

Senator David Davis -

Compliments
A. K. Owen

THE TOPOLOVAMPO PACIFIC.

This pamphlet is designed to give additional data upon the general topography of the country which lies between the western terminus of railroads, in Texas, and the harbor of Topolovampo, on the Gulf of California.

In former publications, I have, through the reports of Charles Chipman, Esq., Col. W. W. Wood, Judge Wm. L. Helfenstien, and other persons who have gone over the country, shown that there are not any topographical difficulties to speak of in a track way from Austin or San Antonio, Texas, to Choix, on the western side of the Chihuahua Cordilleras. Prof. Konig will confirm what has been previously published of the Cordilleras and Chihuahua, and Consul Turner will describe the line from Topolovampo Harbor to Choix, which, together with what Mr. Chipman has published makes the report of a line from the Gulf of California to Texas, complete and more favorable than I have heretofore stated it before the Senate and House Committees on Pacific Railroads. I may, also, mention that Prof. Phillips, Geologist of Missouri, is likely to publish in December a pamphlet on the characteristics of Coahuila, Chihuahua and Durango, which will awaken further inquiry upon this interesting subject. This gentleman has spent three months of the present year in Northern Mexico.

This pamphlet will also show the "spirit of the press" in regard to the project of survey by the War Department. The articles have been selected from many which have accumulated in my scrap-book.

The survey which I have suggested and urged stands upon its merits—upon the advantages it will give to every district in the United States to reach Mexico and the South Pacific, and I still think that to make it public is to make it popular.

Respectfully, A. K. OWEN, C. E., Chester, Pa.

P. O. Box 423, Washington, D. C.

Humboldt says: "So regular is the great plateau (formed exclusively by the broad, undulating, flattened crest of the Mexican Andes, and not the swelling of a valley between two mountain ridges, such as the Alpine valley of Bolivia or that of Tibet) and so gentle are the slopes where depressions occur that the journey from Mexico to Santa Fe, New Mexico, (about twelve hundred miles,) might be performed in a four-wheeled vehicle. * *

"Carriages may run from Mexico to Santa Fe in an extent which exceeds the length which the chain of the Alps would have, if it was prolonged without interruption, from Geneva to the shores of the Black Sea. In fact, the central table-land is traveled in four-wheeled carriages in all directions from the capital to Guanajuato, Durango, Valladolid, Guadalaxara, and Perote;" and he further writes: that, the two extremities, Mexico City and Santa Fe are respectively 7,462 and 7,047 feet above the sea; but the elevation at El Paso del Norte is only 2,800 feet.' The table lands of Chihuahua are from 4,000 to 5,000 feet. The Bolson Mapimi district, which is partly in Chihuahua, partly in Durango, and partly unknown, is generally under 4,000 feet. The Parras District averages about 5,000 feet.

Between the cities of Parras and Saltillo the plateaus rise as high as 6,104 feet, and thence fall toward the Rio Grande, reaching at Saltillo 5,242 feet, at Monterey 1,626, and at Piedras Negras about 1,460 feet. The highest peak of the Chihuahua Cordilleras, the Cumbres de Jesus Maria, is about 8,441 feet. The table-lands and mountains are, as a rule, higher in Durango than in Chihuahua. Mr. Eugene Leitensdorfer, who has traveled over the central plateaus from Mexico City north to Chihuahua City during thirty years' residence in that country, says, that the thermometer stands at 63° to 82° all the year round. Sinaloa and Sonora are coast-lands in their western sections, being but a few hundred feet above the sea level. The actual water shed, of the zone of continent under consideration, is on the central plateau just spoken of, and the passage or drainage channels through the Cordilleras, are from 500 to 1,000 feet lower.

If the railroads at Austin, Texas, were pushed directly west to Topolovampo, they would start at an elevation of 574 feet, rise gradually to 4,700 feet at Fort Davis, thence pass to their summit on the Chihuahua plateau, at about 6,000 feet, and from there descend, through the passes of the Cordilleras, to the coast-lands of

See Senate Bill No. 218 - S. R. No. 217.

Sinaloa. This line would be about 800 miles long—375 miles of which would be in Texas and about 425 miles in Mexico. The lines from San Antonio would start at an elevation of 600 feet, reach Eagle Pass at 1,460 feet, rise gradually to the summit height on the table-land of Chihuahua, and thence descend as before mentioned. The line from San Antonio, Texas, via Eagle Pass, to Topolovampo would be about 700 miles, 450 miles of which would cross table-lands and about 250 miles follow mountain passes. The cost for a first-class, steel trackway, 4 feet 8½ inches gauge, with an average equipment, would cost about \$15,000 per mile on the table-land sections, and about \$20,000 per mile on the section in the mountain passes—an aggregate cost of but \$11,750,000. The labor of two thousand men will complete 100 miles of average railroad in twelve months, hence the labor of 14,000 men would finish the trackway from San Antonio to Topolovampo in one year; and the South would have an iron-highway to the Pacific Ocean, and the East and West would have their quickest and least expensive route possible across our continent to the trade marts of Mexico. As 570 miles of this distance would be in Mexico, and but 130 miles in Texas, the concessions, franchises, etc., if any should be required, would necessarily be negotiated with Mexico and not with the United States. Everything that is required of this government is that a reliable report of the route or routes may be given to our business men, to the end that they may become acquainted with the facts, as they did with those relating to the great expanses of uninhabited wastes stretching from the Mississippi to the Pacific, on and north of the 32d parallel.

In a letter from Prof. James P. Kimball, Lehigh University, Pa., dated July, '75, he says, in reply to the question as to whether the Mexican section of the line, as far as he is acquainted with it, is practicable for railroad purposes, that, "from Presidio del Norte, on the Rio Grande, up to the valley of the Conchos river and its Sacramento branch, and so on through the valley of Concepcion to the summit of the Coast range, you would not meet with serious barriers, if any at all worth mentioning." For a description of the country between Presidio del Norte and the northern mountains, we turn to page 8 of Prof. Kimball's Geological Report, and read the following paragraph: "From the Conchos to Concepcion, the mountains and river system are approximately North and South; and the same may be said of the whole eastern slope of the Cordilleras all the way to the Rio Grande, except where the presence of lime-stone elevations has served to modify the uniform topography of the *cantera*. This uniformity consists in the succession of narrow and continuous North and South ridges, with foot hills separating broad and longitudinally remarkably continuous valleys. The whole surface thus characterized rises toward the west, while the mountains gain somewhat in height and the valleys in breadth in the same direction. Such is the configuration quite to the summit of the Cordilleras in this latitude, and it is thus almost insensibly reached. The term 'Sierra Madre' is for this reason seldom heard in Chihuahua." Again, upon the same page we read: "The champaign valleys, which are filled with detritus of the more ferruginous cantera, generally contain, west of Chihuahua city, up toward the humid belt, small running streams or shallow lakes, which fit them for cultivation. Some of these valleys are over a hundred miles in length." Prof. George A. König, writing from the University of Pa., Oct. 3, '78, says: "In December, 1870, I crossed the Sierra Madre from Chihuahua City to Batopilas by the Southern trail over Nonova, and recrossed in February by way of Cusihuiriac. The latter trail corresponds in every respect to Professor Kimball's description. From Cusihuiriac to Churo, the highest Indian village in the Sierra and the highest point of altitude of the mesa, the slope is so gradual that not the least difficulty would be encountered in building a track. Churo lies at the brink of the great barranca, through which the broad Uriqui river flows. The descent from here is very steep, probably 3,000 feet, but hardly comparable to the descent of the Union Pacific Railroad into the Sacramento valley regarding difficulty and cost of construction. Following the Uriqui river a considerable amount of blasting will have to be done in skirting the rocky promontories; as crossing by bridges would not be feasible or too costly on account of the width of the river. The descent from the mesa to Batopilas and following the Batopilas river to the low lands would cost at least three times as much as the Uriqui descent. The southern trail, by way of Nonova, may be left out of consideration. In all my travels I have not met with a more roughly broken topography than this part of the Sierra Madre. Aside from all political considerations, I consider the building of your route of the greatest importance. Batopilas within short railroad connection, and worked comprehensively by a powerful company would certainly eclipse every one of the past or greatest great silver-producing centers." * * *

"I learn that you are going to make a survey of the route to Topolovampo. I hope you will succeed. My place is at Agua Caliente de Baca, on the Fuerte River, 15 leagues above the City of Fuerte and near the town of Chois, in the State of Sinaloa where I have lived for 15 years, and hope to welcome yourself and party. * * * *

Since you were in Mexico there have been formed in the Fuerte River valley large sugar and cotton plantations. Sugar cane, cotton, indigo, coffee, tobacco and all other tropical and temperate plants and cereals grow equal, if not better, than in the East or West Indies. We have three planting seasons in the year and with the facilities for irrigation we have in the Fuerte River Valley we can harvest three sure and abundant crops each year; and should you succeed with your rail-road project, you will open up a mineral and agricultural country which will astonish even yourself." * * *

Yours truly, WM. V. LANPHAR.

PUEBLO, COLORADO, Dec. 18, 1876.

DEAR OWEN: I have received and read the pamphlets you sent me, in regard to your proposed Austin-Topolovampo route with much interest. From my general knowledge of the topographical features of the country, I think as you do, that you will encounter no difficult work from Austin to the summit of the Sierra Madre range—and that the only serious engineering difficulty, if any, will be in getting down on the west side, which of course, can only be determined by a survey. I hope you will be successful in getting the appropriation you ask for to make the survey, as I believe it will prove to be the best Pacific railway route yet surveyed. Yours truly, H. R. Holbrook. (Engineer in charge of the Genl. Palmer-Rosecrans' explorations in Mexico, 1872-'3.)

Dr. C. W. Brink, ex-U. S. Consul to Mexico City, in a Lecture on the Future of Mexico, says: "Concessions for the extension of several Southern roads have been suggested. The most important is intended to connect San Antonio, Texas, and the new port of Topolovampo, on the Gulf of California, through north Mexico. "It is believed that this road will receive the approval of Congress, being the shortest and most desirable of all the projected lines. Partial surveys of this route have already been made. Running through mineral regions of marvelous richness, its tunnels and excavations will pierce mountains of almost solid silver, and unlock sources of wealth enough to pay the national debts of both nations, besides increasing the commerce of the world by shortening the routes between the Atlantic and Pacific seas."

CONSULATE OF THE UNITED STATES, LA PAZ, MEXICO, June, 26, 1878.

MY DEAR COLONEL: Enclosed I send you a copy of a letter which I wrote to a friend, in 1869 about Topolovampo, and also another written the same year about the state of Sinaloa. Perhaps as you seem to be interested in Topolovampo, they may be interesting to you, and anyhow they will show you that I was thinking of Topolovampo long ago. They were not written for publication, and have many faults but are correct so far as they go. * * *

Yours, truly,

D. TURNER.

TOPOLOVAMPO.

The port of Topolovampo is situated in the State of Sinaloa on the Gulf of California, and midway between Guaymas and Mazatlan. I have never entered the harbor but am told by Capt. Preble, U. S. N., and others who have examined it, that it is easy of access, a safe and secure harbor, and can be entered by vessels drawing 20 feet of water, and, in my opinion, its location, good harbor, and other advantages, indicate the right place for the most important city on the west coast of Mexico. My project is this: First to obtain from the Mexican government or by purchase, a tract of land, say 10 leagues, at the port, and there to establish a mercantile house with a large stock of goods imported from the United States, then to procure from the Mexican government the establishment of a port of entry, and the right of way for a wagon road from the port to the city of Chihuahua, which is distant about 800 miles, with a grant of all the lands we could get on both sides of the road. I would commence building the road at the port and, as it progressed, would establish trading posts along the road and pay for building it from the profits of the goods sold. The road would run through one of the richest portions of Mexico: rich in minerals of all kinds, and rich in agricultural lands of the finest description, and would bring to the port the trade of the state of Chihuahua, of the southern part of Sonora, the northern part of Sinaloa, and a portion of Durango and I would build it with a view of putting rails upon it and connecting it with the Texas-Pacific Railroad, on or near the Rio Grande at no distant day.

Topolovampo would be far better situated for a large city than either Guaymas or Mazatlan as, from it the interior would be accessible, while from Mazatlan it is

almost impassible to get a good road into the interior, as from that point the Sierra Madre are almost impassible, and besides, Mazatlan is only an open roadstead, and cannot be made a good harbor without an expenditure of many millions. In September last two brigs went ashore and went to pieces at Mazatlan and there is no escape for a vessel which is caught there in a South Easter, a wind which is very prevalent four months in the year.

