to day's end. Rosters list, in tabular form, the timetables which crew are to follow. The integration of rosters with the WTT or the zig-zag book is a difficult process, overlaid on the already difficult process of drawing up the WTT itself. A failure to make the two work together was the root cause of the cancellation of a major timetable change proposed by NSW's CityRail in 2002. All three documents of this unhappy event are *definitely* collectors' items because they were mostly all recalled and pulped.

Rules

The Founding Fathers obviously valued rule books as part of the timetable collectible world though, with the exception previously mentioned of the Taff Vale Railway, rules hardly ever appeared in WTTs in the Australian style. They were however quite common in early North American ETTs. In every jurisdiction they became very uniform, even on an international basis Australian rule books were direct copies of the Railway Clearing House standard rule book in the UK. There is a long story behind this but, suffice it to say that one could hardly collect them on the basis of the variety of information which they contained— this would be collecting on the same basis as collecting Penny Black stamps.

Safe Notices

This neologism is a child of the 21st Century open-access railway. In previous centuries a "Safe Notice" would probably have been called a "*General Appendix*

amendment". In Australia they are produced by RailCorp and the body which leases the NSW track, ARTC-NSW. The latter inherited the Appendix and the Safe Notice from the State railway. Whereas NSW RailCorp periodically codifies its Safe Notices into a new edition of the Network Local appendices (NLA), ARTC-NSW has yet to do so. NSWRC issues its Safe Notices in both permanent and temporary form— the former are what eventually becomes incorporated into the NLAs; the latter just lapse and are withdrawn. This makes them hard to collect. Being a Appendix amendment, Safe Notices are mostly concerned with the infrastructure, especially track and signal configurations.

Safe working manuals

When "safeworking" was new in England (it is mainly an Australian term), the rules for it were frequently incorporated into the WTT. A notable example of this, detailed in Neele's *Railway Reminiscences*, is the set of rules introduced in the 1860s for working single lines by train staff and ticket on the LNWR. When the Appendix first made its appearance as a separate WTT publication, the various safeworking rules migrated into it. Australia aped this practice. Double Line Block Working Rules however seem to have been part of the rule book until the Railway Clearing House rule book reform of 1897, when each method was hived off into a number of separate rule book appendices. Australia aped this practice too, except for Queensland and NSW which steadfastly refused to move them from their WTT Appendix. Most British railways published these safeworking Appendices as separate publications, but in Australia, with the exception noted above, they were usually physically bound into the rule book. In later years, however, as newer safeworking systems were introduced, Australian railways tended towards the British practice of stand-alone publications. This was particularly true in Victoria where, for instance, each new CTC installation gave birth to a new manual.

Special Circulars

These little (and sometimes large) booklets, usually with round numbers like 100, 200, were issued by the NSW State Rail Authority in the 1980-2000 period. They were mostly concerned with safeworking and concerned matters which would normally be found in the Appendix to the WTT. No other state railway appeared to issue them.

Special Instructions

How to separate "Special Instructions" from "General Instructions"?— that is the question. The most that could be said that Special Instruction books were just General Instruction books, but limited to a particular place and time.

