THE TOSS OF A COIN.

Mathematics of the Turning of Heads or Tails.

CHANCE AND THEORY CLASH.

If Heads Turn Ten Times In Sequence, Theory Says the Odds Are Against Another Head, Yet Chance Says the Odds on the Next Toss Are Even.

A famous mathematician, Professor Karl Pearson, once spent the greater part of his vacation deliberately tossing a shilling and making careful notes of how it fell. He spun the shilling 25,000 times, and a pupil of his, working separately, spun a penny 8,200 times and also tested the drawing of 9,000 tickets from a bag.

It may seem strange that a learned professor should put himself to such an amount of trouble to demonstrate what every schoolboy who had ever tossed a coin already knew. Yet, as a matter of fact, few really do grasp the laws which govern such an apparently straightforward matter as the tossing of a coin. In the words of the arithmetician, the theory of "runs"—that is, heads turning up repeatedly or tails turning up repeatedly—is precisely as follows:

The chance of a head is one-half; of two heads following, is one-half multiplied by one-half—that is, one-quarter; of three heads in succession, one-half multiplied by one-half multiplied by one-half—that is, one-eighth. Now, what do you suppose is the chance of a run of eleven heads? It is safe to say that not many persons, however accustomed to tossing coins, have reasoned this out. The fact is that one "run" of eleven heads is on the average only to be expected in 2,048 sets of coin tossing.

Although the man in the street may not have reckoned this, he is always quite positive that if, say, a coin has fallen ten times head upward he is safe to start backing tails. He puts his money on tails turning up because, he says, it stands to sense that the run of heads can't continue. But does it? At the eleventh toss the head of the coin is just as big as it ever was. What mysterious influence can a past event, the tossing of ten heads, have on a future one which has no link with them—namely, the tossing of the coin the eleventh time? Surely each toss is an event by itself, as Sir Hiram Maxim said of a game at roulette at Monte Carlo:

"It is a pure, unadulterated question of chance, and it is not influenced in the least by anything which has ever taken place before or that ever will take place in the future."

A nasty piece of plain speaking this for the cranks who had published schemes for "breaking the bank" and whose plans depended entirely on the theory that if one game ended in a win for "red" the chances against it ending "red" a second time were less, a third time less still, and so on.

This of course would be a sound enough argument provided that you regard some dozens of games of roulette or tosses of a coin all as one continuous event. It is quite safe, for instance, to offer beforehand big odds against a coin turning up heads ten times running. But in practice the public house loafer does not do this. What he does is to bet on each separate toss by itself, thus defeating his own aims. The odds against a coin turning up heads eleven times are as has been shown, something like 2,000 to 1. But suppose you only start betting at the tenth toss. What are the odds against the eleventh toss again being a head?

The odds, so far from being 2,000 to 1, are actually 1 to 1! To use an Irishism, the odds are even—that is to say, if you split up the eleven tosses into eleven separate events to be bet on separately your bets should be "even money" all the time, however often heads turn up running. But if you view the eleven tosses as one combined event and you offer a preliminary bet against the whole eleven results being heads you will have to give gigantic odds.

All this goes to prove the absolute uncertainty of gambling. The greatest mathematicians of the day cannot be certain how a coin will fall, so that the man of merely average abilities who stakes anything important on the toss of a coin is allowing that part of his fortune to pass entirely outside his control.—Pearson's Weekly.

South Africa's Locusts.

Millions and millions of locusts settle, and millions and millions continue flying to settle farther on. They have been settling in myriads for a hundred miles and more, and yet enough are left flying to hide the sun. On the ground nothing can be seen but locusts. So thickly do they pack that not a square inch of earth or grass is visible. As you walk through them a narrow wake is left for a few seconds in your track where they have flown out of your way, and as they rise in thousands before your feet the noise of their wings is like an electric power station.—Grand Magazine.

Putting It Mildly.

The flooding of a Yorkshire mine had a tragic result, and a miner was deputed to break the news to a poor woman whose husband had been drowned.

"Does Widow Jones live here?"

"No," was the indignant lady's reply. "You're a liar!" he said.—London Tatler.

Never tell your resolution beforehand.—Golden.

STOPPED THE YELPING.