Guaymas is too far north, and, although it may always have the trade of the Northern part of Sonora, it is shut off from the trade of Chihuahua by the impracticability of the roads. I have followed my proposed route from Topolovampo to Chihuahua for 150 miles from the port. For the first 60 miles the cost would be trifling, as there is now a good natural road over which I have transported goods on wheels as far as the town of Chois. When we come to the mountains and then, the work would begin, but I saw nothing which looked very formidable. This road once opened all the mining towns like Uriqua, Batopilas, Guaraparis, &c., &c., would soon have roads connecting with it. Trade would come rushing down to Topolovampo, and in a very few years it would be the most populous and flourishing city on the western coast of Mexico.

If you will examine a chart of the Pacific you will find that the distance from Topolovampo to China and the East Indies is not very much greater than from San Francisco to those countries, and vessels sailing from Topolovampo to those countries would have a vast advantage over vessels sailing from San Francisco, in that they would make the passage in the trade winds with fine weather and favorable currents, while vessels sailing from San Francisco must either go a long way out of their course or cross the Pacific in various winds, rough weather and contrary currents. I am confident that this scheme has millions in it and only needs energy and a small amount of capital to put it through. It would be a vast benefit to Mexico, much more so than many of those railroad schemes which would require a hundred times the capital that this would.

Should the country ever come into the hands of the United States this company would possess untold wealth the minute the flag should be changed; should it remain under Mexican rule the property would still be valuable for it cannot be expected that Mexico will always remain as she is; the world moves and Mexico must move with it, get out of the way, or be run over. No doubt all the concessions within her reach could be obtained by a company from the Mexican government, but it would be necessary for some one to go to the capital and perhaps distribute a few dollars, and a few shares of the stock among virtuous and influential Mexicans and properly managed there would be no difficulty.

The northern part of Sinaloa, and, in fact, all along the route of this road has always been very quiet and revolutions never extend so far from Mazatlan. The moment the port should be opened and work on the road commenced immigration would pour in, splendid farms be made, corn, cotton, and sugar and a hundred other agricultural products would fill the warehouses, and the company would realize an immense income from the profits on its mercantile business even far more from the sale of its lands.

Yours,

D. TURNER.

SINALOA.

In your last you asked me to give you a description of the State of Sinaloa, and although I fear I shall be unable to make it interesting, I will do the best I can, premising that my description is from memory, and that it is now three years since I left that state. My means of observation have been pretty good, for I have traveled rather extensively in the northern and middle portions of the state prospecting for silver and copper, and I once traveled its entire length, crossing every river in it. The topography of Sinaloa is very similar to that of California, except that there is no coast range of mountains and the rivers instead of emptying into a San Joaquin, or Sacramento river, empty into the Gulf of California. For the entire length of the state the land on the coast, and for fifty miles back, is level with an occasional mountain or hill. You then come into the foot hills, which increase in height going toward the east until they merge into the Sierra Madre mountains. These immense plains on the coast do not however resemble the plains of California, as they are generally covered with a thick growth of what is generally small timber, though in many places the timber is of sufficient size for building purposes, and it is all large enough for fencing. There are also immense tracts of these plains which the "oak springs" of California, only instead of oak the timber is musquite, which is not only valuable for its timber and for its gum, which is equal to gum arabic, but also for its fruit, which resembles a bean, possessing great fattening qualities, and is eagerly sought for by mules and horses, as well as by other animals.

The climate resembles that of California, though I do not think the heat is ever so excessive, as I never saw the mercury rise above 95°. During the winter months the climate is delightful, and I never saw any frost except in the mountains. It is generally very healthy, quite as much so as California, and, although fevers prevail near the mouths of some of the rivers at certain seasons of the year, they are never so prevalent as they used to be on the Kings Mercedese, and other rivers of California.

The soil is remarkable for its fertility, and I doubt if there is a state in the American Union which can compare in that respect with the state of Sinaloa. For a few miles from the coast the soil is generally sandy and barren, though there are many exceptions to this rule, but once past this narrow belt and all the land is good. The river bottom cannot be beat, and I have seen on the river fields of corn growing on land which had been planted every year with perhaps, occasional intervals, for 150 years without a particle of manure which exceeded anything I ever saw before, many of the stalks having three and four ears of corn to the stalk. These bottom lands are excellent for the growth of sugar cane, which I have seen grow to the height of eighteen feet, and the day will come when some of the finest sugar plantations in the world will be found on the rivers of Sinaloa. The plains are also excellent land, capable of producing anything that will grow in a temperate or warm climate, and especially good for cotton, tobacco and wheat. The northern part of the state seems better adapted for cotton than the southern part, for, while the cotton crop has sometimes failed in the south this has never happened in the north though, of course, all years are not alike, and the crop is better some years than it is in others.

Tobacco never fails and produces astonishingly. A friend of mine planted three acres on the Culliacan river as an experiment, and he gathered 6,000 lbs. from these three acres, which he sold for 10 cents per pound. He told me that if he had known the capacity of the land he would have raised double the quantity, but being accustomed to tobacco raising in Missouri he had pinched off part of the leaves on each stalk as he had done in that State, but having left a few stalks as an experiment he found that if he had left double the number of leaves, he would have had double the crop. Throughout the state green corn and green peas might be had every day in the year if the people had energy enough to plant them, and two crops can be raised yearly. The rainy season commences about the first of July, and the practice is to commence ploughing and planting with the rains. This crop ripens in December and another crop can be planted on the same ground in January which will ripen in May. Sugar cane is planted once in three years, though some extremely lazy ones plant only once, cutting from the same roots year after year. Cotton is left year after year, cutting the bush down to the ground every year. If left without cutting it becomes a large tree from which it is difficult to pick the cotton. The few American planters, however, generally plant every year finding that they produce a longer staple by this method.

Scarcely any wheat is sown, as there is no flour mill in the state, but I saw a small field of excellent wheat on the river Fuerte in May, and there is, no doubt, that Sinaloa, like Sonora will some day be a great wheat-growing state.

No finer potatoes can be shown in San Francisco market than those raised in the northern part of Sinaloa, and notwithstanding that, Mazatlan, Guaymas and La Paz are furnished with potatoes from San Francisco. The fact is, the people of Sinaloa know nothing about farming, and never try to raise anything except corn, beans, cane, melons and pumpkins. Vegetables are almost entirely unknown, and such things as carrots, parsnips, cucumbers, and other vegetables usually raised in a New England garden are never seen. The ground is never really ploughed, being merely scratched with a crooked stick which they call a plough, and which never penetrates above three or four inches. After the seed is dropped, the hoe is never used, and I leave you to imagine what crops could be produced by proper cultivation.

Sinaloa is well watered by rivers which take their rise in the "Sierra Madre" and empty into the gulf. Among these are the Fuerte, Sinaloa, Nacorito, Culliacan, San Lorenzo, Plastla, Elota, Mazatlan and Rosario, which are about the class of the Mercedese Tuelunne and others of California, besides some smaller streams. The Fuerte and Culliacan are navigable for flat boats for a long distance, and I believe the Fuerte might be navigable by a light draught steamer.

The state possesses a great variety of valuable woods among which are lignum vita, Brazil ebony and cedar. Immense quantities of Brazil are yearly shipped to Europe from the ports of Altata, Tule and Playa Colorado. The mulberry abounds in the northern part of the state and it would doubtless be a fine country for breeding silk worms. In minerals Sinaloa is exceedingly rich. Mines of gold, silver, copper, lead and iron abound, and every accessory for working them profitably is

at hand. The climate is such that work need not be suspended a single day in the year, the river will furnish abundant water power, timber for mining purposes and for fuel is plenty and cheap, and in many places fine crops of corn can be raised right over the mine. In the northern part of the state labor is abundant and cheap. On the ranches the common price is \$5 per month, but in the mines higher wages are paid—say from 50 cents to \$1 per day. Having prospected the rivers of California in 1850, and having also done some prospecting on some of the rivers of Sinaloa I give it as my opinion that Sinaloa possesses rich gold placers, and that the day will come when her gold placers will yield millions yearly. Land is easily obtained, and at very low prices. The policy of the government in giving large tracts to individuals has, in some cases, thrown immense tracts into the hands of people who do not know what to do with it, and who would be glad to sell at any price. I was offered 800 acres of the richest bottom land near the city of Sinaloa, well fenced with two good houses, and a lot of orange trees for \$2,250, this would make a splendid sugar plantation and the title was perfect. I also rode over a ranche near the same city which contains thirty leagues, over 133,000 acres, of as fine land as can be found in the world which could have been bought for \$20,000, or about 15 cents per acre. Some thousands of acres of this ranche was under fence and producing fine crops of corn every year, and every acre of it that I saw was good land, and well adapted to the growth of corn, wheat, cotton, tobacco, and almost anything else.

Some people will tell you that there is no security for life and property in Mexico, and that it would be impossible to live in Sinaloa; but, while I admit that the laws are not so well administered as in our own country, I will say that I have traveled rather extensively over Sinaloa, Chihuahua, and Sonora, and I have always been treated with the greatest kindness and hospitality by the inhabitants, and have never met with any of the abuses of which we see so much in the newspapers.

To conclude, I have never seen a country which, in my opinion, would so well repay the labor of the farmer and the miner as the state of Sinaloa, and when the time shall come, as it undoubtedly will, that Mexico will have a good and stable government, immigration will flow in like a flood, lands now worth 15 cents an acre will be worth \$15, and the state of Sinaloa, taking the place among the states of the Pacific coast, to which she is entitled by her climate, soil and productions, will increase in wealth and population at such a rate as to overtake, and even pass the state of California.

D. TURNER.

A New Eldorado—Wealth of Lower California—The Survey of the Peninsula—Rich Deposits of Gold, Silver, Iron Copper, Salt, Alabaster, etc.—A Land of Promise.

WASHINGTON, December, 26.

The reports of the survey of the Lower California peninsula, recently made by the United States steamer *Narragansett*, contain many interesting facts relative to that country. Assistant Surgeon Thos. N. Street, United States Navy, who had charge of the geological portion of the work, in his report refers at length to the geological formation of the peninsula and neighboring islands, mineral products, etc., and says he found on San Josef Island, in the Gulf of California, fossil marine shells imbedded in a kind of calcareous sand rock on the mountains at least one thousand feet above sea level. The identity of these fossils with the species now existing in the surrounding water is very evident. He says: "If all this land, extending far up into Alta California, were sunk a thousand or fifteen hundred feet below its present level it would no longer be a peninsula, but archipelago of islands. This undoubtedly was the exact condition of things at the commencement of the past diocene epoch. The high mountainous land at the southern extremity of the Peninsula formed one large island separate from the rest." Referring to the mineral wealth of the Peninsula, Surgeon Street says: "The silver-bearing veins of Triunfo are two in number, and they run in a converging direction northerly and easterly. The present company produces bullion to the amount of \$50,000 per month. They have sufficient ore in sight in the mines already opened to treble or quadruple that sum. The mines are particularly rich. In our own country all the silver-bearing veins have been found on the eastern slope of the Sierra Nevada range. This fact has been adduced as a proof that this range of mountains is continuous with the mountains of Lower California. If this be the case we may look to see gold being found on the western slope, as in Alta California. The copper mines of Purgatorio and Providencia are being very actively worked at present, and yielding large quantities of very rich ore. Another source of wealth are the guano islands, and of these the principal is Isla Raza. A company commenced working here two years ago, and up to the present time they have removed ten

thousand tons of the fertilizer. It is computed that there are in all sixty thousand tons upon the island, which is three-quarters of a mile long and half a mile wide."

