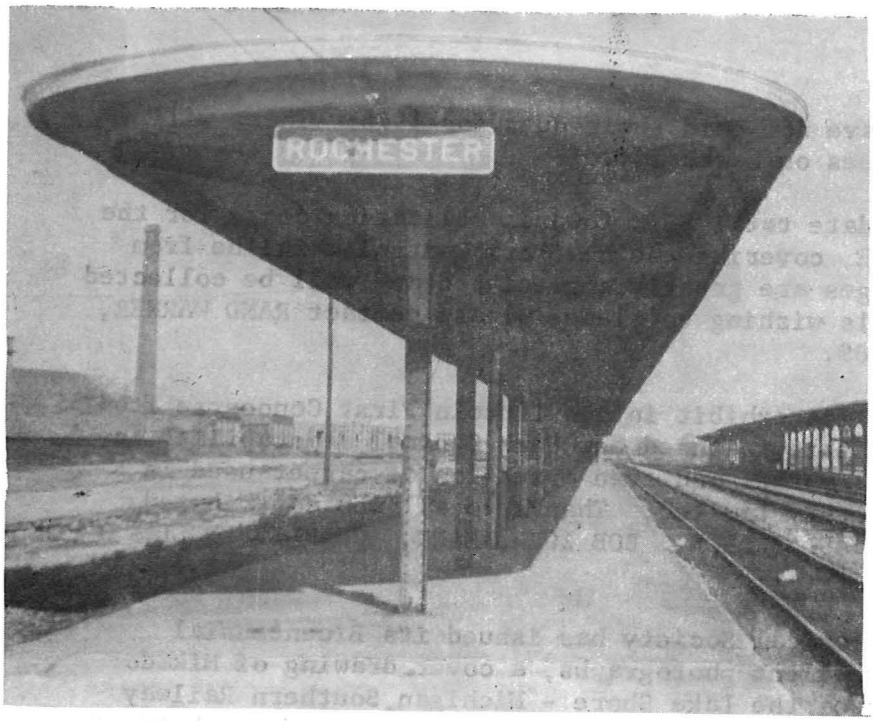

ROCHESTER CHAPTER

THE SEMAPHORE

National Railway Historical Society

A standard Time

June

Vol. XVII JANUARY 1976 No. 5

Our January meeting will be held on Thursday, the 15th, in the lower level of the Rochester Museum & Science Center at 657 East Avenue. The Chapter Store will be open at 7:30 P.M. and the meeting will start at 7:45.

NOTE: This is our last meeting at the museum. Starting on February 19th, we will meet at St. Paul's Episcopal Church at the corner of East Avenue and Vick Park B just three blocks south of the museum. Although the entrance for our meeting room is from Vick Park B, the driveway for parking is from East Avenue or Westminster Road, or you can park on those side streets.

The program this month will be a quadruple header by Steve Horsley, Dave Marqui Jim Gunning and Tom Baber, who are coming up from Warren and Russell, Pennsylvania, and from Salamanca for this occasion. ALMOST HEAVEN---WEST VIRGINIA looks at West Virginia railroading over the past 25 years, focusing particularly on West Virginia resources and the railroads that moved them. The program involves three slide projectors and one movie projector and is embelished with music and actual location sounds. The concept for this program was developed for the Allegheny Highlands Division of the National Model Railroad Association.

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Welcome to our newest members:

Bruce W. Beardsley	1751 Westfall Road	Rochester 14618	442-6603
Albert J. Connellan	122 Woodbine Ave.	East Rochester 14445	586-3723
Henry M. Hamlin	4357 Nine Mi. Pt. Rd.	Fairport 14450	377-4742

And add the following change of address to your rosters:

Lee T. Bryant	12 East South St., Apt. 33	Geneseo 14454

Reminder to those members who have not paid their dues for 1976: There will be a $1.00 surcharge applied to the dues on March 1st.

