

A Star in Flames.

From the London Spectator.

Again we have news from the Southern skies, and again the scene of interest lies in that marvellous region of the heavens which forms the extremity of the keel of Argo. In this glorious region of the skies stars are spread with a profusion which surpasses anything seen from our northernmost point. From Sirius southwards towards Canopus the density of stellar aggregation steadily increases. Thence along the keel of the great ship stars of all magnitudes are spread in greater and greater profusion, so that, as Humboldt tells us, the sky here sheds a radiance resembling that of the young moon, and by the mere increase of light one can tell without turning towards Argo when her resplendent keel is rising above the horizon. But it is where the Milky Way narrows down towards the great nebula in Argo that the climax of splendor is reached. "It is not easy," writes Sir John Herschel, "for language to convey a full impression of the beauty and sublimity of the spectacle which this nebula offers, as it enters the field of view of the telescope, ushered in as it is by so glorious and innumerable a procession of stars."

When Sir John Herschel wrote thus, there lay in the very heart of that amazing nebula a fixed star which shone as brightly as Aldebaran or Antares. Eta Argus, for the star has received no special title, and is spoken of only by its Greek letter, had been described by Halley as a star of the fourth magnitude. Later the French astronomer Lacaille saw it of the second magnitude. When Sir John Herschel was pursuing his wonderful series of observations on the Southern heavens, this star shone as a moderate first-magnitude star, and in his noble picture of the great nebula (which lies before us as we write), the star is placed in the very densest part of the nebulous matter, and close by the borders of the mysterious vacuity which marks the central region of the nebula.

Since 1837, however, the star has exhibited new and even more surprising changes. It increased in splendor in a strangely fluctuating manner, occasionally losing brilliancy for awhile, to renew its glories presently, until at length, in 1843, it surpassed Canopus in brightness and rivaled even the blazing Sirius. Then began a long process of decadence, the star falling gradually away from magnitude to magnitude until it almost passed the limits of naked-eye vision, and came to be described as a low sixth-magnitude star. Meantime, the nebula around it waxed in splendor. When Herschel had been at the south cape the nebula could barely be seen with the naked eye on the darkest and clearest nights; but lately it had reached so high a degree of brilliancy that it was visible even when the moon was shining brightly enough to obliterate all but the leading stars.

Then, as we have related, news came from the Melbourne Observatory, where the star's splendid reflector is at work in the observatory of La Sner, that the nebula had changed in form since Herschel had depicted it. In particular it was remarked that all round the star Eta there was either no nebula or but little, whereas during Herschel's observations, as we have mentioned, the nebula was brighter round this star than elsewhere.

And thus it happened that whereas Sir John Herschel had conceived the nebula to lie far out in space beyond the stars with which it seemed to be associated, La Sner argued, from the remarkable changes to which the nebula has been subjected, that it cannot be so enormously extended as Herschel's views would imply, and in all probability lies nearer to us than the fixed stars in the same direction. Before this the present writer had urged that the nebula is really, and not merely in appearance, associated in the most intimate manner with those fixed stars.

And now we have intelligence respecting the star which throws a new and unexpected light on the whole subject.

It will be remembered that in May, 1866, a star suddenly blazed out in the constellation Corona (close by the uplifted right arm of Bootes). Studied with the spectroscopic by the eminent physician Huggins, this new object was found to be in a strange condition. Its rainbow-tinted spectrum, crossed by a multitude of dark lines, showed that it was, at least for the time, a sun like our own, an incandescent body shining through absorbent vapor. But besides the dark lines there were several bright lines, and these lines interpreted according to the usual principles of spectroscopic analysis taught us that the star was surrounded by glowing hydrogen. The new star was, in fact, a sun in flames. Gradually those flames died out, and now that star has seemingly returned to the condition it was in before the outburst, and can still be seen by the telescope, shining with the faint radiance of a tenth-magnitude star amid the depths of space.

And now it appears that the wonderful variable in Argo is also a star in flames. Its spectrum exhibits the same characteristics as that of the star in Corona, except that the dark lines which cross it are somewhat less distinctly marked. There, however, are the bright lines which indicate the existence of glowing gas around that distant orb, and the position of those lines serves to show in the clearest manner that the star, like the orb in Corona, is covered with hydrogen flames. Lines, as yet not measured, seem to correspond with a well-known bright line in the spectrum of the solar prominences, and with a line of nitrogen.

