

RAILROADS OF THE PACIFIC COAST.*

Converging channels of commerce fix the sites of cities and govern their destiny. Rivers and bays and the endless sea are the channels Nature offers, and roads, canals and railways are provided by man. From the earliest dawn of civilization, the aim of governments and of statesmen have been to connect the country with the capital, and to facilitate intercommunication between all commercial points. The efforts made, the condition and degree of perfection of these artificial lines of intercommunication may be taken as the measure of enlightenment of the different eras. When Rome was mistress of the world, her civilization was of the highest recorded in history anterior to modern times; and her grand system of highways, radiating from the proud capital through distant provinces and dependencies, are still the marvel of engineers, and their ruins survive the barbarism of centuries succeeding the fall of the Empire. Through Italy, Spain, France, Britain, Asia Minor, Northern Africa, and wherever Roman conquest extended, or wherever her Briarean arms of commerce stretched her hands, there were found her massive ways, arching over rivers, piercing mountains and crossing deserts; forming channels of trade which brought the wealth of a hundred nations to the central power. These were the work of a strong and enlightened government, enabling it through many centuries to maintain its supremacy, while the people were enriched beyond all others known in history. Roman merchants were more powerful than princes, and to do something for the public good was a greater honor than to be born of noble blood. The making and superintendence of highways were positions of honor, and were sought by people of the highest rank. The adage of the present day that "all roads lead to Rome," was then true in its literal sense. The trade of Europe, Asia and Africa, all the then known world, was by these means centered in the great metropolis, and inland exceeded maritime commerce.

With the fall of the Roman Empire, civilization declined. The grand system of public highways, which was a part of Roman greatness, decayed with her, and in the semi-barbaric days that followed, inland commerce almost ceased to exist. Seaports became the centers of wealth and power, and those localities were most successful where rivers or deep bays afforded water communication with the interior. At last canals were constructed as adjuncts of water courses, and were considered the grandest works of engineering of their day. These were, indeed, a noble step in advance, and gave impetus to the new civilization.

But the crowning triumph of inventive genius was the conception of the railroad and the locomotive. For these, the world is indebted to George Stephenson, an English collier, who first made the experiment in 1814; and in 1829 his son, Robert Stephenson, brought the invention to perfection. It is this system that affords the present opportunity; that enables commerce to exceed all record of itself in history; that promotes civilization by facilitating intercommunication, and makes all people kin. The railroad, in its effectiveness, far surpasses the costly and massive highways of the ancient Romans. Two simple bars of iron lying upon the ground, almost concealed amid the growing herbage, constitute the channel of a mighty commerce. Over mountain and plain, through watery marsh and sandy desert, the railroad bears its equal way, and over it, as part of itself, the apparently vitalized machine rushes along with its laden train with the speed of the wind and as tireless as the elements.

The inland commerce of the Pacific States was necessarily large, and roads through mining regions were constructed at great expense. The transportation of goods and passengers was conducted in as good a manner as the case would admit of; but the travel by stage, however fine the coach or dashing the team, was toilsome in the extreme, and the freightage of goods in the mammoth "prairie schooners," with one or several "back actions" attached, slowly dragged over the dusty or muddy roads by long lines of mules or horses, was tedious and expensive. The construction of the main trunk lines of railroad have driven the great stages and teams from the field; but as adjuncts of the road they are still employed on shorter lines and in subordinate service. The iron road will continue to encroach upon the inferior; and so great is its superiority, that we may expect at no distant day that the country will be interlaced with the parallel rails as it is with the public roads of the present.

A new style of railroad has within a few years past been favorably considered by the public, and promises on minor routes to become of general adoption. This is denominated the narrow-gauge system, and tracks of various widths are used. Recent experiments in England have shown that a track of but ten inches in width would be operated with good effect; and one very important road in Wales, having a gauge of but twenty-three inches, has been used with very good success for several years. At the military camp at Aldershot, England, the British Government has had constructed a road of eighteen inches gauge, with a double track, occupying a roadway of ten feet in width. Upon this a speed of twenty to thirty miles an hour is made with long trains and heavy freight. These successes demonstrate the feasibility and great economy of the system. Several narrow-gauge tracks have been laid in our Pacific-coast railroad system, and many more are in contemplation. Of these, the popular gauge is three feet. The common gauge, however, is thirty-six inches, or three feet, with corresponding

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