PROBABILITIES AT BRIDGE.

A STUDY OF THE ODDS AFFECTING CERTAIN PLAYS.

Failure of the Mathematicians to Do for Bridge What Has Been Done for Whist —Two Chances Continually Taken Without Adverse Odds Being Known.

Every now and then some bridge player wants to know what the mathematical chances are with regard to certain events whose desirability seems to be in inverse ratio to their probability. Here is a letter that came to hand the other day:

To THE EDITOR OF THE SUN—*Sir*: You reprinted from the *Saturday Review* not long ago an article in which it was stated that fifty-six text books had been published on bridge, and that there was nothing more to be said that was new. I have seen about a dozen of the leading ones myself, and I think there is room for something new.

It strikes me as peculiar that not one of them touches the subject of probabilities. It was his statement of the odds at whist that made Hoyle famous, and no one seems to have contradicted his conclusions or improved upon them, altough I have never seen any explanation as to how they were arrived at.

There are matters connected with bridge which might be simplified if we had some reliable statistics about them. The most important, I suppose, would be the probability of your partner's holding a certain number of honors when you declare; or the chances of his holding high cards in suits in which you are weak.

Out this way we look upon THE SUN as the only reliable authority on all matters appertaining to cards, and if it would explain how these probabilities can be calculated, and state the odds for and against certain holdings, I am sure bridge players all over the country would appreciate it just as much as, Yours truly, E. M. KITTRIDGE.

CINCINNATI, Ohio.

The calculations referred to, which were first given to the world in Hoyle's "Short Treatise on the Game of Whist," published in 1742, are supposed to have been supplied by De Moivre, a celebrated mathematician, who, it is said, used to frequent the coffee houses in the good old days and advise gentlemen of a sporting turn of mind what odds it would be safe for them to lay or take upon any given event. Sir Isaac Newton used to say of De Moivre: "Go and ask him; he knows mathematics better than I do."

How the results given in Hoyle's book were arrived at has never been explained, but they have been found correct. Twenty-five years before Hoyle's book came out De Moivre published a work entitled "The Doctrine of Chances; or the Method of Calculating the Probability of Events in Play." This dealt with card games, among other things.

Dr. Pole in his "Philosophy of Whist," published in 1883, devotes 150 pages to the various chances in the game of whist, but the odds he gives are of no use to the bridge player, because all Dr. Pole's calculations are based on a turn up trump and a trump suit with only four honors in it. The honors at whist counted toward game, and the possibility of partner's holding one or two modified the play for tricks.

E. C. Howell of Washington, the mathematician who has done so much for duplicate whist players in arranging schedules and comparative methods of scoring, does not seem to have turned his attention to the mathematical aspects of bridge, except on the chances in favor of doubling.

As pointed out by THE SUN'S correspondent, there are two chances that bridge players are continually taking, yet not one bridge player in a million knows what the odds are, either in his favor or against him. One of these is determining on a trump suit simply on account of its length without considering the chances of the distribution of the honors and the possibility of losing heavily above the line.

The other chance that players take is in declaring no trumps without any idea of the probabilities that the partner can protect or stop the suits in which the dealer is weak. These odds being accurately known, they could be compared with the risk to be taken for the sake of a certain gain.

There are other and minor probabilities, a knowledge of which would be more useful to the adversaries' side than to the dealer's, yet bridge players have not the faintest idea of them. Ask any first class player whether or not he would double no trumps if he held ace king and six small cards of one suit and the lead.

His answer should depend on an exact knowledge of the mathematical odds against the dealer's side being able to stop him from making eight tricks, and he should be able to compare these odds with the probability that he will win the rubber if he gets the first game on that hand by doubling and making eight tricks. It is safe to say that not one bridge player in a million knows what those odds are, although he may have hazy ideas on the subject; therefore his decision as to doubling or not doubling must be guesswork, not founded on any sound principle of play that would stand the test of a hundred trials.

The odds a knowledge of which would be most useful at the bridge table are those which have to do with the probable distribution of the high cards or honors. The dealer, holding or not holding certain high cards himself, wishes to know the probability of finding certain cards in the hand of his partner or of his adversaries.

Which adversary may hold them does not matter so much as the broad question of the probability that they are against him. Knowing these odds, he can compare them with the risk he thinks of taking. He surely would not risk a certainty of twenty points for the sake of making sixty if he knew the odds against success were 24 to 1.

The method of calculating any of these odds is comparatively simple. Suppose you are the dealer. Your partner has 13 cards, and these 13 must be some combination of the 39 cards which you do not hold.

If we number the cards in his hand from 1 to 13, it is obvious that No. 1 may be any one of the 39, so that there are 39 ways of filling up No. 1 space in his hand. Having got the first card, there are still 38 to choose from, and No. 2 space may be filled by any one of those 38 cards, therefore the number of possible combinations of these two cards alone must be 39×38=1482.

For the third card, you would have to multiply this again by 37, and for the fourth card by 36, and so on for the whole 13 spaces in his hand. As we are going to consider his whole hand, we must calculate how many different combinations he can hold if we make the selection from 39 things taken 13 at a time, which gives us this:

$$\frac{39 . 38 . 37 . . . . . 27}{1 . 2 . 3 . . . . . 13} = 8,122,425,444$$

This is the number of hands which your partner can hold, all different. We have now to find out how many of this number contain the cards we want to know about.

