SIGNALS FROM A PLANET

TESLA SAYS HE HAS OBSERVED THEM.

He Is Satisfied That People of Another World Are Trying to Talk With Us.

(Special to Chicago Times-Herald.)

New York, Dec. 31.—Nikola Tesla, the wizard of electricity, is completely satisfied that attempts are being made by the inhabitants of some other planet to communicate with the people of this earth.

"In some experiments I have been conducting for some time," said Mr. Tesla today to the Times-Herald correspondent, "I have been noticing disturbances that have had a peculiar effect on my instruments. What these disturbances are caused by I am unable to say at present, but I am firmly convinced that they are the attempt by some human beings, not of our world, to speak to us by signals.

"I am certain of some points in connection with these things I have noticed. I am absolutely certain that they are not caused by anything terrestrial. I know, too, that they are not caused by the sun or moon, and hence I am forced to the belief that they come from some other planet.

Can Talk to Mars.

"That we can send a message to a planet is certain. That we can get an answer is probable. Man on earth is not the only being in God's great system of worlds that is in possession of a mind."

So spoke the great inventor in explanation of his message of greeting to the new century, given to the Red Cross Association, and read at all the watch-night services conducted by that organization in different parts of America tonight. The message given out by Mr. Tesla was written by him on Christmas eve, and this is how it reads:

"The retrospect is glorious, the prospect is inspiring. Much might be said of both. But one idea dominates my mind. This—My best—my dearest—is for your noble cause.

"I have observed electrical actions which have appeared inexplicable. Faint and uncertain though they were, they have given me a deep conviction and foreknowledge that ere long all human beings on this globe, as one, will turn their eyes to the firmament above with feelings of love and reverence, thrilled by the glad news: 'Brethren! We have a message from another world, unknown and remote. It reads:

" 'One—two—three—' "

Puzzles the Wizard.

For a long time it has been known to the scientific associates of Mr. Tesla that some remarkable phenomena had been observed by him in connection with the experiments he has been conducting. These experiments were in connection with vibrations and the earth itself has been the subject.

"Some remarkable effects have been noted by Mr. Tesla of a terrestrial nature, and some which were palpably caused by the sun and moon. But there are others unexplained and inexplicable. These Mr. Tesla confesses puzzle him, but he has been patiently at work on them, and his conclusion is that they are the result of attempts made by the denizens of another world to open communication with the people on earth.

How long these attempts have been going on is, of course, problematic. It is possible they have only just begun. It is possible, also, that they have been going on for centuries.

"Above all," said Mr. Tesla, "please bear in mind I don't assert that the phenomena I have noted are from another world. All I can say is that I am positive they are caused neither by the sun, moon nor earth. Therefore, from their nature, I am completely given over to the conviction that they are the first attempts of some other planet to open up communication with us.

Fascinating Field Open.

"Of course, in an interview it is impossible for me to go into the details of these phenomena. Suffice it to say that all I have observed has been of the simplest nature—rather a sort of suggestion that a question as to whether we understand is being asked.

"Aside from all that I have noticed and and the question of the probabilities, the question of interplanetary communication is one of the most fascinating that man can imagine. Since the conviction came to me that possibly we are on the eve of the most marvelous thing that has ever come to pass, I have been completely carried away by thinking of the wonderful possibilities that lie behind such a consummation.

"To begin with, supposing it were definitely discovered, as I feel certain it will be, that the people of another planet were signaling to us, there would be the preliminary calls and their answers. These might take years to perfect. That is what I refer to in the 'One, Two, Three' of my message.

"There must be a beginning—a primary as it were, before actual messages could be sent and received. Both worlds would be compelled to reach a common basis of mutual understanding ere actual greetings could be exchanged. And then would come such revelations as would astound us all. Why, even as I ponder on the possibilities of all that lies in this marvel, I feel uplifted, and almost, I might say, purified with even the contemplation of such a stupendous matter."

Queer Lights on Mars.

The attention of Mr. Tesla was called to recent suggestions made by Flammarion and other noted astronomers that Mars might be communicated with by signal. Several unusually bright lights have been seen lately on different parts of the surface of Mars, and the idea has been advanced that perhaps these might be signal lights, flashing in the hope that the people of the earth might notice them and send an answer back.

Flammarion, however, says that the bright lights are not signals, but merely the reflections of sunlight of clouds that are clustered about the Martian mountain tops. Mr. Tesla explained why, in his opinion, signals by such means would be improbable, and to the earth impracticable.

He pointed out that to flash a signal light from the earth to Mars would require a reflector at least a mile square. To construct such an instrument and properly control its flashes would be impossible at this end. What the Martians could do, of course, is mere conjecture. Therefore Mr. Tesla is of the same opinion as Flammarion in regard to the signal lights—he discards them.

