

The Bee's Home Magazine Page

Mystery of Falling Stars

What They Really Are and How They Come to Resemble Stars Shooting from Their Places and Darting Wildly Through the Sky. : :

By GARRETT P. SERVIS.

"Please explain the phenomena of stars falling from the skies. Last November I was standing in my door, which faces southwest, and looking at two stars, when one of them left its place and fell into space. It looked as if its descent was about 300 feet before it disappeared, but it must have been many million miles that it traveled during those few seconds. Do astronomers miss these 'stars from the sky'?"—W. P. R., Peabody, Mass.

This letter shows a curious mingling of "exact" observation with inaccurate knowledge—a mental phenomenon more common than the physical one of "falling stars" and, in its way, quite as worthy of attention.

The phrases "falling stars" and "shooting stars" are responsible for more misunderstanding of scientific facts than any others with which I am acquainted. They are so strikingly descriptive of the effects produced upon the eye that they substitute the appearance for the reality in the minds of persons not familiar with the facts of astronomy.

There is nothing such as a falling star, or a shooting star. No star was ever seen to leave its place and drop toward the earth, or go sailing away through space. There are a few instances of stars having disappeared from the heavens, and there are other instances of new stars making their appearance there, but no star ever moves from its place in the slightest degree, as far as naked-eye observation can detect.

It is true that the stars are all in motion, but these stellar movements can only be measured with the most refined and accurate instruments known to science. There is an apparent motion common to all the stars, due simply to the rotation of the earth on its axis, which causes the heavenly bodies to appear to pass slowly through the sky from east to west.

There are also a few objects in the sky which look like stars and which do have motions that can be observed with the naked eye. If the observations are continued for many nights in succession, these apparent stars are the earth's sister planets, which, like it, revolve around the sun in orbits millions of miles in circuit. But there are only five of these bodies—Mercury, Venus, Mars, Jupiter and Saturn—that are ever noticed by a naked eye observer, and none of them moves in the manner of a "falling star." The distances of the planets from the earth vary, with their positions in their orbits and run from tens up to hundreds of millions of miles. The true stars are, of course, much more distant than the planets.

What, then, are the phenomena called falling stars? If you call them "meteors," as astronomers do, and disconnect them in your mind from all association with stars, you will have taken the first step toward a comprehension of what they are. A meteor is a piece of solid matter, stony or metallic in composition, which, before it meets the earth, has been traveling through space like a miniature planet, in an orbit probably having the sun for its focus. It moves, as it must do under the law of gravitation, with a velocity comparable with, but considerably greater than that of a planet, at a similar distance from the sun, for its minute size does not affect its velocity. This velocity, in the neighborhood of the earth is about twenty-six miles per second.

As long as a meteor continues its course outside the earth's atmosphere it remains absolutely invisible, but if its course is changed by the earth's attraction so as to bring it within the virtual limits of the earth's surface, it is instantly heated to a very high temperature by friction with the air, and it flashes into a flying spark of fire, speeds swiftly across the sky, or appears to drop downward, and usually disappears within a second or two.

There is reason to believe that the vast majority of meteors of this class are not larger than grains of sand or small pebbles. It has been calculated that between 10,000,000 and 20,000,000 of them, bright enough to be seen with the naked eye, enter the earth's atmosphere (counting all sides of the globe) every twenty-four hours, while telescopes show fainter ones playing across the depths of the atmosphere, which may number hundreds of millions. Minute as they are, if they struck the earth they would be as fatal to its inhabitants as a rain of shrapnel, but fortunately they are all consumed high in the air.

As to the vexed question of the origin of meteors, there is only room to say that those which appear in periodic showers seem to be connected with comets, and occasionally they travel in the former orbits of comets that have disappeared.

Do You Know That

Mahogany trees do not reach their full height till they are about 300 years old.

When the wind travels 100 miles an hour or over it is called a hurricane.

No individual under 21 years may ascend a chimney in England.

Only 10 per cent of the flowers that grow in Europe are dipterous.