Suppose it is desired to find out the probability that he holds certain named cards among his thirteen, it will be necessary to compare all the possible positions of those cards with the positions that are favorable to your wishes. The cases in which you, the dealer, hold a certain number of honors in the suit may be considered first.

DEALER HOLDING ONE HONOR.

The first thing to do is to find out how many possible positions there are for the four others. As the first one may be any card of 39 and the second may be any of 38 and so on, we have to take 39×38×37×36 =1,974,024, as the denominator of all fractions in which four honors are to be considered.

In order to find out the probability that your partner holds all four of these honors it must be remembered that they can be got only in one way, but they may be combined with 9 other cards selected out of 35. This part of the calculation we are not interested in further than to prove the other part, but we should write it thus:

$$\frac{35 . 34 . 33 . . . 27}{1 . 2 . 3 . . . 9}$$

Completing the series so as to fill out the thirteen cards, we find that the probability required is:

$$\frac{10 . 11 . 12 . 13}{39 . 38 . 37 . 36} = \frac{17160}{1974024} = \frac{1}{115}$$

So that the odds are 114 to 1 against your partner's having four honors in a suit when you have one only.

The probability that he has three out of four is calculated in the same way; but the result must be multiplied by the number of ways in which he may get three out of four. As any honor of the four may be the one that he does not hold, there must be four ways for him to get three.

Then again, this fourth honor must be one of the 26 cards held by the adversaries and as it may be any one of their 26, we must multiply by 26. This gives the numerator of our probability fraction:

$$13 \times 12 \times 11 = 1716 \times 4 \times 26 = \frac{178464}{1974024} = \frac{1}{11½}$$

It is therefore about 10½ to 1 that your partner does not hold three honors when you have one only.

To find the probability of his holding two out of four, we must consider that he can get these two in six different ways, just as you can get six different pairs out of four of a kind at cribbage. As there are now two honors among the 26 cards of the adversaries, we have: 13×12=156, for your partner; 26×25=650, for the adversaries, and 6 for the various combinations; so that the fraction will be:

$$156 \times 650 \times 6 = \frac{608400}{1974024} = \frac{1}{3}$$

It is therefore about 2 to 1 against your partner's holding two honors out of the four which you do not hold.

When we come to the chances of your partner's holding one honor only, there must be four ways of his getting it, because the one he is to have may be any one of the four that you do not hold. Then we must multiply his 13 cards by 4=52. The three honors in the adversaries' hands may be in any one of 26×25×24=15600 positions, so that we have for our fraction:

$$52 \times 15600 = \frac{811200}{1974024} = \frac{1}{2¼} \text{—nearly.}$$

It is therefore about 1¼ to 1 against your partner's holding one honor out of the four, no more no less.

To find the probability that your partner will have no honor, we have only to find the possible positions of the whole four in the 26 cards of the adversaries, which gives us:

$$\frac{26 \times 25 \times 24 \times 23}{39 \times 38 \times 37 \times 36} = \frac{358800}{1974024} = \frac{1}{5½}$$

So that the odds against your partner not having an honor, or against the adversaries having all four, which is the same thing, are about 4½ to 1.

Now, one or other of these cases must happen, and in order to prove that our calculations are correct, we add together the numerators of all our fractions to see if they equal the denominator, or certainty:

That he holds 4,	17,160
That he holds 3,	178,464
That he holds 2,	608,400
That he holds 1,	811,200
That he holds 0,	358,800
	1,974,024

These probabilities, it must be remembered, are for holding the exact number of honors stated. If it is desired to find the probability that your partner will hold at least one honor; that is, any number from 1 to 4, when you hold one only yourself, the probabilty of his holding none must be deducted from certainty, or all the numerators of probability from one honor to four honors inclusive must be added together, which is the same thing. This gives us:

$$\frac{1615224}{1974024} = \frac{100}{122}$$

That is, about ten times out of twelve, your partner will have at least one honor when you have only one.

The probability that he will have at least two, which is perhaps the most useful case to remember, as it carries with it the honor score, can be found by adding together the numerators for 2, 3 and 4, which gives us:

$$\frac{804024}{1974024} = \frac{100}{245}$$

This would indicate that when you have only one honor in the suit you may expect to score honors about ten times out of twenty-five.

DEALER HOLDING TWO HONORS.

If you hold two honors the probability of your partner's having the three others is:

$$\frac{13 \times 12 \times 11}{39 \times 38 \times 37} = \frac{1716}{54834} = \frac{1}{32}$$

It is therefore about 31 to 1 against your partner's holding three honors when you have two. This denominator, 54,834, is correct for all calculations for three cards.

As there are three ways in which your partner may get two out of the remaining three, we have 13×12=156 for the possible positions of the two honors in his hand and 26 for the possible positions of the third honor in the adversaries' hands. This makes our fraction:

$$3 \times 156 \times 26 = \frac{12168}{54834} = \frac{100}{435}$$

So that it is about 3½ to 1 against your partner having two out of three.

If your partner has one only, he can get it in three ways among his thirteen cards, and then we have the possible positions of the two other honors among the adversaries' cards, 26×25=650, which gives us:

$$3 \times 13 \times 650 = \frac{25350}{54834} = \frac{100}{216}$$

Which is almost exactly an even thing.

For the chances that he will hold none, you still holding two, we have to find the adversaries' chances for holding all three, which is simple:

$$\frac{26 \times 25 \times 24}{39 \times 38 \times 37} = \frac{15600}{54834} = \frac{100}{352}$$

So it is about 2½ to 1 against the adversaries' having all the other honors when you have two.