Document	Systems (including "descendent" systems) producing this document,									
	NSWGR NSWRC	VR V/LINE	QR QRN	SAR WAGR	SAR SASTA	TGR	CR ANR	ARTC ARTCNSW	NZR	BR
Appendix- General	X	X	X	X	X	X	X		X	X
Appendix-Local	X									X
Branch Instruction books	X	X								
Book of Signals		X								
Catechisms	X			X						
Goods Rates Book(s)	X	X								
Gradients and Curves	X	X	X							
Level Crossings book		X								
Load Tables	X			X						
Network Operating Requirements		X								
Passenger Fares & Coaching Rates	X	X								
Platform list(s)	X									
PTT	X	X	X	X	X	X	X		X	X
PTT- Wallsheet	X	X	X	X	X	X	X		X	X
PTT-Holiday	B	X								
Rolling Stock list(s)										
Rules	X	X	X	X	X	X	X	X	X	X
Safe Notices										
Safe working manuals	X	X								X
Special Circulars	X									
Special Instructions	X									
Special Train Notice	X	X								
Staff Reference TT		X								
Station & Line Indexes	X	X	X							
Station Accounts Instructions										
System Information Pack			X							
TOC Manual	X							X		
TOC Waivers	X							X		
TOM(annual)	X									
Train numbering Lists	X							X		
Train Operating Data		X								
Train Register	X	X	X?	X?	X?	X?	X?	X?	X?	X
Weekly Notice	X	X	X	X	X	X	X			
Weekly Train Notice	X									
WTT	X	X	X	X	X	X	X	X	X	X
WTT Addenda		X								
WTT- Graphical	X	X								
WTT- Holiday	X	X	X		X					
WTT Supplement			X	X	X					
WTT- Yard Working	X	X								

Special Train Notices

This form of timetable has been produced almost from Day 1 on all railways. In NSW, the first working timetable still existent is an "STN", rather than a complete WTT, which were then probably not issued in book form.

Staff Reference Time Table

Some systems (NSW, Vic.) have published a kind of hybrid between the PTT and the WTT. In Victoria, where it is known as the Staff Reference Time Table, it resembles the former more than the latter. The Staff Reference Timetable contains only passenger train time tables. For reasons which are unclear, it was these timetables which worked their way into the Victorian Rail Access Regime as the "Master Train Plan". This is probably the only instance of a train timetable being a part of a legislative instrument.

Station & Line Indexes

A number of railways appear to have produced publications fitting this descriptive

title. These might be for in-house or public consumption— sometimes even for rail fans. If for public consumption, they would often appear as parts of the Goods Rates Book or Passenger Fares Book. Their appearance there was for the use of shipping agents, dispatch clerks and travel agents, to allow them to calculate in advance the cost of transport from A to B. They were often organized on a line-by-line basis— almost by necessity. NSWGR, VR and QR (and possibly others) published in-house versions. In Victoria, where it came to be called the "*Directory of Stations*", this was always seen as a supplementary volume of the WTT and for long said so on the cover.

System Information Pack

Queensland Railways was the only system where the GA became entrenched as a By Law. When QR Network Access was created at the time of "vertical separation" much of the infrastructure material from the GA came to be incorporated in a dozen "*System Information Packs*"— one for each geographical part of the network and almost like a NSWGR local Appendix.

However, these were public documents meant to be used by Access Seekers to frame their applications for train paths in the WTT. In a sense, this is mere window dressing because only one organisation (Pacific National) has been successful in gaining access to the QR Network— and so far only to one System— the North Coast. Apart from the usual "GA-like" material, the Information Packs incorporate gradients and curves, system maps, a set of track diagrams and even details on climate and weather and their potential impacts on the railway— not to mention data on the environmental requirements of operating trains on the QR network. As such, they probably form the most comprehensive guidebook to infrastructure that can be found on any railway system today. Republished at regular intervals, they are available on the web. Whether paper copies are produced is unknown.

Victoria (V/Line) has an "Information Pack" also— but this is a web-page containing practically every timetable-related document which it produces for access-

Where to look for particular types of "timetable" information											
Where→	WTT	Addenda	Appendix- General	Appendix Local	Branch Instruction Books	Network Operating Requirements	System Information Pack	TOC Manual	TOM (M)anual	Train Operating Data	Weekly Notice
Length of Trains	X				X	X	X				x
General Instructions	X		X		X						
Level Crossing lists	X		X	X			X			X	x
Load Tables	X		X	X						X	x
Loading Gauges	X		X	X	X	X	X	X			
Locomotive Permissions	X									X	x
Platform lists	X		X	X							
Rolling Stock data	X	X	X					X			x
Running times	X						X	X			x
Safeworking Systems	X		X	X						X	x
Special Instructions	X		X	X	X					X	x
Station & Line Indexes	X		X	X			X			X	x
Track Conditions	X					X	X	X		X	x
Track Speeds	X		X			X	X	X			x
Train Speeds	X							X		X	x
Gradients and Curves							X				
System Maps				X			X	X			

