

## Economy and Sanitation in Street Building

By ED. R. PRITCHARD,  
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Clean, well-kept and properly paved streets have much to do with a city's material growth and prosperity and health. Not only is it essential that all thoroughfares should be broad and commodious, but they must be properly constructed and well maintained. IT TOO OFTEN HAPPENS THAT WORK OF THIS KIND IS BADLY DONE IN EVERY WAY. By this I mean the use of poor material, and poor construction.

First as to material to be used: At the head of the list I place asphalt. It is easily cleaned and when properly put down will wear with any other material I know of, save on streets where the travel is very heavy. From the standpoint of the sanitarian asphalt is unequalled. But, no matter what the surface material used may be, the foundation is the all-important factor to be considered. Top dressing at intervals of two or three years is an item of small expense, compared with that of building a street new whenever the top pavement has been worn out.

All street foundations should be of the most permanent character. So permanent in fact that the surface paving may be renewed indefinitely without its being at all necessary to reconstruct the base upon which it rests. And here is where property owners, who are directly taxed for improvements of this kind, make their mistake. Generally, when a street is to be improved, there is much difference of opinion as to the surface material to be used, and some will favor macadam, some brick, others wooden blocks and some again asphalt; but all are seeking the cheapest material. There should be, however, no disagreement as to the foundation, which should be of the best and so put down as to last a century. Surface paving, no matter what material is used, will wear out or need repairs and in time must needs be replaced. Not so with the properly constructed foundation. Once in, and put down as it should be, it is there to stay.

For streets in resident districts, brick ranks second only to asphalt, both in durability and cleanliness. Wooden blocks begin to decay almost as soon as laid, and macadam streets are subjected to a tremendous loss of surface material by the process of cleaning; while asphalt paving may be washed with a hose until it is clean enough to eat from. However, the securing of good streets in the average American city seems to be a process of evolution more than anything else. It is only in recent years that, profiting by the blunders and mistakes of the past, municipal legislatures have taken this all-important matter in hand and by ordinance excluded certain kinds of paving material from use and also enacted or provided proper specifications for street construction, both as to material used and character of workmanship.

The effect of this has been to educate people up to right ideas in the matter of street building. SLOWLY BUT SURELY THE PEOPLE ARE LEARNING THAT THE BEST IS THE CHEAPEST. They are also learning the importance of allotting sufficient space, including wide curbing, from the street into the sidewalk. Tom More in his Utopia, speaks of streets twenty feet wide, as being commodious as compared with those of London at the time he wrote. But four times the space is now asked for a street that is at all considered a thoroughfare.

*Ed. R. Pritchard*

## The United States and Tropical Agriculture

By HON. JAMES WILSON,  
Secretary of Agriculture.



THE acquisition of tropical territory by the United States has made it important and necessary that our agricultural department become thoroughly familiar with the agricultural conditions prevailing in these lands, and their possibilities in crop production, (1) for the purpose of supporting the present population; (2) for supporting the population which will result from the new and changed conditions, and (3) for bringing in revenue from outside sources. The United States pays out millions of dollars annually for tropical products WHICH WE OUGHT TO GROW, AND WHICH WE CAN GROW without interfering in any way with well-established industries. Coffee, rubber, bananas, cacao, and many other tropical crops not hitherto grown by us can now be produced, and attention has been turned to the best methods of succeeding with such crops.

It is evident that for many years the department will have to keep in close touch with whatever work may be inaugurated in these outlying lands; hence, experiment stations established there must be so organized as to be an integral part of the department. In order to do this the stations should be put in charge of men from the department who are familiar with existing conditions and whose knowledge will render them strong supporters of the department's work. This policy has already been carried out in the case of the stations established in Hawaii and Porto Rico.

The improvements in the coffee industry of Porto Rico are an example of what has already been accomplished in this direction. Among the agricultural imports of the United States, coffee is second only to sugar, our annual importations averaging \$70,000,000, and only a small fraction of one per cent. of this quantity comes from our tropical islands. The most important industry of Porto Rico, however, is the raising of coffee for European markets; hence, it has received early attention in our investigations of tropical agriculture. It has been found that the Porto Rican coffee plantations are seriously injured by being too heavily shaded, and also that shade is not, as commonly believed, a necessity, the supposed good effects resulting from it consisting simply in the fixation of nitrogen in the soil by the root tubercles of the leguminous trees used for shade. The other advantages of shade are only indirect, consisting in the protection of the soil from heat, drought and erosion. Rational moderation in the use of shade, the raising of seedlings in nurseries, and other practical cultural improvements would double or treble the island's output of coffee, and with the increase of acreage readily possible for this crop THE ISLAND COULD BE MADE TO PRODUCE MORE THAN HALF OF THE COFFEE CONSUMED IN THE UNITED STATES.

