

A NATURAL RIDDLE

Attraction of Gravitation is a Mystery to Science.

The mystery of mysteries in science is the attraction of gravitation—that very force of nature that is the most familiar to us all. It seems strange that the most familiar thing in the world should be at the same time the most inexplicable, but so it is.

In order to see clearly wherein the mystery consists, let us first consider what gravitation appears to be. It is gravitation that gives the property of weight to all bodies. If there were no gravitation we could float like thistle-downs and infinitely better than thistle-downs, for they, too, are finally brought down by gravitation.

It is gravitation that brings a cannon ball eventually to the earth, no matter how swiftly it may be projected. The faster it starts the farther it will go, but during every second of its flight it drops the same distance vertically toward the earth, whether the speed imparted to it by the powder is 500 or 3,000 feet per second. Gravitation acts on a moving body exactly as well as on one at rest.

It is gravitation that curbs the motion of the moon and keeps it in an orbit of which the earth is the active focus.

So, too, it is gravitation that governs the earth in its motion around the sun, preventing it from flying away into boundless space. Astronomy shows that gravitation acts between all the planets and all the stars and controls their motions with respect to one another.

Now, this mysterious force appears to be an attraction, as if there were elastic cords connecting all the bodies in space and tending to draw them together. But space, as far as our senses can detect, is empty. There are no elastic cords and no physical connections whatever between astronomical bodies or between a flying stone or cannon ball and the earth. How, then, can there be an attraction? In order that a body may be attracted or drawn there must be something to draw it. Gravitation does the trick, but completely hides from us the mechanism through which it acts. We can discover no mechanism at all.

When an unfortunate aviator drops from his machine at a height of a thousand feet he begins at once to fall toward the earth as if it were pulling him. But how can it pull if it has nothing to pull with? You may think at first sight that it is the air which acts as an intermediary, but that is not so, because the earth and the moon "pull" upon one another with a force equal to the strength of a steel cable 500 miles in diameter. But there is no air and no other tangible thing in the open space, 240,000 miles across, that gaps between the moon and the earth.

Then, gravitation exerts the same force at every instant. No matter how fast the falling aviator may be descending at any moment, gravitation will keep on adding speed as if he had just started. Disregarding the slight retardation produced by the resistance of the air, he will fall sixteen feet in the first second, forty-eight feet in the second second, eighty feet in the third second, gaining thirty-two feet in his velocity during every second after the first.

From a height of 1,000 feet he will come down in about eight seconds, and will strike the ground with a velocity of about 256 feet per second. From a height of 10,000 feet he would fall in about twenty-five seconds and would strike with a velocity of 400 feet per second.

The same kind of calculation can be applied to the gravitation between the earth and the moon. If the moon were not in motion across the direction of the earth's "pull" it would fall to the earth in about 116 hours.

Now, to return to the mystery, how is this force exerted? Is it really a pull, as it seems to be? The answer to which science is tending is that instead of being a pull, gravitation is a push; in other words, that the falling aviator is pushed toward the ground and the moon is pushed toward the earth.

On the face of it one might think that nothing was gained by this theory, because it seems as impossible that a push should be exerted without a tangible connection as a pull. But the clue is found in the supposed properties of that invisible, intangible, all pervading medium called the ether.

This, to be sure, is explaining one mystery by another, for we know nothing about the ether except that it conveys the waves of light and electricity; but, at any rate, it affords a conceivable explanation of gravitation. Dr. Charles F. Brush's theory regards the ether as being filled with a peculiar form of waves and that material bodies may intercept these waves in such a way as to be pushed toward one another on account of the diminished effect of the ether waves in the space between the bodies.—Garrett P. Serviss in New York Journal.

Simplified Spelling.

Lovers of simplified spelling should make a pilgrimage to Nevada, in Essex, where the church wardens' accounts in the eighteenth century were quite delightfully phonetic. Under the date 1742 occurs the entry: "Gave Geekup Kollins for his gal too shalins and six pens. Also his cloze for the insuring year." The mysterious word "gall" seems to signify the girl or daughter of "Geekup Kollins." And some of us who have drunk the cup of feminine militancy to the dregs may accept gall as the right spelling.—London Mail.

Poetry and Pay.

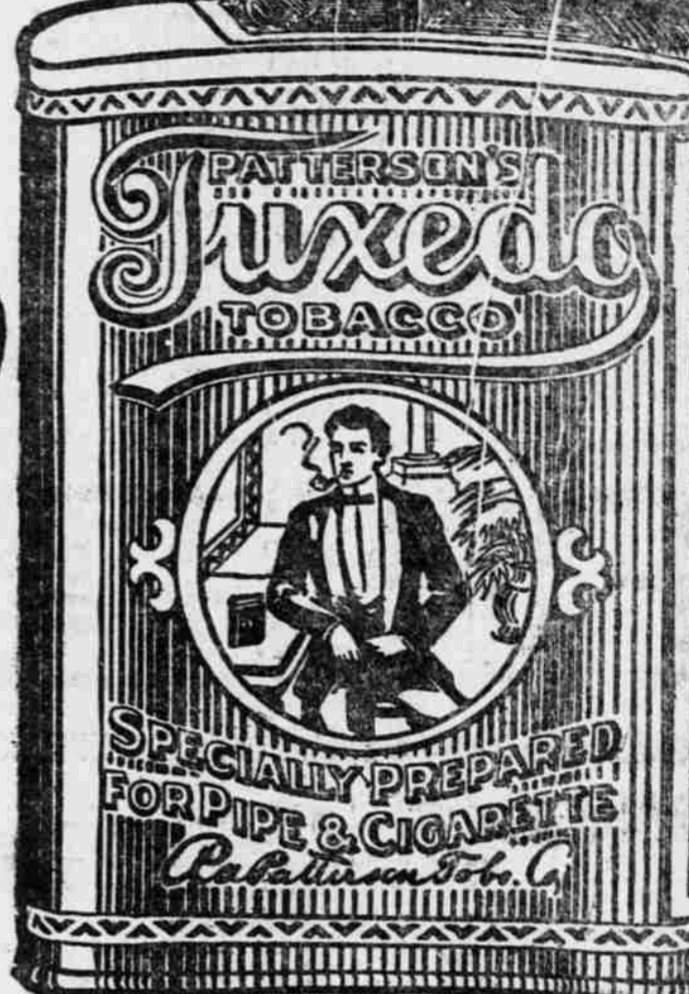
Poetry, it is declared, is about the worst paid form of writing. That may be true, regarded from the standpoint of dollars and cents, but the man who