There are 17,000,000 acres of waste land in the United Kingdom.

The total progeny of a single fly in one summer amounts to over 25,000,000.

Maids and Millinery

(Assorted—Which Are You?)

By Nell Brinkley
Copyright, 1915, Intern'l News Service



White pannels (for thoughts) and black velvet with old-fashioned strings under her chin, for the demure girl.

Embroidery and gay color and dashing lines with an oriental feather stop, for the dazzling girl.

And for the boyish girl a bit of a plush cap on one side with a page's feather thrust through a burnished bit of ornament.

A flaring tricorne brave with gold-braid and a gilded knot and a brush-like cockade for the vivacious girl—and fur and braid below her chin.

And for the dreamy girl—anything with a soft brim to veil her eyes and deepen the dreams that lie there.

—NELL BRINKLEY.

Read It Here—See It at the Movies.

The Goddess

INTRODUCING
EARLE WILLIAMS
as Tommy Barclay
ANITA STEWART
as The Goddess

Written by
Gouverneur Morris
(One of the Most Notable Figures in American Literature)
Dramatized into a Photo-Play by
CHARLES W. GODDARD,
Author of
"The Perils of Falling"
"The Exploits of Elaine"

(Copyright, 1915, by Star Company.)

FIRST EPISODE.

Gordon Barclay remained for a long time in profound thought.

"There is, as you say," he said at last, "billions in it. Yet if I was sure that we could make it happen, really make everybody contented and not poor, I'd be content to give up everything I have already, and I could die happy."

"So would I," exclaimed Stilliter hurriedly. "But I'd rather make the world happier and myself with it. Wouldn't you?"

Barclay shook his heavy shoulders, lifted his lonesome head and smiled.

"Of course," he said, "I was dreaming. Believe the thing can be done. And without any sacrifice whatever, either spiritual or material."

"It will take a long time."

"I understand that. You have to teach her almost from the beginning."

"I don't teach her exactly. I make her believe."

"Have you a child in view?"

"Now that you're with me, I shall soon find one."

"What are the chances against us?"

"Only these: That before we bring her to earth to preach our gospel you are dead, or I am, or the revolution has already come, and borne a different and better fruit for us all."

Prof. Miles Stilliter was never idle, except when he was asleep. On a certain morning in the spring of 1909 Prof. Stilliter, having mistaid his glasses, was unable to tell what time it was, though he held his watch as near to his eye-ball as he could without touching it. It was, however, his usual time for beginning the day, for at that moment his valet brought in the morning papers. Prof. Stilliter did not read the papers word by word, but column by column. It was astonishing to see so much intelligence and energy and alertness in a young man who resembled nothing so much as a monstrous baby.

The following headline in the New York American almost immediately caught his eye, and put an end to any further search for news:

"TRAGIC END OF A EUGENIC ROMANCE."

"Brilliant John Amesbury, who married one of America's greatest beauties, killed by a trolley car. Widow, prostrated by news, not expected to recover."

A cut of a beautiful young man and a beautiful young woman lent to this unusual item of news a tinge of real tragedy.

Prof. Stilliter was out of bed in a twinkling of an eye. He bathed and dressed with miraculous speed. It made you think a little of the way a fire engine hose is harnessed.

Swift as were all his motions, he dwelled somewhat upon his breakfast. A close observer might have noticed that he chewed every mouthful exactly the same number of times.

The late John Amesbury's house was at Scarsdale. On the morning in which this narrative opens a number of village boys were pulling off a dog fight in the quiet country road that bordered the narrow front lawn. Tommy Barclay, aged 12, hearing this racket from afar and full of the tragedy which had overtaken the kind and friendly people in the big house, came up on a dead run. His efforts to interfere with the sport and to secure peace and quiet for the sick woman in the house were not met with approval, and indeed for a moment it looked as if the noise of the dog fight was going to be swelled by the noise of a boy fight, a dozen to one.