## FUNNY FOLKS



**Uncle Josh Defeated.**  
Lawyer—Well, my young friend, your Uncle Josh determined that you should be a farmer, or get nothing from him. He did not leave you a cent of money, but he willed you his plow, cultivator, mowing machine, thrasher, portable sawmill, stone crusher, road scraper and stump puller.  
Young Scribbler—All right, I'll sell them.  
Lawyer—He has provided against that. You cannot sell, or even rent them. You must use them yourself.  
Young Scribbler—Very well, I will.  
Lawyer—On the old farm?  
Young Scribbler—No; I'll write a play and use them on the stage.—N. Y. Weekly.

**More Material.**  
Mr. Newliwed—I tell you, dear, I simply can't afford to get you a new gown.  
Mrs. Newliwed (sobbing)—I think you're just hateful, and you're the man who used to call me your "angel" and promise me every—  
Mr. Newliwed—But it's your fault if I don't consider you an angel any more. An angel wouldn't worry about clothes the way you do.—Philadelphia Press.

**Not in Active Service.**  
A mother was calling the attention of her small son to the moon, which was to be clearly seen in the early afternoon.  
"Why, can't you see the moon in the daytime," he insisted.  
"Oh, yes, you can. There it is over the trees," said mamma.  
The little boy looked up and finally saw it, but he said:  
"Tain't lighted yet, anyhow."—Little Chronicle.

**Consolations of Poverty.**  
"Poverty hez still got its consolations," said Brother Dickey. "In his day en time wenever you hears er rich man dyin', it's always wid some er dese new-fangle diseases wid a name w'ich hez ter be spelled out in Greek en Latin; but w'en a po' man dies it's wid de same ol-time rheumatism, or de familiar measles, w'ich de wayfarin' man, though a fool, kin spell while he runs."—Atlanta Constitution.

**No Exchange Desired.**  
If we could only see ourselves as other people see us, it's doubtful if we'd swap with them. Or if they'd care to be us.—Baltimore News.

**ROBBIE'S LESSON.**  
Bobbie (repeating his lesson before going to Sunday school)—And then caught hold of the two pillars and pulled and pulled, and he was so strong that he pulled down the whole temple. But I can't remember what his name was.  
Mother—Come, Bobbie, you ought to remember that; it begins with S.  
Bobbie—Of course I know—Sandow!—The Tatler.



**Influencing.**  
The dear girl's fashions always change. Each year some new device. Their gowns are cut in every way Excepting that of price.—Brooklyn Life.

**A Hopeless View.**  
"What do you think of the trusts?" asked the statesman.  
"My dear sir," answered the man who is regarded as politically approachable, "that is not the question. What any individual thinks of the trusts doesn't seriously matter. But what a trust thinks of him may make a vast amount of difference in his welfare."—Washington Star.

**From Sole to Upper.**  
"What is this leathery stuff?" the diner asked when the second course of the dinner was served.  
"That is a filet of sole, sir," replied the waiter.  
"Take it away," said the diner, after attacking it with his fork, "and see if you can't get me a nice tender piece of the upper, with the buttons removed."—What to Eat.

**Plenty of Rope.**  
"Yes, indeed," said the steersman to the admiring young ladies who formed the cargo of the yacht; "yes, indeed, this vessel makes 16 knots an hour."  
"Mercy!" commented one innocent young thing; "at that rate you must use a lot of rope during a year."—Baltimore American.

**Cutting Him Short.**  
"Do you give me credit for wisdom?" asked the judge.  
"Certainly," replied the lawyer, who had just started on a long-winded and wearying argument.  
"Well, just remember," said the judge, "that a word to the wise is sufficient."—Chicago Post.

**Sure of a Place.**  
Employment Agent—Any recommendations from your last place?  
Applicant—No.  
"Where did you work last?"  
"In a railroad restaurant."  
"Discharged?"  
"Yes."  
"What for?"  
"I made the coffee too strong, and cut the meat too thick."  
"Say! here's two dollars. Wait a few days, and I'll try to work you into my boarding-house."—N. Y. Weekly.

