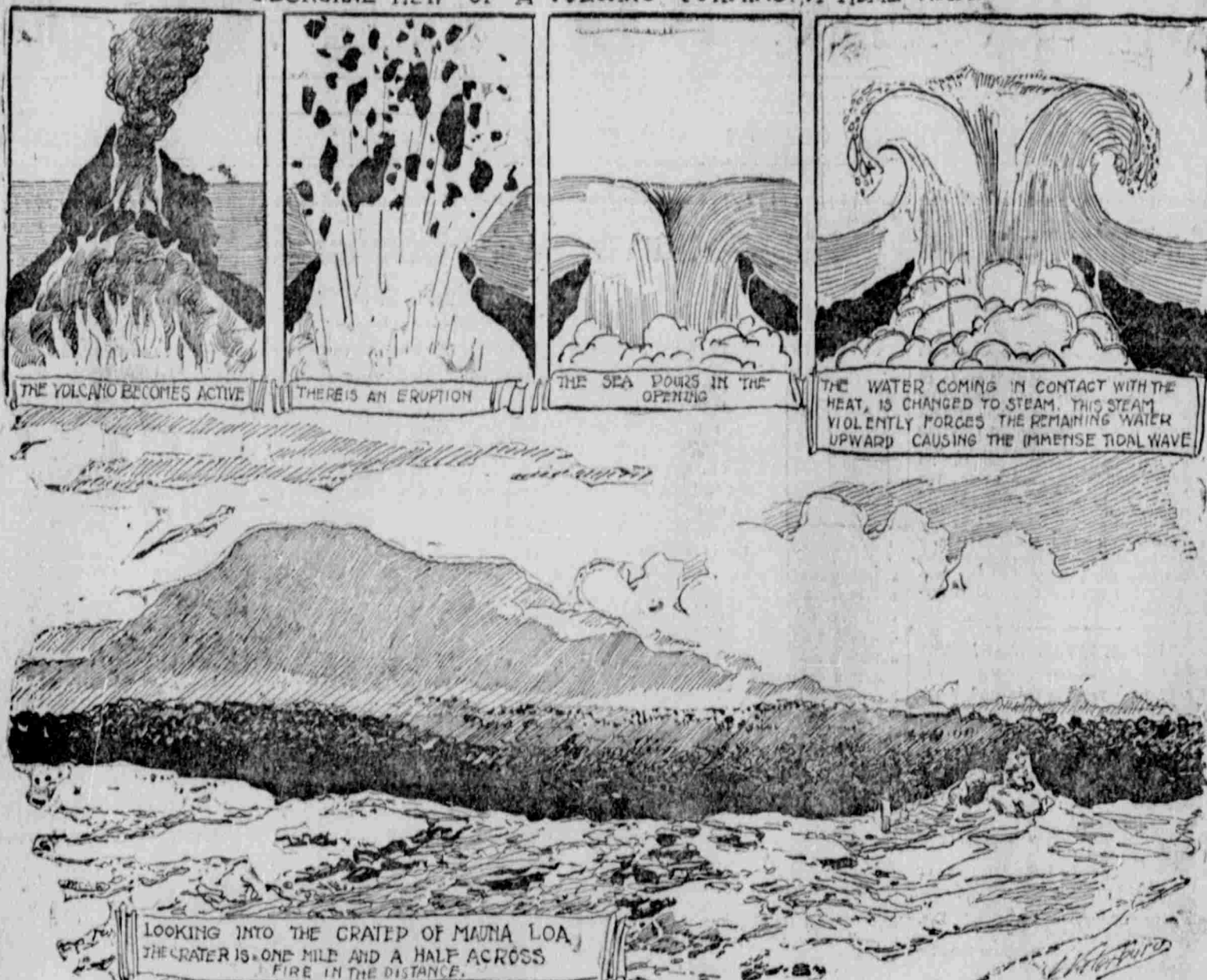


SECTIONAL VIEW OF A VOLCANO FORMING A TIDAL WAVE



THE GREAT NATURAL PHENOMENON WHICH SCIENTISTS TELL US MAY OCCUR AT ALMOST ANY TIME.

WHEN MAUNA LOA SINKS.

Scientists Describe the Terrible Things That Will Happen When the Hawaiian Volcano Buries Itself in the Sea.

Dr. Wilhelm Meyer, the noted German professor of geology, is predicting that all kinds of horrible things are liable to happen at any time. What makes his predictions more than ordinary interest to the people of this country is the fact that he believes that the United States is to be the very head center of all these catastrophes. Of course it is quite possible that he is mistaken, but he is now engaged in explaining his theory to the scientific world, and it must be admitted that many prominent European scientists have been pessimistic enough to agree with him.

