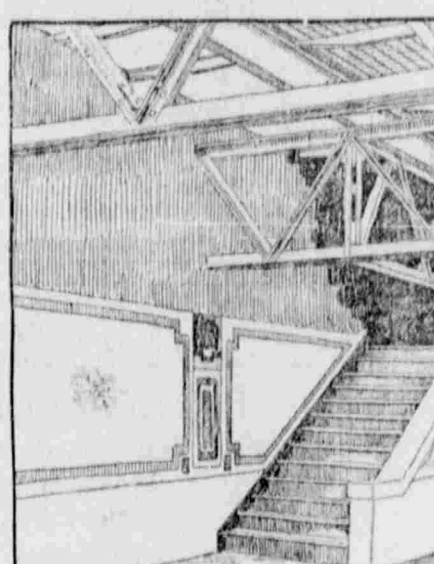


Latter Day Solutions of the Rapid Transit Problem As Contrived by Various Old and New World Municipalities

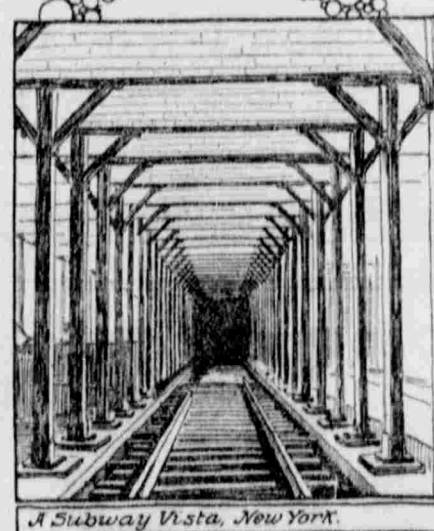
NOW that the excavators have practically completed their part in the construction of the great subway in New York upon which work has been in progress since May, or Van Wyck turned the first sod March 24, 1900, the people of Gotham feel that the solution of the rapid transit problem which has so long been perplexing them is at last a tangible fact. It is as yet impossible to say just when the underground railway will be ready for business, Chief Engineer Parsons hinting at March as the date when the big tunnel will be thrown open to the public, while the subcontractors are of the opinion that it will be September before the road is in full operation. In any event the citizens of New York, wearied of the long inconvenience to which they have been put by the work of excavation, breathe a sigh of relief at the thought that their troubles will soon be over. But the opening of the twenty-one mile subway will by no means be tantamount to a cessation of digging and tunneling, for the elaborate schemes which have been devised to relieve the congestion of surface travel and to facilitate interborough communication include subaqueous tunnels to Brooklyn and a subway in that borough. Work upon this subway is now in progress, and when completed the Brooklynites will be able, thanks also to the new East river bridges designed to relieve the crush of Brooklyn bridge traffic, to feel that they are on a footing with their neighbors across the river so far as rapid transit is concerned.

Of all the present operations in and about New York, however, none is of such general importance to the welfare of the residents of the greater city as is the subway through which trains will be running next year and the cost of which is, according to the contract price, \$35,000,000. As a matter of fact it will cost in the neighborhood of \$5,000,000 more. Electricity will be provided to furnish motive power for the trains and as a lighting medium, and it is this fact that may contribute to delay the opening of the road, for although work on the subway plant is proceeding rapidly it is an operation of such magnitude that it is impossible to foretell when it will be completed. The power house, which takes in an entire block, will, it is said, be the largest and costliest plant of its kind in the world, representing when finished an outlay of \$7,000,000 and generating electricity of 132,000 horsepower. The extent to which the surface traffic by the elevated and trolley roads will be relieved becomes evident when it is stated that both local and express trains will be run with a headway of two or three minutes during the rush hours and that on a considerable portion of the subway there will be four lines of tracks. It is said that the road will be capable of handling 40,000 people an hour.

