

# THE TRANSIT OF VENUS.

## The Great Astronomical Event of the Century.

### THE PROBLEM OF THE SUN'S DISTANCE FROM THE EARTH,

The Transit Took Place To-Day, and was Observed by an Army of Observers.

The Transit of Venus took place to-day. It may be inopportune for local matter for the Press to give an account of it, but we deem it of interest to everyone, and therefore glean from the *New York Herald* a brief account, which is as follows:

During the bright evenings of the past summer, a spectator, turning his face westward, might see glittering over the horizon, a planet of singular brilliancy, sparkling with a silvery glow before any star had opened its eye, and following the track of the setting sun. This glorious orb was Venus, the Phosphorus and the Hesperus of ancient astronomers, the morning and evening star, named after the fairest of the heavenly goddesses, because of the surpassing beauty of its rays. In size it is nearly equal to our own earth, and like all the other planets, borrows its light from the sun. Except Mercury, it is the nearest of all the planets to the sun, being at a distance from the great luminary of about sixty-six millions of miles. No person now living has ever witnessed a transit, and after 1882 no transit will take place within the lifetime of any child of the nineteenth century. After that date Venus will circle round in her orbit 200 times without once rushing between us and the sun, and the twenty-first century will have dawned before astronomers can hope to witness the recurrence of the same phenomenon. To an ordinary observer, this transit of Venus will seem to be a very uninteresting and insignificant event. A black spot, scarcely visible to the naked eye, will push its way in at the left hand side of the bright disc of the sun and slowly creep across his surface, vanishing into space as it departs toward the right. This is all the display that Venus will make during the few hours that she will take to drift across the sun. The illuminated half of her surface being turned toward the sun we can see only the darkened hemisphere and we should fail to recognize in that pitiful speck, the beautiful evening star of last September. No wonder that the astronomers of old never dreamed that this minute spot was the same crystal orb which during eight previous months had been the joyful star of evening, and was now shifting toward the west of the sun, gradually to brighten and become the morning star for an equal period of time. Who would imagine that, for the past sixty years the great mathematicians, astronomers and opticians of the earth have spent vast amounts of time and labor and money in making

#### PREPARATIONS FOR SUCCESSFUL OBSERVATIONS

of the coming transit? Yet such are the facts. No event of the century has excited in the scientific world such a deep and widespread interest. The Russian government has sent out twenty-seven expeditions; France, Germany and England ten or twelve each, and the United States government has appropriated \$150,000 for the purpose, and placed vessels of the navy at the disposal of eight separate expeditionary parties. What, then, is the

#### NATURE AND OBJECT OF THE OBSERVATION

The first and immediate object is an accurate determination of the distance between the earth and the sun. When this distance is known we can easily calculate the distances and sizes of all the planets of the solar system and also the amazing distances of many of the fixed stars. Without knowing the one, it is impossible to determine any of the others, because the line stretching from the earth to the sun is the yardstick, as it were, with which we measure off the distances of the other heavenly bodies. Moreover, it will settle a vexed question which has puzzled the minds of scientists from the earliest ages of astronomical history.