The Heavens in October

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Astronomer of the University of Pennsylvania

The principal change in the evening sky is the appearance of the bright winter constellation Taurus, which, with the beautiful Plesades is now high up in the east. The Scorpion, the Belance, and Virgo have all disappeared, while the great faint Ophinchus, or Screent-holder, is arready half sunk in the west. Overhead there shines out the beautiful Northern Cross, which, with Cassiopoea in the north and Formalhaut and the Bagle in the south, makes the autumn sky so much brighter than that of midstummer.

The wonderful Milky Way still passes directly overhead, but its slow and around one of the smaller suns

million miles from us, it had drawn so near the sun that the disturbance produced in it by that great body had greatly increased its intrinsic brightness.

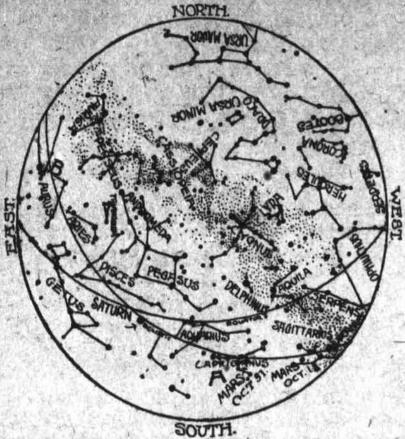


Fig. 1-The Constellations at 9 p. m., October 1.

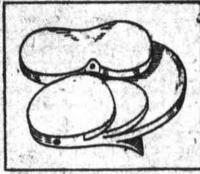


Fig. 2-Disc model of the Milky

heavens from north to south: extends from the northeast to the southwest; by December it will stretch due east and west and not until the end of February will it cease to pass directly through the zenith. Then the winter branch will be visible to us, after which it will rapidly sink toward the west and disappear.

THE PLANETS. The planet Mars, which is moving rapidly eastward out of the constellation Sagittarius into Capricornus, may still be seen in the southwest, but it is now in unfavorable position for observation. The beautiful Saturn, however, with its rings and retinue of moons is high up in the east, and evable position. And low down in the



Fig. 3—Photograph of a part of the Milky Way.

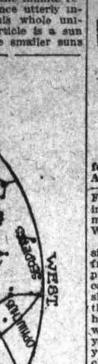
west, just after sunset, a brilliant planet will be detected creeping out from behind the sun so rapidly that by the end of the month it will be very onspicuous and soon after will exceed Mars in brilliancy. This is the planet Venus, which all through the winter will remain the beautiful evening star.

The observer may also detect the little planet Mercury, which will reach its greatest distance east of the sun onen the 29d of the month, and may possibly be seen shining in the sunset glow far toward the southwest. This planet is so low down in the sky, however, that it will only be found with

October 15th, at forty-seven minutes set t four p. m., the moon will pass over one star at A. Fig. 1; on October 2. That 6:24 a. m. it will pass over the star at B. The first star will remain behind the moon one hour and three minutes, and the second one, one hour and five minutes, as seen from

THE AUGUST COMET.

The observer who looked at the sky tle comet which was then visible. stars which are nearest to us will appear to be displaced the most, just as pear to be displaced the most, just as pear to be displaced the most, just as to a passenger on a swiftly moving railway train the pearer objects appear to rush past with far greater velocity than those whoch are far sway. The August comet was a very pretty one, with a bright nucleus and a short tail. It was easily visible without a tolescope. On August 1st it was near the bright star Aldebaran, at A. Fig. 6; by September 1st M had moved entirely across the Twins into Cancer. It was nearest the earth on August 3d, when It was but 70 millions of miles away, but it was brightest on August 2d because, though it was then 90



westward turning has now become we know that stars and as a great cloud of dust, but there are many minute worlds revolving on one of which it is our destiny to dwell. What is the shape and the true size of this great cloud, if indeed it does not extend on forever? Is there nothing beyond it but empty space, or are there other

universes than our own?

The first attempt to find the form of our universe was made by Herschel present form cannot have existed formore than a century ago. Supposing ever, but that it had a beginning no that the fainter stars appear faint be-cause they are farther from us than the brighter ones, and that the stars on the whole are evenly distributed through the cloud, he thought it only necessary to point his telescope in different directions and to count the number of stars which he saw. In this way he sounded the depth of the cloud in very many directions: if in one pointing, twice as many stars were found as in another, the first sounding



Fig. 4—Spiral model of the Milky Way.

all the pointings is the disc-shaped branching of the Milky Way, and with a few holes directly through it which orrespond to the com holes or vacant places in the sky.