We can prove these results as before, and can also find the probability of one or more honors being in the partner's hand by deducting the last numerator found from certainty, which gives us:

$$\frac{39234}{54834} = \frac{10}{14}$$

This would indicate that about ten times out of fourteen your partner will have one or more honors when you have two.

DEALER HAVING NO HONOR.

This is an interesting calculation; on account of the number of times that the dealer is tempted to declare a suit in which he has length, but no high cards, such as six small hearts. It is then of the greatest importance for him to know the probabilities of the adversaries' scoring honors against him, and the average number of points, because the high cards or honors they hold will destroy the trick taking value of the dealer's small trumps, and the honor score will offset the possible trick score. If the dealer sees that he is likely to lose more than he can gain the odds against him may deter him from the declaration.

First, as to the probability that the adversaries hold five honors among their twenty-six cards:

$$\frac{26 . 25 . 24 . 23 . 22}{39 . 38 . 37 . 36 . 35} = \frac{7893600}{69090840} = \frac{100}{869}$$

So that it is almost 8 to 1 against the adversaries' holding all five honors against you.

When we come to four honors against you there are five ways for them to get these four honors, because the one your partner holds may be any one of the five. The twenty-six cards they hold and the thirteen your partner holds must be calculated for, so we have:

$$5\,\frac{26 . 25 . 24 . 23 . 13}{39 . 38 . 37 . 36 . 35} = \frac{23322000}{69090840} = \frac{1}{3}$$

This shows that it is about 2 to 1 against the adversaries' holding four honors between them.

As to their chances of holding simple honors against you we have ten ways in which they may get three honors out of five, therefore:

$$10\,\frac{26 . 25 . 24 . 13 . 12}{39 . 38 . 37 . 36 . 35} = \frac{24336000}{69090840} = \frac{100}{283}$$

There is very little difference from the last case, it being still nearly 2 to 1 against their holding simple honors.

We come now to the chances of your partner's holding simple honors. We have the same number of ways in which he may get them, ten; but we have to deal with three positions of his thirteen cards, and only two of the adversaries' twenty-six, therefore:

$$10\,\frac{26 . 25 . 13 . 12 . 11}{39 . 38 . 37 . 36 . 35} = \frac{11154000}{69090840} = \frac{100}{619}$$

It is therefore 5 to 1 against your partner's holding simple honors, if you have none.

The chances of your partner's having four honors when you have none are:

$$5\,\frac{26 . 13 . 12 . 11 . 10}{39 . 38 . 37 . 36 . 35} = \frac{2230800}{69090840} = \frac{1}{31}$$

Showing that it is about 30 to 1 against it.

Finally, for the chance that your partner holds all five honors:

$$\frac{13 . 12 . 11 . 10 . 9}{39 . 38 . 37 . 36 . 35} = \frac{154440}{69090840} = \frac{1}{447}$$

The odds against it are therefore 446 to 1.

If we prove these calculations by adding together the numerators of all our probability fractions, we shall find that they are correct, the total equalling the denominator.

The interesting part of this last calculation is the point that if you declare a trump suit without an honor in your hand it can be shown that the odds against your scoring honors are 4 to 1. Add together the numerators of the fractions of probability that your partner will hold 3, 4 or 5 honors, and you get:

$$\frac{13539240}{69090840} = \frac{100}{510} = \frac{1}{5}$$

If you declare hearts, for instance; let us say fifty times, without an honor in your own hand, the adversaries will score 1,040 points to your 260 in the honor column, an average loss of 15 points on the deal. This may be regarded as a steady percentage against you, to be reckoned with when you risk the loss of the trick score at the same time.

The same calculations apply, of course, to the probability that your partner holds some high cards in a suit in which you are weak when you declare no trumps; but the 10 and J are not worth much as stoppers, and such calculations should be restricted to the positions of the A K Q. While these calculations apply to the dealer and his partner, they are equally true in showing an adversary the probabilities of his partner's holding.

RARE CONFEDERATE MONEY.

Some Lost Cause Bills Once Despised Now Worth More Than Par.

"Confederate money is not to be bought by the barrel nowadays," said a collector of paper money whose collection embraces nearly every kind of paper currency ever issued in this country. "On the contrary, this sort of money is becoming very scarce, particularly in the Southern States.

"During the last years of the war, when the housewife who went to market was forced to carry with her a basket full of this money in order to purchase enough provisions to fill the basket, few dreamed that this despised money would ever bring a premium. Yet to-day there are several recorded instances in which bills have brought 100 per cent. above their face value.

"One story is told of a disgusted possessor of a quantity of Confederate money who, in order to find out whether the stuff still had any value whatever, pinned one night during the last year of the war a bill of $500 denomination on a hitching post in front of a store. The next morning he went down to see if it was still there, and lo! another bill of equal denomination had been pinned on top of it. Those same two bills would now be worth $70 or more.

"Of recent years many collectors have at last appreciated the beauty and variety of this extensive issue, with the result that the lost cause money is not only getting less plentiful but prices are growing, making it necessary now to pay substantial sums for varieties which a few years ago could have been obtained for little.

"The revival of interest in the collection of this money has had the effect of bringing to light many varieties of which all record had been lost, until to-day there have been definitely listed more than 2,500 varieties. A few years ago only a little more than 2,000 were known.

"The rarest of all the issues are those of Montgomery, where Confederate money was first printed. This issue was not very large, and every one of these bills now commands a premium. Only notes of large denomination were produced at the Confederacy's first capital; these being of $1,000, $500, $100 and $50.

