

PERFECT SPHERES

With All His Scientific Skill Man Cannot Produce Them.

THE CURVING OF A BASEBALL.

It is Possible Only Because the Ball is an Imperfect Globe and in Comparison With Its Size Much Rougher Than the Surface of the Earth.

The real reason why a baseball can be thrown so that it will describe wonderful curves during its progress through the air is that every such ball has a surface made up of mountains, valleys, craters, canyons, gorges, plains and other irregularities of the surface that, when the difference in size is taken into consideration, makes the surface of the earth seem like plate glass.

If it were possible to make a perfect sphere—if it were possible to make a baseball with an absolutely smooth surface and an exact sphere—no pitcher in the world could make it curve. The very best pitchers baseball has ever known or probably ever will know could not make the ball deviate a hair's breadth in its flight.

And so while it is partly in the art or knack the professional pitcher has in holding and releasing the baseball as he throws it, it is also due to the fact that a baseball has a wonderfully rough surface against which the air catches and turns it that gives it the curve.

If you pass your hand over a plate glass it moves smoothly with nothing to retard it. If you pass your hand over an unplanned board you can feel the roughness—splinters we call them. You cannot move your hand as easily over the board. This is the same principle with the baseball. There is a roughness in its surface that catches in the air and forces one side about or retards that side. This has but one result—to make the baseball leave its straight course, and in doing this it describes a curve.

This does not detract in the least from the cleverness of the pitcher who can so accurately judge his muscular control as to make a baseball curve up or down, right or left. But the fact remains that it is the roughness of the baseball that makes all his pitching cleverness possible.

Take a brand new league ball in your hand. It looks to be a perfect sphere—that is, absolutely even and uniformly round and as "smooth as glass." And it may be as smooth as glass, for glass also has a rough surface.

Put a baseball under the most powerful microscope, enlarge it microscopically 10,000 diameters, and what do you see? The very thing mentioned in the first paragraph of this article. The surface is rough. It looks like the landscape in the Alps or Yellowstone park or any other rough section of the earth. It has peaks, ranges, ridges, valleys, plains and holes, gulches and all sorts of uneven places, and if the earth could be made as small as a baseball it would be practically a perfect sphere and absolutely smooth.

This is because the highest mountains of the earth and the deepest valleys would be millions upon millions of times smaller in comparison with the rough uneven places on a baseball if either the earth were reduced to the size of a baseball or a baseball enlarged to the size of the earth.

If this were not true the earth would not revolve so regularly upon its axis. It would perform an "in shoot" or "out shoot" and curve off through space.

Even the billiard ball has a surface much rougher in comparison to its size than the surface of the earth, and we refer to a billiard ball as about the smoothest thing known. "As smooth as a billiard ball" is a well known simile. For the same reason that a perfectly smooth baseball could not be curved, a perfectly smooth and perfectly round billiard ball could not be made to curve on the table. It would not take "English," as billiard players call it when they make a ball go forward and then roll backward or in any direction just by the manner in which they strike it with a chalked cue.

This fact of roughness causing it to spin becomes all too evident when a player forgets to chalk his cue and plays several shots thereafter. If the leather tip of the cue becomes shiny it will slip on the ball. There is no purchase with which it can take hold. But chalk is sticky stuff, and the granules are large, so that a well chalked cue has a very rough surface, and this rough surface of the tip of the cue fits into the rough projections on the ball, and thereby a ball can be given a lot of twist. In order to accomplish this successfully, moreover, the billiard cloth nap must be new and therefore rough.

During recent experimentation with regard to the kinetic theory of gases a Belgian scientist desired to find out how perfect a sphere could be made in order that by the clashing of these together an idea might be secured of the effect of the collisions of the spherical atoms that make up a gas. The project had to be abandoned at last because no machinery could be constructed that would turn out a perfect sphere artificially, and nature has no perfect sphere of large size in all her many forms of matter. Perfect disks could be made, but a round ball was beyond the limits of human accomplishment.—New York American.

The greatest pleasure is the power to give it.

THE GAME OF WAR.

Some of the Things That Are Forbidden by Civilized Nations.

It is not generally realized that the game of war is hedged round by as many restrictions as a boxing contest under Queensberry rules. These regulations, which are under the sanction of all the civilized countries of the world, are designed to insure fair play for the combatants.

When it is intended to bombard a place due notice should be given, so that all women and children may be removed to a place of safety, and every care must be taken to spare churches and hospitals, as well as all charitable or educational buildings. All chaplains, doctors and nurses are protected in every possible way and are not to be taken prisoners or in any way injured.

