

HOW NEW STARS ARE ANNOUNCED.

Astronomers Have a Regular Code—Nova Persei, Dr. Anderson's Second Discovery—A Vassar Girl Just Misses the Credit of the Recent Find.

Special Correspondence.

Cambridge, March 4.—"Unprepared Anderson Edinburgh vantage hardito azucana in Perseus unsettled bascar bluish white."

The above is the cablegram received at the Astronomical observatory of Harvard college in Cambridge, February 22, 1901, officially announcing to the western continent the appearance of the "new" star in the constellation Perseus, and immediately transmitted to the other observatories of the continent. Translated by the code used at the observatory it reads as follows: "A new star has been discovered by Anderson, at Edinburgh, in the constellation Perseus. The position is R. A. 3 h. 24 m., 24 sec. and Dec. x 43 04. Its magnitude on February 21 was 2.7. Bluish white." This translation, sent out more slowly in the form of bulletins, then carried the tidings of the discovery to all other persons in this country interested in astronomy.

Such news comes first to the Harvard observatory as the distributing center of astronomical intelligence on this side of the water. It is here that all such intelligence is reported from the various stations on the western continent, such news being then transmitted to the Kiel observatory in North Germany, which holds the same relation to the astronomical interests of the old world. In the fashion the Kiel observatory reports to Cambridge, and the latest astronomical news of Europe becomes almost on the instant familiar to all American astronomers.

The discovery of a new star is an event of great importance to the large army of astronomers, professional and amateur, constantly scanning the heavens. In the last fourteen years only eight new stars have been discovered, and the receipt of such a message as the above is, therefore, sufficiently infrequent to stir observatories to unusual and pleasant activity.

Modern astronomy, with its indefatigable photographic, photometric and visual instruments, works continuously, and the finding of a new star is a break in the night and day routine of ordinary observation somewhat comparable to the finding of an occasional nugget in a community of conscientious gold-seekers. In the Harvard observatory, for example, the instruments were turned immediately upon the constellation Perseus at which the light was far from being ideal for astronomical observation; the star was only occasionally visible through the clouds and falling snow made it twice necessary to cover and protect the instruments.

At the present time the discovery of new stars is more often made by the study of photographic plates of the heavens than by visual examination of the sky itself, such plates being taken constantly, and any new star thus registered immediately upon its appearance. The result is not always as immediate as that of the more personal scrutiny but its advantage lies in the fact that no star can appear and disappear, as might otherwise sometimes be the case, without leaving proof of its presence. In 1891, after the discovery of Nova Aurigae by the same Dr. Anderson who has now, in 1901, found Nova Persei, an examination of the photographic plates at the Harvard Observatory proved that the new star had been in existence for six weeks before the eye of the astronomer observed it.

Dr. T. D. Anderson, the discoverer, despite the fact that he has already added a star to the constellation Aurigae, is not a professional astronomer; his real profession is the ministry. As is the case with many another in great Britain, astronomy is simply a personal pleasure amounting practically to an avocation; it is interesting to note that in his first discovery he so doubted the possibility of having been the first astronomer to notice Nova Aurigae that he announced the fact to the observatories on a modest and anonymous post-card, concealing his own identity until the value of his "find" made it impossible longer to conceal it. Nevertheless, although the photographic plates would eventually have told the same story, the value of his present discovery was none the less important for it served immediately to focus on that one portion of the heavens the entire astronomical observation of the earth.

When a new star has been discovered the first questions naturally concern location in the firmament and its comparative brightness. Therefore, while the first technicalities of the science are familiar to many readers, it may be interesting to others to follow roughly the process upon which Dr. Anderson, having discovered Nova Persei, based his figures, "R. A. 3 h. 24 m. 24 s. Dec. +43° 04'." The exact situation may be seen most readily by examination of an ordinary globe, bearing in mind that to Dr. Anderson the heavens are the inside surface of such a globe, enlarged enormously, and the earth from which he makes his observations an infinitesimally smaller globe exactly in the center of a great plane passing through both of it. Granting this, it will be seen globes like an enormous sheet of paper and dividing the earth at the equator into two hemispheres, would make, on the surface of the other globe, a great circle comparable on an enormous scale, to the equator of the earth and called, in fact, the celestial equator; that other planes cutting the earth at the poles would make upon the outer globe other great circles comparable to the earth's own circles of longitude; and that the sun as seen from the earth would, as the earth makes its yearly revolution, trace on the outer sphere another enormous circle (called the ecliptic) cutting each of the other lines at two points. Here then we have a great surface—the inner lining of an enormous globe—subdivided by regularly drawn lines and dotted with the stars.

