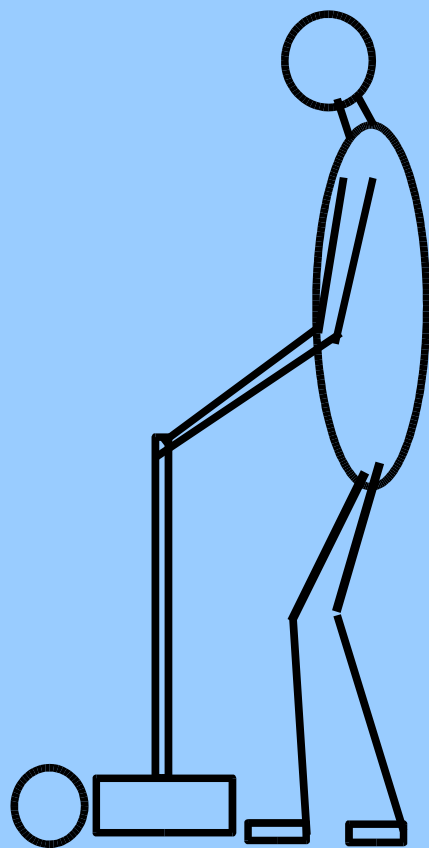


CROQUET: NEXT BREAK STRATEGY



by John Riches

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DEFINITIONS

1. STRATEGY involves the setting of aims and making of plans.
2. TACTICS involves the practical execution of such plans - the means by which the aims are achieved.
3. TECHNIQUE is the way in which specific shots are played.
4. TEMPERAMENT determines the player's psychological approach and the way he reacts to pressure.
5. THEORY is the player's general knowledge of the game, including rules, equipment, conditions, styles of play and how to combat them, etc.
6. STYLE is the way in which the player plays the game, and involves all of the above things taken together.

NOTE: For the sake of consistency and clarity, the male pronoun is used throughout the text in preference to the more awkward "he/she" or "s/he". In all instances the feminine gender should be understood as included.

CROQUET STRATEGY

The booklet explains ideas which are only vaguely understood by most players and yet which are of basic importance to players who wish to achieve success at the higher levels. Most players at all levels tend to rely on instinct and natural flair, rather than an objective assessment of the given situation. Those of us who are not gifted with such flair and natural sporting instinct have traditionally been left in despair of ever being able to bridge the gap. We attempt to copy the things we see the leading players doing, without understanding why or when they should be used.

The best illustration of this is the fact that almost all players, from the top levels to beginners, use the same method of starting the game which was developed to suit the abilities of leading international players.

Starting the game

The first player hits his ball to the west border near hoop 4, then the second player 'lays a tice', etc. Few of us have ever seriously asked why this is done, or whether there could be an alternative method of starting the game which is better suited to our level of ability. Perhaps the raw beginner may dare to ask such a question. but he is quickly informed that the leading players start their games that way, so it must be the best method.

This ignores the fact that at top level the first player intends, if the 'tice' is missed by his opponent, to set up a break. To do this he will rush his partner ball the length of the lawn. take off to the opponent's ball in the second corner, play a pass-roll which places the opponent's ball at hoop 2 while going to his other 'tice' ball, and then (usually) again pass-roll for hoop 1. The second player intends, if he roquets the 'tice', to set up a break by splitting it to hoop 2 while simultaneously going to the first player's balls near the fourth corner and then rushing one of them back to hoop 1.

An unjustified assumption?

Why do we assume that such a method will also suit those of us who have little chance of playing such shots successfully, or who would have no intention of attempting them; and on lawns or in conditions where even international players may hesitate to attempt them?

I do not intend to consider other methods of starting the game, but wish to make the point that the correct course of action for a player to take in a given situation will depend on his own level of expertise and that of his opponent, as well as lawn and weather conditions, psychological factors and often other considerations as well. It is necessary to make a

judgement based on all such relevant factors. and the judgement must be as accurate and objective as possible if we are to give ourselves the best possible chance of winning the game.

The fundamental aim

This brings us to the most basic and fundamental principle of all - THE CORRECT THING TO DO IS WHATEVER WILL GIVE US THE BEST CHANCE OF WINNING THE GAME. This may seem so obvious as to be hardly worth stating, yet we shall see that it carries with it implications which are far from obvious and are very often overlooked. Such a principle needs, of course, to be translated into more immediate short-term aims, and ultimately into concrete action ("So which shot will I play?") and it is here that the problems arise.

SHORT-TERM AIMS

Ask a player who has not been watching the game what he aims to do when it is his turn. His answer (apart from the obvious "roquet a ball") will reveal much about both his level of ability and his approach to tactics.

1. THE BEGINNER will answer that he plans to do whatever he decides will give him the best chance of making a hoop. This seems to be a reasonable aim, as the object of the game is to make hoops. However, if we watch him translate this aim into action, we may see him roll for hoop 1 with an opponent ball and then, not quite reaching a position from which the hoop can be made, sit in front of the hoop so that he is wired from the opponent's ball. Then, of course, the opponent removes his ball from the vicinity and our beginner proceeds to make his hoop with no ball to use afterward.

His action has been completely in harmony with his aim: he gave himself the best possible chance of making his hoop. Indeed, he may well be aware that if he passes up such an opportunity it could be a long time before he again has as good a chance of making the hoop - if ever!

It is not likely to help such a beginner if a well-meaning coach tries to convince him that his tactics are wrong. In fact, if his opponent is also a beginner then what he did may have been absolutely correct - that is, he may have not only given himself the best chance of making a hoop, but also the best chance of winning the game! If we manage to stop him from making hoops in such situations he is quite likely to lose to an opponent who does exactly what we have forbidden him from doing; and he will have good reason to look elsewhere for advice in future!

In trying to help such a beginner it is far more important to show him how to take-off, rush and approach hoops more accurately so that he becomes confident of being able to make a hoop without having to start a turn with a ball sitting six inches in front of it. When he plays against opponents with similar ability and confidence he will find out soon enough that his short-term aim was too short-term and too simplistic.

2. THE C-CLASS PLAYER will realise that the beginner's stated aim needs qualification, and will probably say something like: "I aim to make hoops, but not if it means losing the innings." He argues that only the player with the innings can normally make hoops, and therefore if he can manage to keep the innings for two-thirds or three-quarters of the available time he will almost certainly make more hoops than his opponent.

Thus he may take off from his partner ball in the first corner to the opponent's balls in the fourth corner and try to rush one of them to hoop 2. If his approach is unsuccessful he will not, of course, sit in front of the hoop as the beginner may have done, but return to his partner ball in the first corner. Then, after the opponent has joined up again in the fourth corner, he will try more or less the same thing again - and again - until he either plays a poor take-off (and goes out or fails to roquet), or he ends up making hoop 2 and rolling (probably unsuccessfully) for hoop 3, after which he returns to his partner ball and begins the process again in the hope of making hoop 3.

In this manner he may succeed in hanging on to the innings for considerable periods of time, and against an opponent of similar ability his tactics may again, like those of the beginner against a beginner, be correct and justifiable. In addition to achieving his aim of keeping the innings for as long as possible he may also be giving himself the best possible chance of winning the game.

Once again, the way to help such a player improve is not to decry his boring and negative 'Aunt Emma' tactics. With his level of ability and the range of shots he can play there may be no other course of action which would increase his winning chances. Instead we must teach him to play the stop-shots and split-shots needed to bring his opponent's balls out from the border and place them where they will be of advantage.

This means that we are asking him to go against his stated immediate aim, since with both balls out in the lawn the opponent will be faced with a shorter roquet than from hoop 2 to the fourth corner, so our player will have decreased his own chance of retaining the innings. He will not be able to appreciate the wisdom of this until he realises that his short-term aim is insufficient.

3. THE B-CLASS PLAYER has reasonable command of a full range of shots, though perhaps without full confidence in all of them. He is capable of playing breaks competently when he has the four balls available in the lawn, or where they can be brought into the break without undue difficulty.

He is aware, therefore, that there is more to croquet than merely playing to keep the innings. He knows that it is entirely possible to have the innings for three-quarters of the

available time, but lose the game to an opponent who finally gets in and in half an hour makes two or three big breaks. Therefore his aim must be to make breaks himself, and he will occasionally be prepared to forgo the making of a hoop or (more rarely) risk losing the innings in pursuit of this aim.

He realises the need to get the opponent's balls out from the border to increase the chance

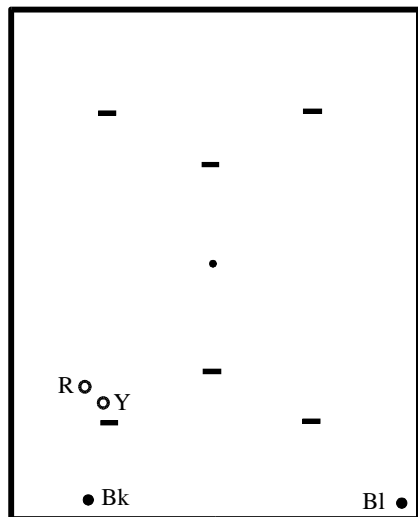


DIAGRAM 1

of being able to use them in setting up a break, but will usually not know the BEST places to leave them. He will still tend to leave them as far apart as possible so as to minimise the chance of immediately losing the innings, rather than leaving them so as to maximise his own chance of obtaining a break.

Let us assume that this player has rolled unsuccessfully for hoop 1 and set both balls near it, with one opponent ball at hoop 2 and the other in the fourth corner. The opponent shoots from hoop 2 at the balls set alongside hoop 1 and misses, finishing on the boundary in front of hoop 1 (see diagram 1). The B-class player may now decide not to simply make hoop 1 and rush or roll for hoop 2. Instead he will roquet his partner ball, take-off to the opponent ball on the boundary, and stop-shot it to hoop 2 while trying to simultaneously gain

position to run hoop 1. Note that this course of action actually decreases his chance of making hoop 1 and also decreases his chance of keeping the innings, since if he is unsuccessful the opponent will be given another chance to roquet.

He takes these risks because he is thereby increasing his chance of setting up a break. There would be little sense in taking such risks if he were not able to play the break once it is set up, e.g., if he could not confidently split a ball from hoop 1 to hoop 3 while going to the ball which he has stop-shotted to hoop 2. Once again, the tactics he is using may well be the best available to the B-class player, given his level of ability and that of his opponents.

It is only when he plays against a player who obstinately refuses to allow him ready-made breaks (by sticking in hoops, going out on take-offs, missing short roquets, etc.) that he may begin to realise the need to not simply wait hopefully for a break opportunity to come his way, but to set about deliberately creating it. Unfortunately, it may be only rarely that he gets to play against such an opponent, and even then he is likely to put his loss down to bad luck or his opponent's superior shots, rather than more correctly ascribing it to the inadequacy of his own strategy. Perhaps it is this type of player that the ideas in this booklet can most help. It is possible that they will inspire him to further develop his technique to the stage where he is no longer presenting his opponent with ready-made breaks, and no longer needs to rely on his opponent providing him with such unintended assistance.