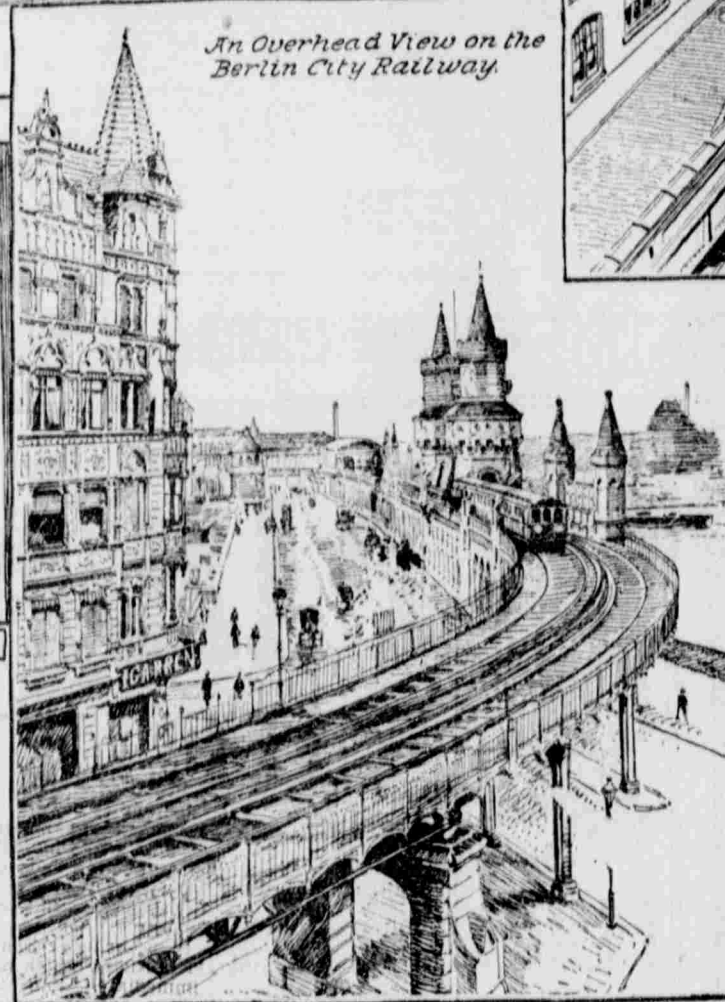
This does New York expect to solve the problem which is confronting every great city in these days of urban congestion. It is noteworthy that in the case of Gotham the subway idea followed the elevated railroads, while in



Stairway, New York Underground Railway.



A Subway Vista, New York.



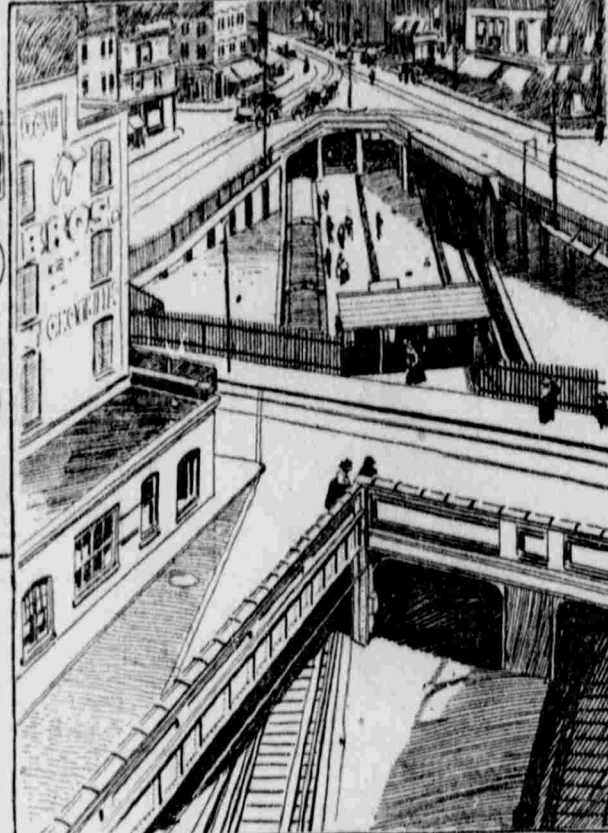
RAPID TRANSIT IN THREE CITIES.