According to the theory of Professor Meyer, the earth is liable to be visited by a deluge at any moment, for he believes that the two great volcanoes of Hawaii are on the point of collapse. If they should sink into the sea the result would be simply appalling, for the flood, which would have its greatest effect in the territory of the United States, would be world wide in its power for destruction.

While much of Dr. Meyer's theory is too technically scientific to be of general interest, the idea that he advances is one that will attract attention everywhere. It is that the earth is only a comparatively few years away when a similar catastrophe occurred, and, although it was upon a much smaller scale than the deluge that is now predicted, the terrible destruction of life and property that resulted is a matter that has never been forgotten.

A VOLCANO HORROR.

The Sunda Islands horror, which is now being used by Professor Meyer to illustrate his theory, occurred in August, 1883, when, on a particularly hot day, the volcano Krakatoa suddenly blew its head off, opening a channel for the angry waters. There is no limit to the waters of the sea and there is practically no limit to the fire in the center of the earth, but this time the ocean was the victor, although the volcano threw up a tidal wave of such gigantic proportions as to wreck the coasts of the Sunda Straits in their entire length and for thirty or forty miles inland.

Before that immense wall of water, more than one hundred feet in height,

creeping things and the fowl of the heavens.

It was a deluge after the pattern of Noah's, although smaller, and the entire world felt its powerful impact. It gained space and broadened, however, it grew smaller and smaller and its destructive power was lessened. In spite of this in a single day, starting from both sides, this tidal wave traveled half the circumference of the earth, with a velocity that was twice as great as that of sound traveling through the atmosphere.

Of course, there is no comparison between the defect Krakatoa and Mauna Loa. The volcano that laid waste the Straits of Sunda was a mere infant when compared to the gigantic Hawaiian volcano. Krakatoa was situated about 200 feet under the water of the Sea of Java and was a comparatively small affair, whereas Mauna Loa is one of the largest of the active volcanoes today.

It rises 13,500 feet above the sea, it has a crater that is 8,000 feet in diameter and is at least 500 feet deep. The estimate of 600 feet, however, is one that is seriously questioned and it must be admitted that no one knows how deep it is. It may be 6,000 or it may be 10,000 feet under the water of the Pacific, and the wall that separates it from the ocean may be only a few hundred feet thick.

A NATIONAL DISASTER.

If the bottom should drop out of Mauna Loa, therefore, there would be few people left to tell the story of the disaster. If the gigantic volcano should fall into the Pacific Ocean the waves that would rise would be powerful enough to sweep across all the continents of the earth. Cities and hills would alike be razed and every living creature, no matter how far inland, would be drowned.

It is possible that there are some mountain dwelling peoples who would escape such a deluge, for there is a limit to the height and strength of even so great a wave. In such a case these mountaineers would have to be the lords of the new creation, the modern Noahs whose duty it would be to repopulate the earth.

For many years Professor Meyer has been making a special study of volcanoes, and he but recently visited Hawaii to make a careful investigation of the condition of Mauna Loa, and its brother volcano, Mauna Kea. Upon his return to Europe he reported that he had found them both suspiciously active, and he feared that they might become dangerous at any time. For years the volcanoes have been quiet. Occasionally they have shown some indications of life, but the eruption of Mauna Loa on July 4 was the first serious disturbance that had occurred in twelve years.

Some idea of the force of such an eruption may be gained from the fact that the disturbance of the earth was felt as far as San Francisco. There it appeared as a series of earthquakes that shook the California coast almost from end to end. It so happened that several geologists were present at the time, and they found considerable evidence in support of the theory that the earthquake felt in California was the direct result of the volcanic eruptions on the island of Hawaii.

If such a small disturbance can be felt so far, how much more serious it would be if the great Mauna Loa, or its almost as gigantic brother should entirely blow off its head.

It now seems to be the opinion of scientists in general that natural phenomena like the history of mankind always repeat themselves. The first deluge of which man has any record is that which is chronicled in the Bible, and it is now believed that that flood, from which only Noah and his family were saved, was due to just such a cause as that which is illustrated by the falling of Krakatoa.

FLOODS TO COME.

Scientists also agree in the opinion that before and since that time there have been many similar floods, not deluges that have swept the face of the earth, but floods that have had serious local effects. The traditions of every race of people on the face of the globe bear record to such a flood, and it is not at all likely that all refer to the same deluge. In fact, there is every reason to believe that these floods have been of dates that are widely separated and it is this fact that is inspiring science in its study of the volcanoes. They know of the disasters that have occurred and they know that others will come. The only question is, When?