Assistant Surgeon Edward Evers, United States Navy, also submits a lengthy report upon mineralogy, botany salt deposits, etc. He says:

The mineral wealth of Lower California is truly wonderful, and embraces rich deposits of silver, gold, iron, copper, antimony, alabaster, etc. Traces of silver are found almost everywhere, and though few of the mines are worked they are numerous and rich. He refers to the richness of the mines at Triunfo, and says the majority of the miners are Mexicans, though there is a goodly proportion of foreigners. All the officers of the company, the chemist, the assayer, the captains of the mines and foremen are Americans or Europeans, not one a Mexican. The ore is brought from the mines on pack-mules over distances of from six to twelve miles to the stamping mills, which are constantly in operation, being stopped only for repairs. The silver bars are sent to La Paz by wagon, and thence shipped to San Francisco by schooner. Other mines could be worked with equal profit, but the high duties and the arbitrary and tyrannical measures of the Mexican Government prevent foreigners, the only persons who possess the requisite capital, from investing in there. Next to silver, copper ore, which is perhaps more abundant than any other metal, has been worked most successfully. The best mines are at Purgatorio and Inferno, whence the ore itself is transported to the sea shore on pack mules, sometimes many leagues, to be shipped to San Francisco and to Europe. How wonderfully productive all these mines would become in the hands of an energetic and enterprising people secure in the protection of a good government! But the want of security to capital, and the consequent want of protection to labor, is the great curse of that country. At the island of San Marcus, above Mulege, is a rich mine of alabaster, which, if properly worked, ought to yield an immense profit. The salt lagoon at Carmen Island is an interesting phenomenon in more than one respect. It is so rich that the whole earth may be supplied from it for ages, if, indeed, it is not inexhaustible. It is a mile and a half in length and half a mile wide, while its depth has not yet been ascertained. This salt deposit is no doubt due to the evaporation of sea water, for it is connected with the ocean—distant from it about four hundred yards—by three or four underground streams. The salt itself is perfectly pure and beautifully crystallized. Concerning the botany of the peninsula, which has not yet been examined, no doubt a thorough examination of the interior would enrich the science of botany by many a valuable and interesting discovery. Nor is the zoology of the country less worthy of study. The same applies still more to its birds, but the field of greatest interest is the sea in the immediate vicinity to the coast, and the Gulf of California itself with its whales, sharks, swordfish, sawfish, skates, porpoise and countless multitudes of seals, while the number and variety of smaller fish is wonderful. The lower organizations are represented by forms of the rarest size and beauty. Magnificent shells, too, are found on the coast, and would well repay the research of the conchologist. He refers at some length to the condition of the settlements, industrial pursuits, wages paid for labor, etc. Thus we find the state of Lower California almost as unknown to us as the wilds of Africa, but alike full of interest to the botanist, the zoologist and the chemist, alike full of promise to the merchant and farmer, immensely rich in minerals, in pearls, in fisheries, and in native products. It is very probable that at no distant future Lower California will become an integral portion of our Union. A thorough knowledge of its characteristics is therefore desirable. The study and research necessary to acquire it should be entrusted to a special commission of men of acknowledged eminence in the departments of botany, zoology and mineralogy. The results of their labor would be of the utmost importance to science, and of material benefit to the community at large. New roads of commerce and wealth would be opened, and science would be enriched by important and interesting discoveries.

THE SPIRIT OF THE PRESS.

Austin-Topolovampo—A Railroad over the Prairie of Texas, and through the Gold and Silver Regions of Chihuahua and Sonora to the Gulf of California.

PHILADELPHIA, PA., November 22, 1877.

Correspondence of *The Railway Age*:

The Mexican Union is composed of twenty-seven states, with a federal district, and the territory of Lower California, has an area of 834,140 square miles, or equal in extent to all France, Spain, Austria, Lombardy, and the British Isles combined;

has all the climates and productions of the tropic and temperate zones, metropolitan cities, no navigable rivers, and but one great railway, the Vera Cruz & Mexican City, 267 miles long, a colossal feat in constructive engineering, which cost 40,000,000 "dollars of our daddies."

The states north of the range of the lofty mountains, extending from the Gulf to the Pacific, dependent on wagon transportation, for communication with the outside world, with their area in square miles and population, are as follows:

STATES.	Area square miles.	Population approximate.
Sonora	123,460	147,333
Chihuahua	130,110	180,668
Cobahuila	79,080	98,397
Nuevo Leon	16,687	144,869
Tamaulipas	43,368	140,000
Sinaloa	56,238	160,000
Durango	66,582	185,000
San Louis Potosi	29,486	390,360
Total	545,011	1,446,000

This vast territory of 545,000 square miles, the richest states south of the Rio Grande, no railroad has ever penetrated. The Austin-Topolovampo company purpose to open up the fertile lands and rich mines of Chihuahua and Sonora, and the friends of the project are now in Washington and have a bill before a congressional committee asking for a small appropriation, sufficient to have an official survey of the Texas route to the South Pacific, made under the direction of the War Department.

This international rail-highway was projected by A. K. Owen, Esq., an able Pennsylvania civil engineer, when commissioner of the Denver & Rio Grande Railway Company, to examine and report on the feasibility of constructing a railroad through the passes of the Sierra Madre. It was while prosecuting these explorations in company with others, that his attention was attracted to the "Smugglers' Retreat" on Topolovampo Bay, and "after three days spent on its waters and picturesque shores, in examination of its harbor fitness, and furthermore assuring himself of a feasible route over the Sierra Madre via Rio Fuerte, this ocean-to-ocean line was projected."

The first route commences at Austin, the capital of the Lone Star State, crosses the Texan table lands 75 miles to the German agricultural center of Fredericksburg, thence westward to Presidio Del Norte, on the Rio Grande, distant 300 miles. At this point it enters Spanish America, passes through the great wheat and potato districts in Conception valley, and the gold and silver regions of Chihuahua via the mining centre of Batopilas, crossing the Sierra Madre 4,000 feet above the level of the sea, over a gradual rising grade, descends the mountain through the broad valley of the Rio Fuerte, following the sinuous course of that river (which separates Sinaloa and Sonora and is navigable for small vessels for a distance of over one hundred miles from its mouth) to Topolovampo Bay, 800 miles from Austin city, by a route on which, as the Philadelphia *Press* says: "The traveler would escape the heat of summer and the cold of winter, amid all the loveliness of perpetual spring."

The shorter route is from El Paso, the proposed southern terminus of Colorado's narrow-gauge trunk line, and a point which the Texas & Pacific Railroad of which Colonel Thomas A. Scott is president, will reach on its way to San Diego, southward to lake Santa Maria and following the river of that name to Chihuahua, the great commercial city of Northern Mexico; thence westward, passing close to the silver mines of Santa Eulalia and Cusihiuriachic, the latter on the western Cordilleras of Chihuahua, through the Sierra's rocky gaps, over a projected wagon road, which one of the revolutions of 1853 stopped, to Topolovampo Bay at the mouth of the Gulf of California, in latitude 25 degrees, 32 minutes north longitude 109 degrees 14 minutes 25 seconds west.

This would form part of the great Mexican Central Railway from Chihuahua, through the rich states of Durango, Zacatecas, Aguas Calientes, Jalisco,

Guanajuato and Michoacan to the ancient capital of the Mexican Republic. The cost of the Austin-Topolovampo section is estimated at \$24,000,000. This allows \$25,000 per mile for 650 miles, 300 of which is plateau, and \$58,333 for 150 miles, which it is thought will cover the mountain work. When it is considered that for ten months in the year there is no rain in Mexico, that there is balast in abundance, that for the greater distance the topography of the country is comparatively easy, that there is no frost or snow to contend with, that labor is but 37½ cents per day, and that materials and rolling stock may be taken into Mexico free from duties and taxes, these figures will not be deemed too small. The calculation is for the national gauge of 4 feet 8½ inches, but it is believed by practical and experience railway men that a narrow-gauge could be built for five or six thousand dollars per mile. As a feeder to the Texas Pacific this Mexican system of railway would be invaluable; its traffic would be immense. From the celebrated mines in Chihuahua, Sonora, and Sinaloa would be brought gold, silver, tin, cinnabar, copper, lead and magnetic iron, rare varieties of marbles, jaspers, agates, and porphyries, plumbago, kaolin, ochre, gypsum, guano, and rich fertilizing marls for the exhausted lands of the Southern States; from the fertile Carrisal and Encenillas valleys, cotton, rice, tobacco, cereals, tropical fruits, medicinal, ornamental, and dye-woods, manufactured articles, chinaware, hats, blankets, paper, cigars and works in gold and silver. The exports of cattle from the great stock districts would require the carrying capacity of five trains daily, and the proposed line would get an enormous trade from the larch, oak and pine forests, 300 miles long by 80 miles wide; and the best bituminous and only anthracite coal fields, excepting those near Santa Fe, New Mexico, and in Pennsylvania and Rhode Island, are found at the head-waters of the Feurte and Yaqui rivers. In return, the exports from the United States would be iron and machinery for the mines, mechanical implements, agricultural and labor-saving machines, and articles of convenience, luxury and comfort.

With no means of transportation save on the backs of men or mules or by wagons, over natural roads or along bridletails, the internal commerce of Mexico amounts to \$500,000,000 annually! In 1876 this country exported to Mexico \$5,000,000 and imported \$12,500,000, or \$7,500,000 balance in trade against the United States. Had cheap and quick transportation by rail offered, and a market opened with this country, we would at least have squared our account with that country, where the farmer needs but to "tickle the ground with a hoe and it laughs with a harvest?"

The building of this road would open communication between the north and south, the forty millions in the United States, east of the Rocky Mountains, and nine million Mexican republicans. It would enlarge our trade with a country, rich in agricultural and mineral products, give vitality to the prostrate industries of the southern states and Mexico, and connect the metropolitan and industrial centres of Canada, the United States and Mexico, with the finest harbor on the Pacific, by a route the most national and least sectional and 1,014 miles shorter than the present line between the Atlantic and Pacific, via Omaha, and the land of the Mormon to San Francisco, the city celebrated for *lawyers* and *earthquakes*, where the wages of Ah Sin is death.

From ocean-to-ocean and from the great lakes to the Gulf, the people look to congress for aid!

The government can and must turn from the needless reduction of the public debt and quicken the industries that are the fountain of our national wealth.

Great Britain has expended millions in such the past year, to keep from starving, hordes of ignorant "heathen" in that famine-stricken dependency.

Our government needlessly reduces the national debt—since March more than thirty millions of dollars, while thousands upon thousands of stalwart men, in the United States—the most intelligent and cultivated people in the world, are suffering from enforced idleness, and their children die of hunger, or go from door to door, with pitiful, tearful eyes and outstretched hand, asking for alms!

A few millions guaranteed by the National government for Pacific railroads, and the fires of our furnaces would be rekindled; the redundant population in the states east of the Mississippi could find employment in the construction of great trans-continental lines, or in tilling the boundless prairies of the western states; more than all, the peaceful progress of the locomotive into Mexico, would solve our border difficulties, and sound the knell of every social and political disorder in that republic.

JOHN O. KEIM.

RAILWAY WORLD, PHILADELPHIA, NOV, 24, '77

AUSTIN-TOPOLOVAMPO.—A bill to authorize the United States Bureau of Engi,

neers to make an examination of, and report upon, the zone of continent lying between the 31st and 25th parallels of north latitude, and from the westernmost terminus of railroad in Texas to the Pacific ocean, has been again introduced in Congress.

The proprietor, A. K. Owen, C. E. of Chester, Pennsylvania, made several arguments before the committees of the 43d and 44th of Congresses, and has published figures which give important data upon the trade of Mexico and the facilities this line of rail would offer to our commercial interests.

We published, on June 16th, an article descriptive of this southern international railway, its importance as a feeder to the Texas and Pacific, and as a means of enlarging our trade with the India at our doors. The distance from Austin, via Presidia del Norte, to the Pacific is 800 miles, and the distance from San Antonio, via Eagle pass, to Topolovampo—a magnificent harbor, containing an area of fifty-four square miles of water, and having twenty-one feet over bar at low water and a rise of tide of four to six feet—is 670 miles. Mr. Owen says that a good trackway can be found in a distance of about 700 miles, which will cross the Sierra Madre at an elevation of about 6,000 feet, and at a cost for construction and equipment, not exceeding an average of \$20,000 a mile. It is to give exact and official information respecting this route, however, that Congress is asked to authorize the United States engineers to make an examination and report.

From Philadelphia to Topolovampo, via San Antonio and Eagle Pass, the distance is 2,439 miles, or, say, four days' travel, and the line is all completed except 700 miles. The Southern Pacific, of California, is now running to Yuma City, 720 miles south of San Francisco. The distance from Yuma City, via the Colorado river and Gulf of California, is 580 miles, which gives a total distance from Philadelphia to San Francisco, via San Antonio, Topolovampo, Gulf of California, Rio Colorado, and Southern Pacific Railroad, of 3,709 miles, or five days' rail and two days' water transportation, to give our people in Pennsylvania an attractive, always open, outlet to the south Pacific and to San Francisco.

Thousands of pleasure-seekers and business men who go out by the Northern and Isthmian routes, would naturally prefer to return by this more entertaining line via Mexico, a country whose history and resources are marvelous, and see the novelties of a foreign country, full of historical interests, a people whose origin is lost in antiquity, whose traditions, customs, and fabrics are more strange and entertaining than anything in Europe, and whose picturesque towns, with their fountains and plazas, are scarcely less interesting than the famous volcanoes of the country, covered with snow in the very tropics; to traverse a country whose delightful climate invigorates the body and animates the spirits, and whose grand mountain scenery, hot and mineral springs, furnish more attractions to pleasure and health than anything California or Havana, or even the Old World has to offer.

The Government should examine this proposed route, particularly as Mexico has expressed a willingness to co-operate in the survey, and report it to Congress and to the people, for the same reasons that it has made fifty-three surveys upon the parallels north of the one in question, and each year appropriates for and sends commissioned officers to the Darien, Panama, Tehuantepec, and Nicaragua canal and rail routes. It is of great and peculiar importance that the survey be made at once.

