

The Bee's Home Magazine Page

"Me to the Foot," Says the Old Year

"We'll Toast Them Both; One Gives Us Promises, the Other Memories."

By Nell Brinkley

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A darling little kid I know, with little yellow rings of hair and great dignity (which never stooped to slang), when first he bent above the new baby at his house lying all wadded up in the place beside his mother where he had always snuggled, had this surprised out of him: "Me to

foot!" "Me to the foot," says he—and ancient, silvery-topped Old Year is saying that too. For his place is filled. There's been a change all 'round, and when midnight struck and things were all straightened out—there sat a very young and new fat person with no hair at all at a wide

grin, curiosity lighting his eye, and promises on his lips, at the head of the table, and to the foot had gone the willing and feeble old man; and his hair is long cotton-white, and his lips are folded tight, for there are no more songs for him to sing, and his eyes are filled with memories.

And behind the New Year is Cap-and-Bells with the spiced nectar of Happiness which I wish for you, and turning away behind the Old Year is a Gloom with the Brew of Past-Troubles which I hope, for you, is leaving your board for good and all!—Nell Brinkley.

Mighty Projectiles of Space

By GARRETT P. SERVISS.

Among the wonders of our solar system I wish you would point out the tremendous velocity of our earth and moon traveling through space, comparing it with the speed of the rifle ball, etc., etc. Nothing in the universe is more impressive to me than the speed and power of these vast projectiles.—H. E. S. Briston.

The direction and speed of the earth's flight are the resultants of two motions with which it is endowed—the one around the sun, the other with the sun straight away through space. The combination of these simultaneous motions causes the earth to travel in a spiral path whose axis is directed nearly toward the bright star Vega, or Alpha Lyrae, the most beautiful in the northern sky.

In its orbit, or annual path around the sun, the earth's mean speed is eighteen hundred and one miles per second, while its speed of translation toward Vega, which it shares with the sun, is about twelve miles per second. We may call the resultant, or combined, speed of the earth in its actual spiral trajectory twenty-two miles per second.

This means that if you could stand beside it and see the earth rush by, its whole enormous globe, 8,000 miles in diameter, would pass your eye in about six minutes. It means that in one day and night (twenty-four hours) the earth travels 1,900,000 miles.

Compared with the velocity of projectiles the speed of the earth's flight is so great that the swiftest of them would seem to stand still. A rifle bullet may go, say, one-third of a mile per second, in the first moments of its flight—that is, sixty times slower than the earth, which never stops or slows up.

The initial velocity of some projectiles may be half a mile per second, or forty-four times slower than the earth. If a cannon could be planted out in space and fired at the earth from a distance equal to one-quarter of the earth's diameter (which would be like a hunter firing his rifle about eighteen inches from a deer's side), and if the shot were aimed at the front edge of the flying earth (imagining the latter flat like a disk), and fired with an undiminished velocity of half a mile per second, it would not only miss its mark, but the whole breadth of the earth would have passed by before the ball had traversed one-tenth of the original distance separating the cannon from the earth. To recur to the comparison of the hunter and the deer, it would be as if the animal ran so fast that it got out of the line of fire before the bullet had traveled two inches from the gun.

The motion of the earth becomes possibly even more impressive when we consider the awful energy it produces. Kinetic energy, or the capacity to do work, such as striking a blow, is measured by multiplying the mass of the moving body by the square of its velocity and dividing the product by two. In order to get the result in foot-pounds we reckon the mass in pounds and divide again by thirty-two, or by sixty-four in all. The reason for dividing by thirty-two (more exactly 32.18) is that that number is the unit in feet per second of the earth's gravitation, or the acceleration of gravity.

Calculated in this way the kinetic energy of the earth comes out at more than ninety septillion (90 followed by 24 zeros) foot-pounds! Figured in another

way, the energy in the flying earth is equivalent to nearly three sextillions of horsepower, the horsepower being the measure of the work done by 33,000 foot-pounds of energy developed in one minute. That is to say, if the earth could be brought to rest in one minute and all its energy turned into driving machinery it would develop nearly three sextillions of horsepower. But if it were brought to rest in one second it would develop sixty times more horsepower! Power is the rate of doing work, and necessarily involves the element of time in its calculation.

