

THE COMING ECLIPSE.

Only One American Expedition Will Go to Asia to See It—Conditions Are Unfavorable.

THE next total eclipse of the sun takes place on Jan. 13, 1907, and will be visible in central Asia, says the Philadelphia Ledger. Although the track of the eclipse is wholly on land, yet the conditions are so unfavorable, both as to weather probabilities and communication with these regions (Russian Turkestan and Mongolia) that scarcely an effort will be made by the astronomers of this country to view the eclipse. No expeditions will be sent from the United States naval observatory, Washington; Harvard observatory, Liek observatory or the Yerkes observatory.

Only Prof. David P. Todd, of the Amherst observatory, Mass., seems to have summoned up enough courage to go in pursuit of the fugitive shadow, though even he has not yet settled definitely whether he will go east to Bokhara or west via Peking to Tsairou. A few thousand miles more or less is a mere item apparently in the calculations of the astronomer, when taken into consideration with the attractions offered by a total eclipse of the sun, and no obstacle seems insurmountable in such a case. As Prof. Langley said of this superb sight: "The spectacle is one of which, though the man of science may prosaically state the facts, perhaps only the poet could render the impression."

The best region for observing the eclipse is available by means of railways recently constructed in Russian territory. On this railway and about two-thirds of the way from Tashkent to Samarkand lies Jizah, only a few miles from the exact line of central eclipse. Fortunately, the railroad from Orenburg to Tashkent, prac-

tically a branch of the trans-Siberian railway, which has been in course of construction, is now completed. Other easily accessible places near Jizah, and well within the belt of totality, are Zaamin, Nau and Ura-Tube, the last being practically central.

From the United States the best way to reach Jizah is by means of Naples, Constantinople, the Black sea, Tiflis, the Caspian sea, Bokhara and Samarkand. From Krasnowosk, on the Caspian sea to Tashkent trains run regularly, there being two trains which leave Krasnowosk daily at 5 a. m. and 7:15 p. m., respectively. The return trip might be made by way of Tashkent, Orenburg, Samara, Moscow, Warsaw, Berlin, Paris, London, to New York City. This would be an ideal round trip, including the total eclipse of the sun and a glimpse of some of the finest cities of Europe en route.

If we go further east the track of the eclipse leads into a region more and more difficult of access, although the totality lasts a few seconds longer, and the eclipsed sun is a few degrees higher. Only one station in Mongolia, Tsairou, seems likely to be considered, and may be the only one finally selected by Prof. Todd. In the American Journal of Science for March, 1906, he has given the position of 10 possible observing stations, exact local time of the four phases, duration of totality and other interesting facts.

The middle of the eclipse occurs at sunrise in a region north of the Black sea, the track crossing the Caspian sea, where the eclipse begins at sunrise. It reaches Jizah, in Turkestan, about 8:45 and ending at 10:01:55.2, the duration being about two minutes.

Jizah is about 13 miles south of the central line, while Ura-Tube is only two miles south, and practically central. There the eclipse begins at 8:50:52,

A NEW BELGIAN DISCOVERY.
The cut shows an unsinkable suit invented by M. Jack Fockety of Antwerp. The apparatus, which may be adjusted in a few seconds, is like a



pillow. It has compartments for drinking water, food, a rope, a knife and an incandescent light. It weighs two pounds, and its buoyancy is about 200 pounds.

totality being at 10:06:57.1, and ending at 10:08:49.3, a duration of two minutes and 17 seconds. At Tsairou, in Mongolia, which is two miles north of the central line, the eclipse begins at 12:29:58, with totality at 1:49:41.6, and ends at 1:51:36.7, a duration of about one minute and six seconds.

Looking at the map, Tsairou, in

Mongolia, seems the easiest place to get at, compared with the long overland trip to Jizah. To arrive at Tsairou means a long ocean trip across the Pacific, but the difficulties in the way of transportation from Peking to that place are still to be considered, and also the climatic conditions at this season of the year. However, it must be remembered that this will be the last favorable opportunity for observing an eclipse until that of April, 1912, which will be visible for one minute in Brazil, and for a brief interval in Spain.

The next eclipse will be that of Jan. 3, 1908, and will be wholly confined to the Pacific ocean, with the possibility of observing stations on two islands. A brief account of these islands will show how little they are adapted for such work. One, named Flint island, is situated west of the Marquesas islands. It belongs to the British, and was discovered in 1801. This little island is about two and a half miles long and a half mile broad, and is fringed by a deep coral reef, which dries at low water and extends seaward quite a distance.

It is covered with brushwood and trees, and in the interior of the island are two small lagoons of brackish water. Not a very promising prospect for the most enterprising observer, despite the fact that the duration of totality will be four minutes, and the sun's altitude 74 degrees. In 1880 the island was uninhabited, and the buoys formerly in use were gone. There is no rise and fall of tide, and the landing is said to be very bad, even for surf boats.