Any soldier robbing or mutilating an enemy is liable to be shot without trial, and death is the penalty for wounding or killing a disabled man.

The bodies of the enemy are to be carefully searched before burial, and any articles found on them which might lead to their identification are to be sent to the proper quarters.

Explosive bullets must not be used, and quarter must be given to the enemy whether he asks for it or not. In an attack on the enemy there must be no concealment of the distinctive signs of the regiments, and the use of poisons for poisoning drinking water is strictly forbidden.—London Answers.

THE "CITY OF HOMER."

Reminders of the Ancient Architectural Glory of Smyrna.

Architecturally Smyrna must have degenerated since the ancient days, for we are told that then the streets were broad and handsome, well paved and running at right angles with each other. There were a number of squares and porticoes and public libraries, a museum, a stadium in which Olympic games were celebrated with great enthusiasm, a grand music hall or odeon, a Homerion and many temples, of which the most famous was that of the Olympian Jupiter, in which the reigning emperor was practically the god worshipped.

The ancient Smyrniotes were inordinately proud of their city. They called it the "First of Asia," though the Ephesians violently disputed this claim. The inhabitants also called their city the "City of Homer," who they claimed had been born and brought up beside their sacred river Meles.

They put his image upon a coin, which they called a homerion, a name given to one of their temples. Enormous fragments yet remain showing what tremendous buildings once occupied the broad plateau on the summit of the acropolis, and as one rebuilds in imagination these wonderful piles he can easily forgive the Smyrniotes of old for their grandiloquent praise of their city and its beautiful crown.—Christian Herald.

The Only Safe Course.

There is a supreme court justice in New York city who is locally noted for his severity. If he can prevent it no guilty man shall escape, and in his court very few of them do.

Last fall a man was on trial before him for forgery. The prosecution, so it seemed to most of the spectators, failed to make out a very good case. Nevertheless the jury came in with a verdict of guilty.

Later the foreman of the jury was talking about the case with a friend who had heard some of the testimony.

"We weren't certain that we ought to convict either," said the foreman, in explanation, "but after listening to his honor's charge, all of us realized that if we acquitted that fellow we'd be guilty of contempt of court."—Saturday Evening Post.

Dangerous Dust.

Dust is more dangerous than draft. The dust of the house is more dangerous than the dust of the street. It is in dry, windy weather that colds, influenza, bronchitis, tonsillitis and consumption are caught. For every speck of dust is an aeroplane with an army of disease germs as passengers. Sunlight destroys them; they thrive in darkness. The broom and duster of the housewife stir them up from their breeding places in dark recesses, and the open windows of the dusting hour blow them all about the house.—New York World.

Testing.

"Why do you put your finger on that paint? Don't you see the sign 'Fresh Paint'?"

"Yes," replied the man with eccentric ideas. "But I can't keep from testing it and thinking what a condescendence it would be if fresh eggs could be tested the same way."—Washington Star.

On the Stage.

Florence—Of course, in the theatrical profession it doesn't matter how often lovers quarrel. Gertrude—Why so? Florence—Because they make up every night and twice on matinee days.—London Tit-Bits.

One They Both Love.

George—Mabel and Jack's marriage seems an ideal one—such a perfect union of hearts! The Girl—Yes; he adores Mabel, and so does she.—Truth.

Must Need It.

"He needs money badly." "Up against it, eh?" "Must be. He's thinking of marrying for it."—Detroit Free Press.

When all is holiday there are no holidays.—Charles Lamb.

Be Careful When You Laugh.

Few people know what dangers lurk in excessive laughter. When we laugh our regular breathing is changed, coming in quick, short respirations because the throat muscles are contracted. It is for this reason that, when laughing very heartily at some good joke, we have often to gasp for breath. At times we are obliged to hold our sides on account of the pain a hearty laugh causes us, owing to the partial suffocation of the lungs through the cutting off of their proper air supply. Every muscle in the body becomes contracted during a continued fit of laughter. Often the blood vessels in the face become congested, causing it to turn red and even purple. Should this congestion continue for any length of time, apoplexy resulting in death might well occur. It is better in these circumstances to laugh until we cry, for the shedding of tears relieves the congestion of the brain. Tears caused by grief do good in the same way, and that is how, after a great sorrow, many people have been saved from brain congestion and madness by the timely shedding of a few tears.—London Tit-Bits.

A Conservative Scotch Beadle.