4. THE A-CLASS PLAYER has confident command of a full range of shots and will rarely break down while playing a break once he has it properly set up. He has the ability to play a three-ball break and pick up the fourth ball from any position on the lawn, and has at least some idea of where to leave the balls at the end of a break so as to give himself a good chance of obtaining another break to follow. He knows how to go about deliberately wiring his opponent's balls at the peg or at a hoop if he should decide that such a leave would be advantageous. But unfortunately, most players who have achieved such expertise are left with strategy still at the 'B-Class' level. They do not modify their short-term aim to suit their level of expertise and that of their opponents, and play much the same sort of game as the 'B-Class' player.

At this ('A-Class') level it is important to realise that it is very seldom possible to win a game without making sizeable breaks, and it is insufficient therefore to merely aim to make hoops and hold on to the innings, waiting to take advantage of any break opportunity which fortuitously presents itself. Even the ability and willingness to get the opponent's balls off the border and play stop-shots while making position to run hoops will seldom be enough. Instead, the whole aim must be to set up breaks.

The A-class player must adopt the attitude that **EVERY TIME HE WALKS ONTO THE LAWN HE WILL DO WHATEVER WILL GIVE HIM THE BEST POSSIBLE CHANCE OF OBTAINING THE NEXT BREAK.**

He must be prepared to take calculated risks to achieve this end, realising that in taking such risks he is actually minimising the risk of losing the game. This is a particularly difficult principle to grasp, due no doubt to the apparent contradiction which it involves. I must be prepared to decrease my chance of making a hoop or keeping the innings, in order to increase my chance of obtaining the next break and winning the game. Furthermore, note

that the aim as stated is to achieve the **NEXT** break, which will not necessarily be an **IMMEDIATE** break.

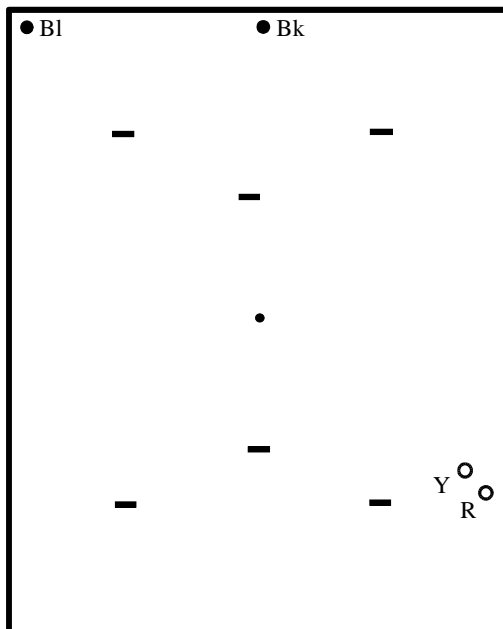


DIAGRAM 2

I must be prepared to decrease or forgo my chance of making an **IMMEDIATE** break in order to increase my chance of making the **NEXT** break - that is, of getting a break before my opponent does. There is no contradiction here, and the point being made is an essential one. It is not important that I get a break going right now: what matters is that I get one going before my opponent does, and I must do whatever maximises my chance of achieving this.

Imagine a situation (diagram 2) in which the red ball is for hoop 4, and is on the east border

alongside its hoop. The yellow ball, which is for hoop 2, is about two feet in the lawn from red and slightly north of it, so that red has a rush toward hoop 6. Blue is in the second corner and black is on the border at about the mid-point of the north boundary. The obvious play would be to cut yellow into the lawn a bit and roll for hoop 4. A good player may well hope to make two, three or even more hoops by starting in this manner and obtaining a rush to the next hoop each time after making the current one. But for the A-class player there are two good reasons why he should not do this.

Firstly, although his skill level gives him a better chance than most of successfully making several hoops in a two-ball break, he is merely taking unnecessary risks for no real gain. If he fails in any of the approaches or hoop attempts, he is presenting the opponent with a 'free' shot along the north border, involving a likely break if he roquets, and still not conceding any immediate real chance of a break if he misses.

Secondly, and more importantly, it gets him no closer to achieving his aim of obtaining the next break. In fact, if it results in him leaving one or both of his balls in the middle of the lawn and allowing the opponent the 13-yard shot along the north border, it is very likely to DECREASE his chance of obtaining the next break.

Note that the possible two-ball break is not to be regarded as the 'next break' for which we are aiming. The top international player, who can play two-ball breaks with near certainty and can also count on being able to eventually pick up the two balls from the north border and bring them into the break, may well see things differently; but I doubt that anyone in the world could claim with confidence that this would give him the BEST POSSIBLE CHANCE OF OBTAINING THE NEXT (three or four-ball) BREAK. And when he does obtain his next break it is not going to make much difference whether he starts it from hoop 4 or hoop 5 or hoop 6. In fact, it is easier and less risky to set for a break when his clip is on a corner hoop than when it is on one of the centre hoops, so by attempting the two-ball break he may not only be taking risks with nothing to gain, but also making it harder to find a leave that gives a good chance of achieving the aim of obtaining the next break.

Nor is there anything he can do with yellow that seems to help. He could roquet red and take off to blue in the second corner, send it to hoop 3 while going to black, and pass-roll with black for hoop 2. This would at least offer him SOME chance of obtaining an immediate break (the two-ball break attempt offered practically none), but few would expect to succeed in this more than, say, three or four times out of ten. If you doubt this, try it and see, bearing in mind the risk you are taking if you attempt any unlikely hoop. Even a player who is perfectly happy about playing the long take-off and confidently makes long hoops could hardly claim that this would give him much better than an even (50%) chance of obtaining the next break.

What, then, should he do? He should play red, rushing yellow to a point between the two opponent balls and then sending it about a yard past hoop 3 while running a similar distance past black. Then he can use a cut-rush and/or roll to place black a yard or two behind hoop 2

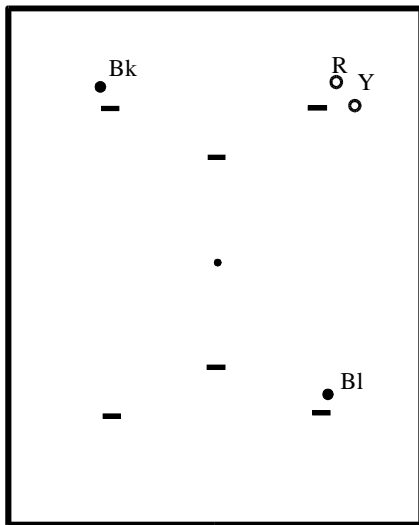


DIAGRAM 3

while going to roquet blue in the second corner. Lastly, he should send blue right down to hoop 4 while returning in the direction of yellow, and leave red so that it has a cut-rush down the west boundary on yellow for the next turn (diagram 3). This presents the opponent with just one chance to roquet, but if he takes any shot and misses there will be an excellent chance of quickly setting up a four-ball break, and if he chooses not to shoot there will still be at least a three-ball break set up. Since no-one can claim to consistently hit 17-yard shots under pressure more than three or four times out of ten, this gives at least a 60-70% chance of obtaining the next break.

It is clear that no other possible course of action would yield any higher percentage chance of obtaining the next break, so this is beyond doubt the correct strategy for the 'A-class' player to choose.

A matter of no concern

It also follows that an A-class player should not be concerned if his opponent starts to make progress by means of a two-ball break, or by making one or two hoops at a time while keeping the balls widely separated without really trying to get them into play. No opponent is likely to succeed in winning the game by any such strategy - in fact, by anything except deliberate and well-judged "next-break" strategy - unless we accommodate him by playing particularly poorly.

Why don't they do it?

Why, then, would so few A-class players do what we have just seen is correct? There are several possible reasons:

- (1) They do not realise the importance of "next-break" strategy.
- (2) They are thinking only of trying to establish an IMMEDIATE break.
- (3) They are unable to work out, within a reasonable time, the correct (= best) leaves in situations such as the one under consideration. If they cannot visualise the final position of the balls and how easily it can be achieved, then they will fail to appreciate that such a leave is available to them, and how advantageous it could be.

(4) They cannot appreciate the mathematical approach involved in the reasoning that leads us to conclude that this is the correct thing to do. They argue something like: "But every time I play to set up a break my opponent roquets" (remember that he also is an 'A-class' player), and cannot see that by taking the risk of the opponent roqueting they are in fact maximising their chance of winning the game.

It is the difficulties involved in points (3) and (4) that I hope to be able to help overcome in what follows. As a mathematician I find the estimation and calculation of percentages quite natural, and have much greater faith in strategy and tactics based on this (i.e. "the law of averages", as some would express it) than in my own intuitive judgement which tends all too often to be subjective rather than objective.

The remainder of this booklet is devoted to the translation of this "NEXT-BREAK" principle into actual practice in concrete situations, and is intended for those who have achieved, or aspire to achieve, the 'expert' level in shot-making technique and wish to improve their strategy and tactics to a corresponding level.

TACTICS

TACTICS is the process by which players set about achieving their strategical aims. The tactics we use will (or at least SHOULD) be determined by our strategy. When our strategical aims change (e.g. when we start to adopt 'next-break' rather than 'keep the innings' strategy), we will also need to change the tactics we have been employing.

The tactics which give us the best chance of achieving one strategical aim cannot be expected to also give us the best chance of achieving a new and different aim. This seems rather obvious when it is pointed out, but many A-class players who realise that they have little or no chance of winning without making sizeable breaks and therefore acknowledge the importance of getting the next break, nevertheless appear to have given little thought to the changes in tactics needed to maximise their chances of doing so. Even when a tactic is pointed out to them which will clearly increase their chance of obtaining the next break, they are surprisingly reluctant to adopt it. Perhaps at this stage I should remind the reader that I am using the term 'A-class' to mean any player who has reasonable expertise in playing the full range of shots normally required in a game of croquet.

For example, in a doubles game which I played recently my yellow ball was left at hoop 1 which still had all four clips on it, and my partner's red ball was on the east border alongside hoop 4. Blue and black were on the south border almost directly behind hoop 4, and about two yards apart, as shown in diagram 4. I suggested that my partner take the turn and roquet

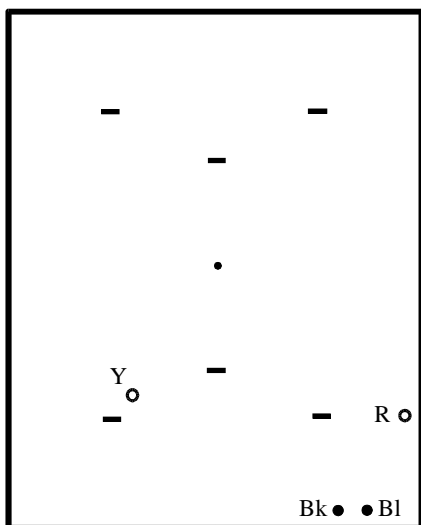


DIAGRAM 4

blue. He flatly refused, saying, "I could easily miss that and they'd have a break all set up! You'll have to move. We can't leave your yellow ball at their hoop!"

After the game I pointed out to him that he could have made the six-yard roquet at least eight times out of ten, and he agreed with this. I also challenged him to suggest any other course of action which would have given us the same 80% chance or better of obtaining the next break, and of course he could not do so, since I would clearly have a less than 50% chance of making a roquet with yellow, and if I hit away into a far corner or returned wide of red the opponents would be in possession of the innings and so must be conceded at least a slightly better than even chance of getting the next break. Although he agreed with the 'next-break' strategy in principle, he ended the conversation with,

"It's all right for you - you roquet better than I do and are no doubt confident of hitting such a shot", and insisted that nothing I could say would ever persuade him to play red rather than moving yellow in such a situation.