Rostand's Peasant Who Had Great Power Over Animals.

"When Edmond Rostand had completed his beautiful villa at Bayonne, he was on the verge of a nervous breakdown because of his inability to sleep," says a Paris paper. "The restfulness of the place, however, and the charming surroundings worked wonders, and after a few days had passed the weary writer was able to sleep, and his friends looked for his speedy return to good health. But a dog blocked the progress of the cure. One night the dog began to bark, and in a short time dogs in all directions answered, and the concert kept up until day broke. All efforts to locate the mischief making animal failed. Every night at the same time the barking began, and no one could suggest a remedy. One day one of the servants told about a ne'er-do-well in a nearby village who had great power over dumb animals—possibly he might help. He was called, a large reward was promised, and the barking ceased. A few weeks after the reward had been collected Rostand was again disturbed by the dogs under the leadership of the same unknown barker. The peasant was again called, and Rostand said, 'You must be well acquainted with the ways of animals to have such power over them.' The man beamed under the influence of the diplomatic flattery and proudly showed how he could imitate the whistling of birds and the noises made by animals in woods, barn or poultry yard. 'And how about dogs?' said Rostand. Then the man began to bark, and immediately the voice of the arch disturber was recognized. 'That's enough,' said Rostand. 'Here is a twenty franc piece. If we should hear the dogs bark again, the police will be called.' The peasant saw that he had fallen into a trap, the dogs were heard no more, 'and that,' says the writer, 'is my dog story without a dog.'"

EASY HOSPITALITY.

Food Abundance In Virginia In the Seventeenth Century.

Few countries of the world have possessed so abundant and varied a supply of food as Virginia during the seventeenth century. This partly explains, writes P. A. Bruce in "Social Life In Virginia In the Seventeenth Century," the hospitable disposition of the people even in those early times. The herds of cattle, which ran almost wild, afforded an inexhaustible supply of milk, butter, cheese, veal and beef. Deer were shot in such numbers that people cared little for venison. So abundant were chickens that they were not included in the inventories of personal estates. No planter was so badly off that he could not have a fowl on his table at dinner.

Vast flocks of wild ducks and geese frequented the rivers and bays and were looked on as the least expensive portion of the food which the Virginians had to procure. Fish of the most delicate and nourishing varieties were caught with hook or net. Oysters and shellfish could be scraped up by the bushel from the bottom of the nearest inlet or tidal stream.

Apples, peaches, plums and figs grew in abundance. Not only were grapes cultivated, but excellent varieties grew wild through the forest. Such an abundance of wild strawberries could be gathered that no attempt was made to raise the domestic berry.

The watermelon flourished, and in hominy, the roasting ear and corn pone the Virginians possessed articles of food of great excellence, which were entirely unknown to the people of the old world. There was produced on every plantation an extraordinary quantity of walnuts, chestnuts, hazelnuts and hickory nuts. Honey was obtainable in abundance, both from domestic hives and from hollow trees in the forest.

Bad Night For the Show.

Piloting an unknown show through a starving territory is no cinch, but I have thought out a good idea. In anticipation of each engagement I am going to call out the reserves and when they are out they will be invited in. That will help fill the house.

You have heard of the various excuses for light business—"because the night is so dark," etc. This is a hot one:

"Young man," said the local manager to the agent on his first tour, "why do you bring your troupe here on a Saturday night? Don't you know you won't do any trade?"

"What's the difference between Saturday night and any other night?" asked the agent.

"Because everybody's getting shaved."—New York World.

Too Easy.

The Union bank of St. Petersburg has its own police service. One night the director was sleepless. He wondered whether the bank police were really trustworthy. He concluded to make a trial. He disguised himself and rushed, pistol in hand, into the bank vault. The police were good for nothing. They looked on quietly, while the director pocketed 2,000,000 rubles and carried them away. Since then no one has seen the director.—Simplicissimus.

His Rush.

Boy (reading)—She threw herself into the river. Her husband, horror stricken, rushed to the bank— Teacher (cutting in)—Why did the husband rush to the bank? Boy—Please, sir, to get the insurance money.—London Mail.

For penknives the steel is tempered at 470 degrees, for table knives at 530 degrees and for saws at 560 degrees.

