

The duration of a total solar eclipse is subject and profits by the experiences of another motive, if such were needed, to others. Successful eclipse photographers make us prize its observation highly. The know thoroughly how to regulate the iongest possible duration of a total solar aperture and the focal length of the mediate delivery-and every article is here and exactly as eclipse is less than eight minutes. Ordi-narily it is very much less, so much so that ing of the plate, the time of exposure, advertised. Langley says that "an astronomer who the time and manner of developing, and should devote thirty years exclusively to many other details, in order to bring out the subject, never missing an eclipse in a desired feature of the corona. They whatever quarter of the globe it occurred, know that, on account of the great inwould in that time have secured, in all, equality in the light, one plate (• something like three-quarters of an hour for produce the whole corona, but they must observation." And Todd tells us that "the either make many exposures of variable great total eclipses of 1955 and 1973 will durations and then construct a composite exceed seven minutes in duration, the long- photograph from all of these, or else prepare their plate in sections for the individual parts of the corona it is to secure. With immense labor and skill most admirable photographs of the corona have of May 28, 1900, will be visible in the United been made in former cellpass and it is hoped States on a line drawn from New Orleans to that those of the present eclipse will sur-6. The spectroscope is the instrument from which the most valuable information is expected. It is to determine the posttion of a certain green line in the spectrum of the corona, which up to the present is the only one that has ever been identified with the line of any terrestrial substance. The unknown element causing this line is HOW DO MEN "DROP OUT OF SIGHT?" provisionally called coronium, and may disclose its identity during this eclipse, in the same way that helium and other substances have done in former eclipses. 7. Photometric observations of the corona and of its various parts will be another task to be performed during the coming eclipse. being obsoured at the maximum phase. The This is done more accurately by photography and requires a special outfit. s. The heat radiation of the corona will engage the attention of other astronomers and important information is expected on Within the last three months fully a dozen 9. All scientific astronomers will have at He will go to the central line in Georgia it will be to note the beginning and end of "the ground has opened and swallowed the total eclipse as well as of its partial them." To be sure, in most cases, the there is force, and in empty space no force Scientific Value of Solar Total Eclipses phases with the utmost accuracy. To render non est man has had the indelicacy to these observations of value to science in turn up sound and well within a few days eclipse is devoted are numerous and im- giving us a better knowledge of the moon's to contradict the stories circulated about position and motion, the latitude and longi- him and interrupt proceedings to "settle" brilliant that even the smallest visible por-tion of the solar disk blinds our eyes to its after the eclipse 10. There are a few astronomers who will ately be tormed a "mysterious disappearnot observe the sun at all when it is totally ance belt." collipsed, but selze the advantage offered by the darkness to devote their attention to stored with instances of people having other phenomena which can be seen only disappeared never to return. Many of during that time. The first of these is the these were persons well-to-do, obviously during that that called intra-Mercurial, sound in mind, and, so far as known, because their orbits lie inside the orbit of Mercury, which are always so near the sun that his light prevents our seeing them at all times outside of a total eclipse. The cystence of some of these bodies is outside at total eclipse are the means they employ in leaving a large ispected, and two great astronomers claim city wherein are thousands who at least "know them by sight," and yet leave no to have seen them, but their observations trail behind, are equally obscure. Hence, require confirmation. the term, "mysterious disappearance," 11. A German astronomer will measure which has been used so much of late that the brightness of the planet Mercury, which it has become hackneyed. will he close to the sun, and thus enlarge In connection with this subject it is per-

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Duration of an Eclipse.

servation Enumerated

and Explained.

around the world to see.

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COULTER.

Path of Present Total Solar Eclipse.

The approaching total eclipse of the sun Norfolk in Virginia. The average width of this path will be fifty-five miles. Before entering the United States this line of totality crosses Mexico centrally and after leaving Norfolk it passes over the Atlantic ocean and runs through Portugal, Spain, Algiers and Egypt to the Red sea. Outside of this central path the sun will be but partially eclipsed and as such will be seen throughout the whole of North America and Europe, the northern half of Africa and the north Atlantic ocean. The duration of totality will vary from seventy-six seconds. at New Orleans to 105 seconds at Norfolk.