But a mere glance at any photograph of the Milky Way, such as is shown in Fig. 3, will show that the stars are not evenly distributed, but are massed together in some places and comparatively few in others, Many of the very faint stars, too, are certainly not farther away than the brighter ones; they are faint either because they are new stars not yet much condensed or because they are actually smaller than others or be-



Fig. 5—A possible form of the Milky Way Spiral.

cause they are very old and begin-If we could directly measure the distance to some thousands of stars the the shooting was accidental, tried to task of finding the shape and size of escape but was run down and canour star cloud would be an easy one. But there is only one way known of a mile from where the shooting oc-measuring the distance of a star, and curred. The ball passed through the that is by observing its apparent fleshy part of the right thigh and,

change a direction from us as the earth carries us along its great path in its yearly journey around the sun. And nearly all of the stars are so infinitely far away that even when our position is thus altered by 185 millions of miles they are not apparently dis-placed in the slightest degree.

But beside our own motion around that there is an appeal to the Sune sun, the sun itself is ceaselessly preme Court. The observer who looked at the sky the sun, the sun itself is ceaselessly just before sunrise during the month rushing through the tar cloud carry-of August doubtless saw the bright lit- ing the earth and all of the other planets with it. The effect of this mo-These visitors from the depths of tion is to cause a displacement of all space have been very rare of late years. No one can tell when our sun will pass one of these bodies and draw it toward itself with ever-increasing stars which are nearest to us will ap-

not sharply marked as they would be if we were viewing it from the outside, but that the stars diminish in num-ber gradually until the bright band fades into the ordinary star-lit sky.



Fig. 6—The Constellations just be-fore sunrise, showing the path of the August comet.

which appear faint because they actu-ally are so and not because they are farther away than the others. Some of them, like the red stars, are faint because they have reached a point in their development in which the light from their bright interior is obscured by heavy clouds. Some are too little condensed as yet to emit much light; they are too young, and others are too old. We know that all of the stars are slowly contracting and approaching a solid condition; we cannot doubt that there are very many which have already become cold and which must remain forever invisible to us. And since in a definite though very long time even the largest sun will thus die out under the action of natural forces, it seems that had these been acting forever every star would have long since become cold. We are, therefore, led to conclude that our universe in its

less surely than it shall have an end. APPEAL FOR CONDEMNED MAN.

Four Exceptions Will Be Filed With Supreme Court in Major Guthrie Case—Highway Robbery Charged Against a Negro-Tobacco Begins to Come in Plentifully at Durham. Special to The Observer.

Durham, Sept. 28.—The appeal case sentence of death for strangling his scribed as follows: tions, as follows:

Lula Stallings that the dead woman beginning. was in good health the evening before her death, Lula Stallings not being an expert. 2. The court's date of confirmation of sale, title to allowing Louis Adkins to tell of a conversation he had with Major Guthrie, this conversation being convicting in nature, and before the facts had been established that a crime had been committed. 3. The action of was supposed to be twice as deep as the court in overruling a motion to the second. The model formed from set aside the case because there was

not sufficient evidence to convict. 4. body shown in Fig. 2 with various The fact that Juror Horner was alt-laminations corresponding to the ting on this case when he had heard the ting on this case when he had heard of the sudden death of his child. killed by an automobile, this being before the speech of the defendant's counsel and before the charge of his honor. It is claimed that the condition of said juror was not that to pass on life and death issues.

The officers are looking for one Norman Beasley, a negro, who snatched \$7 from the hands of the wife of Robert Weaver, also colored, and then ran off. When he grabbed the money the cries of the woman brought her husband to her help. made a break to get Beasley and the latter grabbed a chair, keeping him off and then reaching for his pistol, telling him he would shoot him. The charge against Beasley will be highway robbery.

There was quite a large break of obacco on the market yesterday, the three warehouses being well filled with the weed. The grade of tobacco being sold is low, but the prices for those grades are good and considerably above the average. The warehousemen expect that from this time on there will be at least four large sales each week, providing, of course, the weather is such as to allow the marketing of the weed.