ASSASSINATIONS.

Crimes That Have Changed the History of the World.

Step by step throughout the world's history assassination has been a factor in determining the course of events and in molding the life of nations. Frequently the assassin's weapon which sent a ruler to death has sent upon the world's stage a successor whose career set irrevocable milestones upon the pathway of the peoples of the world. Especially was this true in those days when conquest was the guiding star of the rulers of the world.

Probably one of the most important and early assassinations was that of Philip of Macedon, which occurred in the year 336 B. C. Not only did it terminate the career of one of the most remarkable men of his time, but it led to the accession of Alexander the Great, an event which very likely would not have taken place at all had Philip continued to rule and had himself selected the successor to his throne.

Philip of Macedon then was at the height of his power, and the battle of Chaeronea had made him the undisputed master of Greece. When leaving the theater in which his sister had been united in marriage to Alexander, king of Epirus, a man sprang toward the ruler and thrust a sharp, short sword into his side. As the assassin ran toward a swift horse his sandal caught in a vine stalk, and his pursuers killed him with their spears and tore him to pieces.

Olympias, his former wife, was said to have aided in the conspiracy. This assassination, one of the earliest in point of time, bore a strong resemblance in its surroundings to that which claimed President Abraham Lincoln's life. In both cases there was an individual murderer, the scene was a theater, the act was done with incredible audacity in the presence of a large concourse of people, and the murderer was crippled by a misstep after the fatal blow.

In the history of ancient Rome there stands out one political assassination which marks the first occasion on record in which the conflicting economical interests of different classes in a republic were settled by resort to the weapon of the assassin. This was the murder of Tiberius Gracchus, which soon was followed by the enforced suicide of his brother, Caius Gracchus. This deed was the direct result of the former's attempt to enforce an agrarian law passed as an act of justice to the poorer classes of Roman citizens.

In the turmoil that attended the voting of the tribes Tiberius was struck down to death by one of his own colleagues, a tribune of the people. This chapter of death was written in 133 B. C. History has dealt at length with the assassination of Julius Caesar on the ides of March—the 15th of the month—in the year 44 B. C., and of the import of this event in the history of ancient Rome.

At the time of the assassination of Julius Caesar the Roman people had reached a degree of perversity and degeneracy almost impossible of modern comprehension. His death had a most demoralizing effect upon the people. The hand of the master who might have controlled the unruly masses and restrained the degenerate nobility lay palsied in death. Later events had their mainspring from this source, and the years from 37 to 68 A. D. were marked by the assassinations of Tiberius, Caligula, Claudius and Nero.—New York Herald.

A Lost Compliment.

An eminent singer of foreign birth whose appetite is such that it almost rivals the fame of his voice dined at a table where all the women were reasonably mature, with the exception of the nineteen-year-old daughter of his host, who sat at the great man's left. The artist paid avid attention to his plate until the latter stages of the repast, when the dishes began to come slowly enough for him to engage in conversation with the young person, to whom in the Latin manner he paid a Latin compliment, assuring her in her private ear that to him she "seemed like a flower among vegetables."

"Then I can scarcely hope to occupy first place in your thoughts at dinner," she responded demurely.

And the eminent singer could not think of an answer.—Harper's Weekly.

Had Practiced.

Cardinal Richelieu once listened to an earnest sermon by a shoemaker. The man was simple and unaffected and apparently not at all dismayed by the presence of the cardinal.

"How could you preach to me with so much confidence?" Richelieu asked him in evident surprise.

"Monsigneur," replied the shoemaker, "I learned my sermon by reciting it to a field of cabbage heads in the midst of which was one red one, and this practice enabled me to preach to you."

Doing Very Well.

"How's your son making out in business?" asked the first capitalist.

"Very well indeed," replied the other; "he's got a quarter of a million."

"Why, you started him with a million, didn't you?"

"Yes, and it's two months now since he started operations in Wall street."—Philadelphia Press.

A Human Failing.

"Pa, what is the meaning of inconsistency?" asked Freddy.

"Inconsistency, my son," explained pa, "means a man who growls all day and then goes home and kicks the dog for barking at night."—Exchange.

The Zambesi, a great river two miles wide, falls sheer 420 feet. Niagara is only 158 feet high and about half a mile wide.