Chapter Member Loan Pledges to date total $850 toward publication costs for the new Chapter book THE WATER LEVEL ROUTE, covering the New York Central mainline from New York City to Buffalo. These pledges are greatly appreciated and will be collected in the next couple months. Individuals wishing to pledge please contact RAND WARNER, Finance Committee Chairman, at 586-5089.

The Rochester Chapter presented its exhibit in the Lincoln First Concourse from December 29th to January 5th. The exhibit featured New York Central memorabilia, including timetables, lanterns, models, posters and even a section of carpet used in Grand Central Station for the 20th Century Limited. Thanks to all who contributed time and display items, particularly PAUL JORDAN, BOB ZOMMERMANN, CHARLIE KNOLL, and BARON RIGHTMEYER.

The New York Central System Historical Society has issued its Bicentennial Calendar for 1976. It contains 12 excellent photographs, a cover drawing of Mikado No. 1776 and F-7A No. 1776, and a map of the Lake Shore - Michigan Southern Railway as of 1914. Of special interest to Rochester Chapter members are three fine shots of steam action in this area---photos by "Doc" Adrian Buyse, who has also supplied a number of photos for our forthcoming book, WATER LEVEL ROUTE. An added feature is the inclusion of dates of important events in the history of the Central. It's well worth the $2.50. Send your check or money order to New York Central System Historical Society, Box 10027, Cleveland, Ohio 44110. (Thanks, CHARLIE KNOLL, for this note.)

On Saturday, January 17, Buffalo Chapter is having an auto caravan to view the Lehigh Valley Railroad facilities at Sayre, Pa. These facilities are to be completely abandoned when Conrail takes possession of them on February 28th. This will certainly be the last chance for most local rail fans to view these facilities before they are dismantled. The Lehigh management has been very cooperative in view of the situation and will allow the Buffalo Chapter to visit the shops, yard and station in Sayre as a group. The only stipulations set down by the Lehigh Valley are that all visitors must sign the proper release forms and must avoid the work tracks. However, there is a bridge from which these can be better photographed. Buffalo departure is from Eastern Hills Mall, the Sears store, at 6:00 A.M. sharp. For Batavia, a stop will be made at Wards parking lot at 6:45 A.M. Rochester members can make their own direct route arrangements, but arrival in Sayre should be at 9:30 A.M. at the Sayre Station. Since the proper entrance is hard to find alone, the caravan will then proceed together from there. Each rider is expected to share expenses. The balance of the morning will be devoted to a tour of the shops with lunch at one of a few local beaneries in the area, or you may wish to brown bag it. After lunch all will be free to view and photograph facilities and equipment. Departure is at your convenience.

Volume Two of BILL GORDON's 94 YEARS OF ROCHESTER RAILWAYS may be available at the January meeting. These will be written up in next month's newsletter.

The rest of this issue is from THE AMERICAN LEGION MAGAZINE, an article much too interesting to serialize.

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At the December meeting one of our very nice members gave me the following article from the November 1975 AMERICAN LEGION MAGAZINE. He's an unforgetable fellow so I felt no need to mark down his name. Unfortunately, with all the holiday excitement, I did forget who it was. So, would that kind soul please identify himself so I can thank him again.

A BICENTENNIAL FEATURE

HOW W. F. ALLEN PUT AMERICA ON STANDARD TIME

by LOUIS WOLFE

For 107 years, four months and 14 days after the Declaration of Independence was signed, there was no such thing as Standard Time in the United States.

The commonest way to establish time in any one place was to call it 12 o'clock (noon) when the sun reached its highest point in the sky, locally. Astronomers could figure this to the second, but anyone in any village could do it pretty well by observing the shadow on a sun dial. However, with every degree of longitude that one moved west, the sun reached its noon position four minutes later. Noon by the sun in Albany was a few seconds short of being 12 minutes later than noon by the sun in Boston. New Orleans was 24 minutes behind Atlanta, and points on the map between were various minutes between on the clock.

Right into the 1880's, many a village and town set its clocks by its own sun time. Perhaps the official local time was fixed by a church, a jeweler, the town fathers or (later) the railroad station master. They displayed an official clock or sounded a bell or gave some other public signal at a fixed hour every day, so that citizens could check their timepieces.