In locating Nova Persei, therefore, the discoverer found first, by an especially contrived mechanism, the distance in hours, minutes and seconds of the new star on the greater equatorial line, measuring from the fixed point at which that line crosses the sun's ecliptic—a point subject to minor variations which his apparatus allowed him to take into exact consideration, and measured in hours, minutes and seconds because such are the natural divisions of the greater circumference, and so used in preference to the degrees measuring our own equator. Going eastward he found his star in right ascension (R. A.), 3 h. 24 m. 24 s. This, it will be seen, fixes it somewhere in the great circle corresponding to our circle of longitude and passing through what we have called the greater equatorial line at this point. Going north along this greater circle of longitude, and measuring by degrees, he finds the declination (Dec.) of the new star, this the name of Nova Persei being +43° 04'. This may be verified by other methods, and the new star is thus scientifically settled in its proper place in the firmament.

A new star is never immediately given a new name, although later it may be named after its discoverer. Nova Persei (the Latin "stella" being understood) means literally a new star in the constellation Perseus. This fact, and the date of its discovery, are sufficient for all scientific purposes, and it is thus duly catalogued for further study. It would be difficult to say at present how far Nova Persei is from the earth, exactly how it has been formed, or how long it is likely to remain a bright object; but an examination of the photographic plates at the Harvard Observatory shows that it was not visible two days previous to its discovery, and that in those forty-eight hours it must have increased some 10,000 times in brilliancy. New stars do not retain their maximum brightness; a new star may, therefore, eventually fade from a position of first or second even to the almost unrecognizable dimness of a fifteenth or sixteenth magnitude.

Of the less striking discoveries made by comparison of photographic plates, Mrs. M. Fleming, curator of astronomical photographs at the Harvard Observatory, has six to her credit; naturally enough, perhaps, for the Harvard Observatory is the great world-center of photographic charts covering the entire sky and it is her duty to examine the plates sent to headquarters from its various stations. Of the eight stars already mentioned, she deserves the credit of having found all but the two discovered by Dr. Anderson.

It is a fact also that Nova Persei was seen in this country almost at the same moment that it was discovered at Edinburgh. This does not, however, detract from the credit of Dr. Anderson, for his possible American rival, a young woman of Vassar College, not only failed to realize the importance of her discovery but made it in reality one hour later—the difference in time between the two places accounting for this hour in his favor, even though nominally the star was seen in Poughkeepsie at 11 o'clock on the night of February 21th and observed by Dr. Anderson on the morning of the 21st.

PUBLIC INDIGNATION GROWS.

Rear Admiral Sampson and Gunner Charles Morgan.



Despite the fact that Gunner Charles Morgan, the innocent cause of all the trouble, strenuously defends the good name of Rear Admiral William T. Sampson, public indignation against the latter is undoubtedly growing. The unfortunate naval commander has started a hornet's nest by stating regarding the application of Morgan for promotion, that enlisted seamen are socially unqualified for line positions. The whole country has been stirred by this declaration.

BOTH'S CAPTURE DOES NOT END WAR.

British War Office Convinced That There is Still Much Fighting to Be Done.



General Louis Botha.

While there is much elation in British war office circles over the recent success of British arms, it is not believed there that the capture of General Botha means the end of the Boer war. It is believed that Kitchener will find plenty of work in contending against the other Boer forces operating in vicinities far removed from the Boer commander-in-chief.

NEW BILLION DOLLAR TRUST TERRIFIES SCOTCH IRONMASTERS.

They Admit that Institution of Mammoth Concern is a Serious Menace to Their Business.



Scotch iron and steel manufacturers are watching with great interest and greater apprehension the consolidation of the steel interests in the United States. To them, as they admit, it probably means the closing of the door to the export of their products across the Atlantic, and the raiding of the British markets by American products. This of course would mean the destroying of the iron and steel industries of Great Britain. Here are pictures of the men prominent in the deal.

FEEDING THE BIG PYTHON AT THE NEW YORK ZOO.