Besides, Mr. Tesla is of the opinion that Venus, not Mars, is more likely to be the planet that is the cause of the phenomena he has noticed.

"I have noticed these disturbances when Venus is rising," he said, "and hence have come to the belief that perhaps while others have been panning to talk to Mars Venus has been trying to signal to us.

Talks of Weird Signals.

"Now, a word as to answering the signals that I feel certain are being directed at us. Of course, the inhabitants of some other planet may be in possession of some power of which we know nothing, or they may have a greater control over electrical forces than we have. But it is reasonable to suppose that the signals I have noticed are electrical in their nature. In fact, they must be or my instrument would not have noticed them.

"My theory is that this matter should not be passed over, and I feel certain that scientists, now that their attention is called to the marvelous things I have noticed, will agree with me that some arrangements should be made at once for recording these disturbances in a coherent manner. To do this observatory stations should be erected and every attempt made to catch some of the signals and perhaps planning to answer them.

"Already we are able to send over the surface of the earth a wave of electricity at any speed which may be desired by the manipulator. And this brings me to the subject of transmitting messages across the ocean by electricity and without wires. Therefore, as the greatest spaces can be the more easily bridged without wires, I can see no reason why we cannot, in a comparatively short time, open a communication with either Mars or Venus, or perhaps both.

Can Shake a Planet.

"In the measurements I have taken and the calculations I have made, and with the success my oscillator's vibrations have met on the earth, I am certain that effects from a similar cause can be extended until they are perceptible on some of the nearer planets. That we can secure a disturbance on a planet by the agitation of the electrical conditions surrounding the earth is not to be doubted.

"However, when I suggest a vibratory method of opening up a signal service with some of the planets, I know that I am going into a field that has not been tried or suggested by the other men who have made a study of inter-planetary communication. All these have had the idea of a vast reflector uppermost in their minds. Such a plan is plainly impracticable for the reason I have mentioned. Such a vast surface would be necessary to throw a ray of light to such a vast distance that it is out of the question. Electrical vibrations are the only reasonable means we can suggested in this case.

"Of course immense and powerful machinery would be necessary for the production of vibrations that would do the work I have in mind. Also this machinery would, of necessity, have to be of the utmost delicacy, so that every disturbance coming in contact with it would be recorded beyond any question of doubt. The vast distances to be taken into consideration and the immensity of the undertaking show without comment that nothing in connection with it could be done on a small scale.

"To conclude: I am certain, as I have said, that some planet is knocking at our door. My dearest wish is that I may be the one to say to the new century that at its dawn I was the being chosen to speak the word which means so much to science and even so much to the great brotherhood of man."

EASTERN OYSTER CULTURE

PROFESSOR WASHBURN ON YAQUINA BAY EXPERIMENT.

Success Which Has Attended Effort Makes It Evident That a Paying Business Can Be Built Up.

The following account of last Summer's experiment of propagating Eastern oysters at Yaquina Bay is kindly furnished The Oregonian by Professor F. L. Washburn, State Biologist:

"Entire attention was devoted to securing a catch of Eastern oyster spat in a cement tank, made the previous season. This tank was about 22 feet long, 9 feet wide at the top, with sides sloping inward, making the bottom about 3 feet by 10 feet. The original idea, when the tank was built, was to fill and empty it by flood and ebb tide, flowing through an iron pipe running from the bottom of the tank to the adjoining slough. This was found impracticable, and the pipe removed. Renewal of an addition to the water in the tank was effected by pumping salt water from the slough at low tide, at which time the bay water is most favorable for the growth of young Eastern oyster embryos, both as regards its temperature and salinity.

"The above cut shows the pump in the foreground, from which a hose runs over the float, bearing the net racks, to the oyster tank seen in the background, with its tent-like canvas covering. In forcing water into the tank the outlet end of the hose was moved about, thus securing a complete stirring up of the contained water, for it is a well-known fact that the same salt water, properly manipulated, may be used over and over again and still keep alive delicate organisms in aquaria, etc.