Boston, for instance, an elevated railway was installed after an electric car subway had been in operation for some time. The Boston subway cannot be compared to the present New York underground, however, for the reason that it is less than three miles long. Originally it was designed to accommodate single trolley cars, but it has since been altered to provide for elevated trains of two to four cars. These, however, pass through the subway for but a short distance, when they again become "elevated" in the real significance of the term. As in the case of the New York underground, the Boston subway stations are located below the surface, access to them being obtained through boxlike structures. They are well lighted and kept spotlessly clean. In fact, as New Yorkers will discover, the use of electricity insures a comfortable journey through the longest tunnel so far as inconvenience from dust and smoke is concerned. The Boston elevated road in outward appearance is not unlike the New York road, although the stations do not present so uniform an appearance as those in New York. The track mileage is much less

than that of the New York and Chicago "L's." It is noteworthy that the Boston subway, which cost \$4,350,000, was the first example in the United States of municipal enterprise in this field of rapid transit. It was partly opened for traffic in 1897, when it was leased to a private operating company for a term of twenty years.

The underground idea obtains to a great extent abroad. In London, where the surface passenger traffic is still

handled by obsolete methods, there are several distinct underground railway systems, of which the most prominent are the Metropolitan, opened over thirty years ago; the District, and the Central London railway, opened in 1900 and popularly known as the "tuppenny tube," the latter being the first to utilize electricity as the motive power. It is of the three the nearest approach to the New York subway system, but it cannot be compared to the latter ei-



Pleasant Street Subway Entrance, Boston; Looking from above.

ther in point of utility, equipment or size. That the Londoners realize how great an improvement it is over the old steam undergrounds is manifested by the many projects now under way, which if completed, would honeycomb the city and environs with electric underground railways. In these the American genius makes itself felt in every direction, and perhaps nobody has done more to popularize electrically equipped roads than Charles T. Yerkes of Chicago, who made several million dollars in that city by his rapid transit schemes and invaded England in the belief that he could make several millions more by showing the staid, conservative, easy going Britishers what rapid transit really means.

The tuppenny tube itself bears all the earmarks of American activity. The tube is located at a varying depth of from sixty to 100 feet, access to the trains being given through surface stations, in which elevators have been installed as well as narrow, spiral staircases, set in porcelain tiled wells, brilliantly lighted by electricity. The cars are very much like those used on American elevated roads, only the ceilings are lower and the seats upholstered. The engines are long, narrow, turtle back affairs, capable of shooting trains through the tube at a rate of average rate of transit is not more than half that speed. The tubes, for the road boasts two parallel tubes of a diameter of about twelve feet each, have a total length of approximately six miles. The road is operated by the third rail system, the works in which the power is generated covering many acres and costing, together with the

tubes, about \$20,000,000. The popularity of the road is shown by the fact that the first year after it was opened—that is to say, in 1901—it carried 35,000,000 passengers, in 1902 45,000,000, and the one remembers that a single omnibus company has handled as many as 200,000,000 passengers a year the possibility of the future in electrical traction in London, both above and below the surface, can readily be imagined.

In Paris is to be found the greatest likeness to the underground system about to be inaugurated in New York. That the French capital is thoroughly alive to the necessity of providing proper transportation facilities for its citizens will be understood when it is said that the completion of the Paris Metropolitan Underground railway's plans will see the city in possession of nearly fifty miles of railway lines almost entirely beneath the surface. This will not be for three or four years, but today a goodly proportion of the mileage is in daily use, comprising forty stations. The work of building the road was begun in November, 1898, and within two years the first section, traversing Paris east and west, was ready for use. The Parisians took to the road from the first, and within a few months of the opening 150,000 passengers were daily carried. The disaster in which so many people lost their lives was a temporary check to the popularity of the road, but traffic is again heavy. It is said that when the complete line is in operation there will be 133 stations located along the different branches. The tunnel is about sixteen feet in diameter, and, while it is not so far below the surface as the London tuppenny tube, its depth is greater than that of the New York subway. The entrances to the stations are graceful and take up little room. The trains are operated under a five minute headway, overcrowding of the cars being prohibited by law. The total cost of the tunnels and stations is estimated at \$67,500,000, the construction being in the hands of the municipal council, which has leased the operating rights to a private corporation for a period of thirty-five years.