seeker consumption—including the WTT itself. Included in the Information Pack is an “Amendments Register”, which keeps track of all new issues and all amendments made to components of the Pack. There is also an Operating Handbook, which gives the background and *modus operandi* of the Information Pack. NSW has a similar site.

System Maps

Maps of railway systems and of their timetable districts frequently appeared in WTTs all over the planet, except here in Australia. At least this was so until Queensland Rail Network Access began to issue them in conjunction with its System Information Packs in the 21st century. Maps did, however, appear in the NSW Local Appendices to the WTT and now in the TOC manual. Some of these were very comprehensive works of art drawn by ARHS founding member Cyril Singleton. Maps were common in PTTs.

TOC Manual

TOC stands for Train Operating Conditions and the TOC Manual is a compendium of them, published as a single volume, but in separate parts. This NSW creature evolved from what were known in several jurisdictions as the “Special Instructions” pages of the WTT—essentially everything except the train times. The CityRail WTT still incorporates the TOC manual as a “Section 3” to its Standard Working Timetable, as well as it appearing in the TOC Manual proper. When first hived off from the WTT, they continued to be known as Special Instructions, but there was a name change a few years later. TOC Manuals currently contain a mixture of rolling stock information and infrastructure information, including network maps and track diagrams. They form one part of a suite of publications made available to Access Seekers as part of an Access Seeker package. Both RailCorp and ARTCNSW have them, the latter having

inherited them from the former. RailCorp reprints a new edition 3 times per year, but ARTCNSW has stuck with its original inheritance.

TOC Waivers

The title implies that these documents, frequently issued, waive certain of the clauses of the TOC Manual. While they certainly do this, they are more often permanent amendments and additions to the TOC Manual. For NSW RailCorp, these are superseded when a new TOC Manual edition is produced but, with ARTCNSW, they keep piling up. AATTC makes both available to members via its Distribution List and they are very popular.

TOM(anual)

Tom made his appearance on the NSW Rail Corp web-site only a couple of years ago. Essentially he is a derivation of what used to be called the OMET Manual which in turn was a derivation of the old Instruction Books produced by electrified railways, concentrating on the operation of electric trains. This document started out in the public domain, but has now moved behind an iron curtain and is accessible only to registered access seeker—few of whom would be interested, probably.

Train Composition

For the benefit of shunters and other people concerned with putting trains together at terminal stations, WTTs generally contained lists of the types of carriages to be provided for each service and the order in which they were to be marshaled. Like so many of these WTT subsections, and especially where the services were very complex, separate booklets containing this information were often issued. Indeed, in NSW at least, it would appear that these booklets were always issued as stand-alone documents. A few, leather bound and gold-embossed from the 19th century, came to

light in the days when the New South Wales State Rail Authority ran its own memorabilia shop in the basement of Central Station.

Train Numbering Lists

From early days, trains in the WTT were given numbers, but these were usually merely the number of the column in which the timetable appeared. When a new train was added to the timetable, all trains subsequent to it changed numbers. It was more convenient to label a well-established and permanent train with a permanent number. Train numbers 1&2, for instance were often reserved for the flagship train on a system. On the VR, trains numbered 9 were nearly always the middle-of-the-night Newspaper Train. Aside from this, numbers were mostly allocated randomly, although Australia did adopt a letter/number code for interstate trains to make identification of the train from its number easier. On most railways a distinction was made by assigning even numbers to one direction and odd numbers to the other. This system was used all over the world and, although most WTTs contained a brief note explaining the underlying numbering conventions, they rarely listed which train was which. This changed when Open Access came into effect and it was felt necessary to allocate numbers on the basis of the train operator and the nature of the train.