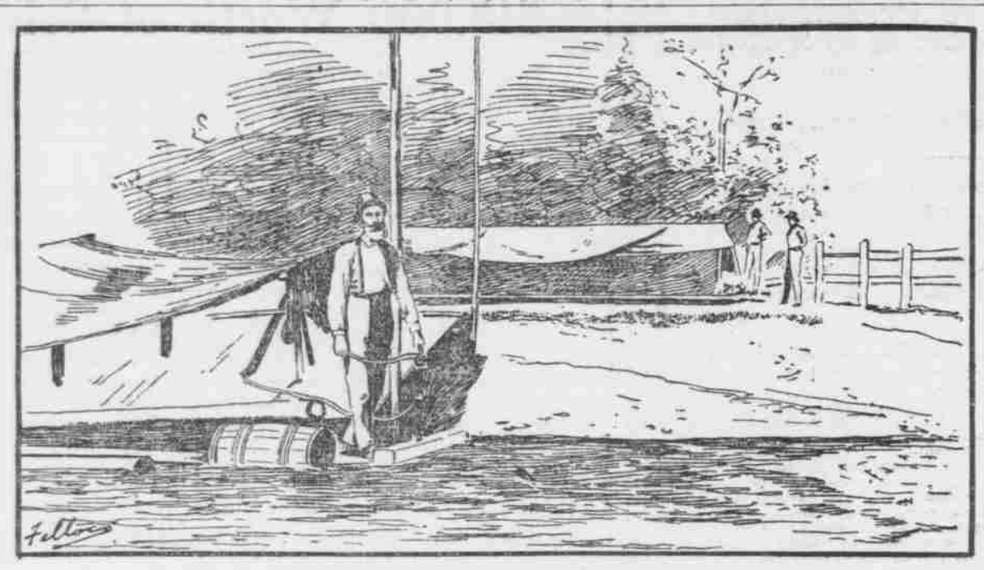
"Cut No. 2 shows a partial view of the interior of the tank when nearly full of water, and the canvas thrown back on one side to admit the morning sun. This canvas prevented excessive heating of the water, for, as shown in the photograph, the tank could be covered or uncovered at will, and, being buttoned down at night, kept in the heat absorbed during the day. By this means the water was kept at an almost constant temperature of 68 deg., Fahrenheit, for three weeks. We compensated for the absorption of water and the consequent increasing salinity by the addition of a certain amount of fresh water from time to time. Unfortunately, the men who constructed the tank, or rather the men who repaired it, for last Winter's storms had cracked it badly, did not make the cement bottom perfectly tight. There was a very slight seepage of water from without, fouled by long contact with the tideland. I was informed upon my arrival that, try as they would, the cement would not harden quick enough to prevent the outside water, under pressure, of course, from oozing, thus leaving small cracks when the cement hardened. This inflow, which was, of course, greater when the tide was high, and before the water in the tank had attained considerable depth, had an odor like bilge water, and although but slight in amount, must have had an unfavorable effect upon the experiment. A mistake was made in placing this tank in the tideland. Another time I should build it above the surface, out of reach of tides and contaminating influences, and use the same pumping apparatus employed this season to secure a water supply at low tide. Further, by the use of an outlet pipe guarded by blotting paper, reinforced by canvas, the water could be practically completely changed daily without losing the minute embryos, and thus kept in a purer condition than by simple aeration.

"Into this tank tile 'collectors' were placed, and Eastern oyster embryos introduced from time to time. At the expiration of 15 days from the date of the last consignment, the water was let out through the pipe, and the collectors examined. I was pleased and encouraged to find, in spite of the unfavorable conditions outlined heretofore, a few oyster spat fastened on the collectors, and feel that the Summer's work was successful in demonstrating that pond culture, under proper conditions, can be made use of here to secure a supply of seed oysters.

"In Yaquina Bay itself I found the Eastern oysters planted four years ago to be, for the most part, in good condition, but Mr. King, while I was there, tonged a number of dead oysters, presumably killed either by the proximity of Barnes' salmon cannery, with its necessary accompaniments, or, and this is the more likely solution, by the deposition of silt from a large landslide which occurred last Fall just below the cannery. The second consignment of oysters, planted by the Government in the Fall of 1898, are in excellent condition, both those placed on the Government reserve, with the first sent, and those planted further up the bay, and in deep water. All were found to be spawning, and although no young Eastern oysters were found, this season has been so favorable as regard temperature, both of water and atmosphere, that it is quite possible that a substantial result of this year's spawning may be found later on. In San Francisco Bay, in 1880, there was an immense catch of Eastern oysters spawned there; all conditions appearing to be favorable at that time. It is to be hoped that similar conditions will prevail at Yaquina Bay. It is believed that if we can secure seed oysters in culture ponds, from acclimated parents, that they will produce hardy young when placed in the waters of Yaquina Bay. From the rapid growth made by the planted oysters, it is evident that a little capital and the use of bay bottoms suitable for oysters is all that is necessary to make a paying business here in raising for the market, as it is in San Francisco, in the hands of Morgan & Co. This is being undertaken as an industry in Washington State. An effort will shortly be made to secure Eastern oysters for the Oregon coast. In this we will be aided by our delegation at Washington, D. C.

"I am indebted to Mr. Matthews, of Newport, for the photographs from which the two above cuts were made.

"F. L. WASHBURN,
"Biological Laboratory, U. of O."



PUMP FROM WHICH A HOSE RUNS TO TANK.