One Durham Negro Shoots Another,

Special to The Observer. Durham, Sept. 28 .- There came near being a fatal shooting affair at the Scaboard Air Line depot yesterday when Bun Mitchell was shot and wounded by Fred Carlton, both negroes. Carlton, who claims that turned by Sergeant Pendergraph fully a mile from where the shooting ocwhile the wound is a very painful one, it is not considered that it is of a serious nature.

Carlton, the defendant in this case, married a sister of Major Guthrie, the negro who is now under sentence of death and whose execution has been stayed by reason of the fact

Consul H. S. Brunot, of Jeres de la Fronters, reports that Spain needs irrigation for many reasons, and the Spaniards realize that fact, as is evi-denced by the introduction of laws touching the subject at almost every session of Parliament, but thus far without results.

HEALTH IN THE CANAL ZONE. HEALTH IN THE CANAL ZONE.

The high wages paid make it a mighty temptation to our young artisans to join the force of skilled workmen needed to construct the Panama Canal. Many are restrained, however, by the fear of fevers and malaria. It is the knowing onesthose who have used Electric Bitters, who so there without this fear, well knowing they are safe from malarious influence with Electric Bitters on hand. Cures blood poison, too, billiousness, weakness and all stomach, liver and kidney troubles. Guaranteed by all druggests. So.

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DETECTIVE'S QUICK WORK.

In Two Hours He Runs Down Boy Who Took \$50 and Returns the Money to the Owner. pecia! to The Observer. Asheville, Sept. 27, -City De-

tective Frank Jordan did a neat stunt in the sleuth line and, while no prosecutions will follow, the work of the detective was nevertheless excellent. It seems that a well-known Asheville man sent his 15-year-old son to the bank with a \$50 check to have it cashed. The boy cashed the check all right, but instead of returning to his father he pocketed the money and hiked for the woods. About 12 o'clock Mr. Jordan was From this it is concluded that we are in the cluster itself; that our sun is merely one of the stars of the Milky Way clusters.

Fig. 4 shows a form originally assigned to the Milky Way cluster, but from more recent researches it ap-Way clusters.

Fig. 4 shows a form originally assigned to the Milky Way cluster, but from more recent researches it appears that the spiral is more complicated, perhaps somewhat of the shape shown in Fig. 5. The distance across this cluster is still very uncertain. Perhaps the most reliable estimate is that which places it at about 4,000 light years; that is, light occupies 4,000 years in passing from one end of the cluster to the other.

Scattered among the bright stars there are innumerable fainter ones which appear faint because they actu-

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ANNOUNCEMENT. Drs. W. A. Graham and T. H. Wright beg to announce that they have formed a copartnership under the firm name of Graham & Wright for the practice of Medicine and Surgery. Office over Jordan's Drug Store.

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Aug. 15, 1907.

Commissioner's Sale of Real Estate

By order of the Superior Court, in a proceeding therein pending, en-titled Frances Eugenia Clark and others vs. Loyd Smith and others, cn the 15th day of October, 1907. at 12 o'clock m., at the courthouse door in the City of Charlotte, I will sell at public auction to the highest bidder the following described traci of land:

Juing the second tract of land described in a deed of Alex A. Cathey and others to Eliza F. Smith, dated who stands convicted and under January 2d, 1867, and therein dewife, has been prepared by his at- acres, beginning on the bank of the torney, Mr. Benjamin Lovenstein, and river, on hickory, runs east 66 polyforwarded to Solicitor A. L. Brooks. to a black jack; thence S. 5, E. 31 The appeal is based on four excep poles to a pile of stones; thence S. 84 poles to the river on a willew; 1. Exception as to the evidence of thence up the river 25 poles to the

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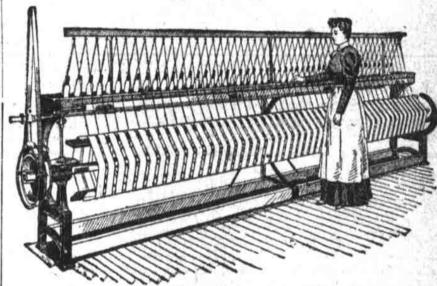
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