Then we may consider the thermal effects of the earth's kinetic energy. If, by instantaneous arrest of the motion, it were turned into heat, there would be a sudden development of so tremendous a temperature that the earth might be vaporized. Puff! And some astronomer on some distant planet, aiming his telescope through the cool evening air, would catch sight of a little new nebula, twinkling like a thistle-down blown into the sky of space, and would run to send off a telegram quick, that nobody might snatch his discovery from him.

Thereafter the dissipated earth would appear in a catalogue on that far-off world under the name of "fossil" nebula," and nobody, casually glancing at it from an observatory, and unsympathetically noting its extreme exiguity, would ever think of the heart-breaking history that had been reborn in that speck of cosmic vapor.

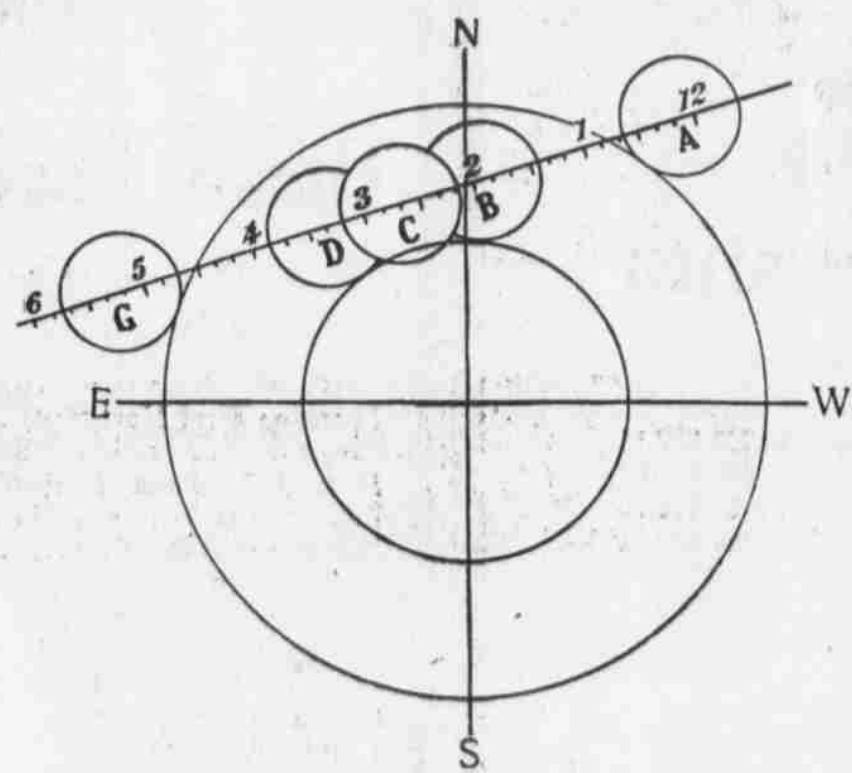
Advice to Lovelorn

BY BEATRICE FAIRFAX.

Twenty-Five Dollars a Week. Dear Miss Fairfax: I am 21 years old and I am going about with a young lady the same age. At present I am earning \$25 a week, but this lady does not think this is sufficient to be married on. Do you think this lady is right, or do you think two persons could live comfortably with this amount? I am deeply in love with her and would not like to give her up.

My dear young man, you are not yet old enough to do well to wait a year or so, but a girl who does not love a man enough to begin life with him on \$25 a week is a worldly young person who is unlikely to make a very good wife. If a wife is one in the truest sense—that of being a helpmate—she ought to cover the needs of the home beautifully.