HOW BUTTERFLIES SLEEP.

They Are Scarcely Distinguishable From Their Surroundings.

The butterfly invariably goes to sleep head downward, its eyes looking straight down the stem of the grass, says the London Spectator. It folds and contracts its wings to the utmost, partly perhaps to wrap its body from the cold. But the effect is to reduce its size and shape to a narrow ridge, making an acute angle with the grass stem, hardly distinguishable in shape and color from the seed-heads on thousands of other stems around. It also sleeps on the top of the stem, which increases its likeness to the natural finial of the grass.

In the morning, when the sunbeams warm them, all these gray-pied sleepers on the grass tops open their wings and the colorless bennets are starred with a thousand living flowers of purest azure.

Side by side with the "blues" sleep the common "brown heaths." They use the grass stemps for beds, but less carefully, and with no such obvious solicitude to compose their limbs in harmony with the lines of the plant. They also sleep with their heads downward, but the body is allowed to droop sideways from the stem like a leaf. This, with their light coloring, makes them far more conspicuous than the blues. Moreover, as grass has no leaves shaped in any way like the sleeping butterfly, the contrast of shape attracts notice. Can it be that the blues, whose brilliant coloring by day makes them conspicuous to every enemy, have learned caution, while the brown heaths, less exposed to risk, are less careful of concealment?

Be it noticed that moths and butterflies go to sleep in different attitudes. Moths fold their wings back upon their bodies, covering the lower wing, which is usually bright in color, with the upper wing. They fold their antennae back on the line of their wings. Butterflies raise the wings above their bodies and lay them back to back, putting their antennae between them, if they have them at all.

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Persons calling for these letters will please state date on which they were advertised, January 7. They will be charged for at the rate of 1 cent each.

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Adair, Mrs S D
Anderson, Mrs Maud
Baker, Mrs Gertrude
Baker, Mrs A F
Berrigan, Miss Lizzie
Blackwell, Bessie I
Bradley, Mrs H B
Bradford, Mrs Belle
Brown, Miss Bessie
Brown, Miss Grace
Burnett, Miss Laura
Burner, Miss Bell
Butler, Miss Mabel
Butler, Mrs F R
Butler, Mrs M
Carlson, Emma
Confer, Miss Marie
Crane, Miss Minie
Daniels, Miss Clara
Darrow, Miss Edna
Douglass, Mrs A A
Dunn, Mrs Rose
Eborall, Miss Winifred
Emerson, Miss Tess
Evans, Miss Grace
Falta, Miss Sadie
Farnsworth, Mrs Claire
Ferguson, Meda
Fowler, Mrs T B
Frawley, Mrs Marie
Francis, Mrs M
Gelwick, Miss Winnie
Godfrey, Miss Gertie
Harrison, Mrs Mack
Henton, Miss Olive
Hertzman, Mrs J H
Hiatt, Miss Louisa
Hovde, Josie
Houston, Mrs Lorena M
Howe, Miss Stella
Howland, Mrs George E
Hutchens, Miss Mattie
Imel, Miss Etta-2
Jarrel, Mrs M A
Jenkens, Mrs C
Jones, Mrs K C
Kilpinen, Miss Minnie
Kutch, Miss Clair
Lasher, Mrs Anna E
Lallee, Miss Mamie
Laurens, Mrs Florence
Larey, Miss Margaret
Larrabee, Mrs L A
Leland, Helen
Leslie, Mrs Lillian
Lees, Mrs James
Lewis, Miss Florence
Lewis, Hattie
Lewis, Miss
Leary, Miss
Long, Miss Ruby
Loveland, Georgia L
Lulu
McCambridge, Mrs Josie
McDonell, Mrs M
McDonald, Mrs E
McElroy, Miss Minnie
McLean, Mrs W J
Manderville, Mrs Sadie
Martin, Mrs H C
Martin, Miss Madaline
Martin, Miss Lillie
Mason, Mrs James
Mason, Mrs Alvira
Mill, Miss
Mittner, Miss Emma
Moser, Mrs W
Munsey, Mrs M L
Mumford, Mrs R H
Myrtle, Mrs Della-3
Nichols, Miss Bertha
Olicur, Mrs
Olson, Mrs Ola
Olsen, Mrs Olive
Orelll, Mrs M J
O'Brien, Miss Annie
Parks, Mrs Jessie
Purazov, Miss Priscilla
Parker, Mrs Horace
Parker, Emma F
Parker, Mrs Inez E
Pearl, Mrs Sarah
Peterson, Mrs Ines
Proctor, Mrs L
Rivers, Elizabeth
Roadarmel, Miss Etta
Robbins, Mrs C J
Ross, Mrs Emily L
Schleiger, Miss Louise
Scherer, Mrs Eugene
Segerholm, Miss Hannah
Sedgwick, Miss Mamie
Shelton, Mrs L
Shirrell, Miss Ida
Simpson, Mrs Nellie D
Smithson, Miss Jennie
Smith, Mrs E
Smith, Miss May
Shaver, Mrs C A
Stephens, Miss Kittie
Stuart, Mrs Sara
Stewart, Mrs Alexander
Swett, Mrs Nadie
Thompson, Miss E & L
Tomlinson, Margueite
Underwood, Rose
Vantine, Mrs Wm
Watson, Mrs Dr
West, Mrs Nota
White, Miss Lillian K
Williams, Miss Clara A-2
Williams, Miss Pearl
Wilson, Mrs Annie
Wilson, Miss Rose
Wilson, Miss Maggie
Wingate, Mrs Anna
Wood, Dora
Wright, Miss Retta
Wright, Miss Louis
Wright, Miss May
Yanson, Miss Annie