"The rarest of all the bills is that of $500, which bore interest at the rate of five cents a day. In fine condition it readily brings from $25 to $35.

"The next in point of rarity is the $1,000 Montgomery bill. When well preserved this bill is worth $20.

"Then comes the $100 bill. This is worth $5. The fourth of the Montgomery series, the $50 bill, is quoted at $4.

"The rarest of the bills printed at Richmond is the one of the denomination of $5. This shows negroes loading cotton on the left hand side. To the right is an Indian princess. It is a great curiosity in its way, for here we have a Confederate note that has come to be worth double its face value, as the premium offered for it is $10.

"Bills of the first issue at Richmond have written dates. The highest denomination was $100, and the chief design showed a train of cars in the centre. On the left is a figure of Justice, with Minerva on the right. A copy of this bill is worth $4.

"While the bills of the second issue of July 25, 1861, are by no means common, yet they are not nearly so rare as the bills of the first issue. The $100, with Ceres and Proserpine in the centre and Washington's bust to the left, is worth $1, which is about the highest premium, while the twenty dollar bill, with a ship sailing to the right, sells for 15 cents. The ten dollar bill, with a woman leaning on a shield, on which is a Confederate flag, with eleven stars, is worth 50 cents. Of the two five dollar bills, the one engraved at New Orleans is now worth par, being quoted at $5, while the other variety, showing a woman leaning on a shield on which is a figure 5, is worth $2.

"The remainder of the bills of the 1861 issue were dated September 2, and some of these are now exceedingly interesting from a historical standpoint. While enormous numbers of these bills were printed, yet some of them are now extremely rare.

"A very interesting ten dollar bill, but not rare, shows Gen. Francis Marion, the Swamp Fox of Revolutionary days, eating his famous sweet potato breakfast with a British officer.

"Of the same issue there was a two dollar bill, which is now above par. This is particularly curious, as the bills of small denominations were the most plentiful and heretofore were hardly worth the paper upon which they were printed. It seems like the irony of fate that the last two dollar bills should be now worth more than their face value. In 1864 it would have required twenty of the five dollar bills or fifty of the two dollar bills to buy an ordinary pair of shoes.

"The design of this odd variety shows the personification of the Confederacy slaying the Union. In the upper right hand corner is the bust of J. P. Benjamin. The bill is worth $2.50.

"The issues of 1862, 1863 and 1864 are not as varied as those of 1861, and none of them commands much of a premium.

"At the present rate of advance of the prices for the earlier Confederate issues it won't be long before they rank as high as the scarce issues of Colonial and Continental money, and all such notes are well worth preservation."

OFFERS $10,000 FOR A STAMP.

ONE COLLECTOR'S SEARCH FOR AN ANNAPOLIS ISSUE.

Other Varieties Among the Stamps Issued by Postmasters Sixty Years Ago —$5,000 Actually Paid for a Baltimore Stamp—No Specimens of Some Issues.

That there is a United States five cent postage stamp which is worth $10,000, a price exceeding the highest figure ever paid for a stamp of any country, may seem surprising to people not of the postage stamp collecting cult; yet an American collector offers that sum for a copy of the Annapolis (Md.) postmaster stamp on the original envelope similar to the one in the collection of the Earl of Crawford, which is said to be the only specimen of its kind in the world and is looked upon by many as the greatest rarity known to philately

This would make the Annapolis stamp the highest priced in the world. Next to it in point of value is a specimen of the two-penny Mauritius stamp, for which the German Postal Museum is said to have paid $9,023. After this ranks the one penny Mauritius stamp, for which the Prince of Wales not long ago paid $7,200

This highly valued bit of paper shows in one corner a circular black stamp, in the centre of which is an eagle with expanded wings. One of its talons grasps a branch, while the other holds three arrows. In the beak is held a sprig of olive or palm.

At the top of the stamp is the inscription "Post Office," and at the bottom, "Annapolis" To the left of the stamp is a large figure "5," underneath being "Paid." The color is red on white and the stamp was issued by Postmaster Martin F. Revell in 1846. W. A. Castle of Philadelphia formerly owned the only known specimen

There is no series of postage stamps held in higher esteem by the collectors than the postmaster stamps which include between ten and fifteen general types. They were the forerunners of the regular United States stamps.

On March 3, 1845, an act was passed by Congress establishing the uniform postage rates of five and ten cents, but the Postmaster-General was not authorized to issue postage stamps until March 3, 1847. In the meanwhile the postmasters of certain cities had stamps, prepared and sold them to the public without authorization. They were sold at a slight advance to repay the postmaster for the cost of production.

The signature of the postmaster appeared on the stamp to show that payment of postage had been made. The postmaster of New York and his deputies used their initials in marking the stamps; the New Haven postmaster wrote his name; so did the postmaster of Baltimore. The Alexandria postmaster numbered his stamps, and the famous Brattleboro issues bear a facsimile of the postmaster's initials.

Postmaster stamps were first issued in New York city by Robert H. Morris. There was but one denomination, five cents, but there were many minor varieties. The indorsements, always in red ink, are "R. H. M." for the postmaster and "A. C. M." for Alonzo C. Monson, an assistant.

The design of the stamps shows the head of George Washington. At the top, on the extreme left and right corners, are "New" and "York", while underneath is "Post Office." At the bottom is "Five Cents." The general color was blue. One variety is worth $60 unused and $25 used. While none of the varieties is high priced, still all bring from $10 up.