His answer showed that he completely misunderstood my whole point. In most situations there is nothing you can do that will absolutely GUARANTEE you the next break. There will always be some sort of risk involved, but you must do whatever gives you the best CHANCE of getting the next break, because this also gives the best chance of winning the game. I would be no more likely to hit a six-yard roquet than he would, nor play the break any better after making the roquet, but in a singles game I would not hesitate to play red in a similar situation. I do not need to be CERTAIN of making the roquet. Since any other course of action offers LESS than a 50% chance of getting the next break, my strategy requires that I play red even if I believe that my chance of making the roquet is no better than 50%. Therefore I would attempt a roquet of even ten yards since I believe I would normally roquet at least five times out of ten over such a distance.

Examples such as this, of which I could quote many, illustrate how difficult it is for many players to think objectively in terms of percentages, and how unreliable their subjective (intuitive) judgement can be. One of my friends replies to my arguments with, "It's no good saying you can hit it eight times out of ten. You are not going to get ten shots at it. You will only get one shot, and you have to hit it - that means you need to hit 100%!" I have given up trying to convince him, as I would apparently need to give him a course in the theory of mathematical probability, which seems somewhat impractical.

Importance of psychological factors

I must acknowledge, however, that my reasoning in the above example does ignore psychological factors which are very real. If in attempting the six-yard roquet your mind is filled with the thought that you are taking an enormous risk and will suffer dire consequences when it does not come off, then your chance of roqueting may well be much less than the 80% you would normally score on roquets of similar length. If your nerves go completely to pieces, your chance may well be less than 50%, and so by my own argument I would have to admit that the correct thing to do, which gives the best chance of getting the next break, would be to move yellow.

It is essential, therefore, for the 'next-break' player to have faith in his strategy. In attempting the six-yard (or ten-yard) roquet he is secure in the knowledge that he is giving himself the best possible chance of winning the game. In fact, any other course of action would amount (in part) to throwing the game away, since he would not be giving himself the best possible chance of winning.

The player who attempts such a shot should not be regarded as a 'gambler'. Next-break strategy does not require the player to possess a temperament which predisposes him to take risks. Quite the opposite! As I intend to make clear later, the whole purpose, intention and aim of 'next-break' strategy is to MINIMISE the risk of losing the game. By definition, the 'next-break' player will resolutely resist the temptation to undertake any course of action, no matter how superficially attractive, which unnecessarily risks allowing the opponent to obtain the next break.

The six-yard roquet is quite the SAFEST shot to play, as anything else entails a far greater risk of losing the game! This is not merely a psychological ruse: It is a mathematical fact! But for many players it requires not only a change in strategy and therefore in tactics; it also requires a change in the whole psychological way they approach the game and think about it, and this is by far the most difficult change of all to make.

IMPORTANCE OF CORRECT TECHNIQUE

Here it is necessary to emphasize once again the importance of developing and maintaining correct technique in playing our shots before we can expect to be successful in employing 'next-break' strategy in our games. The whole justification for taking risks in order to set up breaks can be negated if, for instance, our hoop-running technique is such that we are likely to stick in a hoop and present the opponent with a break already set up; or our hoop-approach technique frequently creates the need to attempt hoops from awkward positions in order to keep the break going. This does not mean that a player must wait until his technique is near perfect before starting to introduce into his game many of the tactics arising from 'next-break' strategy. But it does mean that in some cases the taking of certain risks will be less clearly justifiable, and so the strategy is less certain to prove more effective than the alternative strategies which the player could instead use, or which his opponents may be using.

It is also necessary to remember that the tactics which are correct for one player to use in applying his 'next-break' strategy may not always be equally correct if used by another player adopting the same strategy. Differences in technique, temperament, ability of opponent, state of the game, lawn and weather conditions, etc., all need to be taken into account when assessing the risks involved and possible gains from each of the various alternative courses of action at every stage. What matters is that the assessment is made as objectively as possible, and that it is made with the aim of finding the course of action which gives the best chance of obtaining the next break, rather than simply aiming to make a hoop, or gain and keep the innings, or leave the opponent with the longest possible roquet, etc.

In actual practice everyone will make errors of judgement in assessing such chances, but the player with the aim of obtaining the next break fixed firmly and uppermost in his mind should gradually learn to make reliable assessments more and more often. This learning process need not be a slow one. It will proceed much more rapidly if the player takes time after a game to think back through the choices he made - at least the ones he was in any way doubtful about - and reassess them without the pressure and tension of battle clouding his judgement. Ideally, he should resort to a mathematical analysis of the situation when he is still in doubt, or enlist the help of someone else to do it for him, as this is the best way of ensuring that the choice is made with the greatest objectivity.

It would be foolish to suggest that players should actually perform mathematical calculations during a game before deciding between the various possible shots on offer (although on occasions I have found myself doing just this), but calculations made after the game can clearly reveal that in assessing the risks and possible benefits we are giving too much weight to one factor and too little to another. I do not seriously entertain the thought that many players will have the ability, interest or desire to engage in such mathematical post-mortems, but I believe that those who do will improve most rapidly. They will quickly develop the ability to reliably assess the various possibilities and arrive at the course of action which gives the best chance of obtaining the next break in any given situation.

I am also confident that such players will be at the forefront of the future development of croquet theory, which at present is most certainly only in its infancy compared with the research-based and scientifically developed body of theory being built up in many other areas of sporting endeavour.

In order to make the point of the previous paragraph more clearly, I offer the following example:

At the start of a turn I found myself in the position shown in diagram 5, with my opponent's blue ball in the first corner, my red ball 7-8 yards away along the west border in a shortish 'tice' position, yellow about 3 yards in front of hoop 5 and slightly west of it, and black about half way between hoop 3 and the peg. The red clip was on hoop 5, yellow on rover, blue on 2-back and black on 4-back.

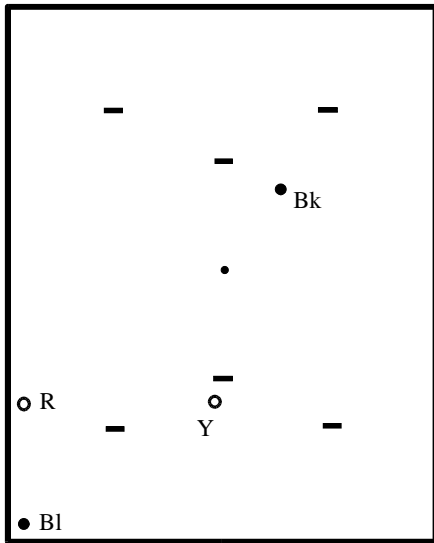


DIAGRAM 5

Thus I was one hoop behind, and bearing in mind my 'next-break' strategy, I tried to decide on a course of action. I decided to attempt the 7-8 yard roquet on blue, as I considered that I had a better than even chance of roqueting, with a good chance of a break to follow. I could not think of any other course of action which offered as good a chance of getting the next break. Of course, I realised that if I missed I would be giving my opponent the same break, but it seemed a chance that ought to be taken. As it happened I made the roquet and went on to win the game.

After the game my opponent commented that he had expected me to move the yellow ball which was out in the lawn and not far from blue's hoop. I explained that I did not want to make any more hoops with yellow, and if I shot with it at red and missed he would have been

odds-on to make the 7-8 yard roquet with blue, while a missed shot at black would allow him the further option of shooting with black at blue, so that at best I would need to still make the 7-8 yard roquet but would then no longer have the easy break that I gained by making the roquet immediately.

He was still doubtful, and said, "Yes, but you put yourself under a lot of pressure to make the roquet, and a miss would have made things fairly easy for me", and went on to imply that the taking of such a shot was more likely a sign of foolhardiness rather than wisdom, even though on this occasion the attempt was successful.

In order to satisfy myself that my reasoning and judgement were sound, I went home and did some mathematical calculations (these are set out in appendix A for those who are of similar mathematical bent - "twisted" is more accurate than "bent", according to one of my friends) from which I concluded that the shot I took with red had offered approximately a 57% chance of getting the next break, while the longer shot with yellow at black offered only a 47% chance, assuming that if I missed he would correctly shoot with blue at red.

Then it suddenly occurred to me that there was a third option which I had not considered at all during the game. The 12-yard shot with red at yellow would have given me a 58% chance of getting the next break, and was actually the correct shot to play, even though it was a longer shot and involved a better than even chance of leaving yellow out in the lawn near the opponent's hoop! Of course, the difference between 58% and 57% in calculations with estimated probabilities is much too small to be significant, but this and similar calculations based on positions from other games quickly led me to realise that in making my assessments of the various options available to me, I was at that time giving too little weight to the importance of using the ball with which a break is possible, and worrying too much about the danger of leaving balls out in the lawn.

I do not wish to imply that one should always use the ball whose clip is backward, nor that one should leave one's balls out in the lawn with gay abandon. I am merely saying that the percentages tend to favour using the backward ball to a greater extent than my intuitive judgement had suggested, and the likelihood of leaving a ball out in the lawn is not sufficient reason to reject a course of action without further consideration.

My purpose in quoting this example was not to convince the reader of the need to play the backward ball and cease being concerned about leaving his balls out in the lawn. Rather, I wanted to show the most effective way for a player who adopts 'next-break' strategy to improve his tactics and ensure that the choices he makes are, in fact, giving him the best possible chance of obtaining the next break. It is also possible for him to gradually modify his tactics over time, based on experience and the awareness of which tactics and choices tend in practice to be successful.

Unfortunately it is very difficult to think back objectively (i.e. without bias) about the tactics we have used in our games, and I will demonstrate later that there are psychological factors which cause us to lay the blame for a loss (or the credit for a win) elsewhere than where it should rightly be laid. Mathematical probability calculations avoid most, but not all, of such difficulties.

In order for croquet theory to develop further along these lines in future it is neither necessary nor practical for everyone to spend time during or after their games performing mathematical calculations, but it is desirable that someone consider objectively the tactics of our leading players and assist them to make more reliable assessments of the chances offered by possible alternative courses of action. Then the rest of us can simply follow the leaders, as we have always done.

Before leaving diagram 5, let us see what would happen if yellow shot at black and missed, then blue roqueted red, rushing it along the west boundary to a point about level with the peg, producing the situation shown in diagram 6. Most players would then probably roll for blue's 2-back hoop with the red ball. Some would attempt to set up a break by splitting red to 3-back while trying for a rush on their black partner ball to 2-back. The first of these options leaves black near the middle of the lawn where joining up would be risky if the roll is unsuccessful. The second, if unsuccessful, allows red to be withdrawn from play so that, with yellow also on the border the chance of obtaining the next break would be little better than 50%.