MEN'S LIST.

Adams, Bird
Andrews, David
Anderson, J
Apperson, A B
Banyiron, C H
Baker, C M
Barnere, Wm B
Barner, Albert
Bennett, W T
Bernhard, P
Boda, Adolph
Bothwell, James O
Boyd, U S
Bradley, L
Burlingame, J M
Burnby, E
Byers, W
Chostner, Monroe
Commercial Hotel, Prop of-2
Cramer, S A
Curry, William
Dallas, E C
Dillingham, Glen
Duggan, Phillip
Earp, D P
Eggen, Jacob
Elder, Jack-4
Estell, Frank
Ford, R B
Foster, T J
Grunsut, F J
Georgie, Hary
Geary & Co
Gier, Capt A J
Goldberg, David
Gotzel, David
Graham, W A
Grants, Dr Medicine Co
Grigsby, James
Haggard, S E-2
Hall, M
Hammook, Edward
Hanson, E E
Henshu, Samuel
Hewitt, Alfred
Hicks, N W-2
Hobble, J S
Hunt, G T
Hunt, Brit
James, Bill
James, Peter H
Johnson, Charley
Jones, Murray (cook)
Jones, R
Koch, Allen
Laustauce, Laurent
Lassen, Dagmar
Lee, J J
Leonard, Marcelle
Lewis, M W
Libby, G D
Libbie, George
Lynch, David D
Lyons, Mike
McKinnon, Chas
Mastzer, Conrad
Mann, G S
Marley, P H
Marshall, E E
Marshall, Geo H
Martin, Alex Jr
Mattson, Pete
Meng, Michael
Middleton, Joe
Michelson, Edw
Milltkin, Geo
Miller, E H
Miller, Geo
Miller, F J
Miller, J
Mitchell, C A
Moore, A L
Morry, Nicholas
Muldig, Otto G
Murdock, A
Meyers, Mark
Nelson, P J
Norton, E
Oliver, Wm M C
Orr, G S
Outer, Charles
Park, Iren E
Patchen, Horace
Poormeas, Dr F D
Pollock, T D
Powers, Will
Rankin, Mr
Raibohm, Richard
Regan, Wm
Reagan, Chas I
Reding, Harry
Rotzen, Mr
Rohrbeck, Louis F
Roper, John A
Roberts, Forest
Robins, Andy
Robinson, Harry E
Nolan, W H
Ryan, R C
Sanders, E
Sarginson, Mr and Mrs
Saunders, Willie
Saul, Arthur
Saul, A M A
Schaer, Paul
Schweitzer, Frank
Scott, O B, Mr & Mrs
Searls, W N
Shay, John B
Sherwood, M R, Mr and Mrs
Shirley, Alfred
Sisson, L D-2
Sims, G A
Smith, Frank
Smith, John U
Smith, Capt Jno L
Smith, Pendleton
Stump, A B
Steele, C G
Stephens, T C
Stuart, T N C
Stokes, Fred J-2
Stowe, B H
Strowbridge, Benj M
Strope, M D
Sutherland, A I
Taggart, P W
Taylor, T H
Taylor, Joseph
Terry, Durbin
Thomlinson, Joseph
Trusty, J H
Tully, John W
Tyler, Lee
Van Sickle, I
Vankirk, F A
Wallace, Geo
Ward, L
Warrick, T D
Weigand, C F
Whetstone, Geo
Wheeler, F A
Willis, Johnie
Williams, M M
Woodworth, Geo-2
Wood, Wm
Wright, Harry
Wyatt, J R
Yates, Wm E
Zerbe, Chas M
Zobel, Gust

PACKAGES.