ORIENTAL RUGS.

Why Those That Are Made by Hand Work Cost So Much.

The simple apparatus is still in use in outlying districts—home dye tubs filled with colors extracted from sheep's blood, larkspur, indigo, tumeric, saffron, mulberry, walnut husks, brass combs for carding and distaffs whirled by hand. Between two sticks held horizontally by supports at the ends are strung threads drawn taut, harp fashion. Then worsted yarn is passed over and under the strings twice. Songs are sung—songs transmitted from old to young, so ancient, some of them, that they are in a lost language—and these songs tell the weaver what colors to tie in as she progresses with the pattern. Each district has its own patterns and songs. After each knot the ends of the yarn are scissored off to form the pile.

In a close woven piece like a Kirman, measuring a mere 5 by 8 feet, there are 400 knots to the square inch. As the weaver's speed is about three knots a minute, four years of continuous labor would be required on such a rug. Within that time some fingers would stop weaving forever; others would go on with it. Was it any wonder, the rug hunter asked me, that no two old rugs, even from the same village and the same household, were ever just alike? A bereavement would induce a greater unconscious use of white; a bridal would turn the weaver's thoughts to scarlet and victories of war to yellow. Local environment, family happenings, removals from town to desert and desert to mountain, would each have effect. Gossip of harems, the tinkle of silver anklets, the alarms of brigands, the elations of religions, all would go into the rug.

"Then," I interrupted the hunter, "if they still dye and weave as of old, rugs are being made now that eventually will be beautiful and valuable?"

If the west were willing to say to the east, "We will give you five or ten years to make a rug," if it would say that, then age and gentle wear would do the rest. But the west won't. It has mansions in increasing numbers to fit out at once. So it has introduced aniline dyes and machine carders and spinning jennies and collective weaving and is otherwise hustling production.—Franklin Clarkin in Everybody's Magazine.

SUGAR AS FOOD.

Used With Discrimination, It Is an Aid to Good Health.

"There is a prejudice against sugar which is not justified by physiological reasoning," says the London Lancet.

"Sugar is one of the most powerful foods which we possess, as it is the cheapest or at any rate one of the cheapest. In muscular labor no food appears to be able to give the same powers of endurance as sugar, and comparative practical experiments have shown without the least doubt that the hard physical worker, the athlete or the soldier on the march is much more equal to the physical strain placed upon him when he has had included in his diet a liberal allowance of sugar than when sugar is denied to him.

"Trophies, prizes and cups have undoubtedly been won on a diet in which sugar was intentionally a notable constituent. It has even been said that sugar may decide a battle and that jam after all is something more than a mere sweetmeat to the soldier. The fact that sugar is a powerful 'muscle food' accounts probably for the disfavor into which it falls, for a comparatively small quantity amounts to an excess, and excess is always inimical to the easy working of the digestive processes.

"Sugar satiates; it is a concentrated food. Where sugar does harm, therefore, it is invariably due to excess. Taken in small quantities and distributed over the daily food intakes, sugar contributes most usefully in health to the supply of energy required by the body.

"And it is a curious fact that the man who practically abstains from sugar or reduces his diet to one almost free from carbohydrates in favor of protein foods, such as meat, often shows feeble muscular energy and an indifferent capacity for physical endurance."

Why Silence Reigned.

"Darling," he cried in tones of deep emotion, "at last you are safely in my arms and nothing shall part us more."

The object of his touching words and passionate embrace made no response, but remained cold and silent. Tears welled into his eyes.

"Dearest," he continued, "how can I prove my love? Is there no sacrifice I can make for your sweet sake, no suffering I can endure?"

This final appeal was irresistible.

"The best thing you can do, my man," said a gruff voice, "is to come along with me." And a brutal policeman unfastened him from the lamppost and led him silently away.—London Scraps.

The Power of Mystery.

"I can't afford to have people think I don't know about this particular question," said the politician, "and I haven't the time I need to read up on it."

"Well," replied his wife, "in that case I'll tell you what I'd do. I'd look wise and get some paper to announce that you decline to be interviewed."—Washington Star.

Ingress and Egress.

The Old Man—The easiest way to get into society is to marry for money.