Not every town went by its own sun time, but those that didn't used the time of a nearby city or the county seat. Even so, Michigan had seven local times, Indiana had 23 and Wisconsin had 39. Clocks in New York, Boston, Philadelphia and Baltimore were several minutes apart.

In the early days, the profusion of local times caused no great problems. People traveled on foot, or on horseback, in horse-drawn vehicles or on river or canal boats. They left one place when convenient and got to the next when they could, weather permitting. Depending on the distance, they were expected "late in the day," or "near the end of the week," or "by mid-September." Nothing kept schedules to the hour and minute between places that were apart on the map.

But when the railroads started running in the 1830's, local time created inconceivable problems for passengers, receivers and shippers of freight and---most of all---for the managers of the railways. When the rails finally spanned the continent, a coast-to-coast traveler might have reset his watch 100 times in a week, if he had to know the local time on the way. And when it came to scheduling trains (or catching them or meeting them) there was increasing chaos from the 1830's to the 1880's.

There was no way that the early railroads could operate by every local time along the line. They set schedules by the 58 different local times of the nation's biggest cities. They had nightmares trying to make up timetables, keep on schedule and prevent accidents. Passengers became desperate in their confusion when trying to read timetables and translate them into the local time a train would arrive or depart, or reach its destination. In some towns, the only way really to know when a train would arrive from a distant point was to watch for it.

Railroad management did the best it could to make travel simpler. Some trains ran by the local time of a big terminal city, others by the most important city on the line. The Pennsylvania Railroad in the east ran by Philadelphia time which was five minutes behind New York and five minutes ahead of Baltimore. The New York Central ran by New York City time. The Baltimore and Ohio used three basic time zones of its own---Baltimore time in the east, Columbus time in Ohio and Vincennes, Ind., time for trains west of Cincinnati. But it also ran some trains on New York, Philadelphia and Chicago time.

The railroads hung several clocks in terminal stations. The Buffalo station had three clocks, set on New York, Columbus and Buffalo time. The Pittsburgh station had six clocks showing Pittsburgh, Chicago, Detroit, Cincinnati, Philadelphia and New York time. The differences were in various numbers of minutes, and none of these clocks were any more enlightening to passengers for Harrisburg, Cleveland, Indianapolis, Syracuse or Altoona than were the timetables which ignored their local times. So passengers were as mixed up as ever. Railroad men themselves, particularly locomotive engineers, conductors, station masters and ticket agents were bewildered. Those who made up timetables almost went out of their minds. Countless mistakes were made. Tragic accidents happened from misunderstanding where trains were supposed to be on the tracks at any given time.

By the 1870's, when rails were burgeoning from coast to coast, something had to be done to eliminate the confusion. A uniform system of time for the nation had to be established---soon.

The idea of establishing a uniform time system was not new. Scholars, scientists, government officials and railroad men here and abroad had been thinking about and working on the matter for years. But the pressure in Europe was nowhere nearly as great as in the United States and Canada, nor was the problem so complex. In 1828 the English astronomer Sir John Herschel proposed a Standard Time for his country, based on mean sun time at the Greenwich Observatory. This was simple, for there was not a place in England that was as much as half an hour off of Greenwich sun time. Even so, it took about 20 years for England to adopt the idea. The railroads in France ran on Paris time, and again it was not seriously different from sun time throughout the nation.

It remained for the Canadians and Americans to come to grips with time in nations having sun times spread over eight hours, from Newfoundland to western Alaska.

If suggesting the basic idea for a solution were the same as making it happen, history would give most of the credit for Standard Time to Charles F. Dowd, principal of Temple Grove Ladies' Seminary at Saratoga Springs, N.Y., who was born in Madison, Conn., in 1825 and graduated from Yale in 1853.

In 1870, Dowd proposed that Greenwich, England, be considered to lie at zero degrees longitude, and that time zones be laid out around the world, with their centers fixed 15 degrees east and west from Greenwich. As 15 degrees of longitude sees a one-hour change in sun time, this would divide the world into 24 time zones, each exactly one hour apart on the clock from its neighbors.