In Omaha the eclipse will only be a partial one, 70 per cent of the sun's diameter computed time of the beginning at the Creighton University observatory is six hours, forty-five minutes, five seconds a. m. and of the end eight hours, fifty minutes, thirty-two seconds a. m., central or city this point from the present collpse time. But the director of the observatory, Father Rigge, will not be there to observe it. and observe the total phase.

environs. It is only when the entire disk is covered by the moon that the sun's fainter surroundings, the prominences and the corona, become visible. The prominences or protuberances are those brilliant carbuncles seen close to the lunar orb. They are eruptions, mainly of hydrogen gas, from the solar surface. Very little could be known of them until Lockyer and Jansen in 1868 simultaneously discovered a method of seeing and measuring them apart from times of eclipse. No corresponding method has been discovered of photographing or seeing the corona in full sunlight, although many and most ingenious devices have been used to that end. Hence astronomers are forced to make use of every total eclipse to ascertain the sun's physical condition. They wish to know what the corona is, what causes it, does it change, does it change rapidly like the prominences, is there any casual connection between the corona and the prominences or aun apota?

Preparations Astronomers Have Made. In order to use their precious 76 or 105 seconds of totality to full advantage American astronomers have made elaborate preparations

First of all, the path of the total eclipse. that is, the course of its central and border lines, has been laid down upon a map of the United States, with the utmost preclaion, and sufficient numerical data have lists are admitted to be very defective. been furnished to enable astronomers to Every professor of astronomy that can get locate their instruments at the most advantageous points. Our government astrono- looks like treason to a noble cause to be mers at Washington, D. C., and the eclipse willingly absent. The universal interest, committee of the Astronomical and Astro- the preparatory and subsequent labor, the physical Society of America, have also is- large sums of money devoted by universisued pamphlets and circulars of useful in- ties and individuals to the study of an formation inviting especially co-ordinate event which can enlarge only our specu-Astronomical periodicals lative knowledge, and, as far as we can see observations. have discussed this eclipse for months, and at present, cannot possibly, in any conastronomers and amateurs in order to in- vincing proofs, even for the possimist, that be of future value to science.

Secondly, the government has also es- of the secrets of nature are judged to be tablished special weather observers on and superior to the quest of riches. near the entire path, who furnish us with data extending over three years of ob-

our knowledge of its physical constitution. Importance of the Phenomenon.

From the above-mentioned methods and one choose to take it so-but on account spiects of observation it is easy to underof its intrinsic interest as a singular epecu stand the importance which astronomers atation. This distinguished scientist has extach to a total eclipse of the sun and why pounded his views in a book entitled so much expense is incurred to solve these 'Versch-widen und Seine Theorie." which problems. We might add other points to our has attracted some attention in the United details, but these would be too technical. States, and especially on the Pacific coast

All the large observatories of our country. where a writer named Ambrose Bierce has and many of the smaller ones, will send translated and amplified part of it for use their representatives armed with all possible in a book of short stories recently pubimplements of observation. It would be unlished by him. In this work Dr. Hern refair to mention names, as the published fers to a "non-Euclidean space," which is described as "a space which has more diaway will be on the central line. For it

Leipsic-not by way of explanation, unless

Dr. Hern believes that in the visible world there are void spaces-vacua, and someall the accumulated experience of the ablest ceivable way, affect our bodily comfort or thing more-holes, as it were, through men of the world is freely given to our pecuniary advantages, are certainly con- which animate and inanimate objects may fall into the invisible world and be seen duce them to make observations that will intellect still sways the human race and and heard no more. The theory is somethat intellectual pleasure and the knowledge thing like this: Space is pervaded by luminiferous ether, which is a material WILLIAM F. RIGGE, S. J., Creighton University Observatory.

MYSTERIOUS DISAPPEARANCES must be propagated in this; every process must take place in it which takes place Weird Speculation of Dr. Hern, a German Scientist, on the Subject.

Through one of these cavities light could

There Are "Void Places in the Lunot pass, for there would be nothing to miniferous Ether," He Says, in bear it. Sound could not proceed from Which Nothing Can Occurit; nothing could be felt in it. It would A Gruesome Theory. not have a single one of the conditions necessary to the action of any of our

senses. In such a void, in short, nothing Omaha has had abundant examples whatever could occur. The learned doctor the "mysterious disappearance" of late, pute it concisely thus:

"A man inclosed in such a closet could persons have "dropped out of sight." or neither see nor be seen; neither hear nor be 'gone up in thin air," and in some inheard; neither feel nor be felt; neithr live least one observer in their party whose duty stances, according to newspaper reports, nor die, for both life and death are processes which can take place only where

> can exist." Of course this is going too far. The materialists of the great boundless west, surrounded by a beneficent and matter-of-fact nature, can't accept any such theory as that, and they wouldn't believe it if they interstellar space which might appropricould. It offers imperfect solace to those who have lost dear ones by the disappear-

> ance route. The parents and friends of On the other hand, every memory is Charlie Ross, Henry J. Newman and others of the countless lost would not care to think of them as surrounded by these awful conditions and doomed forever to so exist. But it is a curious and interesting speculation, apropos of several local curpleasantly situated. The motives which prompt such to withdraw from the usual rent events, and is given here for what it theater of their activity are not obvious; is worth.