The Young Man—Suppose you are in society and want to get out?

The Old Man—Then marry for love.—Illustrated Bits.

SAVED BY HIS TEETH.

Quick Wit of a Missionary Among a Tribe of Cannibals.

Missionaries have much to contend with in dealing with the tribes on some of the islands of the southern Pacific, and I am reminded of an incident happening on a remote island of the Fiji group whose tribes were still influenced by the savagery of cannibalism. A German missionary had made excellent progress toward the enlightenment of a tribe of savages in the interior when he was taken ill and forced to abandon his work and seek recuperation in a village along the coast.

During his absence a native medicine man succeeded in undoing all that the good German father had accomplished. The latter was warned that under the circumstances it would be unsafe for him to return to the scene of his labors upon his recovery, but he decided that his duty called him there, and upon regaining his strength he journeyed inland to the village whose inhabitants had gone over to the teachings of the medicine man.

His reception was decidedly a warm one, and he was informed that unless he made a practical demonstration of the superiority of his teachings over those of the medicine man he would be converted in short order into food for the hungry tribesmen. He at once realized that his life hung upon a slender thread and endeavored to show to the savages by argument that their conclusions as to his edible qualities were entirely erroneous and that they should turn their thoughts to other kinds of food as well as to higher subjects.

His efforts were in vain, however, and just as he was about to be struck down by the uplifted clubs of the chief men in the tribe he happily bethought himself of the fact that his upper teeth were false. Opening his mouth, he hastily extracted his set, flourished it in the faces of his astounded opponents, and particularly the features of the medicine man, and, replacing the teeth as suddenly as he had extracted them, rebuked his charges in a manner which can better be imagined than described. The tribe, believing that he had performed a miracle in taking out and replacing his own teeth, drove the medicine man from the village and restored the missionary to his former place as uplifter of their material and spiritual destinies.—Washington Star.

HE RODE FREE.

The Reason Camp Meeting John Allen Got a Maine Central Pass.

Camp Meeting John Allen was one of the most picturesque characters of his time in Maine. Apropos of railroad passes a very interesting story is told. It occurred when Governor Morrill was president of the Maine Central. Allen's applications were refused a number of times, because if there was one thing above all others which Morrill disliked it was to issue passes. The governor came down to his office in a somewhat brusque frame of mind that day. Those familiar with the storm signals quietly backed off and waited for an explosion. It came. One of the first letters opened was from Camp Meeting John Allen requesting a pass for "self and wife." The secretary approached his chief with some hesitation.

"Here is another letter from Mr. Allen asking for a pass," he said and laid the missive gingerly on the governor's desk.

The governor read it through and blazed away for a few minutes; then, tossing the letter to the astonished secretary, he said, "Make it out."

The young man retired and began to fill in the various blank lines, but when he came on "what account" the pass was issued he was puzzled and ventured to seek information.

"On what account, governor?" he asked.

The chief looked irately over his spectacles.

"Account, account? Account of —— persistence. Be sure to put it in, too," and he growled as the young man passed out, "These Methodist parsons may have to get us all passes on the road to heaven, and I want Maine Central to have good connections with Camp Meeting John Allen's route."—New York Tribune.

The Only Digestible Kind.

A young man who is striving for political honors and who therefore feels called upon to do considerable public talking was recently waited upon by a delegation of men residing in one of the poorer regions of his district.

He was greatly pleased when their spokesman requested a speech from him at an early date.

"What kind of a speech?" he asked.

"An after dinner speech," replied a wag in a shabby coat.—Youth's Companion.

A Nice Friend.

"You're a nice friend to have! Why didn't you lend Borroughs the sovereign he wanted?"

"Why should I?"

"To save me. You must have realized that he knew if he didn't get it from you he would from me. You've practically robbed me of that amount."—London Telegraph.

Criminal.

The religious editor was struggling with the query, "Is it a sin to play poker?" After much prayerful consideration he wrote the following reply: "Yes; the way some people play it."—Philadelphia Press.

Work Ahead.

Farmer Bentover—I've just heerd that the Widder Diggs has married her hired man. Farmer Hornbeak—Then, by jolly, he'll have to climb down from the fence and go to work.—Puck.