Alexandria's postmaster stamp is one of the great rarities. "It was issued in 1846 when Daniel Bryan was postmaster. The design is typeset with a circular ornamental border.

Within this, forming another circle, are the words "Alexandria, Post Office," and inside of the second circle is "5 Paid." This stamp is found only in black, but the cancellation is hand stamped in red. As this variety is seldom offered for sale it is difficult to estimate its value.

Next come the Baltimore stamps. They were issued between 1845 and 1849, during the incumbency of Postmaster James M. Buchanan. Two values were printed, five and ten cents, of numerous varieties, every one of which is extremely high priced.

Each of these denominations is in black on white and black on blue. The design is extremely simple, consisting of a narrow rectangle of faint lines, with the signature of the postmaster written over the printed value.

The ten cent stamp is rarer. A scarce variety of this denomination on white, of which there are only two specimens known, is worth $5,000 and is now rated as the costliest of American stamps, for this is the largest sum ever actually paid for an American stamp. The five cent varieties are all very rare, being worth from $500 up.

The famous Brattleboro stamp issued by Postmaster Frederick N. Palmer in 1846 was in black on buff paper. It was an engraved design and shows "Brattleboro, Vt.," at the top, "5 Cents" at the bottom.

On either side of an inner frame, in which the postmaster wrote his initials, were the letters "P" and "O." The value of the Brattleboro is about $650.

Col. Asa H. Waters, the postmaster of Millbury, Mass., in 1846 issued a stamp made from a wood block and printed one at a time on a hand press. This bore the portrait of Washington, surrounded by "Post Office, Paid 5 Cts." The cancellation mark "Paid" is in red.

There are several copies of this stamp in existence, one of which is a perfect unused specimen, owned by M. La Renetière of Paris, the world's greatest stamp collector. It is easily worth $1,000.

When E. A. Mitchell was postmaster of New Haven, from 1844 to 1852, he issued a stamp of five cents denomination in red and blue, which was cancelled in contrasting colors. The stamp was made with a brass hand stamp and shows the word "Postoffice" at the top of a heavy border, with "New Haven, Ct.," underneath. Below is "5 Paid," and at the bottom "E. A. Mitchell, P. M."

It is said that the original die of this stamp is now in the possession of a grandson of the former postmaster. A good copy of the New Haven is valued at $1,200.

It has been asserted that a postmaster stamp was issued in Philadelphia when George F. Lehman was postmaster, from 1845 to 1849, but experts say that the closest search has failed to bring to light any such stamp. It has also been said that Phineas Allen, postmaster of Pittsfield, Mass., issued a stamp in 1846 or 1847, but no definite facts have been discovered.

Providence, R. I., is credited with stamps of five and ten cents denomination, issued during the postmastership of Welcome B. Sayles in 1846. The design is about the same in both values and is engraved.

An oval, with an ornamental background, bears the words in three lines, "Post Office, Prov., R. I.," with the denomination, five or ten. Both values were printed in black, with many varieties. All the cancellations were hand stamped in red.

Used copies of the 5 cent value are rare, and the 10 cent unused stamp is not known. It has been asserted that Providence stamps were never used, but expert philatelists say that they know instances of the stamps on the original envelopes.

The used copies are cancelled with a V-shaped mark written in black ink with a pen. These stamps are the lowest in price of all the postmaster issues. The 5 cent black is quoted at only $5, and the 10 cent black at $30.

The St. Louis postmaster stamps, which were issued in 1845 by Postmaster John M. Wimer, include three values—5, 10 and 20 cents, all in green and gray. There are several varieties, and every one of them is held at a high premium.

The designs are all similar, showing the numeral of value at the top, with the coat-of-arms of Missouri in the centre, supported at either side by an upright bear, from which fact comes the title of bear stamps, by which they are generally known. The postmaster sold nine tens or eighteen fives for a dollar, the difference being the cost of printing.

It is said that most of these stamps were used by two large wholesale firms of St. Louis, who carried on a big business with Louisville, Ky. On many of the letters which passed between the two cities were bear stamps to the amount of 25 or 50 cents. A find of these stamps in Louisville in 1895 brought to light many of the original covers, and so valuable were they that the finders of the stamps are said to have realized a profit of more than $20,000.

Up to the time of the unearthing of this philatelic treasure in Louisville the denomination of 20 cents was looked upon by many philatelists as fictitious. One of the pick-ups at the time included a strip of two twenties and one five, strips of three each of the fives and tens, horizontal pairs of fives and tens, and twenty and ten, showing the form of the sheet in which they were originally printed, and proving that the different denominations were all printed from one plate.

The total number of bear stamps found at Louisville is said to have been 75 fives, 46 tens, and 16 twenties. The 20 cent stamp is now valued as $500, while the fives and tens are held at about $400 each.

There is in existence a so-called two cent St. Louis stamp, but experts say that it is a fabrication.

Washington, D. C., is said to be represented by a postmaster stamp, issued in 1845 by Col. Charles K. Gardiner, but a copy of it has never been discovered. It has been pretty conclusively proved that this stamp consisted of an oval of double faint lines, within which was written the name of the postmaster and the value.

Worcester, Mass., is also credited with stamps of five and ten cents denomination, but up to date a specimen has not made its appearance.

In 1846 Boscawen, N. H., issued a five cent dull blue stamp. Worcester Webster, a relative of Daniel Webster, was postmaster. This stamp is of the crudest character and was made with a hand stamp composed of irregularly set type, reading, "Paid 5 Cents," in three lines, one above the other. There is only one copy known, this being in the collection of H. E. Deats, the president of the American Philatelic Association.