Hon. Samuel J. Randall, in reply to a committee at Galveston, Texas, last May, stated that "the public documents show the foreign commerce of the countries lying south of the United States, on the American continent, to be about \$520,000,000; our share of this amount is about \$112,000,000, of which only about \$37,000,000 is transported in American vessels and under the American flag. Such a statement should at once arouse our people from their lethargy." The Philadelphia Press, with its usual broad and liberal views on all subjects of national importance, characterizes speaker Randall's letter as "thoughtful and suggestive," and says: "Unquestionably, the greatest future factor of international development is to open to this country the foreign commerce of the nations lying south of the United States on the American continent."

The peaceful progress of the locomotive into Mexico would sound the knell of every social and political disorder in that republic, and would be a substantial and permanent means of settling the Rio Grande complications, and encourage commercial, postal, and social relations between the people of the two great North American republics.

THE NEW YORK MERCANTILE JOURNAL, DEC. 15, 1877.

AUSTIN-TOPOLOVAMPO PACIFIC.

A Mexican friend writes that a number of the citizens of that republic are anxiously

looking forward to the building of the Austin-Topolovampo Railway to the South Pacific, through the productive states of Northern Mexico as a measure that would help to terminate troubles on the Rio Grande, advance our system of overland communication beyond Presidia del Norte, and encourage the Mexicans to diversify their industries and develop their varied resources. As projected by A. K. Owen, Chester, Pa., this road contemplates connecting Austin, the Capital of Texas, with Topolovampo on the Gulf of California, a distance of 700 miles.

FORNEY'S SUNDAY CHRONICLE, April 21, 1878.

Southwestern Railways—A Pioneer Line Across the Mexican Border.

The two greatest American Republics, one composed of thirty-eight States and nine Territories, the other of twenty-seven States and one Territory, have a common boundary of 1,573 miles. The United States had in operation last year 77,470 miles of railway, and Mexico 378 miles. But no railway has ever crossed the dividing line. Nature has placed no insuperable barrier in the way of communication and commercial relations between the two countries, but, on the contrary, the formations are such that every portion of the boundary can easily be crossed. The table lands, which constitute the great interior of Mexico, extend across the line into the United States, and afford the best of facilities for the construction of highways of commerce. All standard authorities on the topography of the Southwest speak of this advantage.

Any peaceable proposition to supply a highway for friendly business communication between the two great republics is worthy of public attention. The proposed railway survey under control of the War Department, from Austin, Texas, through northern Mexico to the great harbor of Topolovampo, on the Gulf of California, becomes conspicuous as a pioneer enterprise in the right direction.

It also represents an old and well-settled policy of the United States in respect to surveys and explorations, not only in our own country, but in foreign countries, in behalf of commerce, navigation, science, and the opening up of natural resources to American enterprise and capital. There have been at the expense of the General Government over fifty surveys between the Mississippi river and the Pacific ocean, most of which were for railway purposes. Of this number about six or seven prior to 1848 were through portions of the Southwest, which then belonged to Mexico. These fifty surveys cost immense sums of money, and the reports on the railway surveys alone fill thirteen quarto volumes of about seven hundred pages each. The Navy Department, in the interest of commerce and navigation, has spent many hundred thousand dollars in surveys and examinations of harbors on the coasts of Mexico, South America, the islands of the Atlantic and Pacific, and other foreign nations. It has even explored rivers of foreign nations, and is soon to send an expedition to explore the river Amazon. It has also spent several hundred thousand dollars in surveys across Central America and southern Mexico in behalf of a proposed interoceanic canal to connect the waters of the two great oceans. The surveys of Hayden, Wheeler and Powell, under control of the War and Interior Departments, are further precedents showing the liberal and settled policy of the Government in this respect.

The Austin-Topolovampo survey is particularly opportune now that the question of commercial relations between the United States and Mexico is so prominently before the public. The recent addresses of Senor Zamacona, special agent of the Mexican Government, delivered before the Chambers of Commerce of New York and Boston, the deep interest displayed by the merchants of those cities in the subject of Mexican trade, the friendly spirit of the American press toward Diaz's liberal policy, and finally the recognition of that Government by the United States and the appointment of Senor Zamacona as the Mexican minister here, indicate very clearly that in the future great and neighboring American republics are not to be comparative strangers to each other. In climate, products, resources, supply and demand, the one republic is the complement of the other, and sound principles of political economy dictate that American exchanges should be more between the North and South, and less along parallels of latitude between similar climates. What better way to inaugurate the new era of commercial intercourse than by a survey to point out to American capitalists some practicable line for a railroad between cotton-producing Texas and cotton-consuming Mexico, and between the tropical products of Spanish-America and the manufactures of the Middle and New England States? A recent authority on "the great Southwest" states that Mexico, during the year ending June 30, 1873, imported cotton stuffs to the value of \$10,531,538, and that of this sum the United States supplied only the trifling

amount of \$369,438 worth, notwithstanding neighboring Texas is the second in rank of our great cotton-producing States, and *on less than one per cent. of her area* produces cotton equal in amount to one-half that consumed in the whole United States.

There is no good reason why the manufacturers of the United States should not supply the rich mining States of northern Mexico with improved and much-needed mining machinery; the capitalists of this country should reap the benefit of a new development of the almost fabulous mineral wealth of those States. The proposed survey intersects Chihuahua and Sinaloa, which, in number and quality of silver mines, have no superiors in the whole world. They are two of the few Mexican States which, (quoting again from the same authority,) between the Spanish conquest in 1521 and the year 1876, produced silver to the value of \$3,262,370,247. This is a sum equal to 45 per cent. of the silver product of the whole world during the same period.

Such was the record of the mines without a single railway in any portion of Northern Mexico to furnish transportation for modern and suitable mining machinery.

It is gratifying to observe that Senor Zamacona, in the above-mentioned addresses, called the attention of the merchants of New York and Boston to the great desirability of railway lines across the boundary to stimulate an interchange of commerce and friendship between two great and neighboring nations.

It is also gratifying to observe that Congress is asked to instruct the War Department to examine and report on a pioneer line through the imaginary Chinese wall which has hitherto separated the two countries. It may appropriately be termed a railway with an idea.

DWIGHT.

THE SOUTH.

The Austin-Topolovampo R. R.

NEW YORK, *March, 1878.*

When the Lone Star State joined its fortunes with those of its colossal neighbor, it was easy to foretell, without the aid of prophetic power, that manifest destiny had taken its first step in its march towards that unity of commercial and political systems which will ultimately make but one federation of all the communities of this continent. It is needless to talk of annexation. The other rich provinces of Mexico will follow in the steps of Texas by gravitation—by the invincible laws of attraction and self-interest; and it is the duty of our statesmen to co-operate with this natural tendency, and give all the legislative encouragement they can towards opening up these fresh fields for American industry and enterprise. We daily receive such proofs of the vast extent of undeveloped resources in our Southern and Western States that it savors somewhat of childish cupidity to reach out our hands for more until we have done some slight justice to those surrounding us. Experience, however, has proved that the larger and more varied the field of enterprise, the greater and more speedy is the success achieved in its individual parts, as, for instance, the construction of the Union Pacific Railroad, primarily intended for the benefit of California on the one side and the Eastern and Northern States on the other, has had the incidental and unexpected effect of opening up rich mining regions and building prosperous settlements on what was first supposed would be the barren and profitless midway section.

It is on these considerations that we learn with sincere satisfaction that the Railroad Committee of the House of Representatives has favorably reported a bill to survey a railway route from Austin, Texas, to the Rio Grande and thence through the Mexican province of Chihuahua to the port of Topolovampo on the Gulf of California, and appropriating the sum of \$20,000 for that purpose.

Mr. A. K. Owen, C. E., appears to be the author of the project. From his evidence before the House Committee last month we gather that the total distance from San Antonio to the Pacific port is only 700 miles, of which less than 600 are in Mexico; that the highest range required to be passed is below 6,000 feet in elevation; that the route terminates in an excellent harbor of fifty-four square miles in area, and that the total distance from New York to the Pacific Ocean by this route is absolutely 800 miles shorter than by the present Union Pacific line and 400 miles shorter than by the Texas Pacific line to San Diego, of which 1,400 miles have yet to be built. For all purposes of Eastern State and European trade with China, the saving of some hundreds of miles of railway freightage is a most important consideration.

The benefit to the Southern States the building of such a railroad would be, lies

nearer home. The provinces of Northern Mexico on the Pacific, covered by the Cordilleras, are impregnated with the precious metals in fabulous quantities. In many parts silver may be said to exude from its native rock, so great is its abundance and so readily can it be obtained. Quicksilver, gold, copper, and marble are also readily accessible, and the certain result of building the road will be an influx of population, which, depending on the agricultural and manufacturing supplies of the South for its sustenance, will distribute its newly-acquired riches amongst the inhabitants of that section of our country, which, more than any other, needs all the assistance and encouragement that enlightened legislation and liberal domestic policy can give it.

THE ST. LOUIS REPUBLICAN, AUGUST 30, 1878.

The Great Civilizer—The Riches of Mexico at Our Door—Central America and the Pacific Isles—The Trade of the Tropics and Japan Brought Upon American Ships and by Rail—Six Hundred Thousand Men to be employed—Solution of Our Border Troubles.

It is not unreasonable to suppose that if our Government carries out the policy inaugurated towards Mexico, a war will result. And I have no fault to find with that policy, but it does seem curious that other modes than that of the sword to secure peace have not been resorted to by our Government and people. We have at a large cost made surveys of the Isthmus of Panama, and of Tehuantepec, and of the Amazon, and of the Dead sea and other points beyond the sea, all the while closing our eyes to the richer and better field at our very doors. Congress within the last year refused to appropriate the pittance of \$25,000 to make a survey through the almost unknown regions of Mexico, to find a way by rail to the Pacific somewhere near the foot of the Gulf of California. At the same time we are maintaining an army upon the border of our sister republic at an immense cost. This, under existing circumstances, is probably necessary; but the appropriation, with subsequent wise and energetic action, would, in my mind, have been the most economical and at the same time efficacious remedy for the "Libre zone" disorders.

Mexico and the United States are in dire need of regular and remunerative employment for their population.

How far then would the nationalization of a diversified system of industries go to save the two republics of this continent from brigandage and local revolution? Highways of intercourse and exchange must precede successful agricultural and varied employment.

Railways annihilate space and multiply forces. In the wake of these come those things which make nations great, rich and intelligent. I know something of the people of Mexico and her institutions, and believe that her redemption from anarchy and misrule must be effected through the influences inaugurated by the locomotive.

Some time soon, under the existing state affairs, the United States will be called upon to exercise a controlling influence over that country. It seems to me that we shall have to choose as to the mode of exercising the same. Commerce makes friends of nations—conquest never does. Can we not then exert this influence without humiliating our sister republic? Military operations will prove a most extravagant waste of public treasure, and should only be adopted as a last resort. A liberal system of railways into that country would pour much of the almost fabulous wealth of the richest portions of Mexico into the United States. It would do more than that for us. It would give employment to thousands of honest people in our country, who are now literally begging for work. And it would confer its benedictions upon both countries. It would prove a bond of peace and instead of slaughter and the acquisition of territory it would place the United States before the world as the "magnanimous benefactor of a weak sister republic."

But ignoring, for the present, considerations of this character let me ask how we can keep up the activity of our manufacturing districts unless we secure a market for our productions. Our forges, furnaces and machine-shops are silent and hundreds of thousands of men are idle by reason of it. And why? Because there is no demand for the products of these industries. That we have not a market is due to our own lethargy. We are not a stupid people, and yet our policy in respect to Mexico savors of stupidity.

WHAT WE PAY OUT.

The foreign commerce of the countries south of the United States on the American continent aggregates \$525,000,000. Our share of this is but one-fourth, of

which only \$37,000,000 worth is transported in American vessels and under the American flag.

The importations of Cuba into the United States amount to about \$120,000,000 and our exports reach only one-third of that sum.

Of the Spanish-American republics Mexico is to us one of the most important, geographically, politically and commercially. The balance of trade has always been with Mexico, but that was owing to our neglect—nothing more. Our imports from there consist of coffee, hides, goat and deer skins, logwood, fustic, lima woods, mahogany, rose and cedar woods; sisal grass, tampico hemp, cochineal, vanilla, sarsaparilla, sugar, jalap, argentiferous lead and onyx. Mexico, in return, takes almost everything we manufacture, except woolen goods and furs. The total trade of Mexico is \$55,000,000.

During the last five years we imported from that country five times as much as England did; yet our export was about the same as that of England. This is our own fault. Surely we should sell to Mexico as much as we buy. Our trade, indeed, with that country is capable of almost indefinite extension, if we but foster existing relations.