Because of the complex but relatively fixed nature of these allocations, several systems have adopted the practice of issuing a small WTT volume detailing them. Like the WTTs themselves, these are available on web sites and AATTC provides hard copy versions in its Distribution List, but it is not at all clear that “official” hard copies are produced in the same way that the WTT itself is still circulated in hard copy.

Train Operating Data

This is a document, like the WTT Addenda, peculiar to railways in Victoria—and is pretty much a 21st Century creature, at that. Whereas the Addenda is (are?) mainly concerned with rolling stock, the T.O.D. is mainly concerned with the infrastructure on a line-by-line basis, as can be seen from our Table 2. The following from the cover page of the T.O.D./ book says:

Train Operating Data for each Line Section is collated in the following order throughout the document:

1. *Class of Locomotive and Permitted Speeds (km/h)*
- 1A. *Vlocity Rail Cars – Authorised 160km/h Permitted Speeds (RFR only)*
2. *Special Speed Restrictions*
3. *Ruling Grade Loads (Tonnes)*
4. *Safeworking Systems*
5. *Special Notes*
6. *Distances from Melbourne and Clear Length of Crossing Roads*
7. *Track Class*
8. *Protected Level Crossings*

Train Register

People collect Train Registers because they are an important record of the way the trains really ran. They are, if you like, a WTT or a Platform list in real life. These are particularly valuable to the historian where WTTs have vanished or never existed. A particularly fine example of this use appeared in the ARHS's "Railway History" this year, detailing the operating practices of the South Maitland Railways, which appears never to have had a WTT.

Allied to the Train Register and popular with collectors in North America is the Despatch Sheet, recording all train movements and Train Orders issued by a train control office.

Weekly Notice

The Weekly Notice may not have originated in Australia but, like swine flu, it seems to have taken hold here more strongly than anywhere else. The first issue of the Victorian Railways Weekly Notice in 1894 said of itself, that it would be the medium for updating many of the other types of railway paper on a weekly (or sometimes fortnightly) basis. Many a well-used Appendix or Working Time Table is littered with stuck-in slips of paper cut out of the Weekly Notice. Almost every employee received the Weekly Notice, which often had to be acknowledged by cutting out and returning an acknowledgement slip from the last page. Most railways were wont to bind central office copies into six- or twelve-month volumes, although most were thrown away a day after receipt.

Weekly Train Notice

In the UK and in NSW, Special Train Notices were sometimes compiled into a

weekly compendium. These were initially published as part of the Weekly Notice and, later, as a separate publication to themselves. The NSW Tramways followed a similar practice, but I do not think that other Australian railways did the same. The final story in this month's "The Times", on the Lithgow Zig Zag drew its material from the Weekly Train Notice published as part of the Weekly Notice.

WTT

Of course, these initials stand for "Working Time Table" and we would not dare add more information about it to all which has appeared in "The Times" over the past quarter of a century.

WTT Addenda

The Victorian Railways began publishing a separate WTT volume dubbed an "Addenda" from the 1970s. This was in fact a set of General Instructions collated from the various district volumes of the WTT. This made sense because it was wasteful for each volume to repeat this common and often very slowly changing material in each issue of the WTT. This is not to say however that General Instruction vanished from the WTT—those relevant to a particular District remained within each volume for at least another decade before they were all transferred to the Addenda. The Addenda contained a wide range of matter, but the largest section of it was devoted to rolling stock data. The Addenda is still produced for both V/Line and Connex, but no document of that name appears to have existed on other railways.