In Berlin the rapid transit problem has been attacked with vigor. The city possesses a network of electrical surface lines, an elevated steam railway, the "stadtbahn," as it is called, and an electric belt surface railway circling the city. There has also been in operation since February of last year a new electrically equipped underground and elevated railway traversing the city from east to west. As long ago as 1892 it was recognized that the old stadtbahn was inadequate to handle traffic properly, and the new road, a marvel of aesthetic construction, is the result. It is not altogether finished, but trains have been running over the greater portion of it for some time. The underground section is in the densely built central portions of the city, while in the southern and western sections, where space and other conditions favor the construction, the road is elevated. When the line passes through a public square it is on solid and artistically designed masonry, but the ornamental is not lacking even in the iron and steel work. The elevated stations are of stone, steel and glass, and no two are

alike, being modeled to conform to the prevailing type of the adjacent buildings.

The road being electrically equipped, its obvious advantages over the old methods of transportation have gained for it immense popularity. It certainly gives rapid transit. From the port of Warsaw to the zoological gardens, a journey which takes fifty minutes by the electrical surface tramways and thirty minutes by the stadtbahn, the new line, with stops at intermediate stations, travels about twenty minutes. It crosses the Sprova river on a beautifully designed bridge of red brick work, the line passing over an artistic viaduct about twenty feet above the roadway of the bridge. It is double tracked throughout, trains being run both eastward and westward at intervals of five minutes during the busy hours of the morning and evening and under a ten minute headway during the rest of the day. Each carriage has four doors, two on a side, the carriage floors and the station platforms being on the same level. The motive power and the lighting are supplied from a central station equipped with powerful electric generators.

A quaint old world city that has for some years enjoyed an up to date rapid transit system is Budapest, Hungary. This town, so antiquated in many respects, boasts an underground railway, short, it is true, but of great service. The Budapest subway was opened May 1, 1896, and after ninety years will revert to the city. It is about two miles in length and is just below the surface. The motive power is electricity, which is conveyed by overhead devices to the motors in the cars, each car being equipped with a motor of 100 horsepower. The cars fit the tunnel closely and in this respect are like those found in the tuppenny tube in London. They will seat twenty-eight people each, with standing room for about the same number. Electrical incandescent lamps with double reflectors are located at short distances throughout the length of the tunnel, making it very bright.

REGINALD O. WILSON.

A FLOATING ISLAND.

Passengers on what is called the national route from Grunestrow to Goldberg, on the German coast, witnessed a strange spectacle which recalled a well known novel by Jules Verne. A piece of land of about five square yards became detached from the coast and began to sail out to sea. A curious feature of the spectacle was the position of some twenty large alder trees. Some were bending, while others were almost lying on the ground. Hares and rabbits ran hither and thither, anxious to escape contact with the waves.

PADEREWSKI'S MUSEUM.

Paderewski lives in a house that is a veritable museum of musical relics. Articles that have belonged to all the great composers are everywhere, and the faces of their departed owners gaze upon you from the walls. Flowers there are in profusion, for admirers send to the famous pianist great bunches daily. The whole of the wall in one room is occupied by the enormous laurel wreath which was presented to him at Leipzig.

The British Invasion of Tibet, the Land of Mystery; Why So Little Is Known Concerning "The Roof of the World"

COLONEL YOUNGHUS, BAND'S punitive expedition into Tibet, undertaken in retaliation for the grand lama's curt refusal to treat with the mission sent by the British to discuss the Tibetans' nonobservance of trade treaties, will be followed with interest by the whole civilized world, since it may mean the complete unveiling of the mysteries that enshroud this Asiatic country which has so resolutely pursued a policy of shutting its doors to foreigners and has since the expulsion of the Jesuit missionaries early in the nineteenth century been visited by but a scant handful of daring explorers. Of these but four or five succeeded in penetrating to the capital, the sacred city of Lassa, where the grand lama dreams his life away in his nine story palace. William W. Rockhill, the American diplomat and traveler, was warned and turned back after exploring the eastern portion of the kingdom; Walter Savage Landor was captured soon after crossing the frontier, tortured and driven, Mazappa-like, out of the country strapped to a spiked saddle on the back of a wild horse. Sven Hedin, the Swedish explorer who has contributed most of our knowledge of the country and its customs, likewise failed in an attempt to reach the sacred city. The first foreigners to visit Lassa after the order of expulsion went forth were Fathers Hue and Gobert, two French missionaries, who in 1846, disguised as lamas, succeeded in reaching the mysterious city and left an account of what they witnessed there. More recently a Hindu in the service of the British government entered Tibet from the south and spent several years at Lassa, the fact that he was a corollationist of the people tending to protect him from their fanaticism. His feat was duplicated still later (1890) by a Tartar named Zoubikov, a Russian subject. Both of these wrote books treating of Tibet and Lassa and added not a little to our literature dealing with this subject, a literature which, it must be said, is still exceedingly meager.