During the past score of years the scientists have learned many new things about the volcano, and it is not at all improbable that some day geologists will be able to figure out just how many years of preparation it takes for a deluge to develop, or how many years it requires for a volcano to become ready to sink into the sea. To-day no man has any idea as to the length of this period. For all we know the time may be 50 or even 2,000 years distant, or, on the other hand, it may come at any day, but when it comes, however, if it is Mauna Loa that sinks, the scientists have figured just what will happen. Every continent of the world will be swept by the gigantic tidal wave, before which nothing can live, and every achievement of art or science, everything that represents the advancement of civilization will be swamped and destroyed.

Such are the predictions of the latest prophets of evil, and we can only hope that their horrible visions may be as far from the truth as those of the many prognosticators that have preceded them, for if they should by any chance be true no art of man would be able to prevent or even postpone the coming of the fatal day.

In speaking of his predictions Professor Meyer said: "I seriously believe that the performance of the little Krakatoa will some day be duplicated by the gigantic Mauna Loa. I do not mean to say that this will happen within the lifetime of the present generation, but it is not at all impossible that it may occur to-day or to-morrow. When it does come - the catastrophe, starting at Hawaii, will be a multi-folded greater than the miniature eruption in the Eastern Archipelago."

THE WORLD'S RICHEST MAN.

Alfred Beit of South Africa Has at Least One Thousand Millions.

The only man in the world ever pointed out to be worth \$1,000,000,000 - a thousand million dollars - is the Anglo-German, Alfred Beit, who is a Cape Town, or Kimberley, or Johannesburg, South Africa, or Park Road, London.

Mr. Beit is yet on the foothills of fifty, having been born in Hamburg, 1853, and has made his fortune in the last twenty-four years. It is all very like a fairy-tale, and to read of a man worth a thousand millions, and to know that he has made his money out of nothing, is to know that he has made his money out of nothing.

Alfred Beit was a well-educated man, the son of a Hamburg merchant, and he came to the Cape of Good Hope in 1878, and he has since then been a resident in the Cape. He is a man of great energy and business ability, and he has made his money out of nothing.

But about the time he was going into business and giving up the study of law, there was a sudden change in the Cape. South African town of Kimberley, which promised such development to the firm considered it wise to send a representative into this new market. He found a man who was a resident of the Cape, and he was a man of great energy and business ability, and he has made his money out of nothing.

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That sort of work required the time and health and activity of a young man, and Alfred Beit, then twenty-two years of age, was equipped with credit, with arms, with letters of introduction, with a blessing and a set of tools. He found a man who was a resident of the Cape, and he was a man of great energy and business ability, and he has made his money out of nothing.

Thousands had rushed in, taken or bought land, worked the wonderful blue or yellow clay filled, as in a pudding with fruit, with the dull mass.

which could be cut and polished into the jewels for which the world would give fortunes. He was cool-headed, a man of order, business methods by inheritance, and he saw that he could very easily get too much of a good thing, even diamonds.

He undertook then a work which was usually attributed wholly to Cecil Rhodes, who did not go into the district until some years afterward, the work of first combining and then systematizing the diamond mining industry. This is not to say that Rhodes did not have a large hand in the ultimate close-corporation result. He did, but young Beit was first in the field, first to realize that diamonds might become so cheap that it would be profitable to mine them, and he was the first to begin the quiet buying up of scattered and conflicting claims; first to see that there was wealth beyond the dreams of avarice only if the production of diamonds should be brought down to the point where they would be freely absorbed by the nation at the old standard price.

The result was a combination which is a model of its kind. The great De Beers mine has for years paid five and a half per cent. on its bonds and twenty per cent. dividends on its stock, and it is capitalized at \$40,000,000. Rhodes, dashingly, sensational, came along and became the chief figure in the public eye when that eye was turned toward South Africa, but it was there was the firm of Wertheim, Beit & Co. at work for the greatest profit and the smallest amount of notoriety.

INSIDE THERE WILL BE EVERY VARIETY OF HANDIWORK AND MERCHANDISE MANUFACTURED IN BELGIUM; AS STOPS ARE MADE THE GOODS WILL BE EXHIBITED AT THE DIFFERENT PORTS.

BELGIUM'S GREAT AND STRANGE NAVAL PROJECT.

State Ships to Be Sent Around the World to Advertise the Nation, Its Flag and Its Products.

The first indication that the nations of the world may possibly decide to make the last year of the century a year of peace comes from Belgium, where one of the most novel of projects is now under way. Instead of spending vast sums of money in reconstructing its war fleet, the nation has determined to use the appropriation in constructing and fitting out a peace navy, the duty of which shall be to introduce the Belgian nation, its flag and its products to every port of importance in the world.