WTT- Graphical

Readers will probably have guessed that these are my favourite types of timetables. To me the reason is clear— they are so. So... well they are so *graphic*. They display the entire service, over an entire line, for an entire day— all at a single glance. No Australian railway seems to have published them in a circulating form, but certainly they were produced for train control offices and used to chart the actual running of trains on the same piece of paper. Some (overseas) railways not only published their WTTs in graphical form in books, some even published the PTT this way. I remember seeing one on the station wall at Brig in Switzerland. Jack McLean was bold enough and adept enough to waltz into the SM's office here and ask for one— and be given it. The Norwegian and Swedish Railways do (or did) make their graphical WTTs on the web. In Australia, only ARTC does this— but as an adjunct to their tabular WTTs. Collecting the train control office graphical WTTs is certainly done— but storage is a problem— one really needs a map cabinet. The tabular equivalent of these TT's— the Despatcher's Sheet, wherein are recorded the times of the issue of train orders, etc. are rather popular in

North America and our kindred organisation the NAOTC has a space on its membership form for members to indicate their interest in this form of timetable.

WTT- Holiday

Several systems produced WTTs for gazetted holidays and special events such as the State agricultural Show. By WTT, I here mean a major publication to rival the WTT itself. The practice seems to have started in NSW, but it was soon taken up, and became entrenched in Victoria. The 1965 Australia Day VR WTT was the first WTT I ever laid eyes on and so they are of rather fond remembrance to me. A motley collection of Victorian holiday WTTs was likewise the first timetables I ever bought at auction— and handed to me at a 1965 ARE meeting by AATTC member Graeme Cleak. These were regarded as a "poor man's WTT" (well, I WAS a poor man) because they contained only tables for passenger trains— and very little else. They are nevertheless collectible— Jack McLean told of his excitement of obtaining one as part of his "*Howe to collect timetables*" series in The Times some years ago. As Table 2 shows, such timetable books were known to have been produced by all railways except CR, WAGR and TGR (I imagine WAGR did, but none seems to have been rescued for the Batty library).

WTT Supplement

So far as I can see, the document going under this name was a Queensland-only job. In Victoria, it would have been called an "Addenda", in other states it would have been labelled General Instructions— although it had within it its own section of "General Instructions". Like others of its ilk, it gathered together a wealth of material which otherwise would have had to be replicated in each of the WTT volumes. Queensland appears to have been first off the mark with such a publication— a 1950 edition is known and perhaps they were published long before this.

WTT- Yard Working

In Australia, only the NSW Railways appear to have produced this book, but it was very common on overseas railways. Some American railroad terminals, jointly-owned by a number of railways, issued these timetable literally on a daily basis. A companion to the "Platform List", they detailed movements in and about a major station, especially one having nearby carriage sheds and locomotive depots. Like the "Platform List" they were often bound into the WTT. A related document, specifying the arrivals and departures at freight terminals is still produced by the NSW Rail Corporation.

A goodly proportion of the above documents are indexed in AATTC's historic register of timetables, on its web site.

Last train over the Zig Zag

GEOFF LAMBERT

In compiling last month's story on banking engine timetables, including those at Zig Zag, it became necessary to delve into the history of train services on the Zig Zag itself and on the Zig Zag deviation which replaced it. The deviation was opened on 16th October 1910, with much fanfare and was covered in great detail in the local newspaper, which gave a description of the first train to run over it, but not the last to ascend or descend the Zig Zag.

The last Western Division WTT to show train times over the old Zig Zag was issued on 8-May-1910, part of a state-wide issue of all PTTs and WTTs. We do not know for sure that a Western Division WTT was issued to coincide with the opening of the Zig

Zag deviation, but we do know for sure that a Southern Division WTT was issued on that day. As NSW usually issued its timetables for all Divisions simultaneously, we can probably assume there was a Western Division WTT on that date. No copy of it appears to have survived—certainly the otherwise very comprehensive collection at the NSW State Archives has a gap for that volume.