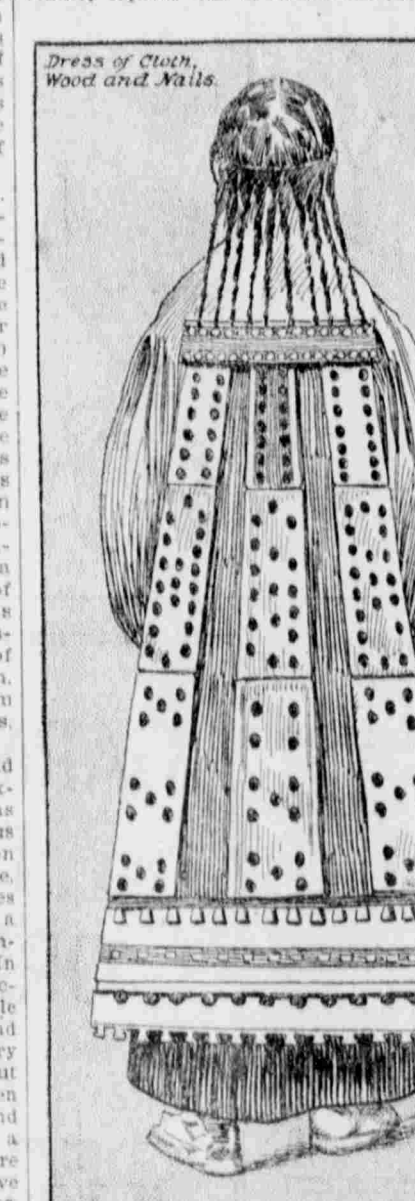
The hostility of the natives is by no means the only thing that prevents explorers from penetrating far into Tibet. The country, a tableland 15,000 to 20,000 feet above sea level, wild, mountainous and devoid of roads, is by nature fully as inhospitable as Siberia. Outside of the monasteries, or lamaseries, as they are called, there are no houses, mud hovels serving to accommodate the natives. This, however, does not apply to Lassa itself, which as the few photographs obtained show, is a well laid out city, picturesquely located on the southern slope of a mountain, with the

palace of the grand lama towering above the other buildings. The grand lama, or, rather, the dala lama—for there are two grand lamas—is not only the chief personage in Tibet, but is acknowledged as the head of the Buddhist church throughout Tibet, Mongolia and China. From the little that has been written about him it appears that, as a rule, the dala lama, who is elected when a child, dies young, and it has been hinted that the length of his days depends upon the amount of trouble he gives the gyampo, the temporal ruler of Lassa.

The lamas dominate the country. Their influence can be easily understood when it is said that fully one-sixth of the population are numbered in their order. The lamaseries dot the mountain sides like fortresses, and the people willingly labor to support their spiritual guides, who do not lose an opportunity to terrorize them. One thing that contributes to keep these priests in power is the fact that the people believe them to possess godlike powers, and wonderful are the tales travelers tell of remarkable exhibitions going to support this belief. Human sacrifices are also said to be a component part of the religion of the country, which is described as being but a veneer of Buddhism over a body of savage and uncouth superstition. As may be imagined, the spiritual, aesthetic and moral sides of the people of Tibet are in a very primitive condition. It is alleged that polyandry, the custom of one woman having many husbands, prevails.