The interior commerce of Mexico amounts to \$500,000,000 annually, and is carried upon the backs of mules over bridle trails and winding paths. She has an estimated silver coin circulation equal in amount per capita to the circulation of the mixed currency, bank and government, in the United States.

The Mexican nation is driven to enforced idleness by the same cause which produces pauperism in our own country, and that is high interest for money. "by which productive industries are taxed out of existence."

National economy does not consist in non-expenditure but in the employment of the nation's labor by diversifying the nation's industries. Who knows but that Mexico may yet demonstrate this fact.

Mexico has vast undeveloped resources. She can furnish us at less cost every article we receive from the West Indies and Central America, and will take our manufactured goods for the entire 250 millions we pay to Cuba and Central America for the products of those countries. Last year we imported tropical fruits which cost \$11,000,000; sugar and tobacco, \$9,000,000; hides, \$23,000,000; tin, \$17,000,000. Each of these articles can be furnished by Mexico. The coffee crop of the world is 1,000,000,000 pounds. The United States consume one-third of this entire product, for which we pay \$51,000,000. Since 1860 the price of coffee has nearly doubled, and yet the area of its cultivation has remained nearly stationary. This article springs spontaneously from a large portion of Mexican soil. It flourishes at sea level and it an elevation of 4 500 feet. The area suited to its culture is equal to that now used by Brazil. The cultivation of coffee has but begun in Mexico. In 1871 that country exported about seven hundred thousand pounds, and last year the exportation was eight times that amount. The Orizaba, Cordova and Tepic coffees equal the Java and and Mocha in quality. Last year Mexico exported \$700,000 worth of sugars, while the year previous she exported none. So, also, she exported vanilla to the value of \$500,000, and the year previous none.

In Mexico we have, figuratively speaking, the Indies at our very door. Within a day's ride of the Mississippi basin there is a vast country whose history and wealth are simply marvelous. With 862,000 square miles, equal in extent to twenty-five states east of the Mississippi river, her nine millions of people wait to exchange their sugars, coffees, fruits, tobacco, woods, etc., for our manufactured articles. And what is the fact? Why, that for the fifteen years last past, we have taken not a single step to foster an interchange of our industries with theirs. Mexico has no navigable rivers, few good harbors, and has an inland traffic of \$500,000,000 over barbarous highways. She has but 400 miles of railway, and should have 20,000 miles. The San Antonio railway company is now receiving and delivering freight regularly, which is hauled by oxen and mules from seven to nine hundred miles. This freight is the ore, bullion, hides, wool and wheat of Northern Mexico. What a vast field for a railway into that unexplored stretch of inexhaustible riches.

It is time for us to look for new markets and seek new channels of trade, else our workshops and furnaces must silence their hammers and put out their fires. First of all we ought to open avenues of trade with the nations of our own continent. We should have done so long ago. We have closed our eyes to the Eden near us and looked out beyond. We go to the far east for oranges when Mexico is a vast orchard. We go to Sicily for sulphur when we can get the same article at half the cost in Mexico. For fifty miles along the railway west of Vera Cruz, the land is covered with the decayed leaves of a plant whose fibres would furnish paper material for the world. Minister Zamacona declares that no country in the

world can furnish coffee, sugar and tobacco to us as cheaply as Mexico can. Those who saw, at the Centennial, the specimens of Mexican marble, will join the writer in saying that Mexico produces an article equal to that of any country.

I will venture to say, then, that Mexico is the largest and richest country in the world, unoccupied by railways. Why should not we occupy it? We have the influences and material. Our iron manufacture is the largest of all our industries. In 1870 two hundred millions capital was employed in it. Six hundred thousand persons were dependent upon this industry.

The capacity of the iron and steel works of the United States is five million tons. The large demand comes from the railway. The present stagnation in railway building has had its corresponding depressing effect upon iron manufacture. Iron and steel makers must depend upon new railroads. The surplus of iron must go to build new roads, or the industry drifts into decay. If we wish to keep alive this industry our trunk lines must point to Mexico. The tracts must cross the Rio Grande and push across that country en route to Central and South America.

This enterprise properly encouraged would open wide the doors of our furnaces and machine-shops, bring wealth to our citizens, employment to a million people, and put a stop forever to the disorder and anarchy on the border. Think of the substantial results flowing from an interchange of products between the forty millions of our people and the nine million Mexicans. Taken in connection with the successful establishment of our existing ocean ferries to China and Japan, and with other movements now developing, it points to a revolution in the commerce of much of the Eastern and Western hemispheres. Look away upon the Pacific, at the vast population having raw material absolute necessaries of life to sell—which we want, while these people must have manufactured articles which we can furnish; then consider a railway connection with the Pacific at the Southern terminus of the Gulf a California—the nearest way to the Indies—and the United States, with usual enterprise, will be as potent on the Pacific as England is upon the Atlantic

WITHOUT CROSSING THE SEA.

We want the products of the tropics, without crossing the sea. Our Great West will get its sugar, coffee, tobacco, rice, rum, molasses, indigo, olive oils, drugs, nuts, spices, gums, tropical fruits, cotton, cocoa, coquito, cochineal, India rubber, rose and other hard woods, ropes, tarpaulins, matting and paper (made of mague fibre), oysters and fish, dye woods, leather, saltpetre, ornamental earthenware, cheap horses, mules and bullion from Mexico, and in return will send back plows, shovels, cooking-stoves, brooms, mining machinery, brick machinery, wagon and carriages, general hardware, tools, steel, wire, guns and pistols, pipe, furniture, hams, cheese, lard, cotton goods, and innumerable other articles that are needed.

The sum total of Mexico's manufactories are, 47 cotton, 8 woolen and 8 paper mills, and 3 foundaries.

But we are entitled to a share of the trade with the Pacific. A route through Mexico will give this to us, by a line the quickest and least interrupted that is possible across our continent.

INDIA.

The quickest time for transportation—all routes being equally free from obstacles—would be on a line having the shortest water and the longest land distance. The converse, however, is true if the economy of expenditure is considered. For instance: To move a ton of wheat 100 miles by rail, costs as much as to ship it 2,300 miles on the ocean. Now, St. Louis is over 300 miles nearer a good harbor on the Pacific, halfway between Guaymas and Mazatlan, than to San Francisco; hence a ton of wheat could be sent from St. Louis to this point on the Pacific and 7,500 miles over the ocean into Japan, China and East India at a cost in freightage no greater than would put it on the quays at San Francisco. In point of fact, Asia, Australia and the isles of the Pacific are nearer the United States by way of the port of Topolovampo, before mentioned, on the Pacific, than to Europe. Besides this, we must consider the trade of Lower California, the Gulf of Cortez, Central and South America, if government and individual enterprise should open the highway indicated.

TOPOLOVAMPO.

The harbor of Topolovampo is the best on the Pacific coast, and capacious enough to shelter a thousand ships. The depth of har at low water is twenty-one feet. The way hither is open to us. We have but to ask a concession from the Mexican government and it will be granted.

On the Pacific coast from San Blas to Guaymas there are 47,000 square miles of land fitted for horticultural purposes. It is equal in extent to Cuba and capable of producing all and everything that Cuba produces. In that locality they raise three

crops a year. The cocoanut tree yields a harvest every three months, and the lucern clover grows to a height of two feet and is cut every forty-five days. "Even upon the mountain side," says a writer on Mexico, "you have but to tickle the ground with a hoe and it laughs with a harvest." Sonora wheat yields from 70 to 100 fold, and has the merit of keeping perfectly sweet for a longer time in a hot climate than any flour known. Even the cotton-plant propagates itself after it is once planted, while it is of extra fine fibre. In Sonora, Sinaloa, Chihuahua and other Northern States of Mexico cattle and horses are raised in immense numbers. The herds feed upon the grasses and roam abroad all the year. Pines flourish on the Sierra Madre, and oak, rose, cedar and mahogany on the lower levels. Each year the rivers overflow their banks making fertile the lands for miles beyond. The Balsón from the upper terminus can be made to blossom like an Amazon valley as far south as the state of San Luis. From the Pacific coast back 60 miles, extending the length of the state of Sinaloa, is one almost uninterrupted garden of marvelously fertile land—and produces enormous quantities of corn, beans, sugar cane and fruit.

The Valley of Concepcion of Chihuahua for 90 miles is one grand wheat field. But it is useless to make further mention of the vast fields of wealth that lay open before us.

To reach the Pacific would require 700 miles of line at an expense of thirteen millions and the labor of 14,000 men for one year. From Eagle Pass or Laredo, on the Rio Grande, to Leon, would require 700 miles of road, but one line from the Rio Grande to the Balsón, a distance of 120 miles, would suffice for both roads; hence, 580 miles on the main stem and 570 on the Pacific branch would aggregate 1,150 miles of road at a cost of twenty-two millions and the labor of 23,000 men for a year.

Let the starting point be somewhere on the Rio Grande, thence west to the Balsón or plain, at an elevation of 4,000 feet, (the starting point being 1,600 feet above sea level,) the Pacific branch passing straight through the Sierra Madre to Topolovampo and the main stem curving to the left, at the point above indicated, traverses the plain for several hundred miles, then the broken ranges about Zacatecas, on to Leon, a point 280 miles from the Mexican capital. The road from the capital to Leon is being built by a English and Mexican company. This line when completed would close the gap between St. Louis and the City of Mexico.

AND THE COST.

The concession can be had for the asking. Moreover, the same provisions in the grant can be procured as those obtained by the New York company, to wit: The payment by the Mexican government of \$15,000 for each mile of road when completed, beside a bonus of \$2,000,000 if the work is finished within five years.

The Mexican government also permits all utensils, stock, iron, rolling-stock and material used in building to pass the custom-house free of duty. She insures immunity from taxes for twenty years, and allows the company free use of timber on the route.

The expenditure for constructing the road per mile, considering the several hundreds of miles of dead level down the Balsón, and the easy grade from the foot of the Sierra Madre to the Pacific cannot exceed the cost of building the Missouri Pacific, and that was \$22,000 per mile. The cost will not reach this figure or anything like it. Now, if the Mexican government pays \$15,000 per mile, the undertaking does not look so very gigantic after all. Labor in Mexico is cheap and abundant; hence to make the road-bed and put the ties upon it, would not cost much cash capital. Engineers have estimated the cost for first-class steel trackway with equipment \$15,000 per mile on the table sections and \$20,000 in the mountain passes. An eminent American engineer says that a road can be built through the Sierra Madre at a less cost than through the mountains of Virginia. The difficult engineering would be in the descent from the divide to the *tierra caliente*. Up to the divide there need be no tunnelling, no deep cut even. The pass which opens the way for a railway from the silver districts to the Pacific is through magnificent scenery. The whole country is thickly studded with oak and pine. The mountains (elevated 6,000 feet) and valleys are covered with grass. Corn and wheat flourish; fruits spring up on every hand, while the climate is delightful. It must be understood that no antagonism could exist between this road and the road from Texas to San Francisco. Indeed, this road would be one of the most affluent feeders of the Texas road and of the Southern and Southwestern roads.

I might proceed further and fortify the enterprise indicated by reciting the conclusion of the distinguished engineer, A. K. Owen, and the notes of Col. Eugene Leitensdorfer, who traversed almost every mile of the proposed routes; but why extend the article?

The vision of a prophet is not needed to foretell the result of uniting by rail the hearts of these two nations. Along the line would soon be gathered a thriving, business population, forcing life and prosperity upon adjacent sections. Commerce is a great pacificator. Better put the millions expended in the maintenance of an army on the border into railways passing through our sister republic.

Stimulate the national prosperity of Mexico and the United States by the benefactions following in the wake of the great civilizer—the locomotive engine. Mutual profit is a wonderful panacea for brigandage, lawlessness and anarchy.

The possession of some five or six of the Northern Mexican states, with their marvellous wealth of mineral, soil and position would be an accession to our territory far outstripping the conceptions of the masses of our people. But having some years personal acquaintance with the Mexican people and aware of the tenacity with which they cling to all Mexican territory, I see no peaceful way of acquiring this coveted land.

In the near future, perhaps, as before stated, this country will have to assume some sort of control over Mexico. And though we may feel it our duty to save these people from themselves, it will be done at the sacrifice of a vast amount of treasure and the sacrifice of human life. It would be infinitely better to let the locomotive pioneer the way to a permanent peace and the introduction of a thrifty civilization in place of the inertia of the present lethargic races. Trade is more efficacious in uniting nations, suppressing disorder and levelling the prejudices of civilization than forts and cannon-balls.