The above described stamps embrace all the known postmaster issues, although it is not improbable that others will be unearthed from time to time.

MORE WORK FOR NAUGHTY COPS.

Boston's Police Commissioner Trying a New Scheme of Punishment.

BOSTON, Aug. 4.—A new system of punishing delinquent policemen is on now trial here.

Police Commissioner Stephen O'Meara, when he took office on June 1, let it be known that he proposed to see that all policemen performed their full duty and that such of them as failed to do so would be punished, but that he would try to punish the men instead of making their families suffer, as would be the case if he fined them.

He gave the policemen fair notice that if it became necessary to punish any of them for failure to patrol their posts properly, he intended to do it by making them do extra duty for a certain number of hours, the amount of the extra duty being regulated by the seriousness of the offence. The policemen took notice of this warning, especially after a patrolman was found guilty of not properly patrolling and sentenced to do thirty-five hours extra duty as a penalty.

The Commissioner left it to the discretion of the captain as to how the patrolman should work out the fine, but provided that the man should not be required to do any part of the extra patrolling within two hours after going off duty, nor within two hours of the time when a regular tour of duty was to begin. The policeman had to work out his time on his days off, and on days when he otherwise would have had a few hours to himself; and the example which was made of him has done much toward bracing up the patrolmen.

The city has had the benefit of thirty-five hours extra patrolling, and, most important of all, next to the impression the new system has made on the department, the delinquent has had to undergo a penalty which got to him as the loss of even a month's pay would not have done. It is understood now by every member of the department that if he shirks work it means that he will have to do a good many extra hours of duty. The consequence is that Boston never had more faithful patrolling than it is getting now.

THE COIN COLLECTORS.

C. A. M., New York.—I recently came across a gold coin which is described below, and take the liberty of asking you to give me the name of the coin, original value, and its approximate commercial value at the present time. Is the coin at all rare? No value is stated on the coin. The Liberty head and the Liberty cap are on one side, surrounded by thirteen stars. At the top is the word "Liberty"; at the bottom the date, "1800." On the reverse the border has "United States of America," and a spread eagle shield in the centre, with arrows and an olive branch in the claws, and "E Pluribus Unum" across the outstretched eagle, with thirteen stars above the eagle's head and a segment of what looks like clouds above the stars. It weighs 127½ grains, and is one inch in diameter.

This coin is a five dollar gold piece of the usual type of the early period. None of the gold coins issued by this country bore the value until 1834. The weight should be 135 grains, instead of 127½, and we cannot account for the excess. Intrinsically these coins were worth about $5.25, until 1834, when the design was changed and the weight reduced to 129 grains, which gave them a flat value of five dollars. It is not a rare date, but a specimen in fine condition should be worth $7.

G. L. A., Springfield, Mass.—I have twenty-six 10 cent stamps, some of which are adhesive and some printed on the envelope. The dates are between 1850 and 1860, I believe. Will you please give me their value?

There were two general designs of 10 cent stamps issued between 1850 and 1860. The first bears the portrait of Washington, after the painting by Stuart, looking to the left, on an oval disk. Around the upper portion are thirteen white stars, above which are the small capitals "U. S. Postage." Below in a panel are the words "Ten cents." The color is dark green. The stamp dealers sell these issues at $15 unused and 75 cents used. Of this same issue there is one variety, yellow green in color, which sells at the same price as the foregoing. The 10 cent stamps of the second general design differ from the first only in the fact that they are perforated. In 1857 the Postmaster-General introduced the perforation of postage stamps, the manufacture of this new issue having been by a Philadelphia firm. The first stamps showing the innovation were delivered February 24, 1857. There were five types of this issue of the 10 cent denomination which were in varying shades of green. The scarcest is the yellow-green, which is catalogued at $7.50 unused and 85 cents used, the dark green stamps being quoted at $2.50 unused and 25 cents used.

SISTERS OF THE MYSTERIOUS TEN.

Northern Lady, Back From Her Club, Hears of the Angel Phase of the Cook, Also a Clubwoman.

The Northern lady in the South got home late from a meeting of the woman's club.

It had been a lovely meeting. Everybody had on her spring things, and nobody knew what to table a motion meant, nor the original question, and nobody cared. All hated parliamentary drill, and what did it matter, anyhow?

The members had ranged the fields of English literature from Chaucer to Stanley Weyman in two hours, and had enjoyed themselves thoroughly, because of a little flutter when Mrs. Black had said, with such an air:

"I consider Shakespeare immoral and a little—just a very little—coarse."

And Mrs. Thompson said: "Not at all, on the contrary," but that she would allow no daughter of hers to read a life of George Eliot, whose novels she thought "of a most pernicious influence, most pernicious."

This in the day of Bernard Shaw and the whole noble army of Decadents! Oh, poor George Eliot!

The lady and Laura pulled off their hats and seated themselves in rockers on the porch, prepared to be perfectly happy for the hour before tea, tearing the other club members to pieces while they thought joyously of hot rolls and strawberries to come.

Around the corner of the house came a very yellow little bare legged kinky headed mulatto boy, who hurled this at them:

"Pleas'm, Miss Ida sent me over here to tell you dat de white folks would hafter git dere own supper to-night, 'kase she's des come home fum de club, and she's plum spang wo' out, an' don' feel like cookin' dis evenin'."

