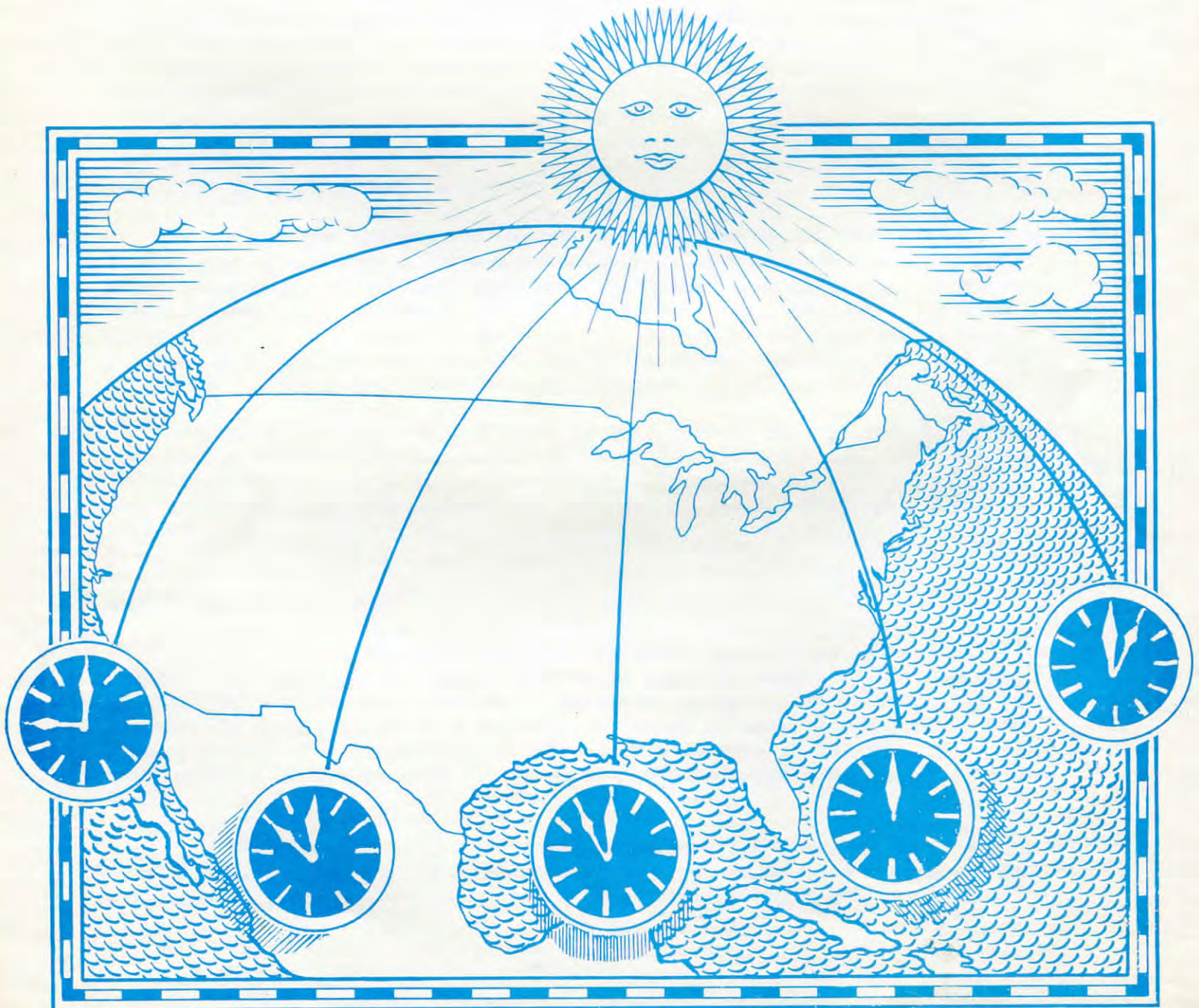