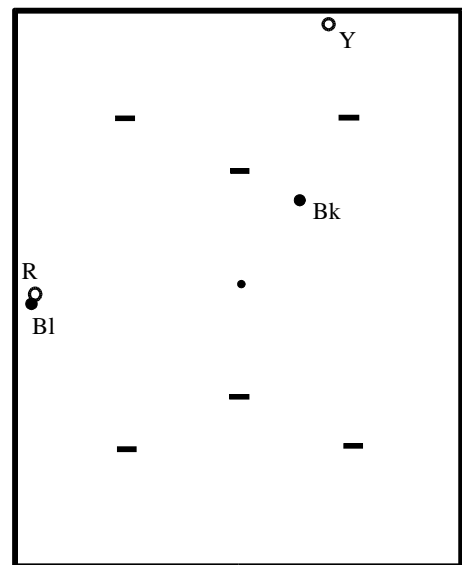


DIAGRAM 6

The correct play is to split red to 3-back and rush black not to the 2-back hoop, but to the yellow ball on the north boundary. If successful, yellow can then be rushed to 2-back to continue the break. If blue does not get the rush on black, then after roqueting black he can roll both balls toward yellow on the north border. After roqueting yellow, he can use a stop-shot to place it a yard or two west of 2-back and set blue with a rush on black to either 2-back or 3-back. This gives an excellent (at least 80%) chance of getting a break going on the next turn whatever the opponent does.

By setting up his break in this manner the player of blue covers the possibility that he may not be immediately successful by ensuring that the balls are left in a position which still gives him an excellent chance of a break on the following turn. It is a clear practical example of how "next-break" strategy should be translated into tactical moves, and also serves to introduce the next section in which we deal with the need to plan for the final position of the balls well before the turn is likely to end.

IDEAL LEAVES

Readers who are still with me may have been saying to themselves, "What is so new about all of this? Perhaps it is being explained in a way I haven't heard before, but surely every player capable of making breaks walks onto the lawn with the intention of trying to get the next break!"

This is no doubt true, but with many of us this aim is not always foremost in our thinking, and even if it is, we frequently fail to find the course of action which gives the best chance of achieving the aim.

A common tactical problem

When I first realised this, I was often left wondering whether I should play a cut-rush and roll to try to make my next hoop, (as most others would when the opponent's balls were widely separated), or instead try to place the balls so that if my opponent did not roquet I would have a break set up on my next turn. I also found that when I chose to set for a break (which in those days was only when the chance of making a hoop was very remote indeed), I found myself unsure of the best way to do so. I frequently discovered afterward that there were other places I could have left the balls which could have been more easily achieved and would have given me a better chance of getting a break.

A possible solution

In an effort to reduce mistakes of this type, I decided that it would help if I had in mind at least one or two 'ideal leaves' for each possible position of my clips. So I set myself to

working out and recording the best place to leave the balls when my clips were both on the 1st hoop, and again when they were on the 1st and 2nd hoops, then 1st and 3rd, 2nd and 3rd, and so on.

I tried to find more than one good leave for each clip position, in case the first one turned out to be impractical in a particular position. There is little sense in playing to obtain a position which would give me a 50% chance of obtaining the next break, if in order to reach the position I need to take risks which involve a better than even chance of making an error and giving the break to my opponent. I wanted to find sufficient 'ideal leaves' so that for any position of my clips, and no matter where the balls were placed to start with, I could expect to achieve at least one of them with relative ease and safety. If it were possible to achieve more than one 'ideal leave', then I could select the one most easily reached, or the one which offered the maximum chance of getting the next break.

It was not long before my diagrams and notes filled many pages of the exercise book I was using, which was not surprising in view of the fact that there are 91 different possible positions of my two clips and I wanted more than one leave for each.

It was obviously going to be impossible for me to remember hundreds of positions from which to make a selection during a game. However, I realised that even if I remembered only a few of the best leaves for a few of the most commonly occurring clip positions I would be able to bring about considerable improvement in my tactics.

Helpful patterns

I also discovered that there were very strong patterns emerging as I worked out the leaves. The 'ideal leaves' with both clips on the 'return' hoops (e.g. 1-back and 3-back) were mostly mirror-images of the best leaves for the first six hoops (i.e. hoops 1 and 3), etc. In addition, the 'ideal leaves' for hoops 1 and 2 were very similar to those for hoops 3 and 4, and those for hoops 4 and 5 were similar to those for hoops 6 and 7, etc. All in all, I found that there were less than twenty 'ideal leaves' which I considered really important and useful, and the task of remembering these was not too difficult.

I do not propose to include here a set of diagrams showing the 'ideal leaves' which I worked out for myself. I refrain from doing so, not because I wish to keep some of my 'secrets' to myself, but because as a teacher I believe it is highly desirable for the student of the game to go through such an exercise for himself rather than copy those worked out by someone else. He is far more likely to remember them that way, and he will gain some understanding of the subtleties involved. In addition, the leaves he works out for himself may well differ from mine, since he may be more confident than I am in playing long rolls, or less confident with certain split-shots, etc.

An ideal leave

I will, however, discuss one of the 'ideal leaves' here by way of example, and in order to show that a player who has not given the matter prior consideration is unlikely to arrive at such a leave after only the few seconds thought he can allow himself during a game. Other 'ideal leaves' will be mentioned later in order to illustrate further tactical points, so from this the reader should gain sufficient idea of what he is to look for in searching for such leaves.

Diagram 7 shows an 'ideal leave' (which is not necessarily THE ideal leave) for a player who has his red clip on hoop 1 and his yellow clip on hoop 2. The black and blue balls have been placed at hoops 1 and 3 (not hoop 2!), and yellow has a 1-yard rush to the front of hoop 2. The balls are set up out near the hoop rather than nearer the border, so that if blue shoots at them and misses it will finish in a position where it will be a simple matter for yellow to run through hoop 2 to the boundary and roquet it, bringing it into the break immediately.

Notice that if the opponent attempts any shot with black or blue and misses, either red or yellow will be presented with a simple 4-ball break; while the removal of either black or blue into a corner (a "finesse" as the English players call it) leaves a 3-ball break with good prospects of soon picking up the fourth ball as well. In each case the break can be achieved without the need to play a long, accurate rush before a hoop is made. The most difficult shot would be a take-off with red from near hoop 2 to the black ball in the first corner if black had missed a shot at blue, but this should involve little risk even for a player well below 'A-class' level.

Wiring not required

If the placement of the opponent's balls can be such that they are wholly or partly wired from shooting at red and yellow, so much the better, but I decided to omit all wired leaves from consideration when working out my 'ideal leaves' because I found that to be certain of the wiring I needed to have such control of the balls that I could almost always play a break immediately, instead of setting up. This is not to say that I do not use wired leaves in my games. On the contrary, many of my opponents claim that at times I seem to be doing nothing other than deliberately wiring their balls from any reasonable shot.

Wired leaves can be of great importance at the end of a break when you have made as many hoops as you wish to make with the ball you are using, or when you have roqueted with a ball which is already around and you need to set for your partner ball.

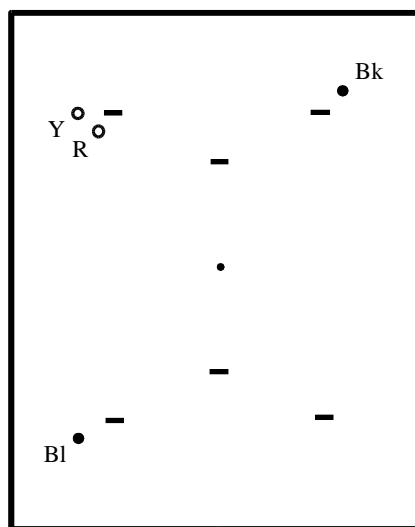


DIAGRAM 7

Such leaves, however, are commonly understood (although chances to achieve them are also commonly missed), and are explained in croquet textbooks. Most A-class players, for example, are already familiar with several wired leaves designed for use after having taken the first ball around to 4-back. These may be designed to give good chances of a triple peel, or simply to allow the opponent a minimal chance of roqueting while retaining a reasonable chance of a break with the second ball if he fails to roquet.

My 'ideal leaves', however, are positions which I can hope to achieve when I do not have sufficient control of the balls to give myself a good chance of an immediate break, so I set for a break in the next turn and hope that my opponent fails to roquet.

Thinking about percentages

Returning to consideration of the diagrammed 'ideal leave', I would give most of my opponents no more than a 30% chance of roqueting red or yellow with blue or black, and less chance still if one opponent ball shoots at the other. Of course, I would not claim for myself any better chance of roqueting over such distances. This means that if I can achieve the diagrammed leave, I am giving myself at least a 70% chance of getting the next break. Against some opponents this becomes in effect 100%, since they choose not to shoot at all, allowing me the 3-ball break "for free".

The purpose of bringing percentages into consideration once again now becomes clear: whenever I make hoop 1 at the start of a game but do not have a ball waiting at hoop 2, I ask myself whether I can think of any course of action which would allow me to continue the break with 70% probability. That is, supposing I see a chance to take-off to my opponent's balls and send one of them to hoop 3, then cut-rush and roll the other for hoop 2. I ask myself whether I would expect to do this successfully 7 times out of 10. If not, then I decide whether I can instead achieve the diagrammed 'ideal leave' position without undue risk, and if so, I would choose to go for the leave.

After all, why should I choose a course of action in which I believe I have less than a 70% chance of getting a break, when there is an alternative which I know will yield a 70% chance or better?

Incidentally, the choice (if it were available) of taking off to my opponent's balls and merely rushing one of them to try to make hoop 2 while the other balls are nowhere near hoop 3 would hardly be given any serious consideration at all by a 'next-break' strategist. This is probably the tactic used by the vast majority of players in such situations (assuming that it is not practical to rush or split the partner ball to hoop 3), but we have already seen that it is quite contrary to the principles of 'next-break' strategy to take any sort of risk unless by taking it one is increasing the chance of obtaining the next break, or decreasing the opponent's chance of doing so, which amounts to the same thing. Playing to make hoops with the opponent's balls when there is little chance of being able to continue the break afterward definitely comes into the "taboo" category.

Having it both ways

Sometimes it is possible to have it both ways to a certain extent. In diagram 8 yellow has just made hoop 1 with his partner ball, but without getting a good forward rush, and has managed to cut-rush the red ball to a point about half-way along the west border. The blue ball is on the border alongside hoop 2, and the black ball is on the border behind the same hoop. Playing yellow, I could now take off to blue, send it to hoop 3 while going to black, and pass-roll or take off for the 2nd hoop. I would rate my chance of succeeding as certainly no better than 70%, probably less.

If I do not gain position to run the hoop my opponent can shift whichever ball would be of most assistance to yellow in the next turn, and may well choose to attempt the medium-distance roquet on one or both of my balls after I return to red half-way along the west border.

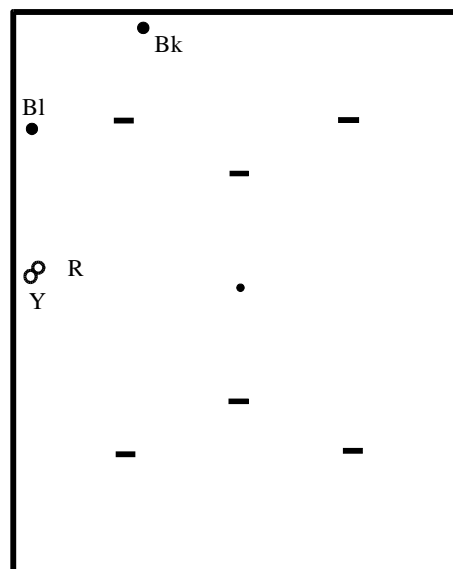


DIAGRAM 8

Alternatively, I could split red to hoop 3 and try to make hoop 2 from either of the opponent balls. Again I would rate my chance of success as not much better than 50%, and the leave if I fail would have to be far from 'ideal'.