There has been a celebration in the reptile house of the Zoological Park in honor of the python Fatima.

For nearly twenty months this scaly monster has been kept alive by the operation of pushing rabbits, pigeons and chickens down her throat with a long pole.

During all this time she steadily refused to eat, and would have starved to death had it not been for the compulsory feeding. But Fatima has suddenly acquired an appetite of tremendous proportions. Her first voluntary dinner in captivity consisted of about sixteen pounds of chickens.

From the time of her arrival on the steamer Afridi, from Singapore, Fatima has evinced the most eccentric characteristics. When the Zoological Park officials boarded the vessel to inspect the live stock she had brought in from the East they discovered the big snake packed in a large box, which was covered with coarse wire grating.

She introduced herself by a savage lung at the keeper who caught her teeth. The park officials decided that Fatima was a fine snake—incidentally one of the largest that ever came to this country—and purchased her on the spot to grace one of the big glass-fronted cages in the reptile house, then building.

Fatima arrived at the Zoological park a year ago last September. Pending the completion of the reptile house she was placed in a big cage in the stable, where numerous animals awaited permanent quarters.

The cage was provided with a zinc tank under which an oil stove burned steadily, furnishing the reptile a tepid bath to be used at her will. Here the monster remained for many weeks.

The most tempting food was offered her, but she steadily refused to eat. Poultry, rabbits—in fact, everything calculated to titillate the reptilian palate, was placed before the python at frequent intervals. Time and time again assortments of game were taken from the cage and fed to the alligators. Finally the park employees became so busy preparing for the opening of the place that the python necessarily received less care.

In a short time she would be placed in her cage in the reptile house, where the cooing could be resumed, and it was argued, having been without food for only about five months since the time of her capture, which is not a serious inconvenience for a snake, she must get along for a couple of weeks without any attention.

The stove was kept burning under her bathing tank, and Fatima, not finding any chance to fight her keepers, as had been the case when they opened the cage door to throw in the food which she refused, plied her brown and yellow folds one upon the other in a dark corner and went to sleep.

Cold weather was approaching. Already the wind from the northwest made the nights too cold for reptilian blood, so a large stove was set up in the stable. An exceptionally cold night arrived, and during its midst a wolf escaped. All the watchmen started in pursuit and followed the animal for a couple of hours. They came back unsuccessful and found the fire had gone out.

The temperature in the stable had dropped to within a few degrees of the freezing point, and the monkeys were huddled together in a shivering embrace. All the snakes were motionless. Even the big rattlesnake, which always shook his tail vigorously as people entered the stable, was silent. The watchmen hastily made up the fire, but the damage was done.

When the park officials and keepers arrived in the morning they found the warm-blooded animals still shivering alive. But some of the snakes had died from congestion of the lungs. Among them was Fatima's mate, a somewhat smaller snake than she, but nevertheless a magnificent reptile, weighing nearly two hundred pounds, the condition of all was the condition of the park's star reptile.

"Fatima lay on one side, with her mouth wide open, and all the hostile glitter gone from her yellow eyes. The twenty-two foot body was collapsed and without a movement, but certain indications showed the reptile to be alive. Congestion of the lungs had swept the vitality from the powerful brute, and for a while, it was doubtful if the most energetic measures could restore it.

Fatima was dragged into her tank, her head was supported on a big block, and the oil stove was made to do double service. As the water grew warmer the body quivered here and there. For a week the big snake lay half dead in her tank; then she began slowly to recover.

Two weeks after the episode she was so weak that when four men dragged her from the cage to be placed in the reptile house, where the temperature was more even, her feeble struggles caused them no inconvenience. Here the reptile was placed in another temporary cage, and received constant attention. One week later she moved again. This time it was into the commodious, glass-framed cage she now occupies. From the time of her installation the snake began to improve.

For six weeks the python's keepers worked steadily to bring back her health. Then it was found that she had resumed the practice of making cheerful lunges of six feet or more in their direction. This was regarded as a good sign, but the reptile was not yet out of danger. Her mouth was badly "cankered," and must be cured. Moreover, her body was covered with an old, dry skin, which she had neglected to shed, and the same must be removed.

It is considered impossible to cure a cankered mouth in big snakes, but it was done in the case of Fatima. A ball of cotton was fastened on the end of a bamboo pole. This was soaked in

a strong antiseptic wash daily, and jabbed at the python.