In other words, instead of battleships, cruisers, gunboats and other destructive craft, the projected Belgian fleet is to consist of State ships fitted with samples of Belgian products, and these vessels are to be kept plying from port to port in African, Asiatic, American and Australian waters. By this means it will be possible for the nation to come thoroughly in touch with the world. New commercial methods will be suggested, new markets will be opened, and it is quite possible, a new era of prosperity may dawn for the nation.

For some time past the naval question has been an important one in Belgium. According to the authorities, a very large sum of money must be spent if the fleet was to be put upon a par with those of other nations. To do this meant an increase in taxation that would prove a great hardship to the people of the country, many of whom already felt the pangs of the tightening times.

The matter when brought before the Ministry was discussed at length, and was finally settled by the adoption of the scheme proposed by the King. Instead of vessels of war they would build vessels of peace. Instead of visiting ports for purposes of intimidation, if not for actual destruction, they would inaugurate an industrial navy, a fleet that would be nothing more or less than a floating commercial museum under patronage of the Government.

A POPULAR PROJECT. The novelty of such a scheme immediately appealed to the people, and the effect has been far better than even the King himself could have assumed that it would be. The feeling of disquietude that has distinguished the past two years of his reign has been almost entirely settled, and every one is working with every one else to make the new project a success.

Already two ships are practically ready to be put in commission, and others are to be constructed at once, so that by the time of the big Belgian exposition at Liege, in 1903, the nation and its products will have become thoroughly introduced to the world. As the result those who have been lamenting the fact that the country had no naval force to officially display the flag in distant ports are satisfied that the best thing has been done, and it is unlikely that anything more will be said about the creation of an armed fleet.

According to the present intentions, the new industrial navy will consist of about seven or eight ships that shall be state property. They will be manned by sailors wearing the Belgian uniform and will carry some marines. The ships will be protected by a few

guns, but they will be so constructed that in case of actual war they could be easily used as an armed fleet. In this way there will be no fleet to keep in idleness during the periods of peace, and nothing will have been done that can possibly be regarded as inconsistent with the country's neutral traditions.

There are few countries of Europe of which less is known than Belgium. Occasionally the name of the King, or some slight reference to the country, appears in the news reports of the day, but there are comparatively few persons who know much more about the nation except in a general way. The Belgians realize this, and they regret that such conditions have existed so long.

WELL-KNOWN LAND. They are determined, however, that this shall be changed in the future, and they believe that within the next two years they will be able to make their land the best known country in Europe. The contract is a big one, but they are setting out energetically to fill it. The first step that was taken was the establishment of a line of steamers between Antwerp and the Congo Free State, and the formation of several companies to develop the commerce and industries of several sections of Africa. Then came the proposed commercial mission to China and the announcement of a great international exposition to be held at Liege.

According to every indication, there is no reason why Belgium should not profit greatly by such a scheme. To-day she is practically unknown commercially, except in certain ports and cities of Europe. By the time her ships have voyaged once or twice around the globe, her name will be a familiar one in commercial circles, for she has many things to show - things that will make her ships interesting and attractive.

One of the greatest sources of wealth in Belgium is the mineral products, of which there are so many in the kingdom. Coal, iron, zinc, manganese and marble are found in abundance, and there are many quarries of limestone, granite, slate and sandstone. There are in the kingdom no less than 350 coal mines, producing more than twenty million tons annually, which gives employment to more than a hundred thousand workmen. The richest of these mines are located at Hainaut, while iron abounds chiefly in the province of Namur.

It is not to the mineral products of the kingdom that Belgium looks for her prosperity, however. Already she has a market for all the iron, coal, lead and similar material that she can supply; but what she hopes to be able to do is to find new markets for the goods that she manufactures so extensively.

These articles consist chiefly of cotton, linen, cutlery, carpets, machinery, paper, woolen cloth, etc. The fine linens of Flanders, as well as the lace of Brabant, have a world-wide reputation.

FAVORABLY SITUATED. There are few countries in Europe that are more favorably situated for commerce than Belgium. Antwerp, which has a most excellent harbor, was formerly one of the greatest commercial cities of Europe, and the trade of the country has never ceased to be prosperous, and it is promoted by numerous canals and railroads.

To-day the chief articles of export are the coal and iron, the linen goods, woolen cloth, cotton stuffs, flax, lace, paper, glass, firearms, hides, raw sugar, zinc and grain. In amount, however, the exports and imports are nearly equal, each averaging about \$500,000,000 a year. In prosperous times as many as seven thousand vessels, with a tonnage of 3,000,000, enter and leave the ports during the year, and there is always an extensive trade to and from Germany and the other countries of Europe. The articles that are imported consist chiefly of wool, cotton, cereals, hides, coffee, timber, copper, sugar, silk goods, leather and petroleum.