"What did you say, child?" said Laura, leaning over the balustrade of the porch. "Say it over, say it slow."

Gravely that "blossom from off a yellow dog fennel" repeated his message. Laura cast her eyes to heaven and then upon the lady and gasped for breath.

The lady broke into unfeeling mirth. It was delicious. Ida, the cook, had become a clubwoman, and was too overcome by the meeting to grapple with stove lids. The lady felt for Ida. She knew how it was.

Not so Laura. Woe was written on her visage, wrath was looking from her eye.

"Go home," she said briefly to Ida's kinky headed Mercury. "Go quick!"

Whereat he departed with speed.

Flinging her hat on one chair and her paper on "The Elizabethan Drama" on another, Laura trod—no lesser word will describe her motion—to the back porch. The lady followed meekly, for after her outburst of merriment she realized that there was supper to get and ravenous men folk imminent.

Laura stopped on the porch steps and called Graves. In answer to her call, he appeared from the side gate, where he had started to drive the horse and cart to the stable.

"Graves, get in the cart and drive to Ida's house and tell her that unless she comes back with you and gets supper she needn't come in the morning, nor at all, neither for money nor anything else—and Graves, don't you come back here without her."

Graves took off his battered old hat and wiped his forehead. It had two big, round, shiny brown knobs on it just where the wool stopped.

"I'se gwine arrogate yo' behest, an' I'se gwine bring dat gal back—ef she'll come."

The rolls that night were mighty good. Ida came. Neither she nor Laura alluded to clubs or spades.

But the lady was curious to know what Ida did at "de club." So next day she went out in the kitchen and told Ida she'd shell the green peas for dinner.

She is an enormous big thing, Ida, tall and with the outlines of a hogshead, perfectly shapeless; young, though, good yellow, and mighty pretty in the face; can't read a letter and is just as good natured and pleasant tempered as the day is long; capable, too; she's right out of the cotton patch; never cooked for white folks before.

She had appeared at Laura's kitchen door about six months back, just at the close of cotton picking time when Laura was desperate with doing her own work. You know how it is in cotton picking time; not a darkey to be got for love or money. Ida said she'd just come in from Marlin, where she had been cooking all during picking time for twenty or thirty hands on Capt. Turner's place, and now she wanted to hire out.

Laura took her. She would have taken a Sphynx from the plains of Egypt or a marble caryatid from a Greek temple, if the same had come along and showed any disposition to hire out.

Ida proved to be a splendid cook, and the children loved her dearly. She was as far as possible from being one of Uncle Remus's "free issue niggers," so the fact of her being a clubwoman was an unexpected pleasure.

"Ida," said the lady, "when does your club meet?"

"We did went of a Saddy, but now we goes of a Chuseday."

"What do you do?"

"We does diff'unt things. We expresses ou'se'ves, and we has disco'ses on de various elements."

"Oh!" After a pause: "What do you talk about?"

"Well, we gin'ally talks erbout heathens an' sech as dat, an' we reppersents de Scriptures."

"What do you mean? Represent the Scriptures? How?"

"Laws a massy, Miss Bere, 'tain't nothin' to tell! We takes out certain po'tions er de Bible, ac's de part, like we wuz de folks dat done it. We gwine reppersent de Resurrection dis Easter. I'm gwine be de angel what rolls de stone away, bekase I'm de stronges' or de sisters, an' dress fer de part. I 'lowed to ax you all how many yards er cheese cloth to git fer a robe, one er dese here robes what falls away."

"What are you going to do for wings?"

"Sis Mandy got some tissue paper wings wid gol' ha'f moons on um an' a red cap wid a tassle on it dat Mis' Bettie gin her atter do tabbylos. She gwinter let me w'ar de cap an' de wings, but I speck dem tissue paper wings gwine be in my way mightily when I goes to heft up de rock."

"What's the name of your club, Ida?"

"We calls ourse'ves de Sisters er de Mysterious Ten, bekase some er de happenin' ain't to be tole to nobody."

"Is it a church society?"

"No'm. We takes in chu'ch members on trial, but we dances and gibs pahties to de young men oncet a month, an' dat scandalizes de reg'lar chu'ch members. I hears some er um says we mixes up 'ligion an' life too free. I does b'long to a chu'ch s'ciety, dough, an' de name er dat is De Lilies er de Valley. I'm jes' in de outskirts er dat yet, 'kase I ain't a reg'lar member er de chu'ch. Dey let me inter de Lilies kase I pays ma dues when de day comes 'roun'. De Lilies looks atter you when you's down sick. It's got more settled 'omans in it dan what de Sisters er de Mysterious Ten is."

As time rolled away and Easter drew near the lady longed to see the "Reppersentation of the Resurrection" by the Mysterious Sisters, and cautiously approached Ida on the subject—but she would give no encouragement. Nothing but the colored persuasion could hope to be invited in as lookerson.

The lady helped Ida with her "falling away robe." At least, she sat by and offered her advice freely, while Laura showed Ida how to cut it, and when it was completed she helped to drape it on Ida's vast anatomy. Laura always insisted upon calling her Mount Ida, declaring that her proportions demanded that classic name.

The Mysterious Ten, whose mystery extended over thirty, met in a little hall. On the day of the Resurrection Ida was very much excited over being an angel, realizing as she did that it is a most hazardous undertaking, and she greatly feared that she would fail "an' mortify de flesh of de Sisters befo' a crowd er company what had been invited to set in de galaxy an' look on at de Resurrection."

