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## LONGER DAYLIGHT.

There are a great many things to be said in favor of, and a few against, the proposal to advance the clock by one hour during the summer months. Although the suggested change is startling, there is in it nothing of the ludicrous or farcical, as some of its critics have suggested. The principal object of the movement is to apportion a larger part of the period of daylight to evening rest and recreation than is now possible in latitudes embraced by the United States. Under present conditions the close of the working day is so near sunset that, by the time the evening meal is over, twilight has commenced, and the stretch of remaining daylight is too short for any lengthy outdoor sports or pastimes of the kind which require daylight for their exercise.

Those of us who have spent part of the summer months in northern latitudes, where the later sunset and longer duration of twilight combine to make the summer evenings the most lengthy and delightful period of recreation, understand perfectly well the motive and force of the arguments which have led to the present widespread movement in favor of what has popularly come to be known as a longer daylight day. The evening is the ideal time for outdoor recreation. The mind and body are relieved of the stress of the day's occupation, and the cooler temperature, which is a consideration, even in the northern latitudes, becomes of double importance in the more southerly regions, where temperatures during the day run up to 90 or even 100 in the shade.

The proposed arrangement as advocated by the National Daylight Association in this country is that from and after 2 o'clock in the morning of the first day of May in each year, until 2 o'clock on the morning of the first day of October, the standard time shall be one hour in advance of the standard time now in use. This result is to be secured by advancing the hands of the clock one hour on May 1st and moving them back one hour on October 1st. The change would involve a shortening of the hours of sleep only on the last day of April. Subsequently through the summer months people would get up and retire by the clock as usual, and the regular schedule of railroads, factories, and all social institutions would be maintained as before. The only perceptible difference would be that instead of the twilight ending at from 9 to 9:30, it would last from 10 to 10:30, according to the latitude, and the public would have the benefit of two or three hours of daylight after the evening meal, instead of one or two hours as under the present arrangement.

We cannot quite agree with the circular of the Daylight Association that no adjustment of railroad schedules would be necessary. Some adjustment would obviously be needed on the two days which marked the opening and close of the longer daylight season; but with those two exceptions regular schedules could be maintained without interruption during the 150 days or more of the late spring, summer, and early fall months.

At the present time there is a bill before the British Parliament which provides for a change similar to that related above. That the matter is being seriously regarded in that country is shown by the fact that it has the indorsement of the Education Committee of the London County Council, of over one hundred municipal corporations and town councils, of the National Convention of Royal Burghs of Scotland representing about two hundred towns, and of one hundred and thirty chambers of commerce, associations, and clubs. A similar bill is now before the Canadian Parliament, and the report of the special committee to whom it was referred says that in view of the almost unanimous support in favor of the bill, and that its object can be so easily attained, they consider that it should be put in force as soon as possible. It is probable that a similar bill, which has already received wide journalistic indorsement, will be introduced in France.

## SUBURBAN TRAFFIC IN LONDON AND NEW YORK.

Geographically considered, the ideal conditions for the rapid inflow and outflow of the population of a great city to and from its business center are that the city shall be located inland, and that the traffic movement shall not be obstructed by any natural topographical features, such as are presented by the sea or wide and deep rivers or estuaries. Judged by this standard, London, Paris, and Berlin are admirably located, whereas New York is at a great disadvantage. In a diagram accompanying the last report of the London Traffic Branch of the Board of Trade, the density of railway traffic and its distribution on the various suburban railways are very lucidly shown. The diagram was drawn from statistics of the railroad companies of the number of passengers who entered the business center of London in the month of October, 1907, from all stations within thirty miles of the city. It includes the number of trips taken to the city by the season-ticket holders. The figures show that of the 9,743,669 persons who entered within a four-mile radius of Charing Cross by railway in this month, 8,071,785, or about 83 per cent, came from localities not exceeding ten miles from Charing Cross, 8.5 per cent entered from distances between ten and twelve miles, and less than 8.5 per cent from distances lying between twelve and thirty miles from Charing Cross.

An analysis of the table shows that 2,232,201 passengers came from the first zone, which is from four to six miles distant from Charing Cross, and that they averaged 35,584 passengers to the square mile; that 3,406,588 passengers came from the six to eight mile zone, and that the average was 38,729 passengers per square mile; that 2,432,996 came from the eight to ten mile zone, and averaged 21,512 passengers to the square mile. From the ten to twelve mile zone the travel consisted of 843,780 passengers, who averaged 6,104 to the square mile; 331,213, averaging 592 to the square mile, came from the fifteen to twenty mile zone; and 107,614, averaging 124 to the square mile, came from the twenty-five to thirty mile zone.