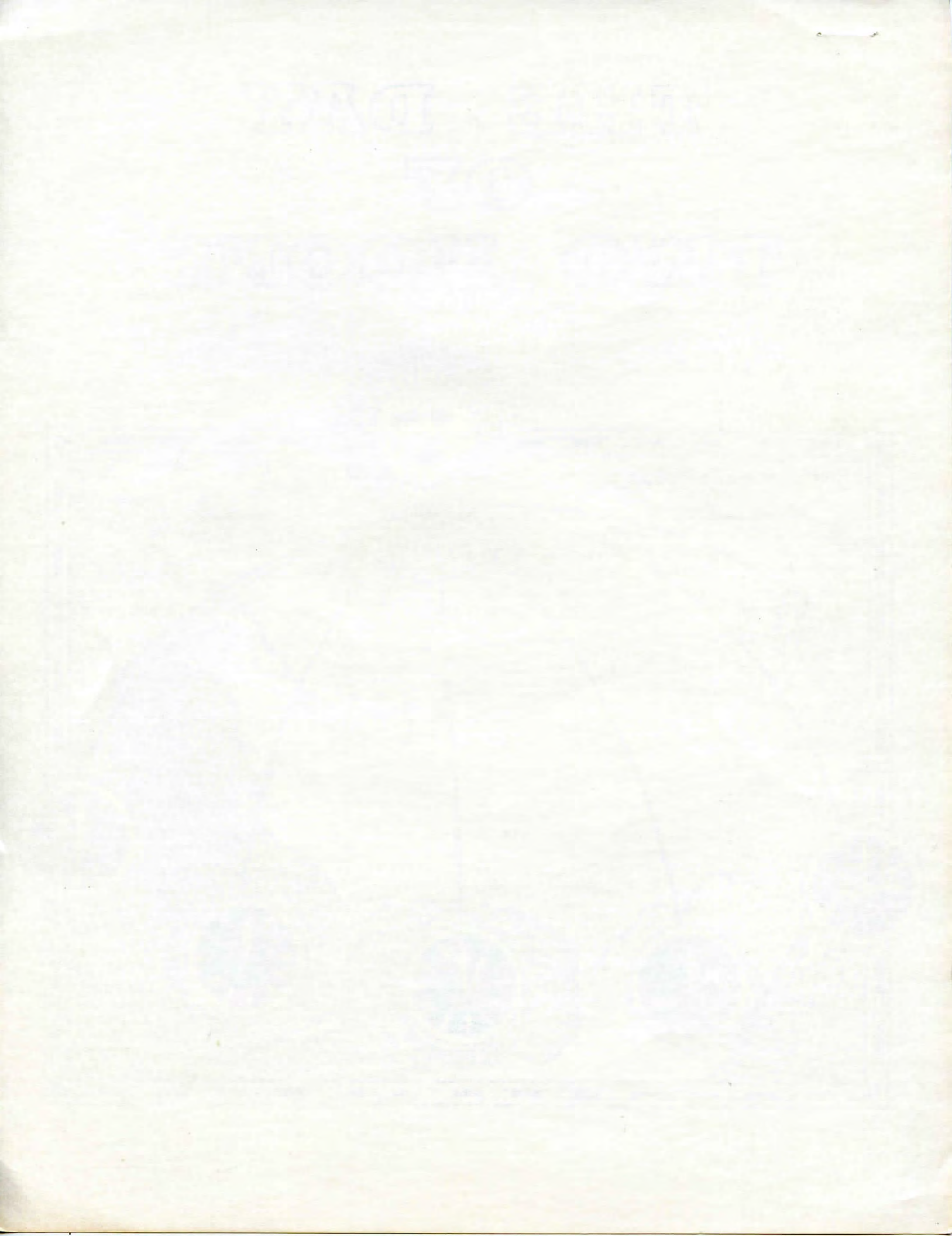