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Tuxedo is made from the very best selected Burley tobacco grown in Kentucky—care-

fully ripened, cured and aged until it is perfectly mild and mellow. Then treated by the famous "Tuxedo Process" that removes the last trace of "bite" and bitterness, and develops the wonderful fragrance and flavor of the Burley leaf. Tuxedo has many imitators in the tin—but as long as the secrets of the "Tuxedo Process" remain undiscovered it will have no equal in the pipe or cigarette.

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"PAT" McDONALD
"Pat" McDonald, the big New York Fireman who won the gold medal for "best hand" at the Olympic Games last summer, says:
"A pipeful of Tuxedo for me. It's the best tobacco ever. I actually feel stronger after a smoke session with Tuxedo."
Charles K. Williams



JOEL HILLMAN
Joel Hillman, proprietor of the famous "Hillman" restaurant at Washington, says:
"Tuxedo is a good, wholesome tobacco, with a mildness and fragrance all its own. It adds many degrees to my pipe pleasure."
Joel Hillman



GEO. CURRY
Geo. Curry, ex-Governor and ex-Congressman from New Mexico, says:
"Tuxedo appeals to me strongly on account of its cool, mild, pleasant flavor. Therein lies its superiority to all other tobaccos."
Geo Curry



HENRY STUCKART
Henry Stuckart, City Treasurer of Chicago, says:
"I regard Tuxedo as not only absolutely harmless, but generally beneficial. Tuxedo goes in my pipe always."
Henry Stuckart



WALTER WELLMAN
Walter Wellman, famous journalist, explorer and aviator, says:
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Walter Wellman



GARRETT P. SERVISS
Garrett P. Serviss, prominent scientist and writer, author of "The Second Day" etc., says:
"I have tried many brands of tobacco, good, bad and indifferent, before alighting upon Tuxedo, the ideal smoke."
Garrett P. Serviss



JOHN J. MCGRAW
John J. McGraw, famous manager of the New York Giants, champions of the National League, says:
"Tuxedo gives to my pipe smoking a keen enjoyment that I have experienced with no other tobacco. Supreme in mildness and fragrance is Tuxedo."
John J. McGraw



HENRY REUTERDAHL
Henry Reuterdahl, famous naval officer, and expert on naval construction, says:
"You've got to smoke while pointing out of doors in winter—it helps you to keep warm. And a pipeful of pure, mild Tuxedo tobacco makes one forget the cold, and the point flows more freely."
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We want every dealer in Rock Island to be supplied with these Bronze Watch Fobs. All dealers who have not yet secured a supply of these Fobs can do so by calling at Tuxedo Headquarters, Manufacturers' hotel, Moline, Phone J. T. Schaffer, Moline 88, from 6 p. m. to 9 p. m. on Monday.

Advertised Letters

Following is a list of letters remaining uncalled for in the postoffice at Rock Island for the week ending Sept. 15, 1913: John D. Boje, Arnold Bentzen, Bob (1620 1/2 Fourth avenue), A. J. Bolen, Mrs. H. Black, Mrs. G. W. Church, Mrs. Ethel Clark, H. A. Consky, Roy Davis, George Davis, C. A. Eaton, Carlos Fernandez, Diorenzo Francesco, Miss Mary E. Floyd, Carl Floideen, Mrs. Florence Fields, Bridon Green, G. F. Golden, Peter Haskins, Miss Clara Heger, Mrs. C. D. Henne, Mrs. Beulah Hall, H. Jackson, Mr. Johnson, G. T. Karlberg, Robertina Likas, Mrs. P. J. Martin, Mrs. Emma Maynard, Miss Suzie Matlock, Miss Katherine Messing, Mrs. Iva Mitchell, Miss Callie Mass, John Nicolay, Pedro Nunez, Sr., Mrs. Rosa Nales, Floyd Nash, R. L. Osborne, Mrs. George Parks, Mrs. Anna Rogers, Edward Rose, Fred Reaser, Mrs. Ella Ritchey, Miss Marie Roman, Fred Schill, G. G. Schults, Florence Shumberger, F. O. Shouquist, Will Steenhaur (2), Miss S. M. Staack, Mrs. Walter Sparbel, Mrs. E. M. Staley, Mrs. Mary M. Smith, Mrs. Sarah Smith, Miss Fay Smith, D. Smith, F. L. Smith, William Sarville, Henry Schmidt, Miss Wills Schmidt, Curly Thompson, Mrs. George Thompson, R. L. Taylor, Mrs. George H. Ward, Mary E. Welsh, Arthur Woods, George H. Watson, Jonie Yelm, William Young.
HUGH A. J. McDONALD, Postmaster.

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