Fortunately for Tommy, the door of the house opened, and a trained nurse, with a long face like a horse and a dominating eye, came running down the front walk with an expression so ominous and formidable that, without a word spoken, the dogs were dragged apart and the boys made off at high speed. Something in Tommy's face attracted the nurse's attention. She was far kinder than she looked.

"Do you want anything?" she said.

"The papers said," said Tommy, "that Mrs. Amesbury wouldn't get well." He said no more, but his whole attitude and expression was a poignant question. The nurse laid her hand suddenly on his brown head, patted clumsily, shook her own head just the veriest trifle and hurried back to the house.

A shadow fell upon Tommy, and he found himself looking into the immense thick-rimmed glasses of Prof. Stilliter. Intuitively the boy and the man disliked each other. Prof. Stilliter would rather have asked almost any other small boy if that was the Amesbury house. Tommy would have preferred to tell almost any other man that it was Prof. Stilliter, his question answered, moved energetically upon the house, and from the maid who answered the bell inquired for the latest bulletin of Mrs. Amesbury. He stepped forward as if to enter the house, and the servant made the least show in the world of shutting the door in his face. Prof. Stilliter turned reluctantly away and heard the closing of the door.

At that moment a buggy driven fur-

iously stopped at the front gate, and, thanks to his glasses, which gave his helpless eyes an almost hawk-like vision, Prof. Stilliter recognized Dr. Wainwright, an old acquaintance, if not a friend. "Glad to see you," said Prof. Stilliter. "Are you in charge here?"

"Yes," said Dr. Wainwright. "Then you can help me, as nobody else can. I never knew Amesbury. I don't know his wife, but as a eugenicist I was immensely interested in their marriage, and I have a deep scientific interest in seeing the daughter. Now at such a time as this I could not very well force myself upon the household, but if you could slip me in with you as a consulting physician

I will be immensely obliged to you, and there will be no talk of splitting fees."

Dr. Wainwright smiled and nodded. The object of Prof. Stilliter's interest was not hard to find. She was seated, forlorn and disconsolate, upon the bottom step of the front stair. Dr. Wainwright picked her up in his arms and kissed her. He made her shake hands with Prof. Stilliter. He told her that Prof. Stilliter was very fond of little girls, and wouldn't she do her best to entertain him, while he himself was with her mother upstairs?

Prof. Stilliter could not conceal the fact that the child's appearance delighted him, and that his appearance did not

furnish her with the same delight affected him no more than a duck's back is affected by water. She had been too well brought up, and carried her three or four years with too much dignity to run from him and hide, as her instincts prompted her. She did not resist when he lifted her from the floor, asked her age and said, "My, how heavy she was!" She winced a little and flinched a little when he prodded her arms and chest and felt with evident admiration the firm and chubby calves of her legs, and when he made her open her mouth and looked in and murmured, "Colossal." But when he asked wouldn't she show him

the pretty house in which she lived, she did so gladly, for it seemed to put an end to being handled.

For his immediate purpose Prof. Stilliter did not need to penetrate beyond the cheerful living room, for her blue eyes at once singled out from many three photographs, in which justice had pretty nearly been done, not only to his small companion, but to her famous father and her mother.

"What is that funny thing on the piano?" asked Prof. Stilliter. The little girl looked in the direction indicated, and told him that it was a Chinese "elefant."

(To Be Continued Tomorrow.)

Living on a Dollar a Week

Of course you don't want to live on a dollar a week. No one wants to do the sensible thing when it comes to the selection of food—but it's easy for the person who knows

Shredded Wheat

Two Shredded Wheat Biscuits with hot milk, make a warm, nourishing, satisfying meal at a cost of not over five cents—a meal on which you can do a day's work and reach the top-notch of health and efficiency. Supplies every element needed for the perfect nourishment of the human body. Delicious with all kinds of fruits in season.

TRISCUIT is the Shredded Wheat Wafer, eaten as a toast with butter or soft cheese, or as a substitute for white flour bread or crackers.

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