

## RAILWAY PASSENGER RATES.

THE average amount received by railroads in the United States for carrying a passenger one mile, is two and one sixth cents. In England it is a little less; probably about two cents. In France it is not quite a cent and a half; in Belgium and in Germany about a cent and a quarter. In Austria, before the recent changes in the tariff, it was a little more than a cent and a half; at present it is probably only about a cent. In British India it is less than six tenths of a cent. These are the actual amounts received. The results have been obtained, wherever possible, by dividing the total passenger earnings by the number of miles traveled by passengers. In England, where statistics of passenger mileage are not given, we are compelled to rely on estimates. The nominal rates of fare are almost always higher than the average of actual receipts, owing to excursion and commutation business. The difference between actual and nominal rates is usually from 10 to 20 per cent. Why are passenger rates so much lower in continental Europe than in England or in America? Can we hope for a change in this respect, and for a reduction in the cost of passenger travel to the standard of France and Germany? What conditions must be fulfilled to make such a reduction possible? These are questions which are being asked everywhere, especially since the recent reductions in Austria and Hungary have attracted more wide-spread attention to the subject. Let us try to answer them in order.

The first obvious reason for the difference in fares is a difference in the kind of service rendered. Continental Europe pays two thirds as much as America or England and gets an inferior article. India pays still less and gets still less. The difference is seen both in quality and in quantity of service. In India express trains rarely run at a greater speed than 25 miles an hour. In Germany and France their speed ranges from 25 to 35 miles

an hour, and only in exceptional instances is more than 40 miles an hour. In the United States and in England the maximum speed rises as high as 50 or, in exceptional instances, 60 miles an hour. With regard to the comfort of the cars in different countries, there is more room for difference of opinion; but there can be no doubt that the average traveler in the United States, or even in the English third-class car, fares better than he would in the corresponding class on continental railroads, and infinitely better than the bulk of travelers in British India. No rates, however low, would induce an American to be content with Austrian third-class accommodation, or to tolerate that which is furnished to the average Hindoo traveler.

There is a second reason, of even greater importance, though it is less obvious at first sight. This is the difference in the number of trains. Taking into account density of population and amount of travel, Europe has more trains than India, and America or England more than continental Europe. If there are 500 travelers daily who wish to use a certain line in India, the authorities give them but one or two trains a day. They are thus able to secure very large train loads; and as the train, rather than the passenger, is the unit for many items of expense, the sacrifice of public convenience in the matter of hours of travel is a source of economy for the railroad. For a given number of people who can use railroads, Austria provides more trains than India, Germany more than Austria, England more than Germany, and the United States more than England. Each concession to the public convenience in this matter involves a loss which must be paid for somewhere.

Our railroad men are fully awake to the economy of large train loads. They would be ready to make great reductions in charge if large loads could thereby be secured. In freight business they have carried this policy out to the fullest extent. A ton of freight can be forwarded at almost any time of day or of night with comparatively little inconvenience to the shipper. The railroads can thus make train loads to suit themselves; and it is a significant fact that American freight-train loads are larger than those of Europe, while American freight rates are decidedly lower. Where the railroad men have had power

to handle increased loads with fewer trains, they have done so, and the public has had the benefit of the reduction to a striking degree. They have not been able to do the same thing in passenger business, because the public would not allow it. The differences in passenger rates in different countries are not due to arbitrary action on the part of railroad managers, but to differences in public demand. Continental Europe demands cheapness, and is willing to undergo the sacrifices attendant upon it. England and America demand good trains at convenient times, and are willing to make the necessary pecuniary sacrifice rather than go without them. Not only does each country pay for what it gets, but it gets what it wants to pay for—a fact often overlooked by those writers who seek to apply the standards of continental Europe to England and America.

That passenger fares are cheapest in the countries which have the lowest wages, is no mere accident. Wages are the prime cause of difference in the whole matter. If a man makes only five cents an hour, he can afford to wait an hour to save five cents. If he makes ten cents an hour, he cannot do so. If he makes fifty cents an hour, he is very far from being able to do so. To the man who earns high wages, economy of time is more valuable than a slight difference in railroad fares. He can afford to pay five or ten cents more for the sake of having trains run when he wishes. For long distances, he can afford to pay fifty cents or a dollar more for the sake of having them run fast. The Hungarian would prefer, for the sake of saving a dollar on the fare between New York and Philadelphia, to wait half a day for his train and then to take four or five hours for the journey. The American would rather pay a dollar more to have a train run when he needs it and to have it go as fast as possible. In proportion to density of population, we run many trains where European roads run few. Where we run few trains, Europe builds no roads at all. We demand facilities for quick movement wherever we can have them. An increase of facilities is worth more to us than a reduction in charge.

How much more work is demanded of American railroads than of European ones, will be seen by the following table:

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Countries.	Population.	Miles Run by Trains An- nually.	Annual Train Service per Head of Population.
United States (1889),.....	61,000,000	724,000,000	12
Great Britain (1889),.....	38,000,000	303,000,000	8
Germany (1889),.....	48,000,000	181,000,000	3 $\frac{1}{2}$
France (1888), .....	38,000,000	145,000,000	3 $\frac{1}{2}$
Austria-Hungary (1887),...	40,000,000	66,000,000	1 $\frac{3}{8}$
India (1889), .....	200,000,000	51,000,000	0 $\frac{1}{4}$

These figures are for passenger trains and freight trains together, as some countries do not give statistics of the two separately; but the general result would be nearly the same if passenger trains alone could be considered. The figures show that for every man, woman, and child, a train is run 12 miles annually in the United States, in Great Britain eight miles, in Germany or France a little less than four miles, in Austria not much more than a mile and a half, and in British India less than a quarter of a mile.