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being. For sale by Kuhn & Co. LABOR AND INDUSTRY.

A servant girls' union has been organized with a membership of 500 at Copenhagen, Deamark.

There are in the United States today nearly 1,400,000 union men, according to the most authentic sources of information. Labor organizations of Seattle are com-bating the Japanese influx by fining mem-bers who patronize establishments where the Japa are employed.

In Germany 1.67.338 acres were seeded to sugar beets last year. The yield was about eleven and a quarter tons to the acre, and the sugar results 12.7 per cent.

The American people are evidently very fond of chocolate, for there are about 12,000,000 pounds of the commodity con-sumed in the United States annually.

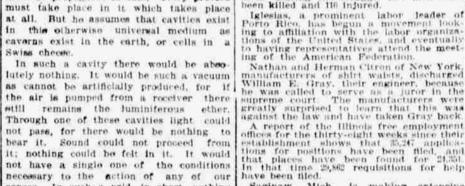
Dr. Seward Webb last week cabled from Paris that he intended to present as a mark of his appreciation a check for \$75 to every dispatcher on the Adirondack & St. Lawrence railroad, of which he is a di-vertor. rector.

By a referendum vote of the Interna-tional Typographical union it is determined to strengthen the reserves of its war chest to the extent of about \$150,000 a year, the recent assessment levied bringing in this whistle was blowing the fireman was strain-

thing—as much a substance as air or water, though almost infinitely more at-teguated. All force, all forms of energy 120,000,000 in wages to 40,000 skilled work-

men. During the struggle five men have been killed and 116 injured.

Our store will be open Monday evening. May 21st, to accommodate those who cannot attend the sale during the day.



have been filed. Saginaw, Mich., is making extensive preparations for the biennial convention of the Barbers' International union. Since the passage of laws by Michigan and other states providing for licensing followers of the tonsorial art, organization has been so rapid that barbers' unions are springing up in many localities. n many localities

In many localities. A well-equipped cotton mill, owned and operated by negroes, has just been started at Concord, S. C. The mill contains 5,200 spindles and 140 looms. The mill manage-ment recruited its forces from the agri-cultural colleges and other colored educa-tional institutions, and pays a slight per-centage less than the regular rate prevail-ing in southern cotton mills. Operators on linotype machines in Eng-lish newspaper offices have been twitted at their lack of speed as compared with the American operator, and have been mak-ing in twestigation which they claim shows that the matrices for the English inotypes are much "leaner" than those in use in America. The machines are run at a slow gauge of power, which the operator is not responsible for. The bureau of labor statistics of Indiana

The bureau of labor statistics of Indiana a its latest bulletin gives returns of the The bureau of labor statistics of Indiana in its latest bulletin gives returns of the total membership of labor organizations in that state, in addition to other valuable information concerning the wage workers. Reports show 24,424 as belonging to unions, an increase for the year of 2.685. The average carrings from 468 unions show \$577.72 per year, or \$1.86 per day. The an-nual receipts from members were \$155.271, with disbursements of \$125.224. Sick bene-tits absorbed \$13,253, and \$85.596 was paid for death claims. Some idea of the immensity of the in-

for death claims. Some idea of the immensity of the in-dustry as well as the wages received by the workers in the iron and steel mills around Pittsburg may be had from a pay roll for some 12,000 men for the month, which footed up more than \$200,000. This was for the three plants of the Carnegie works-Homestend, Edgar Thomson, and Duquesne. A like sum was plaid out to employee in other plants of the company in Allegheny county at the same time. The sum distributed is believed to be the largest ever paid in the history of manu-facturing in this country.

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and bladder troubles, is to take a safe, sure medicine like Foley's Kidney Cure. It always benefits the Kidneys. For sale by Myers-Dillon Drug Co., Omaha; Dillon's Drug Store, South Omaha.

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neme-a space in which it would be possible to tie a knot in an endless cord and turn a rubber ball inside out without 'solution of rubber ball inside out without 'solution of is so great, that the original holding is to tie a knot in an endless cord and turn a rubber ball inside out without 'solution of is so great, that the original holding is to till a knot in an endless cord and turn a rubber ball inside out without 'solution of is so great, that the original holding is to till a knot in an endless cord and turn a rubber ball inside out without 'solution of is so great, that the original holding is to the steam from the noisesounding full strength. It could be heard



whenever any question arises with regard to a word. THE EARLY USE OF REFERENCE BOOKS by the young leads to habits of thoroughness in study. prevents careless writing, and cultivates exactness in conversation.

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