**Where He Drew the Line.**  
He courted a gem of a girl, And told her that she was his pearl; But when they were married Her ma came and tarried, Though he didn't like the mother of pearl.—Philadelphia Record.



**A PAINFUL SNUB.**  
He—Can I see you home, miss?  
She—Yes—if you wish. All you've got to do is to stand perfectly still, and if you're not too short-sighted you'll manage it easily. I am staying just across the road.—Ally Sloper.

**The New Platform.**  
Let us then be up and doing; "All or nothing's" out of date; Those achieving and pursuing Are the ones who arbitrate.—Chicago Record-Herald.

**None Passed Him.**  
Connolly knew all about prize-fighting, and had been in the ring himself. Only once. In the second round he was pounded over the ropes, and at the finish he felt pretty groggy.  
"Brace up, Connolly, brace up," whispered his second in his ear, "brace up, old man, an' stop some of dem blows."  
"Stoop 'em?" says Connolly, with a wistful look. "Be gorra, did yez see anny av thim gittin' by?"—N. Y. Weekly.

**Gave Up the Struggle.**  
"I think the most penurious man I ever knew," remarked the man in the mackintosh, "was old Hawkins. He smoked his cigars to the last half-inch, chewed the stumps, and used the ashes for snuff. But he wasn't satisfied even then, and gave up the habit."  
"What for?" asked the man with the big Adam's apple.  
"He couldn't think of any way to utilize the smoke."—Chicago Tribune.

**A Gentle Hint.**  
Mrs. Bright—My daughter tells me that you have become quite an adept in palmistry.  
Young Squeezem—Yes, I have studied it for some time.  
Mrs. Bright—Well, I have had a plaster impression taken of Madeline's hand, if you wish to study it you can do so at your leisure. It will save you the trouble of a personal examination, you know.—N. Y. Daily News.

**Cruel Husband.**  
A tapioca pudding she made her husband eat.  
And what was left he took away—just why was not made clear.  
Till later he remarked to her—it was a way he had—  
"For office paste I've found that tapioca isn't bad!"  
—Cincinnati Commercial Tribune.



**SHOCKING IGNORANCE.**  
Walter—I guess Mrs. Sniff don't know much, ma.  
Mother—Why, my boy?  
Walter—Why, she asked me how to spell cat.—Chicago Daily News.

**The Old Song.**  
The autumn day has come again, The song we heard of yore; It thrills with pain, that wild refrain, "Dad blame it! Shut the door!"—N. Y. Herald.

## Iguazu—The Niagara Falls of South America

A Wonderful Cataract in the Tropical Forests of Brazil—Its Size and Grandeur.

SOUTH AMERICA with three of the greatest rivers of the world, the Orinoco, the Amazon and the Parana, has also in the last named stream one of the greatest and probably the most beautiful of all the large waterfalls of the world. The Parana river rises in the center of the Brazilian republic, and flowing southward, enters the Atlantic ocean at Buenos Ayres. As it breaks through the Sierra Amambiy range of mountains just at the corner of the little republic of Paraguay, it is joined by the smaller Iguazu, whose waters plunge over the Iguazu falls and rush through the deep gorge below.

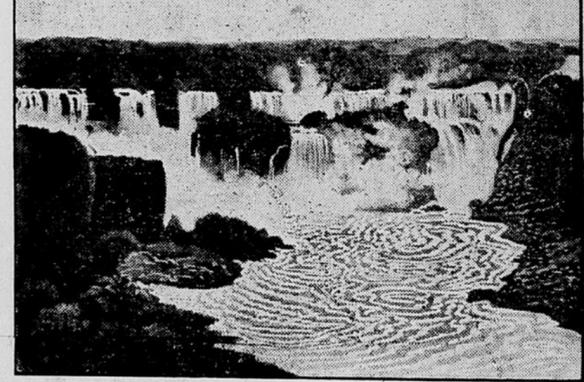
The map shown herewith gives some idea of the formation of the falls, though it can convey no idea of their wonderful beauty, nor is that possible in words. The rush of waters, broken by almost countless islands, set with a brilliant tropical forest for a background, is a scene of which the beholder can only say "Wonderful! Wonderful!"

The black basalt through which the water has worn its way is clearly shown in the gorge that affords an outlet for the river after its drop, the steep sides remaining almost perpendicular for a long distance. The faintly shaded line winding through the islands shown in the map indicates the line of the falls. Under the rush and impact of the upper fall the cliff

boats, which on one or two occasions during the winter months run in combination for the express convenience of visitors to the falls. Under these favoring circumstances the traveler may reach them from Buenos Ayres in 11 days, and if he decide to do a portion of the journey by rail through the provinces of Entre Rios and Corrientes he may discount another couple of days. If these rare occasions be missed, however, he will be dependent on the vagaries of cargo boats, and will do well to allow a month for the round trip. Crede experto!