We have thousands of men "tramping" over the land. We have social disorders. We have this day a half million industrious, honest men in our country who cannot procure work; and we have thousands who suffer from hunger. Build the Texas and San Francisco road. Start the iron-horse across the Sierra Madre to Topolovampo. Open the way by rail to the City of Mexico and set these unemployed men at work. Let the chimneys of our silent furnaces blaze; let the hewers of wood and sons of toil be made happy by giving them work and food. And when the engine speeds its way across the prairies and the Rio Grande into the land of Montezuma, dropping its pioneer husbandman, artisan and mechanic at every station on its route, who will deny that a peacemaker more potent than the Gatling gun was on its Western and Southern journey? Who can correctly estimate the importance of the commerce that must grow out of this railway enterprise to Mexico and the isles of the Pacific? It will be greater than that which was the boast of Venice "when she held the gorgeous East in fee."

ENRIQUE PARMER.

THE SOUTH, New York, April, '78.

New Pacific Roads.

One strong plea on behalf of the Texas-Pacific Railway, as stated by the Senate Committee in its recent report to the Chamber, is that it will create new markets for home industries. In the words of the *Chicago Inter Ocean*: "It alludes in this connection to one fact which cannot be too prominently kept before our people, and that is, that our manufacturers of woolen and cotton goods, machinery, agricultural implements, etc., should naturally supply the population of Old Mexico, amounting to seven or eight millions of people, and would do so if this line were constructed. At present English merchants supply the people of Mexico, and enjoy a monopoly of the trade. The supplying of these markets would certainly be one of the most direct and advantageous results of the building of this line, and these advantages are now within the grasp of our merchants. What is most needed now is the opening of new markets for our trade."

These comments are true to a word, and would apply with still greater force to the Austin-Topolovampo route, which cuts right through one of the richest portions of Mexico and touches the Pacific Ocean at a point 800 miles nearer to New York than San Francisco, and 400 nearer than San Diego. It is worth noting, also, that while some 1,400 miles of the San Diego line have to be built, 700 miles is the entire length of new line needed to connect San Antonio—the railway terminus in Texas—with Topolovampo on the Pacific Ocean, above 500 miles of which the Mexican Government would gladly guarantee the cost of construction on a liberal estimate.

It is probable that Congress will vote a small sum for surveying this route, which Mr. Owen's engineering sagacity has traced. It is, however, so important a consideration for our trans-continental and inter-oceanic trade and commerce to have the shortest and most practicable road from sea to sea, that without any derogation of the earlier claims of the San Diego line, our merchants will do wisely to foster these first beginnings of what promises to be the cheapest and most rapid Pacific road of any yet projected.

THE SOUTH, New York, April, 1878. The Austin-Pacific Line.

To the Editor of The South:

SIR:—I read your article on the subject of the Austin-Topolovampo Railroad, in the March issue of *THE SOUTH*, with great interest, and having for many years past felt that our commercial relations with Mexico were being grievously neglected by our national administration, I cannot but highly appreciate your effort to bring Mr. Owen's admirable scheme to the attention of the public. Politics, unfortunately for the welfare of the country, engross all the small available talent that finds its way to our National Legislature, and the chance of any project of material advantage, that is not subordinate to a political motive, obtaining an impartial hearing and a favorable judgment from Congress, is very small. Nevertheless, the demonstrable worth of this new inter-oceanic line, and the readiness and small expense at which its incalculable benefit can be obtained for the southern section of the Republic, lead me to hope that a strong public sentiment will insist on its merits being thoroughly investigated.

A residence of some years in Mexico, principally in the Pacific provinces, enables me to affirm that the new line would bring the forty million inhabitants of our Mississippi valley, Middle, Eastern, and Southern States into direct and easy communication with a region which is literally the garden of the world in the fertility of its soil, the variety and abundance of its productions, the wealth of its forests, and the salubrity and beauty of its climate, while the prodigality with which the precious metals are scattered in its rocks and valleys exceeds the wildest speculations the great bonanza mines ever gave rise to.

My experience in cultivating the sugar cane and coffee plant in the region lying at the foot of the western slope of the great volcano of Colima has long made me ardently hope that some of my enterprising countrymen would open up a direct highway from the Atlantic or the Gulf of Mexico to any port on the north Mexican Pacific shores, so that some of the teeming wealth of Jalisco and Colima might be utilized for the benefit of the millions of the Eastern and Southern States. No where in the world can cane or the coffee plant be raised with greater ease or do they attain greater excellence than in the provinces I have named, while the banana grows with a luxuriance unknown in the southernmost parts of Florida. The fearful barrancas and rugged ranges of the Sierra Madre, which lie between Colima and Eastern Mexico, were not considered obstacles too insuperable for a railroad by General Rosecrans, who surveyed a line from Colima to the city of Mexico, but these formidable barriers are almost entirely avoided by the route Mr. Owen traces to the north of the high crests. The port of Topolovampo though further to the north, is far superior as a terminus to the open roadstead of Mazatlan, and a shore line running thence southwards could be built at a small expense and would attract and vastly develop the insignificant commerce now passing between the Mexican Pacific ports and San Francisco. I need hardly remark that the natural supineness of the Mexican character is so great that any initiative in this direction must come from their northern neighbors, but the State and General Government are very solicitous for more railroad facilities and would be glad to furnish a subvention for building a road if it were undertaken by reliable contractors. It is worth remarking that the tobacco grown in Jalisco is equal if not superior to that produced in Virginia and the Carolinas, and that the grape, though but little cultivated, grows with remarkable luxuriance. Coquito oil can be produced in any quantity, and never be without a market, if any one would take the trouble of manufacturing it. All the labor that is needed can be had for two bits (twenty-five cents) a day. In a word American energy and American capital are the only two things needed to create a magnificent international trade, beside which the cost of the railroad planned by Mr. Owen, even placed at the highest figure, sinks into complete insignificance.

As *THE SOUTH* is the only journal I have seen that advocates this great project, I presume that the antagonism of rival companies now working, is exerting itself both with the press and politically to kill it in its earliest stage. It is too important, however, both for the South and the whole nation to die easily, and I for one beg to thank you heartily for your efforts to second Mr. Owen in executing his grand conception.

FIFTH AVENUE HOTEL, April, 1878.

* W. H. WESTGARTH, ESQ.

THE AUSTIN-TOPOLOVAMPO PACIFIC.

American Manufacturer and Iron World. The Leading Iron and Manufacturers Journal in the United States.

PITTSBURGH, November 1, 1878.

In our issue of September 20th, we published the remarks of Senor Don Manuel

de Zamacona, Mexican Minister, upon our next door neighbor—the Cactus Republic—its resources, and the vast market which its nine million inhabitants would give the manufactured products of the United States, if we would extend our business courtesies to Mexico, and push our railroads across her borders to the South Sea and to the metropolitan center upon her table lands. Apropos to this subject, we receive pamphlets and maps, from A. K. Owen, C. E., of Chester, Pa., descriptive of “The Austin-Topolovampo” project of railroad, which designs to connect the westernmost terminus of railroad, in Texas, with the shortest outlet on the Pacific Ocean. This new inter-oceanic route has been argued in the United States Senate and House; and a bill to authorize the Secretary of War to make a survey and report of the line, has been favorably and strongly reported (see S. R., No. 217, and H. R. R. No. 112,) by the Committees on Pacific railroads of both branches of Congress. This added to the fact that the War Department has recommended the project, and that Mexico has communicated her co-operation, makes it probable of an early passage on the reassembling of Congress.

This project of railroad is the only one before our Congress, which purposes to give us overland communication with Mexico and the South Pacific, and it is worthy of a careful consideration.

The survey is designed to examine and report a zone of continent containing an area of 325,000 square miles—an area of farm, pastoral, mining and woodlands—25,000 square miles larger than that of the plateau and mountain lands of Afghanistan, the bone of present contention between England and Russia—which lies between the west boundary of Texas and the Gulf of California. This section of North America is within a day’s ride, by rail, of the Mississippi valley, yet is comparatively an unknown land, and has never been officially examined. Engineer Owen spent eleven months in this country, rode over 5,000 miles in making his observations; and in his several arguments before Congressional Committees has given the general characteristics and topography of the surface. He says that: [here follows quotations from Mr. Owen’s arguments before Congressional Committees.]

* * * * *
 “Topolovampo, or Topolobampo, latitude 25° 32’ N., on the Pacific Ocean, occupies geographically the apex of the commercial V of the North American continent; that is to say, that each and every port on the coasts of the Atlantic Ocean and the Gulf of Mexico, from Halifax, Nova Scotia, to Brazos de Santiago, and that each and every great center of industry and population in Canada, Nova Scotia, New Brunswick, and the United States, east of the Rocky Mountains, the great lakes, and the valley of the Saint Lawrence, is nearer and has less interruptions from topographic barriers and climatic extremes to Topolobampo than to San Diego, San Francisco, or Puget Sound. Data in support of these statements have been published in an official pamphlet (War Department). The demonstrations showing the advantages in distances cannot be refuted successfully, if the principles of Euclid are not in error. Saint Louis, Mo., is 316 miles and Chicago is 221 miles nearer, as the crow flies, to Topolobampo than to San Francisco. Omaha, Neb., is 150 miles nearer to Topolobampo than to San Francisco, and Fort Worth, Texas, is over 450 miles nearer than to San Diego, and nearly 800 miles nearer than to San Francisco. New York city is 340 miles and Philadelphia is 350 miles nearer to Topolobampo than to San Francisco, as the crow flies. Vicksburg is 400 miles nearer, in a straight line, to Topolobampo than to San Diego, and Memphis is over 300 miles nearer than to San Diego, and 540 miles nearer than to San Francisco. Indianapolis is 200 miles nearer to Topolobampo than to San Diego, and 360 miles nearer than to San Francisco. Washington, D. C., is 215 miles nearer to Topolobampo than to San Diego, and 380 miles nearer than to San Francisco.

“If the actual distances of the trans-continental routes were compared, it would be found that from New York to Topolobampo, via San Antonio and Eagle Pass, is 1,027 miles less than that from New York to Puget Sound, via Northern Pacific; 784 miles less than that from New York to San Francisco, via Union Pacific; and 421 miles less than that from New York to San Diego, via Texas Pacific. From New Orleans to Topolobampo, the distance, via San Antonio, is 501 miles less than that (1,754 miles) given by the Texas New Yorker, from New Orleans to San Diego, via Texas Pacific. Galveston would have 790 miles less track to Topolobampo, via San Antonio and Eagle Pass, than to San Diego, via Houston and Dallas. To reach the Pacific Ocean by rail, at present, from New Orleans one must travel 3,120 miles, and from Mobile, 3,060. The route via San Antonio and Topolobampo would save from New Orleans 1,867 miles, and from Mobile, 1,682 miles travel. An all-rail line from Galveston to San Diego, via Topolobampo and Fort Yuma, would be 1,750 miles. Merchandise shipped to Galveston, Texas, could be expressed to the Pacific, via Topolobampo, in a distance of 957 miles. Compare this with the land transpor-

tation of 8,303 miles from New York to San Francisco, via Union Pacific. From Brunswick, Ga., to Topolobampo, via Mobile, New Orleans, and San Antonio, there would be about 1 750 miles of track. This avoids the Gulf of Mexico, if such should be desired, and gives the nearest all-land line, which is practicable, from a deep and convenient port on the Atlantic to a deep and magnificent harbor on the Pacific Ocean. New York and Philadelphia would gain about 800 miles in actual rail distance by going to Topolobampo rather than to San Francisco, and New York and Philadelphia would gain about 400 miles by rail, in going to Topolobampo rather than to San Diego."

The imperative necessity of the hour is overland communication with Mexico, her farms and her cities. The route from San Antonio to Topolobampo will give a base line for railroad enterprise in North and South Mexico. Commerce, when wisely controlled, makes friends of nations. Let us, therefore, make our industries inter-dependent with those of our sister republic.

But the United States wants the trade with the Pacific. A route through Mexico will give this to us by a line the quickest and least interrupted that is possible across our continent. It is for this trade that the United States Government has made surveys across Central America for the past forty years, and for which we are now making special treaties with the Nicaraguan authorities for the construction of a ship passage.

The fact that substantial and comprehensive movements are being made to make the manufactured products of our forty millions of people living on the Atlantic slope inter-dependent with the agricultural products of nine millions of Mexicans, marks a step in a great commercial advance now only in its infancy, but in the early future of vast importance to this country. This project is one of vast significance, inasmuch as for other reasons it must in time lead to relations with Mexico, permanent and profitable; and to intercourse and exchange more intimate between the British colonies of the Pacific and the United States than those with the mother country. Taken in connection with the successful establishment of our existing ocean ferries to China and Japan, and with other movements now developing, it points to an evolution in the commerce of much of the Eastern Hemisphere and that of the western shores of the Western.

[Extract from a speech by Hon. John Hancock, M. C.]