With the previously considered 'ideal leave' position in mind, I would do neither of these things, but instead would roll red to a position about 1 yard west of hoop 2 while going to roquet blue. This shot entails virtually no risk, as there is no need to try to obtain a rush on blue. I can keep yellow well in the lawn and only need to get close enough to blue to be certain of roqueting it. Then I would send blue a yard or so past hoop 3 while going to black, and use a stop-shot to place black at the 1st hoop while trying for position to run the 2nd hoop. In this manner I give myself a fair chance (say, about 40%) of continuing the break immediately, and retain the possibility of setting the 'ideal leave' which still gives me a further 70% chance if I am not immediately successful. Note that there is an added bonus in that if I decide to attempt to make hoop 2 then I am doing so with my partner ball present, rather than an opponent ball.

No doubt there are other players who would think of this course of action and adopt it during a game, but there are also certainly many who would not. An understanding of 'ideal leave' positions almost GUARANTEES that the player will think of it, and will also find many other far less obvious ways to improve his chances of obtaining the next break. I must have used this leave at least a hundred times in my games, but cannot recall it ever being used against me.

Preserving options

Another point to be made is that even if you decide to try for an immediate break, it is often possible to set it up in a way that allows you to keep in reserve the option of obtaining a good leave if you find yourself unable to continue. This was the reason for rolling red to the 2nd hoop in diagram 8 instead of leaving it halfway along the west border, and also for sending black to hoop 1 rather than to hoop 4 or the peg. As a further example, consider the position in diagram 9. Here the yellow clip is again on hoop 2 and red on hoop 1. Playing yellow, you have roqueted black at hoop 3. You can take off for a rush on red to hoop 2, but this risks leaving the opponent balls fairly close together when you cannot be certain of making the hoop. So you take off instead to blue in the 3rd corner, and where do you place it?

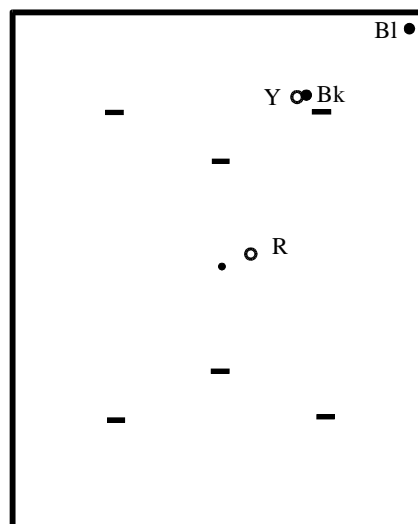


DIAGRAM 9

Now that you have been introduced to the 'ideal leave' position, the answer is obvious. Although most players would split blue to hoop 4 ("into forward play") as they try for a rush on red to hoop 2, it is better to place blue at hoop 1 on this shot. If you then get a good rush on red you will be able to place red to the left of hoop 2 on the approach shot and in running the hoop obtain a rush toward hoop 1. A "backward" rush is the easiest rush to give yourself after running a hoop, and you should not then find it difficult to get red to hoop 4 and bring blue back into the break before making hoop 3 with yellow. If you do not get the original rush on red you can roll for hoop 2 with the same intention, or get the 'ideal leave' position of diagram 7 if yellow does not gain position to run the hoop.

This idea of loading the partner's hoop, instead of putting both opponent balls into forward play during the setting up of the break, is well known but also often overlooked. A player who is accustomed to thinking in terms of 'ideal leaves' is likely to find many such opportunities to improve his tactics, when the player who thinks only of playing a break with yellow would miss them.

Pressure producing frustration

In this way you can frequently reduce the opponent to a state of frustration and exasperation, as whenever it is his turn to play he is faced with the need to move both of his balls at once, which is impractical, and must attempt a roquet which he cannot afford to miss. Most players find this far more difficult than roqueting in a shot where a miss is less likely to prove immediately disastrous. In addition to having to cope with the constant pressure, he will usually be in considerable doubt about whether or not he is doing the right thing. The psychological advantage gained in this way is not to be lightly dismissed.

In recent times the value of playing to set up an 'ideal leave', rather than taking risks trying to establish a break which is far from set up, has become more and more apparent to me, especially early in the game when I have not yet "got the feel" of the lawn. I now often find myself planning for an 'ideal leave' well before making hoop 1, instead of waiting until after I have made it.

Plan your leaves early

For example, in a recent game I split the black ball to hoop 2 and then rushed and rolled with my red partner ball for hoop 1, but my approach shot was poor and my yellow ball stuck in the hoop. My opponent then shot with black at red and missed, so that the black ball was then on the border in front of the 1st hoop. The blue ball was on the border near the 4th corner. This left me with the position shown in diagram 10, and I realised that the obvious play (since I could not count on roqueting yellow with red) would be to gently make hoop 1 with yellow and then rush red to hoop 2.

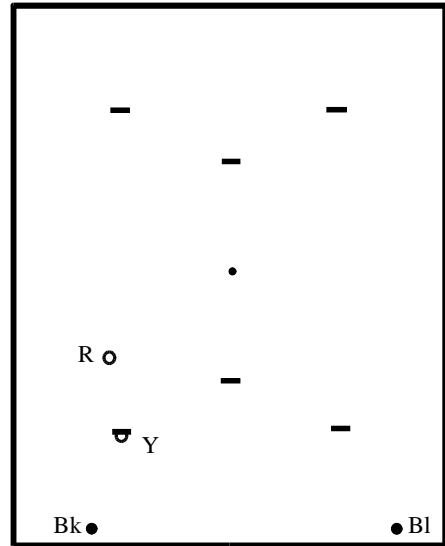


DIAGRAM 10

There would be little risk involved in this, but it offered no way to increase my chance of getting a break. Therefore I chose instead to hit yellow slightly harder on the hoop shot, obtaining a rush on red back to the first corner. From there I played a stop-shot which sent red past hoop 4, leaving it 2-3 yards in from the east border; and roqueted black.

Then a thick take-off put black in near hoop 1 as I went to blue, and another stop-shot sent blue to hoop 2, with yellow running up to red. I finished the turn by placing yellow so that it was the same distance out from the east border as red (i.e. 2-3 yards), with the balls just over a yard apart. This position (diagram 11) was another of my 'ideal leaves' with clips on hoops 1 and 2.

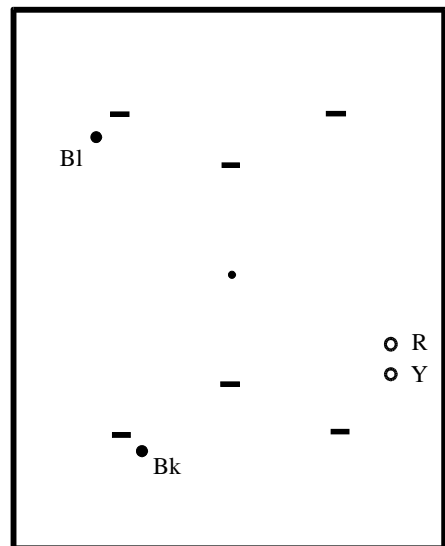


DIAGRAM 11

It is better to have my balls slightly in from the border rather than right on it, so that if the opponent shoots at my balls with either of his and misses, I will more easily be able to roquet his ball and get it in from the border while retaining a rush on my partner ball. It is also best to set my balls equidistant from the border as shown, rather than setting a rush to hoop 1 for red.

There are three reasons for this. Firstly, it reduces the chance of presenting a 'double' target to the opponent's black ball. Secondly, it tends to discourage many opponents from shooting at my balls because they reason that I have not set a rush for myself and they do not wish to risk making things easier for me by giving me one, together with the fourth ball. Thirdly and most importantly, it allows me an excellent chance of a break with either red or yellow no matter what my opponent does.

If he moves black, then yellow has a slight cut on red to hoop 3, followed by a take-off to blue at hoop 2; while if he moves blue, then red can cut-rush yellow to the south boundary and split it to hoop 2 as red goes to black at hoop 1. If either of the opponent's balls shoots at the other and misses, then there is a relatively simple 4-ball break offering.

A more 'ideal' leave

This leave tends to be more easily attainable than the 'ideal leave' which we first considered for the same clip positions (see diagram 7 again), as my two balls could be placed almost anywhere near the east border from near hoop 3 to the fourth corner. However, it does presuppose a readiness to play a split shot if necessary, from the south border behind hoop 4 to hoops 1 and 2. The A-class player should have no qualms about playing such a shot, but a player who is unhappy about it is faced with the need to set a rush for red to the 1st hoop, intending to play red whichever ball the opponent moves. If black then misses blue, he must depend on an accurate rush to the 1st hoop so as not to place himself under pressure in having to roll for it with the opponent's balls only 6-7 yards apart. He must also risk allowing black to shoot at his rush with a 'double' target as mentioned earlier.

Let us now return to the game we were following. On being faced with the leave in diagram 11, my opponent shot with black at blue and roqueted. I have used this leave on even more occasions than the first-mentioned 'ideal leave' of diagram 7; and on every occasion when both of his clips were still on hoop 1 the opponent has moved the ball at that hoop. Some of them shoot at the partner ball as in this game, others shoot at my balls, and many prefer to play the ball from hoop 1 out of play into either the first or fourth corner.

This seems strangely inexplicable to me, unless perhaps they reason that if I am forced to use the yellow ball I will be able to make one less hoop than with the red ball! If I were the opponent, I would certainly play the ball at hoop 2, since a roquet with it on red or yellow would give a break much more certainly than a similar roquet with the ball from hoop 1. On the other hand, if I thought that the player of red and yellow was of timid temperament and less than happy to play long split shots, I may decide not to shoot at all, but would play blue into the second corner in order to discourage the opponent from splitting red right to hoop 2 as he still ought to do.

The 'defensive' roll

Returning once more to the game: after my opponent roqueted blue with black he took off to my balls and rushed one of them to make hoop 1. This he succeeded in doing, but he did not get a forward rush, and since blue was no longer at hoop 2 he did not manage to continue the break. There followed a few turns in which neither of us succeeded in making a hoop, until eventually I got in with red and rolled with yellow for hoop 1, after having sent black to hoop 2. Blue was once again near the fourth corner. In rolling for hoop 1 I sent yellow about 2 yards from the hoop toward the first corner (I will explain later the reason for this, when we consider diagram 16), but failed to get red to a position from which it could run the hoop, so I set it about 1 yard behind yellow with a simple rush to the front of hoop 1 as shown in diagram 12. This time my opponent elected not to shoot at my balls with black, as a miss would allow me a 3-yard roquet followed by a break, so he returned to his partner ball in the fourth corner.

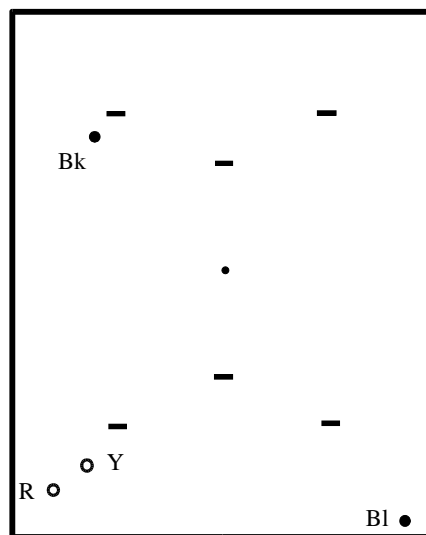


DIAGRAM 12

If at first you don't succeed ...