Dowd was well aware that his system could hardly be forced on every state, province, county and town in the United States and Canada. But he recommended that the railroads adopt it, set their clocks to it and hew to it in their timetables.

He then proposed that a "Minute Index" for principal cities be added to timetables as a table of reference, to help people adjust railroad time to local time. If a train was listed as leaving a city at 4 p.m., the passenger could flip to that

city's name in the Minute Index and read how many minutes to add or subtract from 4 p.m. to figure what time the train would leave by local time.

There was no index for smaller towns, and if someone got his pluses and minuses mixed up when using Dowd's Minute Index for principal cities he could very well miss his train or rush to the station much too early.

Dowd had his hands on a farsighted and logical basic idea for the whole world, not only for uniform time but for a universal standard of identifying longitude. Sandford Fleming, Canada's leading railroad planner and builder, wholeheartedly supported it, while Dowd traveled far and wide trying to sell his idea to scholars, scientists and the railroads.

But Dowd's Minute Index was just one more piece of confusion. More confusion, as well as consternation, could flow from running scientifically exact time-zone boundaries through populated areas that were such natural units that they should not logically be split into two time zones.

A very small piece of the eastern tip of Maine would be an hour later than the rest of the east.

From Sarasota north, the west coast of Florida (in places only a thin waterfront strip) would be an hour earlier than the rest of Florida. Tampa Bay would be divided by the time zone boundary, with St. Petersburg and Clearwater, on the coast, an hour earlier than Tampa, which was barely inland. Trains from the northeast would run about 1,500 miles on one time, then do the last 20 or so to St. Petersburg on another

Texas would be split by Dowd's version of what we now call the Central and Mountain Time zones, with Austin and San Antonio on Mountain Time; Fort Worth, Dallas, Houston and Galveston on Central. In fact, the Mountain Time zone, centered about on the meridian of Denver, would just touch the Texas Gulf coast south of Corpus Christi.

These and similar time divisions of natural regions under Dowd's exact plan mad neither human nor railroad sense. The plan was read with great interest---and rejected. For another 13 years, the railroads searched for a better solution.

They also tried to get state legislatures and Congress to enact laws putting some kind of uniform time system into effect. But the politicians wanted no part of telling the people how to set their clocks. Realizing that it was up to them alone, the railroads took matters into their own hands.

From 1876 on, the railroad superintendents from all parts of the United States and Canada met two or three times a year to discuss the time problem. These meetings came to be known as the General Time Conventions. From one convention to the next they tried to put together a practical, uniform time system, but with no success.

Finally, in 1881, at the Philadelphia General Time Convention, they gave up trying to find an answer amid a babel of voices, and assigned the difficult task to one man---William Frederick Allen. They could not have made a better choice.

Intelligent and distinguished looking with his goatee, Allen was a comparatively young man of 35. Born in Bordentown, N.J., in 1846, he had had several years of experience working for the railroads as a civil engineer. Nobody had wrestled with the practical aspects of the time problem more than he. He was managing editor of the Official Guide to Railways, a publication containing the timetables of all the railroads throughout the United States and Canada, and he had been Secretary of the General Time Convention since 1875. Losing no time, he knuckled down to work.

Allen familiarized himself with the proposals of others, especially that of Dowd. He drew up map after map, detailing with the utmost care the areas that were bound together by politics, transportation and trade. He pored over his own Guide until he knew it almost from memory. He interviewed many railroad men. He consulted astronomers and other scientists. After a year and a half of data-gathering and intensive study, he submitted a plan to the General Time Convention being held in St. Louis in April 1883. The railroads accepted it in October with much enthusiasm and decided to put it into effect within a month.

Allen owed his general scheme to Dowd. To Dowd's plan he added flexibility, based on a detailed proposal to shift zone boundaries hundreds of miles, in some cases, to cause the least disruption to well defined geographic units of the nation.