The Heavens in January



By WILLIAM F. RIGGE. The monotony of the last few months will be broken on the night of the 19-20 by a partial eclipse of the moon. The annexed diagram will give the particulars. The largest circle is the earth's penumbra, and the next in size the earth's shadow—N S E W being their cardinal points. The five small circles represent the moon at important moments on the long oblique line, which is its path with respect to the umbra and penumbra.

When its center is at A at 12:05 a. m. on the 19th, the moon enters penumbra. At B at 1:55 the moon enters shadow. At C at 3:40 we have the middle of the eclipse. At D at 5:24 the moon leaves shadow, and at G at 5:14 the moon leaves penumbra. Only 14 per cent of the moon's diameter will be obscured in the earth's shadow, so that this eclipse is not worth the sacrifice of an hour's sleep. To make amends for this the moon promises to eclipse the sun for us on February 2. All the great planets will be visible in the early evenings. Venus is conspicuous in the southwest, setting on the 15th at 7:44 p. m. Jupiter is higher in the sky than Venus, and sets on the 15th at 10:31 p. m. Saturn is higher still, and is on the meridian at 11:40 p. m. Mars rises on the 15th at 9:01 p. m. Mercury may be glimpsed on the 20th, when it is farthest from the sun. It sets on that day at 6:01 p. m.

Want Married Women to Teach College Girls

By ADA PATTERSON.

New York is not a progressive city. Western cities have left it far behind in the race of modern improvements in traffic and in mental progress. It shows the latest Paris-born gown in its shop windows a few weeks before they are displayed in cities farther west, but for progress in matters that are vital we must look beyond Manhattan Island.

Proof of this is found in that a member of the New York school board has said: "No unmarried woman should be permitted to instruct girls in college."

If Mary Wolfe, that superb woman who founded Mount Holyoke college for women, were alive, he would dismiss her. So Miss Willard, who Russell Sage told me was the loveliest woman he had ever known and the greatest, would have to pack her trunk and depart and that with despatch, from the seminary she craved and illuminated, because she did not number among her possessions, a husband. The dean of Barnard college would have to say farewell to her girls, and the dean of Bryn Mawr would be deposed because she had not concentrated sufficiently upon how to win that great prize—man.

And along with the departing founders and deans of girls' colleges would go a moral procession of others of the unit. Commissioner of Correction Davis of New York would have to hand the keys of her office to some woman with a certified mate. Jane Addams would have to leave Hull House to run by its own momentum unless a woman with a trousered attachment could be found to assume its direction. Julia Lathrop would never have been permitted to do her work as the head of the child bureau of the Department of Labor, Lillian Wald would be driven from the Henry House settlement which she established, Saint Sophie of New Orleans would lose her halo, placed there by a grateful city government for her founding of the needed free night schools of that city. Dr. Annie G. Daniels, who for thirty-five years has administered healing to the friendless poor of the East Side, would have to cease her ministering. Alice C. Smith would cease her labors among the unfortunate women of New York, a post which is nominally that of probation officer of the night court for women, but that has earned for her the title of "The Christ Woman." The little reader, her voluntary office of the friend of those in dire need, because she had never qualified as a wife.

Just what is this necromancy that man exercises over women that makes them so much more capable after than before taking husbands? Living under the same roof with a lordly male causes a woman to cultivate forbearance. She needs a vast patience. She must become schooled in meekness. But these are negative virtues. The positive, outstanding ones with which a girl, companioned only by her own soul, can face a stormy world with-

out fear, can wrest from it what she needs, are not often grown in such atmosphere.

Better leave the spinster teachers in the colleges, Mr. Member of the New York school board. One of them might teach your daughter or your granddaughter the difficult art of standing alone, which she may need. Who is so strong that he can guarantee that she will not need it?

The qualification of motherhood? Yes, it is a good but not a sufficient one for

instructing college girls. The good mother will be too good a mother, if the little one at home has croup, to fix her material mind upon squaring the hypothesis.

There's a main business in life for every woman. It is family or work. Either of them requires 90 per cent of woman's limited energies.

And don't forget that the mother who might have been may have a heart as big, as tender, as that of any mother who is.

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