Gelwick, Miss Winnie
Jenkins, Mrs W B
Kittrell, F J (foto)
McClelland, Mrs M R
Morrell, Miss Genevieve A
Pennock, Mrs H
Rose, Miss June
Scherer, Mrs Eugenie M
Seigner, Mr and Mrs W H
Walsh, Ambrose
West, Mrs A
Williams, Ada A
Wolever, Mrs Hannah

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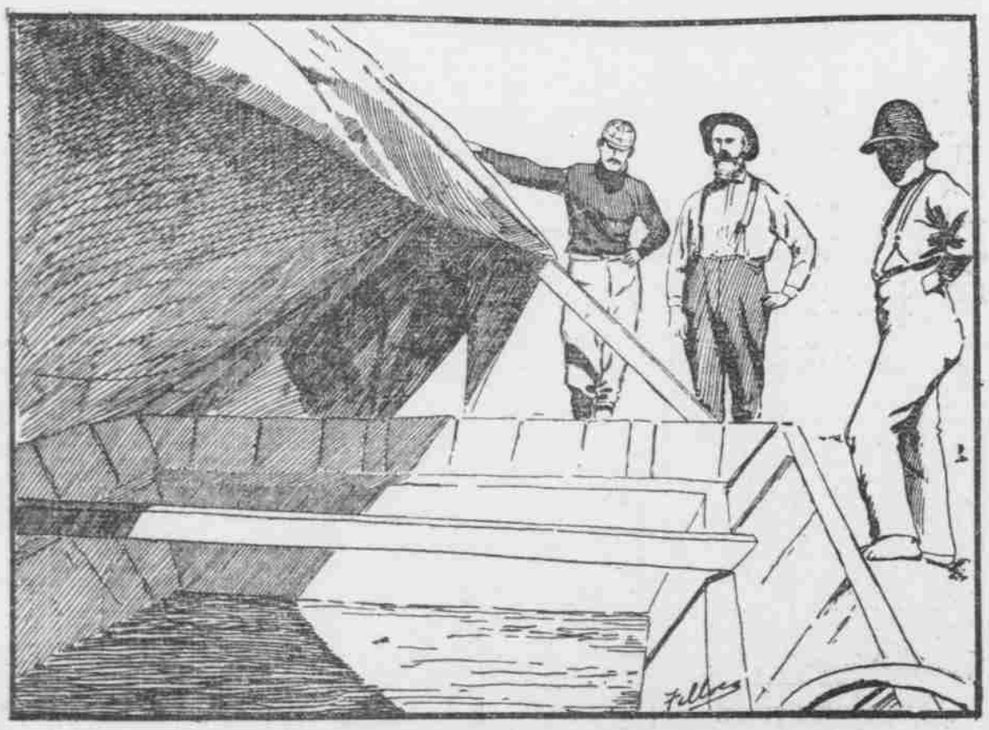
Gains of the Next Century.

New York Mail and Express.

Much of the commercial development of this country during the 19th century has arisen through stiff business competition. It is now recognized that competitive industries do not produce the large and steady profits of former days. It is just this reason that has induced foresighted business men to take up the study of the development and productivity of by-products. Many of the fortunes accumulated during the coming century will be made from the culls and chaff that now are deemed obstructions and impediments to the working out of simple industrial problems.

Mr. Sevick's millidam at New Era was washed out a few days ago. It will be rebuilt in the Spring.



PARTIAL VIEW OF TANK WHEN NEARLY FULL OF WATER.

Dr. Durham mentions diphtheria, enteric fever and plague. The bacilli of all these diseases have been found in patients weeks and months after their apparent complete recovery. Dr. Klein has recorded the same thing of scarlet fever. This is in keeping with a pretty common occurrence. A child has diphtheria or scarlet fever, and is sent to the hospital. In due course it is sent home quite well, but at once, or perhaps after a time, other children in the same house take the disease. Then there is an outcry about "premature discharge." The same thing happens in private houses. One person suffers from some infectious illness, and is shut off from the other inmates, who remain quite well. The patient recovers, and returns to ordinary life, and presently some one else takes the disease.

A second class consists of those who, having never had a previous attack, are exposed to infection and take it, but in so slight a form as to escape notice. The most familiar examples of this are furnished by diphtheria and plague. The most trifling of sore throats and a slightly enlarged gland may represent these formidable diseases, respectively. A third class—or perhaps it is only a difference of degree—is formed by those in whom the infective agent lodges, but remains wholly inactive. Here again diphtheria, which has been more carefully studied in this connection than any other disease, furnishes examples. Virulent cultures of diphtheritic bacilli have been obtained from healthy children.

Individual Resistance in Disease.

Contemporary Review.