Such is the country that is attempting to lead the way to the realization of universal peace based upon the highest form of commercial interests. The scheme is a novel one, so unique in its conception that the nations of the world are doubtful as to its effect. But there is no doubt that its progress will be watched with interest and its success will result in the establishment of such peaceful naval fleets by other nations that are more anxious to extend their trade than they are to go to war.

TELEGRAPHING WITHOUT WIRES.

By Marconi.

Messages by wireless telegraphy can now be sent with certainty up to 110 miles, of which sixty is over water and the remainder over land. Messages are not lost through the curvature of the earth, which is about 1,000 feet in eighty miles, and work all right from a wire at a height of 130 feet. Weather conditions cannot interfere, and the messages cannot be "jammed" or stolen in transit, for the reason that the transmitters and receivers, to be really efficient, must be in "tune" - that is, they must work in harmony. This makes it almost impossible for a receiver to take a message that is not intended for it.

This "tuning" has, up to the present only been tried in three or four cases over long distances. The distances by which the messages have been sent were at first wholly dependent on the height of the vertical wire, but by one discovery after another I have been able to reduce the required height; that is, I have created conditions equivalent to actual height.

My apparatus for sending telegraphic messages without wires consists of two poles, one at the sending and one at the receiving station. Each pole supports a vertical wire. The transmitting wire is charged with a current of electricity at high tension, which discharges to the earth through a short "spark gap." This discharge consists of a rush of electrical energy between the earth and the wire, and creates in the fraction of a second a rapidly oscillating current of electricity in the wire. The vibration leaves the transmitter and starts on its journey through the air in the form of electric waves that radiate in all directions, like light, heat and sound. When the oscillation or waves of electric energy reach the receiving apparatus an oscillation is set

up in the wire with less energy than when it originated. This agitation is communicated to the receiving telegraph instrument with which the wire is connected, and causes a local circuit to open and close in obedience to the opening and closing of the circuit in the transmitting instrument.

A simple illustration of the effect of these electric waves on the wire of the receiving apparatus is the following: If one were to hang a string from the ceiling in one corner of a room and in the opposite corner beat the air suddenly with a fan, waves of atmospheric energy would be sent through the space between the fan and the string and agitate the string in obedience to the motion of the fan, but with less force - part of the energy being lost in its journey across the room. So it is with the electric force thrown from the sending wire of my apparatus. It journeys through space until it reaches the hanging wire of the receiving apparatus, and the electric waves vibrate in it as the air waves agitated the string when the fan set them in motion.

The agitation of the receiving wire by these waves causes an alternate breaking and connecting of the electric current according to the length of the wave or the time elapsing between each wave, and this is recorded by the telegraph instrument with which the wire is connected. Air waves are, of course, stopped or deflected by solid substances that may be in their course. The electric waves thrown off my transmitting or sending apparatus go through or around all solid substances. They are not stopped or deflected by the curvature of the earth or by any high buildings that may be between the sending and receiving wires.

My first discoveries of the possibilities of wireless telegraphy were made in 1895, and the first signals were transmitted over two miles. Since that time the apparatus has been perfected and various important attachments have been worked out.

everything built by the hand of man tell, the country in the neighborhood of the Sunda Straits was made desolate for "every living substance was destroyed which was upon the face of the ground, both man and cattle, and the



THE AGED RULER WHO HAS INVENTED A STRANGE YET ATTRACTIVE METHOD OF ADVERTISING HIS COUNTRY TO THE NATIONS OF THE WORLD.

THE COUNTESS HAS TWO LITTLE FRENCH BOYS WHO MAY SOME DAY VISIT THEIR COUSINS, THE FIVE CHILDREN OF GEORGE GOULD, AND THE TWO LITTLE ONES OF EDWIN GOULD'S FAMILY.



AFTER AN ABSENCE OF OVER FOUR YEARS THE COUNTESS RETURNS TO THE LAND OF HER BIRTH FOR A VISIT; SHE IS ACCOMPANIED BY HER HUSBAND, AND IN HONOR OF THE YOUNG COUPLE MANY BRILLIANT SOCIETY AFFAIRS HAVE BEEN PLANNED.

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TYPE OF COMMERCIAL SHIP SELECTED BY BELGIUM TO CARRY HER GOODS AROUND THE WORLD. THERE WILL BE A LARGE FLEET OF THESE VESSELS THAT WILL VISIT EVERY PORT.