Turning now to the traffic problem in New York city, we find that before the period of big bridges and tunnels, Manhattan Island was most unfavorably situated for the rapid and comfortable handling of daily passenger traffic. Shut off on one side by the sea and on two others by broad and deep rivers, the city was denied those advantages, accruing to large metropolitan cities in Europe from an inland situation, which permit of the laying out of lines of railroad travel in every direction. When the railroads radiate from the business center of a city as the spokes from the hub of a wheel, the congestion of traffic decreases theoretically as the square of the distance from the center. The figures quoted above for London show how quickly the outgoing crowds at night are disembarked from the trains, over one-half of the total of nine millions having left the cars by the time they have passed some six miles beyond the central zone. In Manhattan, however, before the era of bridges and tunnels, the greater part of the rush-hour travel moved in parallel lines up and down a long and narrow island, and many miles had to be covered before any relief was noticeable. The intolerable congestion due to these conditions hastened the construction of the subway, which was completed only just in time to save the transportation problem in New York from an absolute deadlock. With the approaching completion of all of the eleven tunnels and three great bridges, which have been built during the last decade and a half to connect Manhattan Island with New Jersey and Long Island, New York city will be favored with the diverging system of transportation which characterizes London and other great cities of Europe. The splendid facilities for comfortable and rapid travel to the vast suburban areas lying to the east and west of Manhattan, are certain to act with a loosening up effect upon the present congestion of our elevated and subway lines of travel in Manhattan. It will need only the construction of the Fourth Avenue line in Brooklyn, with a tunnel beneath the Narrows to Staten Island, to place New York city in practically as favorable a position for all-round radial travel as London itself.

## INCONCLUSIVE TESTS OF THE SCOUT CRUISERS.

The possession by the United States navy of three scout cruisers, the "Birmingham," "Chester," and "Salem," absolutely identical in size and model, but driven by three different types of engine, presents an unrivaled opportunity for determining the relative all-round efficiency of the three types for naval purposes. We are free to confess, however, that the tests which have already been carried out, elaborate and costly though they have been, do not seem to be conclusive. In fact, the further the tests have gone, the more bewildering do the results obtained appear

It is absolutely necessary, if the data secured at such trials are to be of value, that the conditions in the case of the three competitors shall be absolutely identical. It was the intention of the Navy Department that they should be so; but, unfortunately, with the exception of the government standardization trials at Rockland and the water-consumption trials made early in the year, there were certain disturbing elements, some accidental and others incidental to the conditions under which the tests were made and quite unavoidable, which so greatly vitiated the results that they have lost their value.

Such facts as have been clearly established are a verification, as far as the relative merits of reciprocating and turbine marine engines are concerned, of previous results obtained with the two types. At the lower speeds, or what are known in the navy as "cruising speeds," the reciprocating engines of the "Birmingham" proved to be more economical; but at the higher speeds, and notably when the ships were driven under full power, both the Parsons and the Curtis turbines showed a marked superiority in coal consumption, and drove their respective vessels at considerably higher maximum speeds. As far as the published official figures show, there is not much to choose between the two types of turbine, sometimes one and sometimes the other showing a slight advantage in both the standardization and in the water-consumption trials.

It is when we come to the long-distance trials at sea that the confusion begins. In the coal-consumption tests which were carried out a few months ago, at the rate of 15 knots an hour, the "Birmingham" showed a coal consumption of seventy-one tons, the "Chester" of eighty-five tons, and the "Salem" of one hundred and seven tons a day. The disparity between the consumption of the "Birmingham" and the "Chester" was not unexpected, but the consumption of the "Salem" was inexplicable. At the conclusion of the trials the "Salem" returned to the builders' yard, and on opening the casing, it was found that a loose bolt, which had probably fallen by accident into the casing, had bent over the edges of a large part of the blading, thereby obstructing the passage of the steam and running up the coal consumption.

Shortly after the conclusion of the trials, the "Chester" and the "Birmingham" sailed for Liberia on the coast of Africa; and, after repairs had been made on the "Salem," she was dispatched to join the other two ships. On the return trip the three scouts, starting from Madeira, steamed side by side for five consecutive days across the Atlantic. All three were careful to maintain the same speed, and everything was done to render this a fair, five-day trial of the engines. There was no attempt made to run at high speed, and the average rate per hour for the five days was 13.8 knots. The test has furnished the latest bewildering coal-consumption figures of the many which have been obtained with these vessels; for the results of the first sea trials have now been completely reversed, the "Salem" having burned an average of ninety-five tons per day, the "Birmingham" one hundred and ten tons, and the "Chester" one hundred and thirty tons per day. The explanation of the reversal of form on the "Birmingham" and "Chester" given by the officers of these ships is, that while they were anchored off the coast of Liberia the bottoms of the ships became, as they always will do in tropical waters, very foul. On the other hand, it was explained by the officers of the "Salem" that while they were lying in the mud at the Quincy yard for repairs, they were at a similar disadvantage.

Now, in the face of the above figures, it seems that something must have gone wrong with the "Chester's" turbines, a fact which will no doubt be determined as soon as she can get to a repair yard; but the moral of these very bewildering results is that, in view of the enormous importance of the turbine question, the Navy Department should undertake a fresh series of trials of these three ships, in which every care should be taken to render the conditions identical. Moreover, the trials should be of such a length, and be carried on under such varying conditions, as to settle beyond all question of doubt which is the best type of drive to install in the future warships of the United States navy. We do not hesitate to affirm that this is to-day the most important question affecting the physical characteristics of the ships of our navy. Of the reliability of the turbine, whether it be the Parsons or Curtis type, there is no doubt whatever; and it is because of its reliability when driven for long periods of time at full power that it is vastly superior to the reciprocating engine for naval purposes. The question between the two types of turbine, however, is one of coal consumption, and the question of coal consumption is intimately related to the question of radius of action, or total steaming distance, one of the most important elements in a warship. When two similar cruisers cross the Atlantic with a difference in coal consumption of over 35 per cent, it is clear that the demand for further examination into the range of efficiency of their turbines is well made.