The other island within the shadow track is known as Hull island, and is situated half way between the Marquesas islands and the Solomon islands. It is one of the Phoenix group, and was discovered by Wilkes in 1840. A coral reef fringes the island, and landing is difficult except by entering the lagoon by means of the boat passages on the northwest side. There is no anchorage, and in 1899 the island was uninhabited. The winds are favorable from January to May, during which period bad weather is most common. Small chance, then, is there of observing the eclipse with any success, since it occurs on January 3, when squalls

A LITTLE KNOWN QUEEN.
Queen Dowager Nathalie of Serbia is one of the royal ladies of Europe who have not achieved much publicity. She is the mother of the murdered Alex-



ander, and since the conspiracy which resulted in his assassination she has been living out of the country. She has recently been visiting friends in England, Lord and Lady Clifford of Chudleigh.

prevail. Such is the irony of fate, permitting one of the grandest sights the eye of mortal can ever behold to waste its glory on these almost inaccessible islands.

This reminds one of the illustration given by an astronomer who compares the tip of the shadow trailing along the earth to the point of a lead pencil,

marking a line on a whirling ball that represents the earth. It would sometimes seem to carry the illustration further—that a mischievous imp directed the point of the pencil, causing it to trail aimlessly in the neighborhood of Greenland, where the eclipse occurs in 1909, and in the South Antarctic regions in 1910.

In fact, although a total eclipse of the sun occurs every year between 1907 and 1912, yet no observations of value can be made, because on all these occasions the pathway of shadow lies almost wholly across oceans or inaccessible parts of our planet. That observations of value cannot be made is due to the fact that no device for securing accurate astronomical observations from the deck of a ship has yet been perfected, while to reach these places tedious and expensive expeditions are necessary.

For this reason it seems as though some effort should be made to observe the coming eclipse of January 13, 1907, at one at least of the ten possible stations whose positions have been carefully computed by Prof. David P. Todd. Fortunately, the computer in this case is equal to the emergency and, undaunted by climatic conditions, of a tedious journey, braves all obstacles in pursuit of a shadow which enables him for a few moments to obtain a brief glimpse of the sun in all its glory.

What glory's like to thee?
Soul of this world, this universe's eye,
No wonder some made thee a deity.

Rather Hard on Beggars.
The Sinclair Socialist, handing the beggar a dime, said:
"The world is in a bad enough way, dear knows; but I am not one of those blind men who say that it goes back instead of forward."
"Take your case, for instance. You are practically unmolested, aren't you? A few months is the most you ever get for begging. And do you know what would have been done to you in the fifteenth century?"
"The first time they caught you begging they'd have whipped you at the cart's tail. The second time they caught you they'd have slit your right

ear, and bored a hole in our left ear with a hot iron. Catching you a third time, they'd have put you to death as a felon."

"Gee," said the beggar, "who'd 'a' thunk it?"

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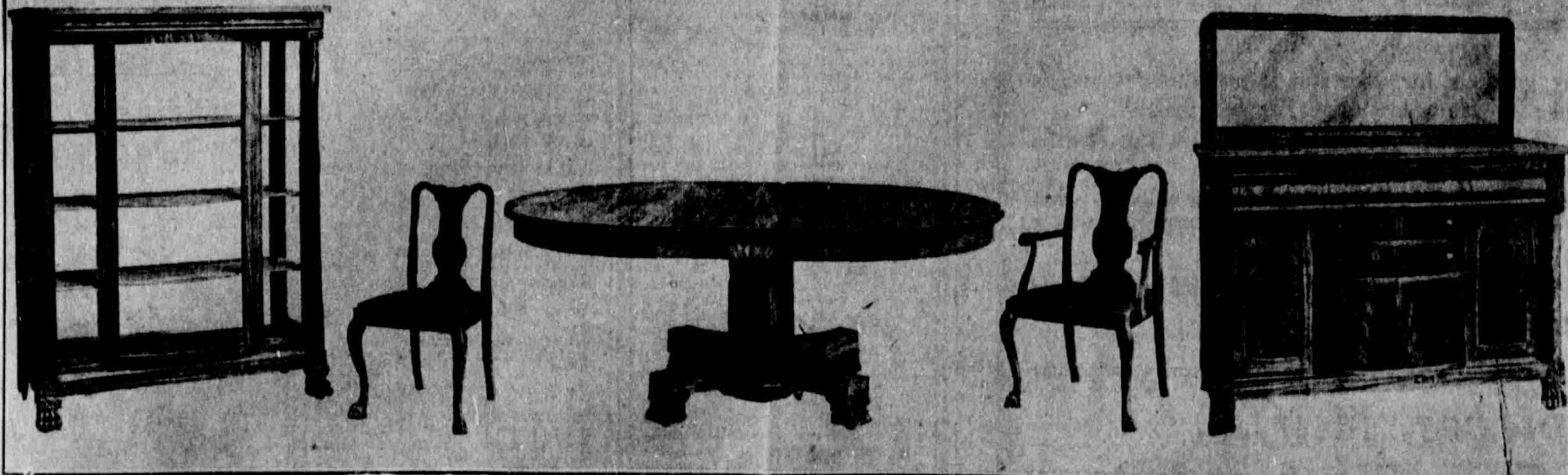
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