He then added the philosophy of how to make it work. There would be no Minute Index. The railroads would adopt the plan, use it, and let the people do as they pleased to accommodate their local times to it. Local time was their problem, not the railroads'.

Allen was probably quite sure that if the politicians wouldn't help establish a uniform time system for the nation, the country would have to follow railroad time, sooner or later, if the railroads would only go on Dowd's Standard Time (as amended) and stay with it.

The world did not then recognize Greenwich as being on the zero meridian, but, following Dowd's suggestion, Allen did.

In his scheme, the easternmost North American time zone would use sun time on the line of 60 degrees west longitude, measured from Greenwich, and would be four hours earlier than Greenwich. That meridian lies just west of Newfoundland. It would be the center of the time zone, which---in North America---would lie wholly in Canada, for a zigzag was put in the western edge of the zone to make it avoid eastern Maine. The zone would run south well off the east coast of the United States, and would include Bermuda and Puerto Rico, if they should want in. Allen called this the zone of Intercolonial Time---now Atlantic Time.

To the west would come time zones at one hour intervals based, as Dowd had proposed, on the mean sun times of the 75th, 90th, 105th and 120th meridians---Eastern, Central, Mountain and Pacific Standard (railroad) Times, respectively. These lines run approximately through Philadelphia, St. Louis, Denver and Reno. In theory, the zones would extend 7-1/2 degrees on each side of them.

But their borders were actually moved about freely, east and west, to keep regions that were closely tied together by local trade and travel in the same time zones as much as possible.

The plan permitted further flexibility of zone borders in the future, based on practical experience in accommodating local problems, desires and good sense. But flexible as this was, there would be only four time zones in the United States, not the 58 recognized until then by the railroads. The zones would be neatly one hour apart and the hundreds of local times would not exist as far as the railroads were concerned. They agreed to put the plan into effect on their 78,000 miles of track in November.

They issued special orders to all railroad officials and employees. They sent detailed instructions to station masters and ticket agents. Also, they took special pains to inform passengers and shippers of the forthcoming change. They printed new timetables with explanatory notes and distributed them widely. They advertised the

change in newspapers. Since the change was such big news, the newspapers themselves ran article after article on the subject. So did magazines. Leaving nothing to chance, the railroads also posted thousands of placards in stations all over the country. A typical poster read:

> New York and New England Railroads. Important Notice to All Passengers. On and after Sunday noon, November 18, 1883, a new Time Table will be issued and all trains will be run on EASTERN STANDARD TIME which is about 16 minutes slower than Boston Time and about 4 minutes slower than New York Time.
> Time Tables and Station clocks will show only Eastern Time after the above date.

In the fall of 1883 the changeover was a favorite topic of conversation from coast to coast. Preachers made it the subject of their sermons. Teachers discussed it in class. College professors and their students discussed the pros and cons of the change. Government officials made speeches for and against it. Groups gathered in town squares praising the idea, condemning it, arguing or joking about it.

On Sunday noon, Nov. 18, 1883, the railroads took the big, historic step---they switched over to Standard Time. In thousands of railway stations from coast to coast the zero hour of changeover was a dramatic event.

On Nov. 19, the Chicago Tribune ran an article which said, in part:

> Shortly before the new time was put into effect (yesterday), a Tribune representative called at the office of the Train despatchers of the Pennsylvania, Burlington, Pan Handle and Alton Railroads at the West Side depot.
>
> The Division Superintendents, Train despatchers, Depot Masters 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 holding 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 at 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 noon by 90th meridian time.
>
> The feat successfully accomplished, a general murmur of satisfaction ran through the room.

The switch to Standard Time may have gone off precisely and smoothly in thousands of railroad stations, but not everywhere else. There were people who were opposed to change, change of any kind. They were opposed to Allen's plan before and after it was put into effect. And despite all the publicity, many never got to know about the switch.

As for the new timetables, passengers everywhere scratched their heads trying to figure out the new arrival and departure times. It was, after all, their problem,

and they got no help from the railroads in translating each local time into Standard time.