A STRANGE PAGEANT.

Annual March of Mohammedans to the Tomb of Moses.

One of the strangest of all the pageants which are to be seen in Jerusalem is the annual march of the Mohammedans to the tomb of Moses. To them, as well as to Christians and Jews, Moses is a prophet of the highest honor. But, rejecting the traditions of the Hebrews, they refuse to believe that he was buried in a valley in the land of Moab, as is described in the last chapter of Deuteronomy. Instead they assert that he was buried where he breathed his last, upon the summit of Mount Nebo.

Therefore each year at the time of the Greek Easter the faithful gather by thousands in the early morning before the site of the temple of Solomon in perfect silence waiting for day break. Later the strange scene of quiet is entirely transformed, fanatics dancing and preaching, hordes of dervishes whirling about in mysterious "sacred" dances and hundreds of exhorters rousing the enthusiasm of their fellows. The scene is gaudy with hundreds of red and green banners, and the only semblance of order is in the semiregular organizations of marchers.

At last the procession forms, with the banners borne ahead, an iman bearing the yataghan of the prophet—a short, straight edged sword used by the armies of Mohammed—and after them more dancers and marchers.

A large part of the population of Jerusalem gathers about the gate, out of which the procession moves toward the Mount of Olives, but few besides the faithful endeavor to obtain a place in the ranks of marchers, since death has often been the penalty of an attempt by a non-Mohammedan to make this march to "Nebi-Mouca," the "tomb of Moses."

Traders of many kinds invade the camp, for the marchers remain at the mosque five days, and all their supplies must be bought from the wandering merchants, who make a business of looking after their needs. After the first excitement fanaticism yields to good humor, and games and banter fill the time for those who have paid their duties at the tomb.

The mosque on Nebo is one of the most sacred of Mohammedan shrines and one of the most difficult for a Christian to approach.

An English traveler who brought an order from the porte was denied admittance, and, although in recent years it has become possible to enter, it is too early yet to forget the experience of one traveler who came bearing an order of admittance from the sultan himself.

"This firman," the guardian priest said, "commands me to let you enter the mosque. "Very well; you can enter. But think well before you do so, for I find nothing written here about letting you out again!"

Measuring a Spirit.

A man of St. Joseph, Mo., relates a story in connection with a spiritualistic meeting once held in that town. A man named Daniel Miller, who was some six feet seven inches in height, had died recently.

The spirit of Daniel was called for by some one at the seance mentioned. When it had appeared and announced its readiness to reply to any question, some one asked:

"Are you in heaven?"

"Yes," came from the shade of Daniel.

"Are you an angel, Dan?"

"Yes."

At this juncture the questioner paused, having apparently exhausted his fund of questions. But, to the amusement of all, he suddenly added, "And what do you measure from tip to tip, Dan?"—St. Louis Republic.

Took Kindly to the Water.

They tell this story of the experience of two Maine boys in trying to catch a woodchuck:

They had tried quite a number of times to capture the animal, but unsuccessfully. At last they decided to drown him out; so, procuring four pails, each took two, and they carried water for two solid hours and poured it into the hole in the ground in which the said chuck had taken up his abode. Getting tired, they sat down. After about half an hour the woodchuck cautiously left the hole and deliberately walked down to the brook and took a long drink of water and then scooted, much to the disgust of the two boys.

His Literary Bent.

"Father, when I leave school I am going to follow my literary bent and write for money."

"Humph! My son, you ought to be successful. That's all you've done since you've been at school."

Charged with striking his father in the face and abusing him, Gus Ecomney, a young Greek, was arrested by Sheriff Lee and taken before Judge Murray who continued the case until 1 o'clock Wednesday afternoon. Gus pleaded not guilty, to the charge, stating that he did not touch his father.

The father says that his son and a few others pitched onto him and were going to "whip" him. The father's face was badly scratched and bruised and he told a pitiful tale in court.

It is reported that the Great Northern is checking up the Surrey depot and will soon close the same. This will cause a remonstrance from the citizens at the place if the report is true. Surrey is one of the best little stations along the line and ought to be kept open.

Rev. Edmund Larke, writing from Bagley, Minn., says: "I could not do without the paper for it stands for the best things. I am getting along fine."