

the highest point, but the crest of the ridge is narrow and their plans contemplated a width of only seventy-two feet.

When the American commission entered upon the task there was a prism containing seventy-eight million cubic yards of earth and stone to be removed, but such satisfactory progress has been made that the sum has already been reduced to thirty-eight millions.

This cut is a hive of industry; some are drilling and blasting; some are operating immense steam shovels; some are hauling long trains to the dumps and still others are moving tracks, running levels, etc., etc. The dirt trains contain from eighteen to thirty cars and one hundred and forty-seven trains are loaded daily in the cut. The unloading is done by means of a steam plow and but seven minutes is required to unload a train. Then a steam spreader comes along and scatters the dirt and a track lifter follows and moves the track over whenever necessary.

The most improved machinery is used and some inventions have resulted from experience here. The cost of excavation will increase as the cut deepens and the pace will slacken, but it does not require a great stretch of the imagination to see ships passing through Culebra. The vegetation, however, grows so rapidly and so luxuriantly here that within a few years the stranger will mistake the cut for a natural valley and wonder why the canal cost so much.

The slides inject an element of uncertainty into the completion of this section—the only uncertain element, in fact. A considerable part of the cut is through solid rock—and yet there is enough loose earth to cause some uneasiness at times, especially during the rainy season. So far, some two million cubic yards of earth have fallen in, half of which has been removed. The slides "in sight" are put at another million and an additional million is added to cover slides not yet discovered. However, estimates as to future slides are merely guesses and no one is in a position to give a guaranty against five or even ten million cubic yards, but there is a limit somewhere and that limit will some time be reached.

I have learned a new engineering phrase, "the angle of repose." The slides will stop when the angle of repose is reached, but as the angle varies with different materials and in different weather, it furnishes a delightful subject for discussion, calculation and speculation. Some of the slides start unexpectedly and move rapidly, as one would expect, but others travel slowly, a few feet each day and trees on the slide maintain an upright position. The Cucuracha slide, the largest that has occurred thus far, has been moving down into the cut for more than twenty-five years and is now traveling at the rate of two feet per day. A three hundred thousand cubic yard slide occurred during the recent visit of the congressional committee and this one, too, is still in motion.

The descent to the Pacific is made through three locks (arranged in pairs like the Gatun locks), one at Pedro Miguel and two at Miraflores. Low hills at these points assist in controlling the water, and a lake of one and a quarter miles between Pedro Miguel and Miraflores effects another saving in excavation.

The Gatun locks belong to the Atlantic division and are being constructed under the direction of Colonel Sibert, an army engineer who is a member of the canal commission. The locks at Pedro Miguel and Miraflores belong to the Pacific division and are a part of the work assigned to Mr. S. B. Williamson, a civil engineer. While the two sets of locks are identical in plan and almost identical in size (the descent is a little deeper than the ascent because there is a twenty foot tide on the Pacific) there is considerable rivalry between the engineers in charge, and as they are to some extent using different machinery their experience will be useful to future work. I may add that there is also a friendly rivalry between the lock divisions on the one hand and the central or Culebra cut divisions on the other. Colonel Gaillard, a commissioner and army engineer, is in charge of the central division.

It is nearly nine miles from the Miraflores locks to deep water and this channel, five hundred feet wide, is more than half dredged. The rock taken from Culebra cut is not wasted; some of it is used for a breakwater on the Pacific side; some is used in the construction of numerous dams and there will be plenty left for the extensive breakwater planned to protect the Atlantic entrance.

The amount expended on the canal up to November 1, 1909, was one hundred and seventy-nine millions, but as this includes the forty millions paid to the Panama company and the

ten millions paid to the republic of Panama, the sum actually expended by the commission was only one hundred and twenty-nine millions. In view of the fact that this sum includes the money spent on sanitation, on buildings, on machinery and on other preliminary work, it may seem strange to the reader that the estimate for the completion of the canal is about two hundred millions, but the locks—an expensive part of the work—are only just begun and the cost of excavation in Culebra cut will increase with each foot. But unless some unforeseen accident occurs, it is probable that the canal will cost the United States less than three hundred and seventy-five millions, and be open for traffic before January 1, 1916. It is possible, of course, that something unexpected may happen to retard the work or to increase the expense—a slide, an extraordinary rainfall or an earthquake, but no important work would be undertaken if calculations were based upon possibilities instead of probabilities.

The slides to be expected are not likely to be as large as the ones which have occurred; the rainfall is not likely to be greater than that of last year; and earthquakes are no more likely here than at other places on the Isthmus.

Colonel Goethals, the army engineer, who as president of the commission, is the head of the executive department and superintendent of the entire work has the confidence of the Americans here and I have heard only good words concerning him from the Panamanians.

I have, by the courtesy of officials, had access to all the departments and information asked has been promptly furnished. I have made inquiries of outsiders as well as employes and am satisfied that the official machinery is working with as little friction as could be expected, considering the fact that the members of the commission and other high officials are men of ability and experience and as such, have, and should have, opinions and the courage to express them.

So much for the canal itself.

In the second article I shall speak of the beginning made by the French, the work of organization, the miracle wrought by sanitation and the influence which our country is destined to exert on Central and South America through the building and operation of this important waterway.