Then, instead of making the 1st hoop with red, I rushed yellow to a point about halfway along the east boundary, took off (thickly) to black in the fourth corner, used a sharp stop-shot to send it to hoop 1 while staying near blue, and another to put blue at hoop 2 while going near red. I finished by setting exactly the same leave as before (see diagram 11 again), except that my balls were set a few yards further up the east border. This time my opponent missed the roquet with black on blue, allowing me to play yellow, rushing red to hoop 3 and taking off to black to set up a straightforward 4-ball break and take yellow around to 4-back. The opponent commented to spectators that he could not understand why I had "run away from hoop 1" instead of making it, because I was "worried about his balls together in the fourth corner".

The actual reason why I chose not to make hoop 1, of course, was that I saw an alternative course of action involving setting an 'ideal leave', which I believed would give me a better chance of obtaining the next break. The fact that he had roqueted on the previous occasion when presented with the same leave meant nothing. I would have set it (or a similar leave) again and again if necessary, as nothing else I could have done would have given me as good a chance of winning the game. There was certainly the remote possibility that he would keep on roqueting every time in such situations, in which case he would probably (but still not certainly) win the game. As noted previously, the adoption of 'next-break' strategy carries no guarantee of winning the game - it just gives you the best possible chance.

A principle to remember

It is worth pointing out in reference to the above example that if I had made hoop 1 with red I would then have had both clips on the same (2nd) hoop, which would have made it considerably more difficult to find an 'ideal leave'. There is a principle here worth remembering: it is easier to set for a break when your clips are not on the same hoop. This will also explain in part why experienced players tend to avoid "making a double" by peeling the partner ball through hoop 1 as they make it - a feat which beginners take great delight in.

A matter of percentages

In the position of diagram 12, after black has joined blue in the fourth corner, many A-class players would have made hoop 1 with red and then rushed yellow back to the middle of the south boundary. From here they could use a wide-angled stop-shot to place yellow at hoop 3 while going to the opponent balls in the fourth corner. If they could then rush either black or blue to hoop 2 they would have succeeded in obtaining an immediate break. This is the correct line of play to adopt, provided that you rate your chance of success as about 60% or better. If you are not confident of succeeding at least 6 times out of 10 then your best chance of obtaining the next break is to set an 'ideal leave' as I did in the game.

A dilemma for "Aunt Emma"

This may also be as good a time as any to draw the reader's attention to the fact that 'next-break' strategy involving the use of 'ideal leaves' is most effective when used against the legendary 'Aunt Emma', who although traditionally described in female terms can equally well haunt our lawns in male guise. When faced with an ideal leave she can almost always be relied upon not to shoot at all, but to retire instead into a corner. She does this because although she can take-off, rush and roll accurately, she does not play many split-shots and therefore rarely makes more than two or three hoops in a break. She knows that if she misses a shot which allows her opponent a simple 4-ball break she is instant history, as she will be unable to match the nine or more hoops he will make. This means that the odds are so far weighted in favour of the 'next-break' strategist that unless he plays his shots very poorly indeed it will hardly be a contest.

Position of opponent's clips

The reader may have noticed with some surprise that in the foregoing discussion of 'ideal leaves' I have omitted all mention and consideration of the position of the opponent's clips. Is it not true that their position could make one leave more risky, and therefore less 'ideal', than another? This is no doubt true, but at present I have not seen the need to take account of the opponent's clip positions when deciding which leave to use. Occasionally it may influence my choice of which opponent ball to place at which hoop, but it is unlikely to lead to a choice of a different leave from the one I decide (before looking to see where the opponent's clips are) will give me the best chance of getting the next break. Perhaps someone else will refine the theory of 'ideal leaves' by taking the opponent's clip positions into account, or maybe I will one day see the need to get around to doing it myself.

An advantage of omitting the position of opponent's clips from consideration is that you have the whole of the time while your opponent is playing his previous turn (or turns) in which to work out one or more 'ideal' leaves for the position of your clips. Then when you get in you will be ready to decide whether to try for an immediate break or play to set up an 'ideal leave'.

MAINTAINING THE BREAK

We have already seen that many players tend to be too conservative in their judgement of the advisability of taking a risk in order to get a break started. The situation explained in diagram 4 was one example. The same is true when players make judgements about the risks involved in keeping a break going when things start to go wrong.

In a game I was watching recently the position shown in diagram 13 arose. The player of red had tried to run through hoop 4 to the blue ball on the boundary, but had finished only one yard behind the hoop. Black was about three yards from red in the direction of hoop 5. After gazing longingly at the 5-yard roquet on blue, he elected instead to take the 3-yard rush on black to the next hoop. He approached and made hoop 5, but did not get a forward rush, so he rolled for hoop 6, with red finishing about 5 feet directly in front of the hoop and black behind the hoop. I expected him to then return red to his yellow partner ball in the third corner, but to my great surprise he attempted to make the hoop! If this does not sound strange to you, then like him you need to rethink the way in which you assess the risks involved.

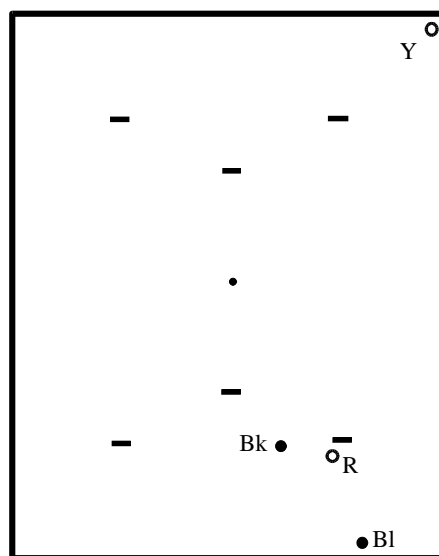


DIAGRAM 13

Assessing the risks

I am sure that although he could not have been CERTAIN of roqueting blue on the border after making hoop 4, he could have made the 5-yard roquet at least 8 times out of 10. But I would find it hard to believe that he could have made hoop 6 from 5 feet directly in front more than 5 times out of 10. This means that he refused to take a risk which would have given him about an 80% chance of continuing his break, but decided a few shots later to take a risk which offered only about a 50% chance of making his next hoop with nothing set up to follow!

In both cases failure would have given away the innings, but not an immediate easy break. He deservedly failed to make hoop 6, and after the game blamed his loss on the fact that he "kept sticking in hoops". In actual fact, he lost because of the very poor tactics he used in refusing to take the risks he should have taken, and taking risks which even if they came off would have assisted his cause very little.

Different risk, but same principle

It is worthy of note that even if the black and yellow balls in diagram 13 were interchanged, the decision not to attempt the roquet on blue after making hoop 4 would still have been wrong. The player may feel happier about making the centre hoops with his partner ball rather than an opponent ball, but the position is similar to that described in diagram 2. He is taking the risk of having to leave his balls in the centre of the lawn where his opponent can take free 'pot-shots' at them. Such a risk may be justifiable if it represents his best chance of getting a break going, but here it can only reduce his chance, for the mere sake of making one or two additional hoops.

I have observed so many instances of some of our leading players making similar incorrect judgements, that I have come to believe there are very few players who would not benefit from a reappraisal of the types of risk which should, and should not, be taken.

Would you make it?

As another illustration of this point, let us consider the position shown in diagram 14. Imagine that you are playing red, and have rolled with the black ball for hoop 1, but the approach was poor and your red ball is now about 4 feet in front of the hoop on a 50 degree angle. Your yellow partner ball is 3 yards in front of hoop 2, and the blue ball is in the fourth corner. You must decide whether or not to attempt the hoop, realising that failure is almost certain to give your opponent a ready-made break. What % chance would you give yourself of making the hoop? What % chance would you NEED to have before you would be inclined to attempt the hoop? How reliable do you think your intuitive judgement is in such situations?

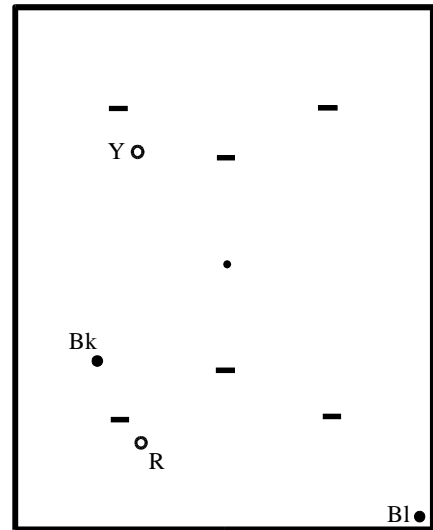


DIAGRAM 14

Do you find yourself electing to attempt such hoops and later concluding that you should not have taken the risk? Most players answer 'yes' to this last question, but hardly ever elect NOT to make the hoop and later realise that they SHOULD have taken the risk. Would it be helpful if you had some way of being confident of making the correct decision?

I have found that most experienced players believe they have a fair idea of their chance of making a hoop from various positions. For example, they would say, 'I reckon I could make it from there about 6 times out of 10. I am sure that I would have a better than even chance, but I certainly wouldn't expect to make it 8 times out of 10, and probably not even 7 times.' I do not normally ask them to put this judgement to the test, as it would prove little. The point is that they are satisfied that their judgement of the chance of making the hoop is reasonably reliable, and it probably is.

Surprising vagueness

However, when asked what % chance they think a player ought to have of making the hoop in diagram 12, before they would consider him justified in attempting it, their answers are surprisingly vague. The percentage they suggest will depend largely on temperament, and may vary from: "You have the chance of a break if you make the hoop, so you ought to go for it unless the hoop is impossible", to: "you would need to be almost certain of making it, as you are giving a break to your opponent if you miss." Some may say: "There's no need to take such a risk. You can go back near yellow and the opponent is not likely to roquet", while others would say, "You can hardly sit both balls out in the lawn near the second hoop and give the opponent a free shot at them, so I guess the hoop should be attempted".

It seems amazing that there should be such vagueness and wide divergence of opinion among experienced players on such a straightforward question of tactics. Each of them must have been forced to make such decisions on many hundreds - probably thousands - of occasions, yet although the decision is very likely to be of great importance in deciding the result of the game. they apparently have no way of knowing whether or not they are making correct decisions in such situations.

Some have said: "If you decide to take a risk and it comes off, then the decision was correct. If it doesn't, then it was wrong!" This may be said jokingly, but it is a very dangerous and invalid line of argument. It says nothing about how you can know whether you were right or wrong if you decide NOT to take the risk; and it ignores the fact that players frequently take risks which come off, but which nevertheless should not have been taken. The fact that they took the risk and were successful on this occasion probably guarantees that they will take similar risks on future occasions and lose many games because of doing so.

Mathematics to the rescue!

Once again we must turn to mathematics for an objective and definitive answer. Although based on statistics and estimates, this is likely to be far more reliable than depending on the intuitive judgement of even the most experienced and accomplished player. A relatively simple calculation (see appendix B if interested in the mathematics involved) reveals that in a game between 'A-class' players you will be conceding to the opponent at least a 53% chance of obtaining the next break if instead of attempting the hoop you place your red ball near yellow in the lawn, or level with yellow on the west border, or behind hoop 2 to 'cover' the north boundary in case black shoots at yellow. There is little to choose percentage-wise between the three options if you decide not to attempt the hoop.