But the spectroscopic has also given very striking evidence respecting the association between the nebula and the star. All around the star M. Le Sner sought for the characteristic spectrum of the nebula. He could not obtain that spectrum from any part of the space which immediately surrounds the star, a fact which shows most conclusively that the absence of nebulous light here is not apparent (or due, as might have been suspected, to the fact that the star's light simply overpowers that of the nebula), but real. The nebula which Sir J. Herschel, when the star was bright, saw all around Eta Argus has really retreated from that blazing sun.

M. Le Sner has been led by this circumstance to suggest a view which involves the theory of the present writer that star and nebula are associated. He asks, "Is not the presence of nitrogen and hydrogen in the star Eta a significant fact in connection with the changes of the nebula, changes which appear to be nothing less than a destruction of nebula in the neighborhood of the star?" He points also to the fact that the star is increasing in brightness, and asks whether the bright-line character of the spectrum may not be due to a commencement of increase in the star.

But supposing the bright-line spectrum to indicate a destruction of the nebula all round the star, how can the star ever be restored—as astronomers are pretty confident it will be—to its former splendor? Very little doubt can exist that Eta Argus, like the famous Mira of the Whale, is a variable of long period. If, even now, when it seems to have consumed the nebula in its neighborhood, it shines but faintly, how is it to grow brighter

and brighter until it surpasses the splendor it had when Sir John Herschel saw it involved in nebulous matter? Is it not far more probable that the existence of nebulous matter around the star is a necessary condition of the star's brightness? That the star will recover its brilliancy when the nebulous matter comes back to it? and that the periodicity of this star (as probably of other variables) is due to the periodic character of the motions which take place in the nebula?

But our sun is himself a periodic variable. Has he, then, nebulous food brought to him in greater or less quantities at regular periodic intervals? The flames which surround him exhibit the very same bright lines as the flames around the star in Argo. They only need to bear a greater proportion to the sun's extent to show their bright lines upon the spectrum precisely as the bright lines appear in the spectrum of Eta Argus, only in comparably more resplendent. But where is the solar nebula which is required to make the analogy complete? Surely we see it in the crown of glory which shines around the sun during total eclipses. Those strangely figured radiations, the peculiar contorted structure of portions of the corona (compared by Arago to banks of thread in disorder), and the variable brilliancy and extent of the object during different eclipses, seem very plainly to point to the conclusion that our sun has, like Eta Argus, its nebulous surrounding. Like Eta Argus, too, our sun is a star in flames, and it only needs that the nebulous matter round the sun should resemble the nebula in relative extent, in order that the solar flames should shine like those round Eta Argus, with a splendor overmastering that of the orb they belong to.

FIGHTING THE REGAL TIGER.

Prince Alfred's Great Tiger Hunt—350 Elephants in the Field.

Prince Alfred, the Duke of Edinburgh, is enjoying himself greatly in India. In February he was magnificently entertained near the boundaries of Nepal by Sir Jung Bahadur, a native prince of immense wealth.

The Duke reached his camp on the banks of the Mohan river, which separates Oude from Nepal, at 8:30 on the morning of the 22d of February. Soon afterwards Sir Jung Bahadur, who was encamped on the opposite bank, came across to meet and congratulate his royal guest. He was in full state costume, and wore a splendid head-dress, valued at thirty-five thousand dollars in gold. After a pleasant interview, Sir Jung Bahadur having laid aside his elegant attire and replaced it by a hunting costume, the two Princes set out for the great tiger-hunt which the Indian host had planned for the entertainment of the Royal English sportsman. The battle which followed is described as absolutely unique. There were upwards of three hundred and fifty hunting elephants in the field; a tiger was soon started out of the jungle, and by masterly management was gradually hemmed in by elephants that at last these formed a complete circle of not more than sixty yards diameter, with only the Prince, Sir Jung Bahadur, and the tiger in the central space.