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MR. BRYAN'S CONGRESSIONAL PLATFORM

(The Public, Chicago—Louis F. Post's paper)

If it were possible to spread broadcast the tariff speeches made last fall in Texas by William J. Bryan and Senator Joseph W. Bailey, a great national enlightenment might result. Although of much usefulness in many respects, this would be a good thing to do if only for the object lesson it affords in the difference between a statesman and a demagogue. To call Bryan a demagogue is one of the commonest recreations of persons who are prejudiced against him and his opinions, and know of no other way of accounting for his tremendous personal influence. But in fact Bryan is no demagogue. Compare those Texas speeches, Bryan's and Bailey's. Bryan's speech at Dallas, to which Bailey's was a reply, was characteristically dignified and manifestly sincere.

And Bryan's argument was sound, whereas Senator Bailey's insofar as he may be credited with having made an argument, was without foundation. Bailey defended his own course in voting in the senate against putting raw materials into the free list. He did so by asking his constituents of Texas to believe the false doctrine that the freeing of raw materials would increase the profits of manufacturers, and by putting forward the absurd proposition that there should be no abolition of protection on raw materials except as it is abolished on finished products. The truth is that the freeing of raw materials would not increase the profits of manufacturers; it would tend to reduce them by making competition in manufacturing freer and easier. Mr. Bailey's economic premises were all awry on this point, notwithstanding his boast of having mastered Adam Smith's "Wealth of Nations." Even if he had been right instead of wrong, the tactics he proposed for ridding this country of protection were puerile if they were not treacherous. Protection can not be killed at a blow, because all its beneficiaries would rally to its support. It can not be killed by horizontal revisions, because this would make a perpetual see-saw between horizontal revisions downward and horizontal revisions upward. It can be killed only by putting one item after another as fast as possible into the free list. This policy must begin somewhere, and as raw ma-

terials of the kind that Bryan classifies offer the most vulnerable point of attack, it should begin there. When Senator Bailey demands protection all along the line until it is modified all along the line, he is like a military commander who should refuse to attack a fatally weak point in the enemy's defenses at a critical moment because he wanted to attack all the defenses at once some time or other in the future. He is worse than such a commander, for not only does he refuse to attack the enemy's weak spot but he calls for volunteers to help repair it.

In opposition to Bailey's fatally Fabian policy, Bryan's speech at Dallas, reinforced by his speech at El Paso, offered a sound and vigorous policy to the democratic party. To those among us who object to Bryan because he does not go deep enough or far enough into the tariff question, these speeches should be a complete answer. True, he does not demand absolute free trade and direct taxation. But if he did, he would be unfit for leadership in active politics at a time when the constitution stands in the way and there is no general sentiment in favor of a constitutional amendment in that particular. But he does go the full length of tariff for revenue only—which is the extreme possibility of free trade in United States at the present stage of public sentiment—and he does advance elemental arguments in support of this demand. Such sentiments as these appear again and again in one form or another in Bryan's Dallas speech.

The security of the masses is to be found not in trying to get a tariff that will benefit them, but in reducing the tariff to the lowest possible point.

The masses of the people must not expect to get their hands into other people's pockets; their efforts must be to keep other people's hands out of their pockets.

I began the study of public questions with the tariff question, and years ago reached the conclusion that the protective principle is indefensible from every standpoint.

The man who contends for incidental protection soon becomes as unreasonable as the man who asks for direct protection. Incidental protection is protection that was not intended—a protection that came without planning; the moment you begin to plan for protection it ceases to be incidental and becomes direct and intended protection, and to defend it one must resort to the same arguments that are used to defend the protective system in general.

It was in that spirit that Mr. Bryan at Dallas addressed the democrats of Texas, who in their desire to protect local wool raising, had demanded the maintenance of protection on raw materials so long as finished products are protected.

In the same spirit, Mr. Bryan proposed a democratic policy of national scope for the coming congressional elections, and here is what he proposed:

1. A platform is a contract between the candidate elected upon it and the people who elected him, the violation of which is an "embezzlement of power."
2. Congressional rules to "insure the rule of the majority on every question."
3. Free wool and abolition of the compensatory duties on woolsens, together with a substantial reduction in the ad valorem rate on woolsens.
4. Free lumber, free wood pulp, and free paper.
5. Free hides, leather, harness, boots and shoes.
6. Free oil and products of oil.
7. Free iron ore, free coal, and low duties on all manufactures of iron and steel.
8. Free binding twine, cotton ties and cotton bagging.
9. Material reduction in the cotton schedules and in the tariff on all other necessities of life, especially upon articles sold abroad more cheaply than at home.
10. Articles competing with trust-made goods to go into the free list.
11. No tariff to be above 50 per cent ad valorem, except liquor and tobacco, and all rates above 25 per cent, excepting those upon liquor and tobacco, to be reduced one-twentieth each year until a 25 per cent rate is reached, the purpose being to reduce the tariff gradually to a revenue basis and thereafter to collect tariff for revenue only.

That platform is no broader than it ought to be, and no narrower than is absolutely necessary for effective purposes under existing political circumstances. The radical free trader who complains that it does not go far enough, is probably taking counsel of his impatience instead of his judgment; for, short of an improbable revolution, this country must get to a revenue tariff basis before it can establish free trade. The