On the day after the performance Ida was overheard describing it to Aunt Mandy, who in some way was prevented from being a spectator, though she felt a special interest in it, having lent wings to the occasion.

"Howdy, Sis Ida? How you feelin' sence de Resurrection come off?"

"Come in, Sis Mandy. Set down. Set down here on de steps tell I gets through cappin' dese berries. I'm sorter sleepy.

"We aimed to git through wid de Resurrection by 10 o'clock, but some trouble come up wid Mary Magdaleny, an' do de bes' we kin, we couldn't git through tel 12 o'clock! We had a beautiful sepulker to put de Risen Lord in. It was covered wid flowers an' looked like a real buryin'.

"We laid Sam Roberson in de sepulker, clothed in white, but he pintedly refused to war de swaddlin' bands an' we couldn' keep de lid on de top er de sepulker, bekase he couldn' git his breath. Ez it was, he sneezed right out in de midst er de ceremony, but, otherwise, eveything went off widout respec'.

"We built a sorter mound outer bricks fer de sepulker, you know. It looked so much like er oven dat it put me in min' er Thanksgivin' dinner. It was mighty nice an' covered wid flowers, an' dar was a powerful big stone in front, and Mary Magdaleny an' de Virgin an' me stood ready at de tomb, an' when dey give de word I rolled de stone away to music.

"Henry West and Tom Moses played on de fiddle, an' Ross Lewis blowed a soft sorrowful strain on de jew's harp. It was mighty affected—an' enjoyed by all.

"When I got de stone rolled away, de young man what was settin' behin' de Sepulker furnishin' de music come forward an' histed Sam Roberson by ropes to de ceilin' to show he was done resurrected, an' den lowered him back to de floor, an' unloosed his bonds; an' he spread out his garments o' white, an' stepped fo'th mighty polite to where I was stannin' wid one foot on de stone.

"An' at dat all de Mysterious Sisters burst out inter song, singing 'Hark, fum de Tomb a Doleful Soun',' an' dat ended de Resurrection part ub de evenin'.

"After dat we had refreshments, an' some o' um stayed to dance—but me? I come on home, bekase de las' time we danced de policeman foun' me five dollars bekase when we was swingin' cornders an' back to yo' pardners I knocked dat little black Mary Lucy plum ober on de flo'; an' although I didn't mean to do it, she tuck offence at me on account er its loosenin' a store tooth what she'd been at right smart expense to git put in, an' she 'ported me to jestice, an' de police he foun' me five dollars, an' 'twas all I could do to git it payed; so I thought I better quit dancin' tel I los' some er dis here onuseless stren'th I got.

"Is you 'blige to go, Sis Mandy? Well, appen in ag'in when you passes dis way. I'm gwine bring dem wings back 'fo' Sunday, if I lives an' nothin' happens."

AN OLD TIME RURAL DOCTOR.

He Was an Autocrat and Had Curative Methods All His Own.

A party of men were discussing the passing of the old time country doctor before the advance of modern science, and one of them told some stories of a practitioner of this type who was the terror of his boyhood days.

"He was a curious old autocrat, with curative methods all his own," said the gentleman. "I remember once a boy chum of mine became afflicted with a large swelling or abscess in his throat, which was growing rapidly and threatening to make breathing impossible.

"Dr. X—— was called in. After examining the patient, he turned to the mother with the command to bring him a red hot poker. As he was never questioned or disobeyed, the woman hastened to heat one in the kitchen fire.

"When she brought it to the sick room the doctor grabbed it and advanced to the bedside with the gleaming point levelled at the boy's head.

"'Open your mouth, sir,' he commanded.

"The boy did open his mouth to emit a terrified shriek—which broke the abscess and saved his life.

"I have said that Dr. X—— was never disobeyed, but I recollect now one occasion on which a family attempted to set his orders at defiance. You see, he was really more intelligent than the run of way out country doctors of those days. He went to Holland for a year of study when he was young, and brought back some advanced ideas, one of which was the efficacy of fresh air.

"You know how country people close the windows of a sick room tight. On the occasion in question the patient was down with fever. Entering the room, Dr. X—— raised both windows, ordering that they be left so.

"The women who were nursing made no objection at the time, but no sooner had the doctor departed than they hastened to close the windows. Some distance away Dr. X—— happened to look around and beheld what they had done.

"He turned his horse, drove back to the house, entered the front door, neither knocking nor ringing, mounted the stairs, walked into the sick room, lifted the thick knobbed cane which he always carried, and deliberately smashed one pane of glass after another, until all were demolished. Then, without a word, or so much as a look to right or left, he strode from the room and drove away.

"The patient recovered."

Egyptian Cure for Sunstroke.

From the London Evening Standard.

Travellers in Egypt must often have noticed curious scars upon the foreheads of the natives, though perhaps they have not discovered its significance. It is a sign that the man who bears it has had, or has fancied that he had, sunstroke.

The formula for the malady is curious and typically Eastern. The victim must be laid full length upon the ground and massaged from the feet upward. The sunstroke is some form of evil genius which must be squeezed and forced into one spot. This the massage accomplishes. When the masseur has done his best to this end, and assumes that the virus of the enemy is all concentrated in the forehead of the patient, then the teeth of the operator are applied to the infected area, and a piece of the flesh of the forehead bitten out.

The strange thing is that the treatment is said to be invariably efficacious. It may be faith cure, or it may be that the sunstroke itself was imaginary—the cure is sure.