THE DAY OF TWO NOONS





THE DAY OF TWO NOONS

A significant milestone of progress in America was the adoption of Standard Time on November 18, 1883. The story that follows is of the part played by the railroads in bringing about this important change.

PRECISION RAILROADING

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

The American railroads function so smoothly and so efficiently hour after hour, day after day, despite darkness, storm and other hazards, that most people are likely to take good railway service for granted. It is only when something happens to interrupt railway service that we realize what a vital part railroads play in our everyday lives.

CONFUSION BEFORE STANDARDIZATION

There are persons now living, however, who recall when railway operations were in a state of confusion due to lack of a uniform time standard. Prior to adoption of Standard Time the only "time" that existed in this country was local time. Commonly called "sun-time," local time was based upon transit of the sun across the meridian. It 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.

A MULTIPLICITY OF TIMES

So, of course, true sun-time was never observed at all points in the country. To have done so 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 numerous cities and towns adopted a time standard based upon mean local sun-time at city hall or 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 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. Some of its trains ran under New York time, Philadelphia time, and Chicago time. The Michigan Central operated 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 west and south from Chicago used Chicago time; those running west 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 on at least six different time standards--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 adoption of Standard Time, but the number in use by railroads was approximately 100.

BABEL OF CLOCKS

A traveler from Maine to California, to have correct railroad time, had 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 operated; one set to Columbus time, by which the Lake Shore and Michigan Southern and other railroads operated; the other set to local Buffalo time.

The situation was even worse in Pittsburgh, where six different time standards governed train arrivals and departures.

In Kansas City leading jewelers had their own "standard times," and no two standards agreed. Sometimes the range was as much as 20 minutes. Each jeweler took his own readings. He had 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, 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 afforded uniform time. In larger cities, thousands of persons watched the time balls daily.



CONFUSION OF TIME STANDARDS

Of course, with such multiplicity of time standards throughout the country, passengers and shippers, as well as railway officers and employees responsible for operation of trains, sale of tickets, and 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 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 earliest advocates of time standardization in the United States was Professor Charles F. Dowd, principal of Temple Grove Ladies' Seminary, at Saratoga Springs, New York. Professor Dowd discussed the need for standardization with a committee of six railway superintendents attending a convention in New York in October, 1869. They expressed a desire to see his plan worked out in detail. In a pamphlet published the following year, Professor Dowd presented his hourly-zone plan of standardization, based on Washington time and unvarying longitudinal divisions fifteen degrees apart.

Meanwhile, others were advocating time standardization in one form or another. The Railroad Gazette for April 2, 1870, carried an editorial, "Time for the Continent," proposing a standard time for the entire nation. During the 1870's, Professor Benjamin Pierce of Harvard College suggested an "hour-difference" time plan; Sir Sanford Fleming, chief engineer of the Government Railways of Canada, proposed a 24-hour time standard. Dr. Cleveland Abbe, of the U. S. Signal Service, and Dr. Thomas Hill, president of Harvard College, each advanced plans for some form of standard time for the nation. 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 railroads took the matter in hand.

RAILROADS ADOPT STANDARD TIME

The railroad movement may be said to have had its beginning in May, 1872, when an association of railroad superintendents, a forerunner of the Association of American Railroads, held its first meeting at the old Southern Hotel in St. Louis. At this meeting, called to arrange summer passenger train schedules, 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 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 to adopt the plan, the convention, through Secretary Allen, issued a notice, directing that all railway clocks governing train operation 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 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 success of the plan would depend largely upon 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 scattered opposition was encountered.

PUBLIC REACTION TO CHANGE

There were those in this country who felt that, by adoption of Standard Time, they were being robbed of some of their daylight, or were being compelled to reckon time "contrary to nature."

Newspaper accounts and editorial comments immediately preceding and following 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 set 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

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 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."

There were persons who felt that the railroads or the watchmakers 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 time-piece 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.

November 18, 1883, was called "the day of two noons." 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. In communities that used railroad time, the difference often 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.

CHANGE WIDELY DISCUSSED

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

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 utmost care and watchfulness by railroad men. 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 as to what change to make in their watches. They 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 was given in the Chicago Tribune on the day following the change to Standard Time. It said 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.

The reporter added:

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

The American people soon accepted Standard Time without question. The standardization movement gradually spread to other lands until today it is in almost universal use.

ADOPTED WITHOUT FEDERAL LEGISLATION

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 boundary changes deemed 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 government cooperated wholeheartedly in the movement, and, of course, regulated their own clocks by Standard Time.