In the absence of the WTTs, I have resorted to the Special Train Notices, which were then found in the Weekly Notice and which, by now, many AATC members will have on DVD. These appear to contain no mention of the opening (a lack which was unusual), nor the STN's for the opening Specials. However, we can see that the

last timetable compiled for the Zig Zag was an STN in Weekly Notice No. 39/1910, which gave times for a cheap excursion to Dubbo, which ran overnight on the evening of 26th September, about 3 weeks before the Zig Zag was closed.

After the opening of the deviation, the first train to be shown as operating over it in an STN was for a Bathurst and Mudgee railway employees' picnic at Lawson on Monday 24th October. This makes it look like a special associated with the Eight Hour Day Demonstration holiday, but it is far too late in the month for that. The Weekly Notice is replete with STNs for Railway Picnics on all sorts of odd days, so perhaps this was one of them.

26

CHEAP EXCURSIONS—WEST—continued.
SPECIAL PASSENGER TRAINS—DOWN JOURNEY.

Engine to whistle out at Eveleigh Loco. Junction Signal Box at ... Leave Sydney from Platform No.	Mon. Sept. 26.		Tuesday, Sept. 27.	
	Arr.	Dep.	Arr.	Dep.
W 51 6.25 p.m.			W 51—contd. a.m.	
			12.04	1.18
			1.02	1.10
SYDNEY	6.50	7.11	1.10	1.17
Scrathfield	7.18	7.30	1.28	1.34
Granville	7.18	7.30	1.34	1.40
Parramatta	7.18	7.30	1.34	1.40
Blacktown	7.50	7.54	1.55	2.06
Penrith	7.50	7.54	2.12	2.22
Emu Plains	7.50	7.54	2.28	2.38
Glenbrook	7.50	7.54	2.48	2.58
Springbrook	7.50	7.54	2.58	3.08
Ludden	7.50	7.54	3.02	3.12
Lawson	9.04	9.09	3.12	3.22
Wentworth Falls	9.30	9.35	3.22	3.32
Katoomba	9.30	9.35	3.22	3.32
Blackheath	9.30	9.35	3.22	3.32
Mount Victoria	10.08	10.18	3.10	3.20
Hartley Vale	10.23	10.23	3.20	3.30
			3.30	3.40
Bell	10.32	10.32	3.30	3.40
Dargans	10.38	10.38	3.37	3.47
Clarence	10.44	10.44	3.45	3.55
Edgecombe	10.50	10.50	4.15	4.25
Zig Zag Top Pts.	10.54	11.01	4.15	4.25
Zig Zag Bot. Pts.	11.06	11.13	4.30	4.40
Eskbank Coal Stage	11.20	11.25	4.50	5.00
Eskbank	11.26	11.28	5.00	5.10
Bowenfels	11.35	11.35	5.15	5.25
Marrangaroo Loop	11.45	11.45	5.30	5.40
Wallerawang	11.52	11.57	5.42	5.52
			5.55	6.05
			6.11	6.21
			6.45	6.55
			6.57	7.07
Rydal	12.11	12.18	7.11	7.22
			7.11	7.22
			7.35	7.45
Tarana	12.38	12.42	7.57	8.07

Passengers for stations Munnua to Gulgong, Cowra West to Canowindra, and Carlsby to Condobolin inclusive to travel by Mail Train leaving Sydney at 7.30 p.m. on Tuesday, 27th September.
W 51 Special will call where timed and at Wallerawang and west thereof (Birrumbidgee, Tarana Quarry, Gemalla, Athol, Wombiana, Polona, and Yambaoya excepted).
Tickets of passengers in W 51 Special are not to be examined at Mount Victoria.
Guard to send copy of through journal to "Tables," Sydney.
W 51 Special to be worked by passenger type engine throughout.
Passengers for Branch Line (stations Munnua to Gulgong, Cowra West to Canowindra, and Carlsby to Condobolin excepted) will travel by W 51 Special to junction stations, thence by ordinary trains. Passengers for stations west of Dubbo to travel forward from Dubbo by No. 61 Mail; District Superintendent, Orange, will arrange for that train to be strengthened as required.