Variations in severity of symptoms depend on the varying violence of the attack and the varying capacity of resistance. Dr. Durham dismisses the former on account of "our scanty knowledge of the laws which govern the variations of the parasite." This well-founded admission reveals a gap in the very foundations of bacteriology, sufficient to render the entire edifice of doubtful stability; but let that pass. More is known about the effect of resisting power in individuals. It may be due to specific immunity acquired by a previous attack or transmitted from a parent, or it may consist in a natural refractoriness. Several classes of persons may be distinguished, all capable of harboring specific organisms without showing any recognizable signs of it. One very important class is formed by those who have had an attack and recovered, but in whom the specific microorganisms remain for an indefinite time.

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Water lines schedule subject to change without notice.

OCEAN DIVISION—From Portland, foot Ainsworth Dock at 5 P. M.; sail every 5 days: Geo. W. Elder, Jan. 2, 12, 22; Feb. 1, 11. Columbia, Jan. 7, 17, 27; Feb. 6, 16.

From San Francisco—Sail every 5 days. Leave Spear-street Pier 24 at 11 A. M.: Columbia, Jan. 3, 13, 23; Feb. 2, 12. Geo. W. Elder, Jan. 8, 18, 28; Feb. 7, 17.

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Steamer Hassalo leaves Portland daily, except Sunday, at 8:00 P. M.; on Saturday at 10:00 P. M. Returning, leaves Astoria daily, except Sunday, at 7:00 A. M.

WILLAMETTE RIVER DIVISION.

PORTLAND AND SALEM, OR.

Steamer Ruth, for Salem, Independence and way points, leaves from Ash-street Dock at 6 A. M. on Mondays, Wednesdays and Fridays. Returning, leaves Independence at 5 A. M., and Salem at 6 A. M., on Tuesdays, Thursdays and Saturdays.

CORVALLIS AND ALBANY.

Steamer Modoc leaves Portland at 6 A. M. on Tuesdays, Thursdays and Saturdays. Returning, leaves Corvallis at 6 A. M. on Mondays, Wednesdays and Fridays.

YAMHILL RIVER ROUTE.

PORTLAND AND DAYTON, OR.

Steamer Elmore, for Oregon City, Butteville, Champoeg, Dayton and way landings, leaves Portland, Tuesdays, Thursdays and Saturdays at 7 A. M. Leaves Dayton for Portland and way points Mondays, Wednesday and Fridays at 6 A. M.

SNAKE RIVER ROUTE.

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Steamer Spokane or steamer Lewiston leaves Riparia daily at 3:40 A. M., arriving at Lewiston about 3 P. M. Returning, the Spokane or Lewiston leaves Lewiston daily at 8:30 A. M., arriving at Riparia same evening.

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EAST VIA SOUTH — SOUTHERN PACIFIC COMPANY — SUNSET OGDEN & SHASTA ROUTES

Leave	Depot Fifth and I Streets.	Arrive
	OVERLAND EXPRESS TRAINS for Salem, Roseburg, Ashland, Sacramento, Ogden, San Francisco, Mojave, Los Angeles, El Paso, New Orleans and the East.	
*8:30 P. M.		*7:45 A. M.
*8:30 A. M.		*6:30 P. M.
	At Woodburn (daily except Sunday), morning train connects with train for Mt. Angel, Silverton, Brownsville, Springfield, and Natron and evening train for Mt. Angel and Silverton.	
*4:00 P. M.	Albany passenger	*10:10 A. M
‖7:30 A. M	Corvallis passenger	‖5:50 P. M.
‖4:30 P. M.	Sheridan pass'gr ..	‖8:25 A. M

*Daily. ‖Daily except Sunday.

Rebate tickets on sale between Portland, Sacramento and San Francisco. Not rates $17 first class and $11 second class, including sleeper.

Rates and tickets to Eastern points and Europe. Also JAPAN, CHINA, HONOLULU and AUSTRALIA. Can be obtained from J. B. KIRKLAND, Ticket Agent, 140 Third street.

YAMHILL DIVISION.

Passenger Depot, foot of Jefferson street.

Leave for Oswego daily at 7:20, *9:40 A. M.; 12:30, 1:55, 3:25, 4:40, 6:25, 8:30, 11:30 P. M.; and 9:00 A. M. on Sundays only. Arrive at Portland daily at *6:35, 8:30, *10:50 A. M.; 1:35, 3:10, 4:30, 6:15, 7:40, 10:00 P. M.; 12:40 A. M. daily, except Monday, 8:20 and 10:05 A. M. on Sundays only.

Leave for Dallas daily, except Sunday, at 5:05 P. M. Arrive at Portland at 9:30 A. M.

Passenger train leaves Dallas for Airlie Mondays, Wednesdays and Fridays at 2:45 P. M. Returns Tuesdays, Thursdays and Saturdays. *Except Sunday.