In view of this, it is correct to attempt the hoop provided you give yourself an even (50%) chance of making it, or even fractionally less. How accurate would your intuitive judgement have been? If you fail to attempt the hoop when you would have a 50% chance of making it, then you are not giving yourself the best possible chance of winning the game. It follows that the hoop shot is the SAFEST shot you can play, since it minimises your chance of losing. By doing anything else you would be taking a GREATER risk of losing the game! Unfortunately, I have no answer to the problem of how to convince your doubles partner of this fact, unless perhaps you give them a copy of this book to read, and since most players are likely to place more reliance on their own intuitive judgement than the result of a mathematical calculation, it may well prove to be a waste of time anyway!

What now?

Before we leave this position, we shall consider the correct course of action for the opponent if we decide not to attempt the hoop, and instead play the red ball to a position about 2 yards behind the 2nd hoop, so that it is 5 yards from yellow and 4 yards from the north boundary (diagram 15). When calculating the advisability of choosing this alternative to the hoop attempt, we had to take into account the fact that we were by no means certain to get the red ball exactly as described, covering the north boundary against a shot by black at yellow, but still close enough (hopefully) to roquet yellow if black returns to blue in the fourth corner. If you were now the player of black, what would you do?

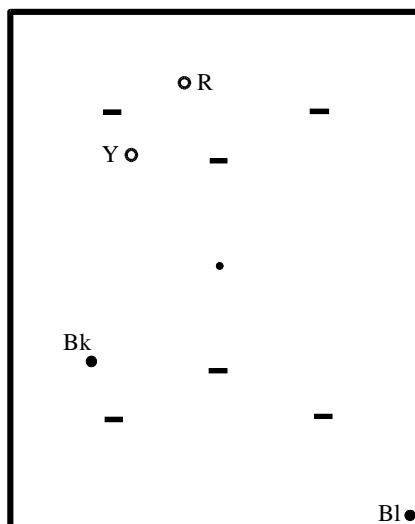


DIAGRAM 15

The correct play for the A-class player is to shoot at yellow, even if you do not have a 'double' target with red behind it, and even though red is almost certain to roquet black on the north boundary if you should miss. I will not give the mathematical calculation which supports this, but the main point is that the player of red and yellow would have about the same chance of getting a break with his two opponent balls in the fourth corner as he would if black missed the shot at yellow. In the former case he would roquet yellow with red, take off to the opponent balls in the fourth corner and rush one of them to make hoop 1, with yellow hopefully not too far from hoop 2.

If black is on the north border after shooting at yellow and missing, then red can roquet the black ball and roll it to hoop 2 while getting a rush on yellow to hoop 1. If anything, the chance of getting the break going may be slightly better with black and blue in the fourth corner, as the rush should be easier to obtain accurately.

Black is more likely to roquet yellow at 16 yards than blue at 21 yards, and the chance of red getting a break going is about the same whichever shot is missed, so he should shoot at yellow. However, the great majority of players at all levels would return to the partner ball without hesitation, as they are unwilling to "give red an extra ball in forward play".

A hard-to-face fact?

This reinforces the statement made above that the natural intuitive judgement of players is frequently astray. It is unfortunate that apart from objective mathematical calculations there is no way for them to discover just how inaccurate many of their judgements are. Even when such judgements regularly result in games being lost, most players tend to attribute the losses to missed roquets or poor take-offs rather than poor tactical judgement. They happily ignore the fact that the opponent also made similar errors. It seems easier for us to accept that we have been out-played (or better still, 'out-fluked') than to face up to the fact that we have been out-thought!

COVERING THE BOUNDARY

The tactic of using one of your balls to 'cover the boundary' behind your other ball in order to discourage the opponent from shooting at it is well known and widely used. However, most players use it only when setting up at the end of a break, or when they have only one shot left and find themselves unable to make the hoop they need in order to continue the turn.

We have already seen that 'next break' strategy is aimed at maximising your chance of getting the next break, and this also amounts to minimising your opponent's chance of getting the next break. It is impossible to do one without also doing the other, as they are merely two different ways of saying the same thing. Therefore, when we urge a player to choose tactics which will increase his chance of obtaining the next break, we are also saying that he should adopt tactics which will decrease his opponent's chance of doing so. From this point of view, it will not be surprising that 'covering the boundary' is an important consideration for the 'next break' strategist.

A matter of balance

It is important to realise that correct balance must be maintained between tactics whose sole intention is to increase your chances, and those whose intent is to decrease the opponent's chances. The favourite 'Aunt Emma' tactic of sending the opponent's balls to the far corners of the lawn and setting her own balls as far from them as possible is designed to decrease her opponent's chances, but unfortunately also serves to decrease her own chances of getting a break, so cannot be seriously entertained by the 'next break' strategist.

In fact, Aunt Emma's short-sightedness prevents her from seeing that although she is reducing the chance of her opponent obtaining an IMMEDIATE break, she is actually INCREASING the chance of him obtaining the NEXT break. This follows from the fact that with the opponent's balls well out of play, Aunt Emma has only a marginally better chance of getting a break going than the opponent has, since neither has much chance in the immediate future. Therefore, each player has a close to 50% chance of getting the next break, with Aunt Emma being conceded a slight advantage (say, 55%-45%, or at best, 60%-40%) by virtue of the fact that she retains the innings.

Instead of sending her opponent's balls out of play, there must almost always be alternative tactics available to her which would increase her chance of getting the next break to well above 60%. These are tactics which, however, involve taking a short-term risk in the hope of making a longer-term gain, so her short-sightedness would not allow her to see the value of them even if she thought of them.

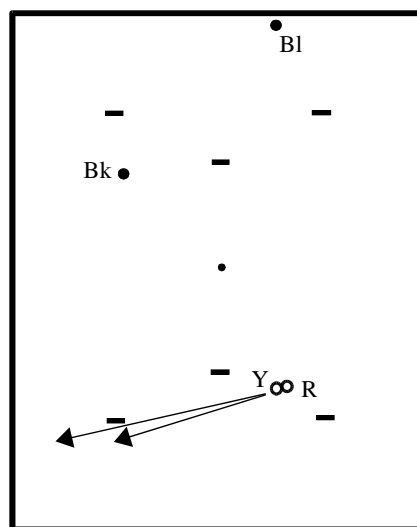
In adopting the tactic of 'covering the boundary', the next-break strategist must similarly bear in mind the need to ensure that he is doing it in a way that enhances, rather than detracts from, the achievement of his overall aims. In using it to discourage his opponent from shooting, he will often be forgoing the opportunity to set himself a rush; or in some other way he will be making his next hoop less certain. These things need to be carefully weighed up in order to be sure that you are retaining the best percentage chance of getting the next break, and not merely playing to prevent the opponent from getting an immediate break.

With all this in mind let us see how the 'next break' player may use the idea of 'covering the boundary' while SETTING UP a break, and not just at the end of it, or when the break has turned out to be unachievable.

In diagram 16 all clips are still on hoop 1. We are playing the red ball, and have placed the black ball about 3 yards in front of hoop 2, with blue about half-way along the north border. We are about to roll for hoop 1 with our yellow partner ball from a point between hoops 4 and 5. It is normal to roll so that yellow finishes 3-4 yards behind hoop 1, hoping to obtain a forward rush after making the hoop.

What if the roll is unsuccessful?

If we fail to gain position to run the hoop, however, it will be difficult for us to adequately 'cover the boundary' in order to prevent or discourage black from shooting at yellow. By placing the red ball near enough to the south boundary to be reasonably sure of roqueting black after it misses yellow, we will be allowing black the alternative of shooting at blue, since we will then need to play a by-no-means-certain roquet under pressure, with no assured way of getting a break going even then.



Defensive roll for hoop 1
DIAGRAM 16

Therefore we should consider the advisability of rolling so that yellow finishes a yard or two from hoop 1 in the direction of the first corner. This forgoes all chance of obtaining a forward rush if the hoop can be made, but if the hoop cannot be attempted it allows us to easily 'cover the boundary' behind the yellow ball. Since we have ensured that we can easily make hoop 1 in the next turn and probably obtain a forward rush, the opponent may also be discouraged from trying to roquet blue, because a miss would almost guarantee us a break by making hoop 1, then rushing or splitting yellow to hoop 3 and using the two opponent balls.

This tactic of rolling for a hoop so as to retain the option of covering the boundary is sometimes referred to as a "defensive roll". [After this booklet was first published I was taken to task by a reader for advocating defensive tactics rather than aggressive tactics. In actual fact the use of the "defensive roll" is usually a very aggressive tactic, allowing you the option of setting up in a situation where you are daring the opponent to shoot at your balls. In order to avoid this misunderstanding, in my later booklets I have changed "defensive roll" to "trap-line play" or "setting a trap" - a term I borrowed from other writers.]

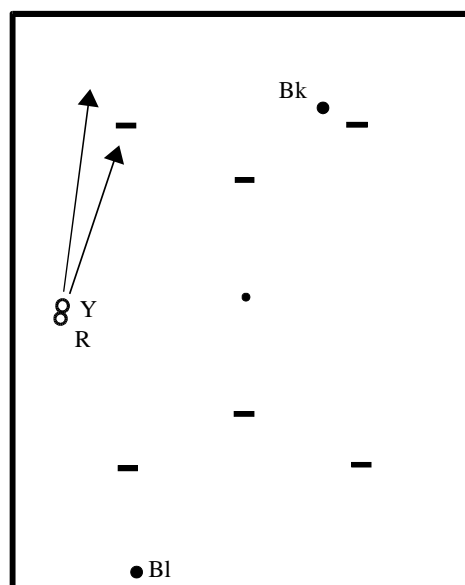
Considering the disadvantages

The disadvantage of rolling yellow as suggested is that if we roll successfully and make hoop 1, we will have no forward rush, so we have reduced our chances of continuing the break without mishap. For many players this would outweigh the advantage of being able to 'cover the boundary' if the hoop cannot be attempted, so they should roll normally.

Importance of practice

I believe, however, that if the 'next-break' strategist can practise splitting balls to hoops 2 and 3 from a point 2-3 yards IN FRONT of hoop 1 rather than behind it, and become reasonably proficient in such shots, then he should be able to continue the break with almost as much certainty as if he had a forward rush. In this case the advantage of being able to retain the option of covering the boundary may well outweigh the slight additional risk involved in continuing the break if the hoop is made.

This applies even more strongly if the hoop for which we are rolling is hoop 2 (diagram 17) instead of hoop 1, as the opponent will have a shorter roquet if we fail to cover the boundary and the split-shot to which we are committing ourselves in order to continue the break is less difficult. The 'next-break' strategist should strive to develop confidence in playing such split-shots so that he can use this 'covering the boundary' tactic, when forced to roll some distance to his hoop with his partner ball. This requires the ability to split to hoops 3 and 4 from 2-3 yards west of hoop 2, and (hardest of all) to roll for hoops 4 and 5 from 3-4 yards in front of hoop 3.