For days and weeks, they were getting to stations too early or too late, and were arriving at their destinations sooner or later than expected. Tempers flared. Enraged passengers cursed and shook their fists at anyone connected with the railroads. Station masters, conductors and ticket agents suffered the worst abuse.

A New York Herald story described the language of passengers who got to a New York station much too early as "blasphemous and vituperative." Fancy, then, the words of those who arrived too late.

Of course, the newspapers liked to play up the people who were angry. Less vocal, perhaps, but in the end more numerous, were those who felt that the railroads had the right idea and the sooner everyone else adopted it, the better. But the custom of local time was deeply rooted in the American way of life. In many parts of the country mass meetings were held and Standard Time condemned, as thousands of people bitterly resisted growing pressure to make railroad time local time.

A preacher said that the new time was against the laws of nature and Mr. Allen was trying to control the sun. Another said that the railroads had changed man's time and soon would take over the world.

Governors, senators and congressmen vehemently denounced Allen and the railroads. In Bangor, Me., where the question of an official change to railroad time stirred up a bitter political fight, Mayor A. Dogberry was dead set against it. In one of his speeches he cried, "It's unconstitutional....an attempt to change the immutable laws of God Almighty!"

When the City Council voted for Standard Time, he vetoed it. He even ordered his constables to arrest anyone who dared ring the town bell by the new time.

Just before the change was made, Benjamin A. Brewster, Attorney General of the United States, warned: "No government department will be allowed to use Standard Time without an act of Congress!" A few hours after the changeover he went to Union Station in Washington, D.C., to catch a train for Philadelphia---and missed it by eight minutes. Congress didn't want to meddle with all the hot tempers out in the states, but four months after the rails changed, Standard Time was okayed for the District of Columbia.

The newspapers, of course, had many an opinion to voice.

Said the Chicago Tribune: "It's a plan to rob people of daylight and get them to burn more gas for light."

The New York Herald called the change a conspiracy between the railroads and the watchmakers. Every time a watch is reset, that helps wear it out a little, the Tribune noted darkly.

The Indianapolis Sentinel thundered:

> 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 the boss of 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 is requested to rise and set by railroad time. The planets must, in the future, make their circuits by such time-

tables as the railroad magnates arrange. People will have to marry and die by railroad time.... Banks will open and close by railroad time.... We presume the sun, moon and stars will make an attempt to ignore the orders of the Railroad Convention, but they, too, will give in at last.

Here and there legal complications cropped up. In Ottumwa, Iowa, a policy holder's house caught fire at noon on the very day his insurance was to expire at noon. The question was: Did the policy expire at 12 o'clock noon local time or 12 o'clock noon Standard Time" If the former, the policy was still in force; if the latter, it had expired almost three minutes before the fire broke out. The case was carried all the way to the Supreme Court, which decided that when the policy had been drawn up local time was intended. The policy holder was awarded full payment.

In spite of all the hullabaloo, the mixups and the opposition, to most Americans the new uniform system of time made sense. It was far more desirable than a hodge-podge of local times. It helped the railroad operation out of a terrible mess, and it also benefited most Americans, businessmen, farmers, laborers and those in other walks of life. It succeeded so well with the railroads that its adoption by others went merrily along despite the sounds of dissent. The cities of New York, Rochester, Philadelphia, Buffalo and others adopted Standard Time very quickly.

Once a few large communities in a state had switched over, another legal complication hastened the trend. In many states, the hours kept by banks and some other institutions were regulated by state law. When these institutions asked if they should follow the old local time or the new Standard Time, state legislatures started solving the problem by legalizing Standard Time statewide. The avalanche was on, and by the turn of the century there was hardly a spot in the country where the people were not working and living by Eastern, Central, Mountain or Pacific Standard Time.

Interestingly enough, although Standard Time was in general use throughout the nation by the turn of the century, it lacked federal recognition outside of the District of Columbia until Congress passed the Standard Time Act of 1918. Thereafter Congress relieved the railroads of regulating the time, and various changes were made by law and regulation over the years.