When the latter realized his situation, he ran roaring round and round the circle trying to find an exit, and at last made a rush at what seemed probably the weakest point in the circle. This, however, was just in front of the Duke's elephant, and a well-directed shot from his Royal Highness rolled him over, though it took two or three more balls to finish him. It was an understood thing that no one but the Duke was to fire, and to give an idea of Sir Jung's consummate courtesy, it may be noticed that he had dismounted from his own elephant and climbed into the state howdah, which by his orders had been prepared for the Duke, where he sat behind his royal visitor, not firing himself, but handing gun after gun to the Duke as he required them.

The dinner that night in camp is said to have been, considering where it was, a sight of itself worth a journey. About 9 P. M. the tent door opened, and in long file entered a string of Gorkhas, bringing trays of presents—beautiful knives, elephants' teeth, tiger skins, China silks, musk pods, the current coins of Nepal, and a small elephant who objected very much to the festivities. He sat, though not least interesting, a baby tiger, only ten days or a fortnight old, which made itself quite at home on the table with the dessert, and allowed itself to be caressed and made a pet of at once.

The Career of an Actress.

A FITTING STORY.

The San Francisco Morning Call gives this account of the life of an unfortunate actress now in a hospital in that city:—"The actress referred to made her first appearance in California about six years ago, at the Metropolitan Theatre, and created quite a favorable impression upon theatre-goers, and caused nearly one-half of the younger portion of the town to go daft. She was very beautiful, of fine, commanding appearance, and dressed with remarkably good taste, and was always sure to attract considerable attention whenever she promenade Montgomery street."

"She terminated her engagement at the Metropolitan Theatre, and disappeared from sight for some time, and none but her acquaintances knew of her whereabouts. She had almost faded out of the memory of the public when she was announced to appear at one of the minor theatres. The public talked, and expressed their surprise that she should condescend to appear at any but a first-class house, but probably the actress knew her own necessities, and accepted the engagement because she was compelled to. She played at this house for several weeks, and then made a tour through the interior of the State, appearing at Marysville, Sacramento, Stockton, San Jose, and other towns. She also went to Virginia, and played an engagement at Piper's Opera House, and, returning, went to Oregon, and remained there some months. Upon her return to San Francisco she again appeared at one of the Melodons, and then sank into obscurity. Two or three years have passed away since she disappeared entirely from sight, and perhaps everybody imagined that she had gone East, but it appears that such has not been the case. She has remained here in San Francisco, and has at last been attacked by consumption; and having exhausted all her means she has at last been compelled to seek an asylum in the City and County Hospital. The persons who in the days of her success and prosperity crowded around her and sighed for her smiles have all forgotten and neglected her, and now, instead of appearing each evening before the footlights, and receiving the applause of delighted audiences, she lies in a ward in a hospital upon a lowly cot, waiting the ringing-down of the curtain upon the last act. Here is a sad case, and her fate a sad commentary upon the stability of the public. At this time our firm friend would be worth more to her than all the applause that was ever showered upon the greatest actress that ever walked the mimic stage."

Love.

Who is he in youth, or in maturity, or even in old age, who does not like to hear of those sensibilities which turn curled hands around at church, and send wonderful eyeballs across assemblies, from one to one, never missing in the thickest crowd? The keen statistic reckons by tens and hundreds the genial man is interested in every slipper that comes into the assembly. The passion, alike everywhere, creeps under the snows of Scandinavia, under the fires of the equator, and swims in the seas of Polynesia. Love is as puissant a divinity in the Norse Edda as Camadeva in the red vault of India, Eros in the Greek, or Cupid in the Latin Heaven. And what is especially true of love is, that it is a state of extreme impressionability; the lover has more senses and finer senses than others; his eye and ear are telegraphs; he reads omens on the flower, the cloud, and face, and form, and gesture, and reads them aright. In his surprise at the sudden and entire understanding that is between him and the loved person, it occurs to him that they might somehow meet independently of time and place. How delicious the belief that he could elude all guards, precautions, ceremonies, means, and delays, and hold instant and semipermanent communication! In solitude, in banishment, the hope returned, and the experiment was eagerly tried. The supernatural powers seem to take his part. What was on his lips to say is uttered by his friend. When he went abroad, he met, by wonderful casualties, the one person he sought. If in his walk he chanced to look back, his friend was walking behind him. And it has happened that the artist has often drawn in his pictures the face of the future wife whom he had not yet seen.—Emerson.

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