9

EMPLOYEES' PICNIC AT LAWSON—continued.
Train Arrangements—continued.

Monday, October 24.

	X 6 a.m.	X 4 Special Mixed. a.m.		X 6 Mixed a.m.	X 7 p.m.
BATHURST	5 0	3 0	MUDGEE	3 0	4 30
Kelso	5 5	3 47	Lue	3 47	4 30
Raglan	6 16	4 25	Rylstone	4 25	5 25
Brewongle	5 29	4 30	Do.	4 30	5 25
Do.	5 33	4 35	Do.	4 35	5 25
Wambool	5 44	4 59	Do.	4 59	5 25
Do.	5 53	5 4	Do.	5 4	5 25
Locksley	6 5	5 25	Do.	5 25	5 25
Gemalla	6 14	6 21	Do.	6 21	6 16
Tarana	6 19	6 21	Do.	6 21	6 21
Do.	6 27	6 16	Do.	6 16	6 21
Birrumbidgee	6 27	6 21	Do.	6 21	6 21
Do.	6 32	6 21	Do.	6 21	6 21
Sodwalls	6 43	6 21	Do.	6 21	6 21
Algarara	6 43	6 21	Do.	6 21	6 21
Rydal	6 57	6 21	Do.	6 21	6 21
Wallerawang	7 12	6 21	Do.	6 21	6 21
Do.	7 50	6 21	Do.	6 21	6 21
Marrangaroo Loop	7 50	6 21	Do.	6 21	6 21
Bowenfels	8 8	6 28	Do.	6 28	6 28
Eskbank	8 13	6 39	Do.	6 39	6 39
Do.	8 25	6 52	Do.	6 52	6 52
Zig Zag	8 25	6 57	Do.	6 57	6 57
Edgecombe	8 41	7 0	Do.	7 0	7 0
Newnes Junction	8 47	7 9	Do.	7 9	7 9
Bell	8 52	7 15	Do.	7 15	7 15
Hartley Vale	8 58	7 23	Do.	7 23	7 23
Mt. Victoria	9 6	7 36	Do.	7 36	7 36
Do.	9 11	7 47	Do.	7 47	7 47
Blackheath	9 21	7 55	Do.	7 55	7 55
Medlow Bath	9 28	8 2	Do.	8 2	8 2
Katoomba	9 35	8 7	Do.	8 7	8 7
Do.	9 35	8 13	Do.	8 13	8 13
Lue	9 35	8 24	Do.	8 24	8 24
Wentworth Falls	9 50	8 29	Do.	8 29	8 29
LAWSON	9 58	8 40	Do.	8 40	8 40
			Do.	8 47	8 47

W 1 Special will also call at intermediate platforms where required between Penrith and Lawson.
X 4, X 6, and W 7 will also call at intermediate platforms where required.
Employees for stations Rydal to Kelso inclusive by W 7 Special must alight at Eskbank and go forward by No. 53 Goods (0.50 p.m. ex Eskbank).
X 4, Mudgee to Wallerawang, and X 6, Bathurst to Wallerawang, will be Mixed trains, and convey any available loading. The carriages of X 4 Special Mixed from Mudgee to go forward from Wallerawang attached to X 6 Special. Station Master, Wallerawang, to arrange for goods detached from X 4 and X 6 Specials to be worked forward.
No. 19 Goods on Sunday, 23rd October, to run to special earlier table Wallerawang to Mudgee, so as to cross X 4 Special at Mudgee. Station Master, Eskbank, to arrange for goods traffic for Mudgee Line to be handled at Wallerawang in time to go forward by No. 19 running earlier.
Station Master, Eskbank, to arrange suitable earlier tables for No. 93, so as to cross X 6 Special at Rydal, and for No. 47 to cross X 6 Special at Marrangaroo Loop.
No. 17 Pick-up, Penrith to Katoomba, to be run to times of No. 17a (similarly to Wednesdays and Saturdays).