It might be thought that this would tend to place the women in a very exalted position, but travelers disagree as to the facts of the case. The consensus of opinion seems to be that the women of Tibet have a very unpleasant time, serving as drudges. Zoubikov states that in the city of Lassa, which has a population of about 10,000, all the commerce is in the hands of women. In the country districts the principal occupations are agriculture and cattle raising, and here, again, women find plenty to do. Labor of all sorts is very cheap in Tibet, the men being paid but 2 or 3 cents a day, while the women generally receive but their board and lodging. Where the country is not a barren waste the principal products are wheat, barley, peas and beans, the live stock raised including horses, asses, mules, cattle, sheep and yaks. As in everything else, primitive methods prevail, and prosperity is constantly absent.

soon discover to their great disgust. The reason for this state of affairs is not hard to seek, since dirt is considered sacred, and washing is religiously tabooed. An English officer who traveled in disguise through part of the country reports that so averse are the



Tibetans to the use of water for cleansing purposes that even the spoons with which they eat are not washed, but merely licked. Both sexes wear sheep-skin garments, with the woolly side next to the skin. Poverty and dirt certainly go hand in hand among the Tibetans.

Religion amounts to a passion with lamas and laymen alike, but it is in many ways a religion of but formal observance. Prayers are regarded as of great potency, and the lamas have devised an ingenious method of saying in great many prayers in a short space of



time. A small, hollow cylinder is fixed on an axle, one end of which extends beyond the cylinder to serve for a handle. In this "praying wheel," as it is called, are deposited small slips of paper on which have been written prayers composed by the lamas. The wheel is then revolved rapidly, the theory being

that the devotees will thus attain the felicity of Nirvana without having to pass through many intermediate stages of reincarnation. The prayer wheels, it might be remarked, also serve to wreak vengeance on an enemy, the person injured stealing his enemy's prayer wheel



and revolving it in the wrong direction in the belief that this will certainly assure an unhappy hereafter for the luckless owner. This alone is sufficient to convince the observer of the state of spiritual degradation into which the people are plunged.

Tibet as at present constituted is

clearly no place for white men, nor can it be said to offer many advantages under a high state of civilization. In addition to its topographical shortcomings, of which mention has already been made, climate plays no small part in making it undesirable for purposes



of settlement. August, September, October and November are the only months which can be considered "dry," rain or snow contributing to render the remaining months very unpleasant. According to Zoubikov, the average annual temperature is 42 degrees for morning, 67 for noon and 50 for night,

a variability that, to say the least, can not be conducive to comfort. A not unusual result of the conditions which have so effectively barred communication between Tibet and the outside world is the maintenance of a very small army. It is said that there are not more than 4,000 soldiers in all the dala lama's domains, and these are very poorly equipped and disciplined. As a consequence robbery and outrage are prevalent throughout Tibet. The lamas, it should be said, control the administration of justice as well as the dispensation of religious instruction, and the courts are more remarkable for their superstition than for their law. Crude and barbaric methods prevail of a nature that would disgrace even the middle ages. Drowning, torture and flogging are common penalties for slight offenses, but so completely are the people under the thumb of the lamas that they make no protest.

ROBERT PRENTISS SAWYER.

SCOTLAND'S DR. BARNARDO.

Mr. William Quarrier, whose death was recently announced, was the Dr. Barnardo of Scotland. His methods were peculiar in one sense—that he never made any public appeal for money even during his early struggles to found a home for orphans. Like Muller of Bristol, he trusted entirely to the efficacy of prayer and always said that he was never disappointed. As his philanthropic efforts became known subscriptions were more plentiful, but he has placed it on record that on many occasions a timely check, for which he had never hinted at any need, has prevented the closing of his establishment. "Quarrier's homes" were known in Scotland throughout its length and breadth, and the thousands of orphans who were fed, clothed and educated by him at a model village in Renfrewshire had much reason to be thankful for their luck. Like Dr. Barnardo, Mr. Quarrier sent many thousands of children to Canada.

A VERSATILE CRIMINAL.

In Sweden there is a man named Loeffdahl who is said to be in no respect the most notorious criminal on record. He has been charged with no less than 1,867 different crimes. He began his career as a forger, 1,800 documents, then he decided to make money by setting houses on fire, and he had burned seven dwellings before he was caught. Most of the documents which he forged were receipts for salaries of railroad employees, and for every house which he burned he secured the full value from an insurance company. It is estimated that if the full penalty of the law were to be imposed for each offense Loeffdahl would have to spend several centuries in prison.

CHARACTERISTIC TIBETAN VIEWS.

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