R. KOEHLER, Manager. C. H. MARKHAM, Gen. Frt. & Pass. Agt.

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CITY TICKET OFFICE

135 Third Street — Portland, Oregon

J. H. LOTHROP, Gen'l Agent. GEORGE LANG, City Pass. & Tkt. Agt.

WHITE COLLAR LINE

STR. HERCULES takes the place of BAILEY GATZERT (Alder-street Dock), Leaves Portland daily every morning at 7 o'clock, except Sunday. Returning, leaves Astoria every night at 7 o'clock, except Sunday. Oregon phone Main 351. Columbia phone 251.

TRAVELERS' GUIDE.

NORTHERN PACIFIC — YELLOW STONE PARK LINE

The Yellowstone Park and Pioneer Dining-Car Route

Leave.	Union Depot, 6th and J Sts	Arrive.
No. 12—1:45 P. M.	Overland Express for South Bend, Aberdeen, Hoquiam, Cosmopolis, Olympia, Tacoma, Seattle, North Yakima, Ritzville, Spokane, Pullman, Moscow, Lewiston, Grangeville, Roseland, B. C., Butte, Billings, Fargo, St. Paul, Minneapolis, Chicago, Boston, Washington, D. C., New York, and all points east and southeast.	No. 11—7:00 A. M.
No. 4—11:30 P. M.	Kansas City-St. Louis Special for Tacoma, Seattle, North Yakima, Ritzville, Spokane, Roseland, Lewiston, Helena, Butte, Billings, Deadwood, Denver, Omaha, St. Joseph, Kansas City, St. Louis, Chicago, Washington, Baltimore, New York, Boston, and all points east and southeast.	No. 3—7:30 P. M.

Baggage checked to destination of tickets. Union Depot connections in all principal cities. Through car service via Northern Pacific-Burlington Route, train No. 4, for Omaha, St. Joseph, Kansas City, St. Louis. Quick time and unequaled accommodations. The only line running Pullman standard and Pullman upholstered tourist sleepers, the finest in the world. Portland to Minneapolis and St. Paul without change.

For any additional information, tickets, sleeping-car reservations, maps of routes, etc., call on or write to

A. D. CHARLTON
Assistant General Passenger Agent,
255 Morrison St., Cor. Third,
Portland, Oregon.

Burlington Route

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The Union passenger station in Chicago, into which all Burlington Route trains run, is located in the very heart of the city.

The principal hotels, the largest stores, the best theaters, the biggest business establishments, are only a few blocks distant.

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TICKET OFFICE: Cor. Third and Stark Sts., R. W. Foster, Ticket Agent.

THE GREAT NORTHERN

Ticket Office 268 Morrison St. 'Phone 680

LEAVE.		ARRIVE
No. 4 6:00 P.M.	The Flyer, daily to and from St. Paul, Minneapolis, Duluth, Chicago and all points East.	No. 3 7:00 A. M.

Through Palace and Tourist Sleepers, Dining and Buffet Smoking-Library Cars.

JAPAN - AMERICAN LINE

STEAMSHIP RIOJUN MARU

For Japan, China and all Asiatic points will leave Seattle

About January 7th

Astoria & Columbia River Railroad Co.

LEAVES UNION DEPOT.		ARRIVES UNION DEPOT.
	For Maygers, Rainier, Clatskanie, Westport, Clifton, Astoria, Warrenton, Flavel, Hammond, Fort Stevens, Gearhart Pk., Seaside.	
8:00 A. M.	Astoria and Seashore Express, Daily.	11:10 A. M.
7:00 P. M.	Astoria Express, Daily.	9:40 P. M.

Ticket office 255 Morrison st. and Union Depot. J. C. MAYO, Gen. Pass. Agt., Astoria, Or.

Pacific Coast Steamship Co.

FOR ALASKA.

THE COMPANY'S steamships Cottage City, Senator and Al-Ki leave TACOMA 11 A. M.; SEATTLE 9 P. M.; Jan. 5, 10, 15, 20, 25, 30; Feb. 4, 9, 14, 19, 24; March 1. Steamer leaves every fifth day thereafter. Further information obtain company's folder. The company reserves the right to change steamers, sailing dates and hours of sailing without previous notice.

AGENTS—N. POSTON, 249 Washington st., Portland, Or.

F. W. CARLETON, N. P. R. R. Dock, Tacoma. TICKET OFFICE, 618 First ave., Seattle. M. TALBOT, Com'l Agt.; C. W. MILLER, Asst. Gen'l Agt. Ocean Dock, Seattle.

GOODALL, PERKINS & CO., General Agents, San Francisco.

Steamers Altona and Pomona

Daily (ex. Sunday) for Independence, Salem and all way landings. Leave Portland 6:45 A. M.; leave Salem 7 A. M.; Independence, 9 A. M. Office and dock, foot Taylor st.

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