But why cannot our railroad men, with our present train service, secure larger loads by making lower rates, and give us cheap service as well as plenty of it? Why cannot we secure two good things instead of one? For two reasons: 1, because it is not certain that low rates would be followed by greatly-increased travel; 2, because such increased travel would not be so economical to handle in America as it is in Europe. It is wrong to assume that, because reductions of charge in Europe have increased travel enormously, they would have a proportionate effect in America, and a corresponding advantage in American railroad economy. It is a somewhat significant fact that second-class trains at reduced rates have been extremely successful in Europe and not at all so in America. Other things being equal, the American public would be glad to have its travel at lower fares; but it cares more for comfort and speed, and for being able to travel at its own times, than for a slight difference in charge. The assumption so frequently made, that a reduction in fares would cause an enormous increase in travel in this country, is for the most part a pure assumption, not borne out by the facts. In a country with dense population and low wages, whose railroad facilities are little used, a reduction in rates may produce

much gain and little loss. This has been precisely the state of things in Hungary; it is not at all the state of things in America. The railroads of Hungary before the recent reform carried about 5,000,000 passengers a year, in a population of 15,000,000. After the reform was put into operation the number of passengers more than doubled. But even after this change the Hungarian system was far below the American standard of usefulness. During the first year after the change all the railroads in the kingdom of Hungary together carried about as many passengers as the Long Island Railroad alone. Massachusetts has only about one fourth the population of Hungary, yet the railroads of Massachusetts carry seven times as many passengers as those of Hungary. To do this, they furnish an enormously larger number of trains, and at some points their tracks and stations are already so crowded that an increased use would not be accompanied by increased economy to the road, even at the same rates of fare. Not only are the Hungarian demands as to speed and quality of service less exacting than those of Massachusetts, but the Hungarian problems of operation are much simpler.

To these facts, rather than to "the zone system," must be ascribed the difference between American and Hungarian charges. The zone system in itself amounts to very little. It simply substitutes a longer unit of charge for a shorter one. It means charging ten cents for every ten miles or fraction thereof, instead of one cent for every mile or fraction thereof. It enables the ticket agent to keep fewer kinds of tickets in stock, and thus gives a slight advantage in railroad economy. Whether that advantage is sufficient to make up for the arbitrary inequality of treatment between different zones, whereby points just within the limit are favored and those just without the limit are discriminated against, each railroad or each community must settle for itself. The importance of the zone system in Austria and in Hungary lies in the fact that its adoption was accompanied by a great reduction in rates. The unit rate for slow third-class trains, which had previously been nearly a cent and a half a mile, was reduced to less than one cent. Travel increased rapidly under the influence of this change, without the necessity of a corresponding increase in the number of trains or in their speed. The trains, for the most

part, are very slow. No baggage is carried free. All must be laboriously weighed, making it necessary for the traveler to be at the station a long time before the departure of a train. The use of railroads under the new system, though vastly greater than it was before, is vastly less than that of a well-managed American road at American rates.

Our American railroads already give commuters the benefit of fares not far different from those of Hungarian railroads. To demand that they should make these rates general because Hungary or Austria has done so, would be to ignore differences in service and in conditions of traffic. If any one will go to a station in one of our large cities at a busy time of day and ask whether double the traffic could be handled without great increase of expense, he will at once see the absurdity of the question. The facilities are already crowded to overflowing. There is reason for demanding reform in methods of handling passengers, but such reform in operation is a necessary condition for any considerable reduction in passenger charge. In these respects we have little or nothing to learn from the Hungarians. They have been able to make the changes which they have made, not because they are in advance of us in methods of operation, but because they are immeasurably behind us in the demands which their people make upon railroads and in the services which those railroads render, or are required to render.

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## THE FLOOD PLAINS OF RIVERS.

FIRE, flood, famine, war, and pestilence were long reckoned foremost among the evils to which mankind is subject. With the growth of knowledge concerning the relations of man to his environment, and with the development of far-sighted altruism, men have united in devising and applying means for suppressing, or at least for opposing, four members of this maleficent family. Fire is provided against by numerous devices adapted to all modes of life and to all stages of culture; by legislative enactments and municipal ordinances in civilized nations, and by special organizations of men and appropriations of money throughout the more advanced countries. Famine flies before the community of interests and the ready interchange of products that measure the advance of nations in material and moral development. War in most countries is opposed by two of the most potent determinants of conduct, namely, private principle and public policy; and of late a powerful movement toward the abolition of war among civilized nations has been gaining strength. Pestilence is weakened by combinations among men for mutual aid, is crippled by the decadence of personal and national strife, and is disarmed by the cleanliness of modern times. Even now biology and medicine are uniting to invade the last stronghold of this evil agency. They are isolating her protean germs, laying bare her insidious processes, turning her own weapons against her by opposing bacterium to bacterium and ptomaine to microbe, and, if the signs of the times are not misleading, are surely encompassing her final downfall. Fire, famine, war, and pestilence have been successfully met by human ingenuity, foresight, benevolence, and sagacity; but the flood remains, a barely-mitigated evil, a hardly-appreciated obstacle to progress. Indeed, as population has increased, men have not only failed to devise means for suppressing or for escap-