"TEXAS and TOPOLOVAMPO," as Published in "The Galveston News," May 24, 1878.

The cheapest route, whether for freight or travelers, was always where the water carriage was longest, the difference being about seven to one by sea as compared with land transportation. From Galveston to Topolovampo was nine hundred and 57 miles, with the most equable climate the entire distance, from the gulf of Mexico to the placid waters of the Pacific ocean, that is to be found on the face of the earth. From New York to San Francisco it was 3200 miles, a great part of the distance for several months in the year, almost intolerable on account of cold, and often impassable from blockades of snow. Who, then, can fail to see the difference between a land carriage from ocean to gulf of nine hundred and seventy miles and one of thirty-two hundred miles, which is just the difference which Galveston will gain when the link between San Antonio and Topolovampo has been closed. The territory passed over by the route mentioned, would not be thickly inhabited if the whole population of the United States were settled on it. The climate was remarkably healthy; the soil was rich, the natural products of great value, and the mineral resources greater than any other part of the known world. When the Pacific is reached, and somebody is going to be there soon, the ebb tide that will flow in the direction of the gulf is equally worth considering with that of the flood that set so steadily to the westward. From this source alone will be derived a trade from exchange of products that will be sufficient to enrich half a dozen such cities as Galveston. This trade has already attained a point of which it is beyond the power of man to offer impediment. It might, by extraordinary exertions, be diverted from the channel which nature intended, but its flow can not be impeded. The great Napoleon once said that "France was France." Let us show the world that Texas is Texas, and that with the ample provisions which nature has made and the properly directed efforts of her citizens, she shall reach and maintain the highest rank ever attained by a state or nation.

The harbor of Topolovampo was of sufficient capacity to accommodate all the vessels that will ever be required. The depth of water covering an area of 12 square miles, ranges from 21 to 90 feet, and explorations show that there are no great difficulties to be overcome in constructing a railroad from this side. From

San Antonio the distance was but 700 miles; from Galveston 957, which is less than to St. Louis, and the distance from New York, by way of Galveston was less than from New York to San Francisco by the Union Pacific road and present connections. The advantages which would be secured by Galveston by the construction of a road connecting the gulf with the Pacific, which had been but briefly alluded to were too obvious to escape recognition. The only question remaining to be settled was whether Galveston should utilize the advantages offering; or permit them to pass into the hands of a more ambitious and energetic rival.

SUNDAY CHRONICLE, Washington, May 26, '78. Onward to Mexico.

Colonel A. K. Owen was given another hearing by a House committee last week, and crowded much valuable information upon this little-known but important subject into a very limited time.

Colonel Owen said: "Mexico and the United States have a common boundary of 1572 miles. The railroads pushing from the east to the west have at San Antonio, Texas, reached within 130 miles of Eagle Pass, at Austin within 375 miles of Presidio del Norte, and at Fort Worth within 600 miles of El Paso del Norte, while those coming from the north have at Fort Garland, Colorado, reached within 425 miles of El Paso del Norte, and those from San Francisco have stretched southeastward to Fort Yuma, within half a dozen miles of the border of Mexico, at a point crossed by the Rio Colorado. The nearest railroad in Mexico which approaches our border is yet 550 miles away. Hence along that border, on both sides, idleness, poverty, suffering, and disorder are the rule; for this reason activity, riches, comfort, and order are the exception. The zone of continent lying south from New Mexico and Arizona to a line drawn from the mouth of the Rio Grande to Mazatlan, and stretching from the western edge of Texas to the eastern shore of the Gulf of California, contains an area of 325,000 square miles, equal to 50,000 square miles more than the entire State of Texas. Texas contains an area equal to four times the size of the six New England States, or two hundred and ten times the area of the State of Rhode Island. Yet this vast tract of plateaus, mountains, and valleys, containing 325,000 square miles, is unknown so far as official or reliable data are concerned." Colonel Owen then went into statements showing the topography of the country, its general characteristics, his travels of 5,000 miles over it, his discovery of Topolovampo harbor, its advantages as a commercial haven, and its accessibility to the Texas system of railroads. Let the War Department, he said, once be authorized to survey and report this great extent of country, and capital will not be tardy in pushing our railroads from Colorado and California south, and from Texas west. The people of the United States and Mexico may well rejoice when a survey so important as the Austin Topolovampo-Pacific has been authorized, for it will tend to populate solitudes, to give riches where there is poverty, and to insure order where anarchy now reigns. Such a survey would encourage our railroads to connect two zones, two oceans, and two republics. It would insure a trackway from British Columbia to Central America.

Washington Nation, 1876. The Austin-Topolovampo Pacific Survey.

A. K. Owen, C. E., is in the city with a new pamphlet containing arguments in a comprehensive and brief form, made before the Committee on Railroads in the first session of the present Congress.

This many-syllable Indian name, "To-po-lo-vam-po," which the Philadelphia Press claims is worth \$20,000 a syllable, signifies "secret water." It may not be so pretty as "Winnespesaukee"—"The beautiful water in the high place;" or as "Oklohoma"—"The land of the Indian;" but it certainly is easier to pronounce than "Connogocheaque," which, less than a hundred years ago, designated the site now occupied by the city of Washington.

Mrs. Clemmer Ames tells us that during the later years of the last century, when it was proposed to build the federal capital, in the District of Columbia, Senators and Congressmen then sitting in Philadelphia, "ridiculed the project as a scheme to build palaces in the woods." The members were, in fact, unable to pronounce "Connogocheaque;" and so late as 1800 they said "henceforth, we are going to be in the Indian place with the long name on the Potomac." Mr. Madison, in one of his earlier arguments claimed that the advance of civilization may even extend beyond the Potomac." The Potomac was then called "Cohoguroton"—"River of Swans." The Eastern Branch was known as the "Anacostia."

In thinking of the difficulties George Washington, Esq., must have had in getting these words and places intelligently before Congress, we may imagine Senator Cragin or Congressman Blair giving the Senate and House an oration upon "Qoun-ch-ta-cut,

which signifies a "Long River" to the Mohegan Indians, but which the Yankees, in their efforts to make everything easy, have turned into "Connecticut."

Abbott in his Lives of the Presidents relates that a gentleman referring to a body of water in Nebraska, which was called by an Indian name signifying "weeping water," Mr. Lincoln remarked that as "laughing water;" according to Longfellow, is "Minne-ha-ha; this evidently should be "Minne-boop-hoo." Had "Secret Water," or, as the Mayo Indians say, "Topolovampo," come as prominently before Mr. Lincoln's administration as it is probable to come before that of Mr. Hayes', he might have suggested "Minne-mum-mum," or rather "Minne-hush-hush. Minnesota signifies "Sky-tinted water," and evidently Minneapolis is "The-city-of-the-water," while "Minne-no-pa" is "Singing-water."

The projector of the Austin-Topolovampo commercial and postal route has been so happy in the handling of his big Indian word that most of our Congressmen can get at least one or two of its syllables correctly pronounced before they become confused.

Topolovampo Bay has been surveyed by our naval vessels, is a magnificent port, and is within 700 miles of our western terminus of railroads in Texas. A survey and report will cost but twenty thousand dollars. Why should not the Secretary of War be directed to give our capitalists information of this short outlet to the Pacific.

SUNDAY CHRONICLE, Washington, May 19, 1878. New Fields for American Enterprise.

The subject of Mexican commerce, since the very able report of the House Committee on Foreign Affairs, seems to be gaining in public favor, particularly with our mercantile classes. Last week the Mexican minister, Senor Manuel de Zamacona, at the earnest request of the chamber of commerce in Newark, New Jersey, made another of his studied addresses upon the importance of Mexico as a market for our manufactured goods in iron, cotton, etc., and as an inexhaustible furnisher of all the tropical products which we now get at so much expense and risk and time from Brazil and Central America. These remarks by Mr. Zamacona, like those made by him before the chambers of commerce in New York and the board of trade in Boston, made a marked impression upon those present.

On May 8, Senator Morgan, of Alabama, presented a joint resolution looking toward more friendly relations between the two republics; and addressed the Senate on the 15th instant. Our contemporary, *The Gazette*, published a two column article in its last issue on the wealth and advantages of Mexico as a market for the United States; and following this, *The Post* gave an editorial column, "In Justice to Mexico," which shows a comprehensive study of the facts and a fairness of inquiry which has not of late been characteristic of our newspapers.

All that is now wanted to push our merchants and industries into that really wonderful productive country, which lies so near and yet so far, is an official survey and report of that zone of continent lying south of New Mexico and Arizona for 600 miles, and between the Rio Grande and the Gulf of California—the same as was so long and so extensively done with our own great, and, until recently, unknown wastes lying between the waters of the Mississippi and those of the Pacific.

The proposed survey from Austin, Texas, to Topolovampo, Mexico, under the Secretary of War, now so prominently before the Senate and House, backed by full and unanimous reports by the Committees on Pacific Railroads, is the only suggestion which aims at an immediate and practical solution to this much vexed question of the border troubles, and to the feasibility of extending our rail lines into the tropics of Mexico and to the South Pacific.

We have recently read a private letter from the United States Consul at La Pez, Lower California, from which we take the following extracts:

"I am well acquainted with the country back of Topolovampo, and indeed once entertained the project of founding a city there and opening a wagon road to the city of Chihuahua, with a view of its extension to the Texas and Pacific railroad. I looked out the road through the Sierra Madre and found no great difficulties in the way, but the pronouncement of Diaz against Juarez put a stop to it.

"Topolovampo is a splendid harbor and not difficult of access by steamers, but the entrance is narrow and is difficult for sailing vessels. It has the finest back country in the world, and I have been with carts back 80 miles on natural roads.

"A city founded there would almost kill Guaymas and Mazatlan—for a short time, at least; but in the long run there is plenty of room for all of them, and there will be plenty of business if peace and quiet prevail and the resources of the country are developed." * * * * *

R. C. Hopkins, Esq., who went into northwestern Mexico from southern California in 1873, perhaps in the interest of the railroads leading from San Francisco south, takes occasion to speak of that section as follows: "A country in beauty of climate, in fertility of soil, and in the value of its productions unsurpassed by any on the globe, and which by industry and enterprise, might be made a very Eden."

Fournier, the eminent botanist, finds in Mexico 638 varieties of grasses, 376 of which occur in no other land. Of the rest, 82 are found in this country.

A NEW TRANS-OCEANIC RAIL-ROAD.

From *Le Bien Public*, (M. Thier's paper,) of Paris, France, of Tuesday, January 25th, 1876; and in *L'Opinion*, Paris, January 24, '76. *Scientific Review*. (Translated by Surgeon A. M. Owen, U. S. N.)

We remember the sensation caused in Europe and America by the opening of the Pacific Rail Road, which united New York and San Francisco, points of departure of the steamers for Europe and Asia.

Several other lines have been commenced, but without great success, to bind together the two coasts of the great northern continent.

These lines, constructed simply to reach a fixed point, cross regions little productive, and have not, even in expectation, a forced transit, as had the first, which, however, passes over, for almost the half of its course, countries nearly sterile where herds of buffaloes, impede, at times, the progress of the trains. And, now, the Senate and House of Representatives of the United States, assembled in the 43rd Congress have just reported a bill, appropriating \$20,000, and more if it is necessary, for the examination of a new route, which, starting from Austin, the capital of Texas, would run towards Fort Seaton, near the junction of the Rio Conchos and the Rio Grande; and from there, entering Mexican territory, would pass by Chihuahua, to terminate upon the west coast of Mexico, at the entrance of the Gulf of California, in the Bay of Topolovampo.

This bill has been rendered, simply upon the demand of a civil engineer, Mr. A. K. Owen, who has pleaded his project very earnestly, before the special, consulting committees, to obtain from Congress an order to have a complete survey made of the route he proposes by the War Department. It is, indeed—this rail-road, which, besides being the most advantageous for the Southern States and Mexico, is, at the same time, the rational route and the most direct—to put in communication Europe and Asia. When the Grand Central Asiatic Rail-road of M. de Lesseps, will be constructed, this will become one section of the line, by which to make, most expeditiously, the tour of the world.

This Bay of Topolovampo, whose name is made known for the first time, was only discovered recently, and explored in 1873, by the officers of the United States Navy. It is situated about equal distance from Guaymas and Mazatlan, and it is not less than 18 miles in length, by 3 miles in breadth, as a mean; and, it is divided into two district basins, of which the first, as large and as deep as our harbor of Bréſt, can contain all the fleets of the world. The channels, quite narrow at the entrance, have a minimum of 23 feet of water upon the bar, and as the tide is about 6 feet, there are but few vessels which could not enter. The channel, moreover, could be improved.