Arrived at the mouth of the Iguazu, whose frowning banks are the meeting point of the three republics of Brazil, Paraguay and Argentina, he is confronted with a fresh problem. By reason of their complicated outline, it is impossible to view the grandeur of the falls in their entirety from either the Argentine or the Brazilian shore. Should he determine on the first he will have the convenience of a path cleared through the forest with a rough rest-house at the other end. But if he would try for the grander spectacle to be viewed from the opposite bank, he must adventure up the gorge in boat or canoe as far as the state of the river will admit, and then land to fight his way through tangled footpaths to the most favorable outlooks.

As the visitor on his return home will have to face the inevitable ques-



LOOKING UP THE ARGENTINE HORSESHOE FROM THE BRAZILIAN SHORE.

is being rapidly eaten away—so rapidly that in most parts of the cascade a double step marks clearly the progress of retrogression. The exception to this rule is found in the inmost, i. e., the highest pit of the falls, where it reaches out to intercept the swift current that races round the band of the Brazilian shore. Here the waters fall in one magnificent leap of over 70 yards. Yet the larger proportion of the waters escape this trap, running out and beyond into the wide elbow formed by the bend. This loop runs for some 3,000 yards roughly parallel to the gorge, towards which its bottom preserves a distinct slope. The edge of the plateau is studded with a series of rocky islets, through which some portion of the waters flow towards the gorge, while the remainder pass round and behind until they are met

tion: "How do the falls of Iguazu compare with those of Niagara?" I submit here the approximate dimensions of each, together with their more striking contrasts, leaving him free to draw his own conclusions. The falls of Niagara are formed on a straight reach of the river that leads the overflow of Lake Erie north into Lake Ontario, and constitute thus a portion of the boundary between Canada and the United States. The cliff over which the falls descend extends directly across the river's course, and is worn in two great curves whose inner points meet at Goat Island, 1,400 feet from the American bank. The total width of the river at the point where it makes the leap is 4,750 feet, including the island. The height of the falls varies between 164 feet on the American to 150 feet on the Canadian bank. The volume of the waters is calculated at 18,000,000 cubic feet per minute, the solid sheet that pours over the edge of the abyss being 20 feet thick. The Iguazu forms the northern boundary between the Argentine territory of Misiones and the Brazils. Although its main course is directed due east to west, the river bed is subject to many windings on account of the broken country which is its watershed. Thus, at 12 miles distant from the Alto Parana, where the falls occur, it gives a sudden turn almost at right angles. The height down which the waters flow is slightly over 220 feet, represented, save in the Brazilian pit, by a double cliff whose central platform is sometimes over a hundred yards, sometimes but a few feet in width. The edge of the upper cliff is broken by numerous rocky islets, most of which disappear from view when the river rises. Such floods come with a sudden capriciousness after the torrential downpours to which that tropic land is subject. Thus, while the ordinary volume of the falls is infinitely less than that of Niagara, the river just above its descent, where the width is about a mile and a half, is liable to rise from six to ten feet. This additional flood is afterwards gathered into the gorge below, whose narrow neck is but 600 feet wide, with a height of perhaps some 400 feet. As a consequence the measured distance between high and low water at this point is over 120 feet. In the same way the waters of Niagara are concentrated below their fall into one-quarter of their former width. The deep ravine that confines them has in both cases been worn by the tremendous impact of the higher cataract, which, as it eats into the rocky bed, will, of necessity narrow in time the broad reaches above the falls to the semblance of the straight gorge below.



A MAP OF THE FALLS.

by the higher ground that forces them finally to join the roaring torrent below. Here, where these last falls make their descent, they have worn out a wide horseshoe on the Misiones shore, and are known as the Argentine falls. Thus it will be seen that the waters fall in three separate planes. The first, the upper side of the Brazilian trap. The second, those waters which, having flowed past into the elbow, comes back again and down the side of the plateau to face the first—resulting from the shock of the opposing cascades is that famous pillar of shining mist. These plateau falls dwindle gradually until they reach a large central island, on the other side of which, and still following the line of the gorge, is the Argentine horseshoe, which forms the third series. The trip to the Iguazu can be made by changing on to a succession of river

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