Before he went to Glasgow Dr. Story was for many years minister of Rose-nath, and his old beadle was often sorely perplexed by his "innovations"—standing to sing, kneeling at prayer and various other "seemly alterations." His method of objecting to the changes "was to enter the vestry at the close of the service, firmly clasping the big pulpit Bible and then to lay it heavily upon the table, saying, 'I'm done wi' ye noo, I'm fair done wi' ye; I canna thole it ony langer. I hae carried the Bible for threety years, but I canna carry it ony langer; I'm fair done wi' ye.'" Dr. Story would reply, "Hoot, toot, John; you'll think better of that." "Na, na, sir, I canna thole it ony langer. I'll carry the bulks me langer; I'm done wi' ye." But the beadle thought better of it, and remained with Dr. Story "as his sure and trusty benchman" till the end of his life.—Westminster Gazette.

Death, Expert Mechanic.

"It is," writes Wilhelm Lammsus in "The Human Slaughter House," "as though Death had scrapped his scythe for old iron, as if nowadays he had graduated as expert mechanic. They have ceased to mow corn by hand nowadays. By this time of day even the sheaves are gathered up by machinery. And so they will have to shovel our millions of bodies underground with burying machines."

As to falling in battle: "Once it was a knightly death, an honorable soldier's death; now it is death by machinery. That is what is sticking in my gullet. We are being hustled from life to death by experts, by mechanicians. And, just as they turn out buttons and pins by wholesale methods of production, so they are now turning out the crippled and the dead by machinery."

Adventures in a Kilt.

A Scotch military official has just finished an imperial tour in a kilt. He walked through India, Ceylon, Australia and New Zealand, covering over 50,000 miles, says the London Mail.

"The Highlander's garb," he says, "attracted a surprising amount of attention. At Toronto, in Italy, I was arrested for doing an impromptu highland fling in the street. In Ceylon I came near to being murdered at a religious festival, for people took me for a devil. In New Zealand a Maori chief offered me a native bride in exchange for the costume. My kilt was certainly a nuisance sometimes. The sun in Australia is so powerful that I

spent much money on eau de cologne with which to bathe my exposed knees in an attempt to keep off mosquitoes."

Explaining the Needle.

A typesetter in a printing house became very adroit in explaining the large number of misprints for which he was responsible. Even when he changed his work and became a waiter in a restaurant, says the Berlin Echo, his skill did not forsake him. One day he had served a guest with a plate of soup and was turning away when he was called back sharply. "This is an outrage!" cried the indignant diner. "I find a needle in my soup! What does this mean?" "Just a misprint, sir," explained the former typesetter. "It should have been a noodle."

Partly Correct.

"What's the matter with your husband, auntie?" said the sympathetic mistress. "Did you say he was a victim of senile debility?" "I dunno 'bout the other part," answered Aunt Dinah sharply, "but he's got de debil in him all right."—Buffalo Express.

Simplicity of Dress.

Assertive Wife—John Henry, I need a new gown, hat, shoes, gloves, lace collar and feather boa. Husband—

Oh! Why—why, what's all that for? Assertive Wife—Tuesday next I lecture on "The Simplicity of Dress."—Fun.

Real Thoughtful.

"Does your husband give you all the money you want to spend?" "My goodness! No. Why, even I would not think of being that extravagant."—Detroit Free Press.

Could Hit the Mark.

"I never saw a girl that could hit anything she threw at." "Well, you never saw my girl throw a hint."—Indianapolis Star.

There is no grace in a benefit that sticks to the fingers.—Meneca.

No Difference.

"Papa, what does being disappointed in love mean?" "Why, either marrying or being jilted by the girl you are in love with."—Houston Post.

Fact.

"The one thing that we had better put off until tomorrow we seldom do." "What is that?" "Worry."—Boston Record.

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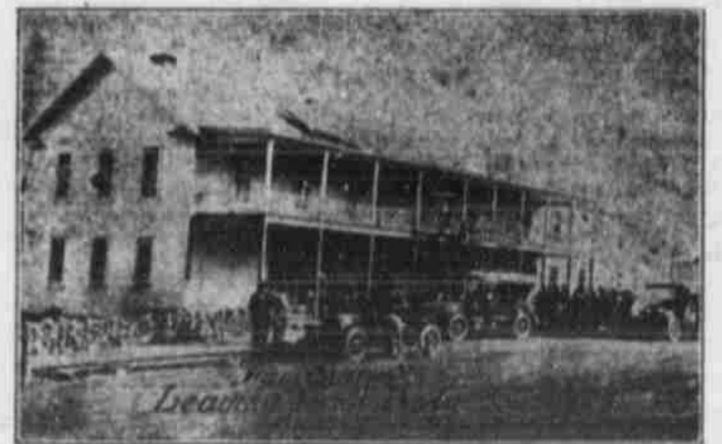
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