This magnificent port, of which the entrance appears masked by the low sand hills,—and this explains the long ignorance of it—served, and still serves, as an asylum for smugglers. In 1872, Mr. Owen, returning from Colorado to Mexico, by the valley of Mesilla, in studying the track of a rail-road in the valley of the Rio Grande, was directed to examine the passes of the Sierra Madre to the northwest of Mexico, and the coast of the Pacific. This Bay of Topolovampo filled him with admiration. He saw, at once, a splendid commercial future for it, and being assured, partly by his own knowledge, partly by the reports of the inhabitants, of a possibility of a passage through the Sierra Madre, in ascending the valley of the Rio Grande, the project of a new rail-road, trans-oceanic, entered completely into his soul. Unhappily, Mr. Owen was not enabled to explore, satisfactorily, these regions himself, and the knowledge concerning them, being limited and gathered together in the archives of the War Department, shows very great difficulties, perhaps, even insurmountable.

But, if the direct route, indicated in the bill, is not possible, there are two others, which, there is every hope, may be found practicable, and which will be, especially, the object of a careful exploration. From Austin to Fort Seaton, a distance of 438 miles, the route of Mr. Owen offers few difficulties up to the Rio Pecos, but there it engages a mountain chain having a height of 5,600 feet above the level of the sea, offering abrupt surfaces and deep gorges; crossing the Rio Grande it ascends the valley of the Rio Conchos for 150 miles to the elevated plateau upon which is located Chihuahua, 350 miles from the Pacific. But, besides the fact that this valley is, up to the present, little frequented, and that the travelled routes branch out to the north and to the south, which indicates only too probably, that their borders are cut up by ravines or deep canons, there does not appear to exist a pass, actually practicable, in the Sierra Madre near Chihuahua: in fact, the exploration conducted in 1846, after the conclusion of the treaty of Guadalupe-Hidalgo which put an end to the war between Mexico and the United States, made know the remarkable depression of the plateau along the 32° parallel; and the Minister-Plenipotentiary of Washington, received instructions not to accept the limits of the frontier to the north of that line. The soil, upturned by volcanic action, rises rapidly from stage to stage, to the high table lands of Mexico and the mountains have an abrupt and rugged character.

The formidable chain of San Luis, which arises abruptly from the plain, and which bears the name of Sierra Madre in Sonora, although, in fact, this term is not wholly applicable to it, is not, in truth, a line for dividing the waters, for the torrents, which roll from the base of these mountains towards the Pacific, often have their sources upon the eastern flank, and flow, in the form of splendid cascades, towards the west, through gorges, inaccessible to man. There do not seem to exist practicable passes for a rail-road from the 32° parallel to the 23° near the latitude of Mazatlan, where the valley of the Rio Durango penetrates the range; and, in short, this truth proved to have been foreseen, since, from the domination of the Spaniards, the great royal route which led from Chihuahua to the port of Guaymas, upon the same parallel, made a long detour, of nearly 300 miles, towards the north.

It is not necessary, however, to hastily conclude, that a direct route is impossible; for our modern engineers have at their disposal, other resources, than had the Spaniards, who, in all the beautiful countries of America, which they overwhelmed with evils, scarcely knew how to utilize the routes followed by the natives. What those greedy conquerors, avaricious only for gold, have not been able, or have not wished to do for these lands, so richly endowed by nature, it is reserved for modern industry, and free labor, to undertake and bring to a successful end.

Let us study, from Mr. Owen, the marvellous advantages of his route, which, in his enthusiasm, he fears not to call a natural way of communication and of transit, the equal of the Mississippi. Norfolk, at the entrance of Chesapeake Bay, is the port the furthest north which is unembarrassed with ice and snow during winter, and which does not offer, moreover, the danger of the terrible epidemics of tropical regions during summer. It is the terminus, upon the Atlantic, of the great navigable routes of Virginia, of which the James river is the principal artery. The iron-way running from Norfolk to Austin, utilizing in part only, the railroads actually existing which need a uniform plan, would reach the Tennessee at the head of the Coosa canal in the great basin of the Mississippi;—would pass by the rich mines of iron and coal of Ashville and Chattanooga—along the great, pine forests of Jasper and Tuscaloosa, which could furnish the best timber in the world for naval construction, and, crossing Louisiana and Texas, would bind together all the navigable waters of the Southern States. The unhappy struggle, which threatened destruction to the United States has terminated; but, between the North and the South there are still causes of discord which the vital energy of the Republican Constitution can alone quiet. The North, joining to its natural productions the products of its innumerable manufactures, shows everywhere, and under all its forms, the spectacle of riches created by a true Democracy. The South ruined temporarily, in spite of its immense resources, by the suppression of slavery, and not being able to regain its ancient rank, which, however, it will even surpass, without any doubt, as soon as the free labor of its new citizens, formerly its slaves, will permit it to manufacture the excess of its natural products, in ceasing to be tributary to the Northern States and Europe.

As to Mexico, who does not know the wonderful productions of its provinces? There is not a country in the world comparable, as regards mineral wealth. The natural products of the soil are not less numerous in those regions, in which the temperate climate of the highlands and the heat of the lowlands permit the growth of all the plants of the most varied climes. But, this really amounts to little when we recall the results obtained in Australia, and when we compare the deserts of that

country with the marvellous valleys and prairies of Texas and Mexico. There is no region more adapted to the raising of sheep and cattle. Thus, from Norfolk to Topolovampo, whatever be the route followed, we are always assured of crossing countries which have only to be asked, that they may spread through the world their riches of all descriptions; and when we see the labors and expenses made to be enabled to cross deserts to certain centres, habitually isolated, what efforts would we not make to realize a project which would serve, at the same time private interests, and the greatest general interest?

An immense advantage results, in fact, simply from the position of Topolovampo. In casting the eye over the map of America, we see that this point is nearer to all the ports of the east coast—to Halifax, to Quebec, and even to Chicago and to Saint Louis, than to any other port on the west coast. It is, therefore, the point of natural convergence of the routes which should join the grand centres to the Pacific coast, and, consequently, Australia and China. Furthermore, all these routes traverse productive regions, of which they would increase the value. The time is no longer, at least in America, where a few capitalists could colonize together to turn to their sole advantage that which should be to the profit of all citizens; each one, in France, can judge what takes place in this regard. In the United States, one of the causes which makes so many rail-road companies fail to pay their dividends, is because private interests have alone, been used for the construction of these lines. But, the project of Mr. Owen is an interest, not only American; it is even universal, and the author proposes, in order to realize it, measures, which, probably, would not please our European economists, but which we are called to see employed in the United States, where, in consequence of the extravagant stock-jobbing, resulting from the monetary crisis of the war of the rebellion, which financiers still prolong, labor tends to become the true capital; "the labor-banks" of which the name alone has produced in France a great fight, will become in the United States a reality. It is in attaching himself to this principle that Mr. Owen may ask of the Mexican that the labor employed, the products consumed, and the material used, may be paid in Treasury notes having a legal course as paper money, and that, after the reimbursement, successive and integral of these special notes by means of the net receipts on the said line of railroad, the price of transportation may be lessened, in such manner as to assist simply in keeping the highway in good repair. It is a project worthy of a great citizen and of a great people, and which we have the firm hope to see realized.

M. PAUL GUIEYSSE,

Hydrographical Engineer French Navy.

MEXICO.

"PHILADELPHIA INQUIRER," Monday, Jan. 29, 1877.

This is an opportune time for our statesman to take some judicious and definite step to bring us into commercial and postal facilities with "Our next door neighbor, Mexico." President Grant has again called the attention of Congress to the disturbed and revolutionary condition of affairs bordering on and neighboring to the Rio Grande, and has more than hinted that some policy different from the past must be inaugurated. The House committee which was especially appointed during the first session of the present Congress to look into and report upon our border difficulties has gone so far in its condemnation of the ever-recurring disturbances in Western Texas and Northeastern Mexico as to recommend that a larger and efficient body of mounted troops be quartered along the boundary, and that they have orders to follow the bandits wherever they might lead, even into Mexico.

This would be a revolutionary movement on the part of the United States, and would tend rather to increase than to lessen the social disorders. Military operations, in our opinion, have and will continue to prove a most extravagant waste of public treasure. The time for armed force to bulldoze and to threaten persons and communities into peaceful and useful citizens has passed forever, and the Congressman or member of the Cabinet who relies upon armed forces to enforce law and order has grounded in the current of practical experience, and the humane and the mechanical teachings of the age have swept by him full half a quarter of a century.

Mexico and the United States stand in need of regular and remunerative employments for all classes of their peoples. This is particularly the need of the "Zona Libre." The nationalization of a diversified system of industries alone will save the two Republics of this Continent from brigandage and local revolutions. Scientific agriculture and varied employments cannot precede, but must follow the regularities, comforts and facilities always given by first-class highways of intercourse and exchange. The railroad annihilates space and multiplies forces, and, in its track, civil law; society life alone may be enforced and cultivated. We therefore urge that steps be inaugurated by the present Congress to encourage our capitalists and

commercial men to hasten the completion of overland communication with the Rio Grande and with the Pacific coast of Mexico.

Our attention has been more than favorably attracted to the importance of this subject by a pamphlet on the Austin-Topolovampo Pacific Survey, which embraces arguments made last winter by A. K. Owen, C. E., before the Congressional Committee on Railroads. The bill now before Congress simply asks that the Secretary of War be directed to make a survey and report of this route, and that \$10,000 or \$15,000 be appropriated for the purpose. By all means let the Secretary of War be so directed.

This survey would, doubtless, give information of inestimable value to our people of a zone of our continent now little known, because never officially reported.

Our present system of railroads, south of the forty-second parallel, have their westernmost terminus at San Antonio, Texas. The distance by the route proposed, from San Antonio to the Gulf of California, is but seven hundred miles. Our railroads, under the existing circumstances, should have the shortest and most easily constructed outlet to the Pacific, and the route through Texas and Mexico has so many claims that it should be examined and published to our people at once.

If ever Mexico is to be redeemed from anarchy and misrule, it must be effected through the influences of the locomotive engine. The conviction is fastening itself upon the public mind that at an early day we shall be compelled to exercise a controlling influence in that country, and when it is comprehended that this can be achieved quickly and substantially through the instrumentality of the Austin-Topolovampo line, what satisfaction that the contemplated means may be peaceful, in the interest of an elevated humanity, and in no way humiliating to Mexico. Commerce, when wisely controlled, makes friends of nations. For our manufactures we would, at first, be paid in wool, hides, animals, minerals, &c.; but when Mexican labor began to be protected and intelligently directed we should receive the more valuable products of her tropical growths.

But the United States wants the trade with the Pacific. A route through Mexico will give this to us by a line the quickest and least interrupted that is possible across our continent. It is for this trade that the United States Government has made surveys across Central America for the past forty years, and for which Secretary Fish and President Grant are now making special treaties with the Nicaraguan authorities for the construction of a ship passage.

The fact that substantial and comprehensive movements are being made to make the manufactured products of our forty millions of people living on the Atlantic slope interdependent with the agricultural products of nine millions of Mexicans, marks a step in a great commercial advance now only in its infancy, but in the early future of vast importance to this country. This project is one of vast significance, inasmuch as for other reasons it must in time lead to relations with Mexico, permanent and profitable; and to intercourse and exchange more intimate between the British colonies of the Pacific and the United States than those with the mother country. Taken in connection with the successful establishment of our existing ocean ferries to China and Japan, and with other movements now developing, it points to an evolution in the commerce of much of the Eastern Hemisphere and that of the western shores of the Western.

Let any one who laments that our steamers have been driven from the ocean now cast an eye over the map of the Pacific, and bear in mind that from California south of Chili inclusive, if no further, upon the American shores of that ocean, among the numerous islands which surround Australia in Australia itself, in Japan, in China, and in the East Indies, is to be found a vast population, having raw materials or other commodities, absolute necessities of life, to sell, which we either must or will be glad to have, and that all, or nearly all, of these people require manufactured articles which we are able and most willing to furnish. Let him further consider that that which we now most need in our foreign intercourse is just this class of customers. With Europe our relations are, if anything, already too intimate for the real financial and industrial well-being of this country. Further, let the idea penetrate his mind that in international intercourse it is *the nation which relies most upon manufactured products as articles of export which is best able to maintain lines of ocean steamers*, and he will then see and appreciate how and why it is that this is and must be the field for our earliest successful foreign enterprise with steam upon the ocean. How we shall have no serious competition to fear; while on the Atlantic we have it from both England and Germany.

We hesitate not to affirm that the day is not far distant when, should we wisely extend our present system of railroads into Mexico and to her western coast, we shall be as potent upon the Pacific, and in all the seas, bays, gulfs and rivers which adjoin or are connected with it, as is England to-day upon the Atlantic; and, further, that having conquered upon the former, we shall be able, successfully, to contest with England and Germany the domain of the latter.