As she opened her mouth in indignation at the process, the cotton was thrust between her jaws. The latter closed suddenly, squeezing the cotton and naturally dislodging the solution about the interior of her mouth. Ten days of this treatment brought about a cure.

The operation of removing the snake's old skin took place a few days after. For over eight hours Fatima's keepers worked, steadily removing her old clothes. And while they were at work the big snake lay perfectly quiet, seeming to appreciate that without their assistance her career would soon have been terminated.

When the job was finished the huge coils shone and glittered, throwing back an iridescence to the light which demonstrated that Fatima was cured. Once more the keepers began to coax her with all sorts of furred and feathered delicacies, but without success.

"Six months had elapsed since the snake's capture, and she had not tasted food. The curator of the reptile department decided that she had fasted long enough. Energetic measures were in order. Six rabbits were killed and fastened, one to the other, with brown twine. A bamboo pole was inserted in the skill of the first rabbit, and Keepers Snyder and Dahl led a squad of men in order to catch the snake. Snyder grabbed the snake by the neck. Dahl assisted him in this dangerous undertaking.

"Out of the cage," was the order, and as the men scrambled past the iron door a stream of cold water was turned on the angry reptile, which involuntarily swallowed the rabbits and turned to fight.

Regularly every week this "stuffing" process was repeated, until very recently. Fatima rapidly acquired strength. On one occasion in fighting to keep her from coiling about him, Dahl was thrown against the tree in her cage and severely bruised. Food was still placed in the cage every night or so, giving her an opportunity to eat of her own accord; still she declined, and the alligators feasted on the remains.

When the snake had first been stuffed eight men had managed to overpower the brute. A few weeks ago it was found that fifteen had all they could do. Then came a change.

The keepers had the pleasure of seeing the big beast devour chickens in a few minutes. This was followed by another, and still another, until it was estimated the snake had eaten about sixteen pounds of Plymouth Rock chickens and should be satisfied for a time.

Not once since her reformation has Fatima caused her keepers any trouble. When the big reptile is hungry she simply drags her scintillating length from the cage every night or so, where she receives a royal meal of fowl.

But the trouble is not over in the reptile house. The czar, a huge python, is "off his feed," and the exciting process of overpowering the brute, together with the administration of a forced dinner, is a weekly occurrence. It is anticipated, however, that the czar will soon follow the example of his rival and feed voluntarily.—New York Herald.

HUMOROUS.

Johnny: "I was next to the head of my class today." Father: "Good. How did it happen?" Johnny: "We were standing in a circle."—Trained Motherhood.

Gerald: "I wonder how Ananias got such a reputation as a liar?" Geraldine: "I suppose he told Sapphira she was the only girl he had ever loved."—Harper's Bazar.

"Johnny, dear, did you try to mind the Golden Rule in your dealings with your playmates at school today?" "Yes, till we had success. You can't use it in football, you know. It'd kill the game dead'n' a door nail."—Chicago Tribune.

White: "I understand young Green lost all the money his father left him on the races, and he's now looking for a job. He won't have so soft a thing as he has had." Brown: "Oh, I don't know; he'll have a soft thing as long as he doesn't lose his head."—Chicago News.

Eastern Tourist: "I am glad you are satisfied with the \$100 I paid you for services, and as I have taken a fancy to your two revolvers I'll give you \$25 for them." Western Guide: "Thankee, friend; but if after you got me two guns you should take a fancy to have your \$125 back, what would I be? No offense, pard, but I guess I'll keep me guns."—Judge.

Chicago Tribune: "I'm rather glad now," soliloquized the illustrious admiral, "that I didn't get that nomination for President. I wouldn't have had a shred of reputation left by this time."

Cleveland Plain Dealer: "George Wingebat, your brazen manner cannot deceive me."

"Brazen, m'dear! No sush thing. It's tiny, m'dear, tiny. Been blowin' big tin'lection horn. Thass all."

"The soil," said the political economist, "is what supports us."

"Well, I don't know," said the sea captain, thoughtfully, "the ocean supports me about eleven months in the year."

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While Theodore Roosevelt is performing to the best of his ability the part will proceed to do her duty as a Vice President's wife. Although there is no government salary connected with the latter office, the duties are by no means light. Here is a picture of Vice President Roosevelt's charming wife and daughter Ethel.

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