Thanks to Allen's foresight, adjustments were made in the zone boundary lines soon after 1883 and right down to the present time. Segments of the zone boundaries were moved time and again, zigging and zagging this way and that to accommodate numerous practical matters.

Until 1918, the boundary between Eastern and Central Time ran on a line from Pittsburgh to Charleston, S.C., so that most of the southeast, including all of Georgia and Florida, were on Central Time. Now, Eastern Time has been moved well west, to include all of the lower peninsula of Michigan and just about half of Indiana; while in Florida, the line follows the natural course of the Chattahoochee River in the Florida panhandle. Boise, Idaho, has switched from Pacific to Mountain Time.

None of the time zones in the United States or Canada now follow Dowd's scientific borders, and some are far from them. In Texas, Central Time extends to the 105th meridian, the scientific center of the Mountain Time zone. It almost reaches it in North Dakota, and in general the time zones have shifted west of their natural borders. Fairly recently, over 12,000 square miles of Arizona were shifted from Pacific to Mountain Time. All this is in line with Allen's plan to compromise scientific accuracy for the sake of convenience in human affairs.

Daylight-saving time, which Congress first adopted as a war measure in 1918, is another story. Wherever it has been and is used, it is only a one-hour variation from Standard Time.

A more interesting aside is that the fixing of the longitudinal lines around the world for navigational and other purposes, as well as for fixing time, was a direct outgrowth of Dowd's scheme to make America's railroads work better.

An international convention in Washington, in 1884, agreed to accept the meridian of Greenwich, England, as zero degrees longitude, and hence the base for all of the 360 degrees of longitude around the globe. Previously, different nations and independent navigators put the lines wherever they chose. Ship navigators often considered their home ports to be at zero degrees longitude, and did their reckoning on that basis.

The Canadian railroader, Fleming, worked hard to sell the Greenwich idea, while the precedent of the U.S. and Canadian railroads in applying the Greenwich base to longitudes in North America as a fait accompli left the other nations with little to do but accept it in the name of common sense.

Meanwhile, the success of the North American time scheme persuaded the rest of the world to adopt Dowd's 24 world time zones, while Allen's practical idea of adjusting Dowd's time boundaries according to local convenience was copied around the world.

The revolutionary change wrought by the railroads was absolutely necessary. One can only imagine the chaos that would prevail today if our modern world were still on thousands of local times.

But profoundly important as the change was, and global as it was in its scope, popular history has fairly well buried the "timely" events of 1883. The name of William Frederick Allen, who lived 32 years after the big change and died at age 69 in 1915, is little remembered today. He is listed in the Dictionary of American Biography, though few standard references list Charles Ferdinand Dowd, who lived to see the world adopt his general plan, and died at Saratoga Springs, aged 79, in 1904.

Allen is better remembered in railroad circles. In the Union Station in Washington, D.C., is a bronze plaque dedicated to his memory. It reads in part:

> "He devised and through the instrumentality of the Railway Managers in 1883 put into effect first in the United States the System of Standard Time which has since been extended throughout the entire civilized world"

* * * * * * * * * * * * * * *

ANSWER: THE SMITH-JONES-ROBINSON CLASSIC

The brakeman, who lives halfway between Chicago and Detroit, also lives near Mr....., who earns three times as much as he does. Mr..... can't be Mr. Robinson as Mr. Robinson lives in Detroit. He can't be Mr. Jones, as Mr. Jones' $20,000 a year isn't divisible by three. Therefore, the brakeman's neighbor must be Mr. Smith.

The passenger whose name is the same as the brakeman's lives in Chicago. He can't be Mr. Robinson as Mr. Robinson lives in Detroit. He can't be Mr. Smith as Mr. Smith is a neighbor of the brakeman, who lives halfway between Chic ago and Detroit. Therefore, he must be Mr. Jones. Therefore, the brakeman's name is also Jones.

Smith beats the fireman at billiards, so the fireman must be Robinson.

Therefore, the engineer is Smith.