Defensive roll for hoop 2
DIAGRAM 17

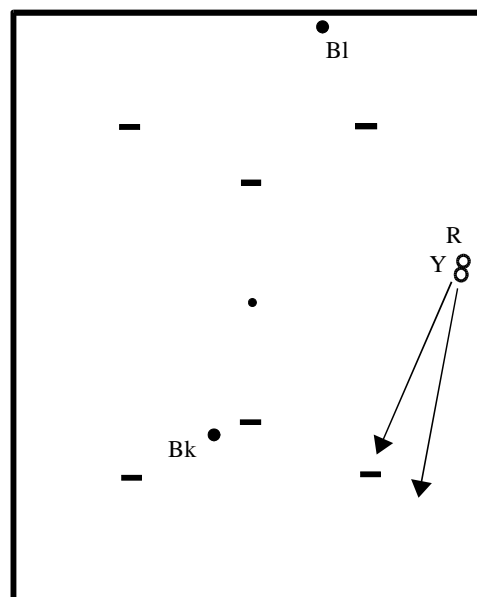
Hoop 4 most important

The most important time of all to cover the boundary is when making a longish roll for hoop 4 with the partner ball. Assume that an opponent ball has been placed at hoop 5, or preferably about 2 yards west of it (diagram 18). Unless you are certain of making hoop 4 you should roll for it so that your partner ball finishes 2-3 yards from the hoop toward the fourth corner. This allows you to cover the boundary if needed, and in this case you still have a relatively simple split-shot to continue the break if you are successful in making the hoop.

What if the opponent is also a 'next-break' strategist?

Before passing on, there is another point to be made: if your opponent is also a 'next-break' strategist, then on many occasions he will shoot at your balls even if you have the boundary covered. Let us return to diagram 16 and suppose that we have played as suggested, rolling yellow to a point about a yard from hoop 1 in the direction of the 1st corner. Then, red not being in position to attempt the hoop, we placed it halfway between yellow and the first corner spot. What will black do? We have already seen that a missed shot at blue would give us an excellent chance of an immediate break.

Even if blue were differently placed, in (say) the fourth corner as shown in diagram 19, the 'next-break' strategist would not be keen to return to it because he realises that we could make hoop 1 with red and rush yellow to almost any point along the east boundary, then proceed to set up an 'ideal leave'. If he returns wide of blue he would make it still easier for us to do this. And if he finesses into a far corner (e.g. the third), he is removing all pressure from us and we are still likely to get to an 'ideal leave' before he gets any better or safer chance to roquet than he has right now. Since allowing us to set up an 'ideal leave' would give us at least a 70% (and therefore him less than 30%) chance of a break, he loses nothing by shooting immediately. He knows that if he misses we will have the break immediately, but his chance of roqueting should be 25-30%. By finessing or returning to his partner ball he is in most situations giving us an even better chance of getting the next break, although he may succeed in delaying it for a turn or two.



Defensive roll for hoop 4
DIAGRAM 18

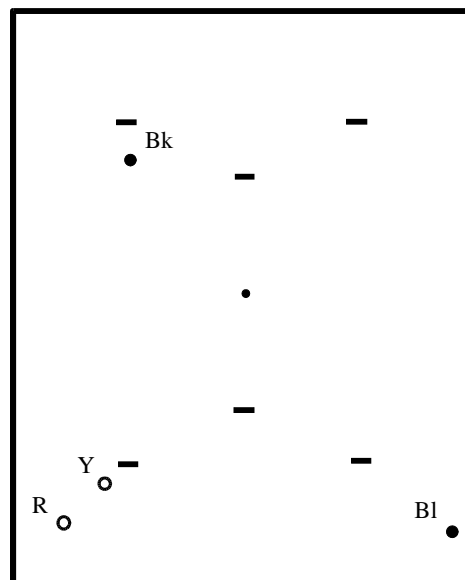


DIAGRAM 19

Of course, this reasoning will only apply to a player who understands 'next-break' strategy and knows that his opponent also uses it. In such a game the tactics are likely to be very different from those seen when only one of the players is using 'next-break' strategy, and will probably be completely incomprehensible to most 'normal' players!

THINKING AHEAD

Because 'next-break' strategy is often concerned with longer-term gains rather than immediate ones, it is essential for the player to develop the habit of thinking ahead instead of considering only his (or his opponent's) immediate turn. A clear example of this is seen in diagram 20, which was taken from a game between a leading state player and a visiting international player.

With all clips still on hoop 1, the state player had placed the black ball in front of hoop 2 and rolled unsuccessfully with red and yellow for hoop 1. Not being a 'next-break' strategist, he had not rolled so as to retain the option of covering the boundary as explained in the previous section. Blue was on the south border about four feet from the fourth corner. With yellow three yards behind hoop 1 in the direction of the peg (too far out in the lawn for red to cover the boundary behind it), he had to decide what to do with red on his one remaining continuation shot. He was unwilling to set both balls out in the lawn, since his opponent, being an international, was likely to roquet one of them and make a break. Therefore, he hit red into the first corner. His opponent shot with black at blue and failed to roquet, but finished predictably with a rush along the south border.

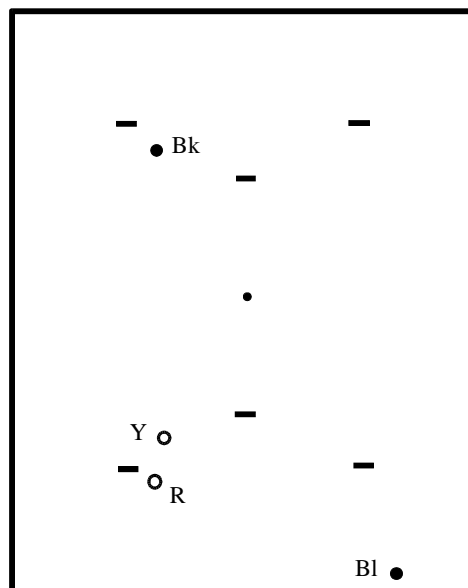


DIAGRAM 20

A self-created problem

Now what was he to do? He must move the yellow ball, but could not risk a shot at red in the first corner to which the opponent had a rush. A missed shot at the opponent's balls in the fourth corner would allow a cannon there, followed probably by another cannon in the first corner and an easy break.

So he played yellow into the third corner. The international player rushed blue toward the red in the first corner, but did not succeed in creating a cannon. Then, instead of trying for a rush on red to make hoop 1 with nothing set up ahead, he used a gentle stop-shot to send blue out to a point just short of hoop 1, roqueted red and sent it to hoop 2 while successfully making position to run hoop 1. He continued with a break to 4-back.

Option retained

Note that if he had not gained position to run hoop 1, he had retained the option of covering the boundary, so red (in accordance with the strategy he was using) would still have had no shot he could afford to risk. Even shooting at yellow in the third corner would risk allowing his opponent to make hoop 1 with a forward rush and two balls together in forward play.

Next break rather than immediate break

The point of all this is that the state player was so afraid of the opponent roqueting and setting up a break, that he gave him a break without him having to roquet at all! Instead of thinking ahead, he was trying only to prevent his opponent from getting an IMMEDIATE break, and he did not even succeed in doing this for long. A 'next-break' strategist would scarcely need to perform any calculations before concluding that the state player's tactics gave him very little chance of obtaining the next break.

A pointless postponement

In croquet games between players of this standard there is really no sense in playing merely to 'postpone the evil day' when the inevitable break is set up. In diagram 20 he should have set the red ball in the lawn near yellow, with a rush to hoop 1, and taken the chance of the opponent roqueting. Nobody consistently hits 50% of roquets under pressure over such a distance, but even if the opponent could hit 80% this would have given a better chance of getting the next break than the way he played. The later shot with yellow at the opponent's balls in the fourth corner, although they were too far apart to offer a 'double' target, was also a better chance than finessing into the third corner.

THE ART OF MANOEUVRING

We have already mentioned in passing that the 'next-break' strategist will learn, once he has the innings, to manoeuvre his way around the lawn until he gets a chance to play a break or set an 'ideal leave'. It does not matter how many turns this takes, provided that in the process the opponent is not given any chance to roquet which he considers to be worth risking. The way in which the manoeuvring proceeds will depend on the opportunities offering in the position, and is learnt gradually by experience.

I have not developed any real principles which could guide the inexperienced player in how to go about it. These may come at some later time, but until then the main thing is not to settle for less than you are entitled to. In most positions it is possible to manoeuvre your way to either a break, or an 'ideal leave' which offers at least a 70% chance of a break. Therefore, you should not abandon the manoeuvring process in pursuit of a different line of play which offers (say) a 30-40% chance of an immediate break, but allows your opponent one or more "free" shots if you do not succeed in getting the break going.

No 'free' shots

A "free" shot in this sense is a shot which, if missed, still gives you little chance of an immediate break. Every shot you allow your opponent should cost him a break if he misses. By ensuring this, you keep him under pressure (and very few players roquet as well under pressure as they do when taking a "free" shot), and also you will on most occasions dissuade him from any attempt to roquet.

In order to give the reader a better idea of what is involved, let us follow the moves of an actual tournament game between a next-break strategist playing red and yellow, and a safety-first strategist playing with black and blue. With yellow already on 4-back and red still for hoop 2, the next-breaker gained the innings but could only manage the much-less-than-ideal leave shown in diagram 21. The safety-firster decided not to shoot with black because shooting at blue in the second corner would leave two balls near his opponent's hoop; and a missed shot at red or yellow would allow red to get a rush to its hoop, which it did not at present have. Therefore he played black to 'safety' in the 1st corner.

This gave the next-break strategist the chance to try for an immediate break with red by cutting yellow to hoop 3, taking-off to blue and rolling for hoop 2. However, he apparently did not rate very highly his chance of succeeding in this, and chose instead to play yellow, rushing red to the south boundary behind

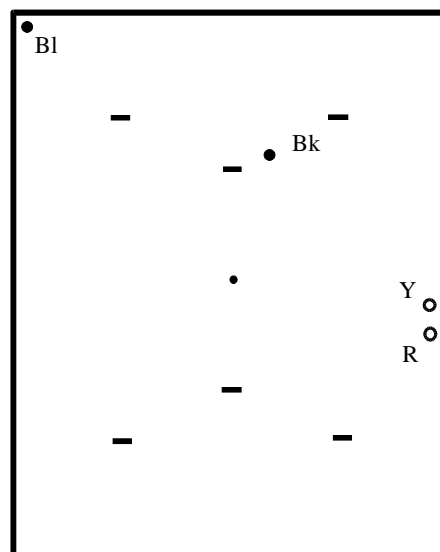


DIAGRAM 21

hoop 4 and taking off to black in the first corner. Then he split black to hoop 3 and returned to red, setting a rush for it toward a point about halfway along the west boundary. This produced the situation in diagram 22.

Obviously, black would not risk a shot here, since he has as much to lose as in the previous diagram, and less chance of gaining anything because the roquet is longer. Once again he did not wish to join blue in the corner near red's hoop, but a shot at yellow would allow red to get a rush to its hoop. So again black went to 'safety' in the first corner.

Finesse after finesse

Then red played a cut-rush, sending yellow about half-way along the west border. From here he could have taken off to blue and rolled for the hoop. Or, better still, he could have used a pass-roll to put yellow near hoop 2 while going to blue, and then sent blue to hoop 3 while trying for position to run hoop 2. But why should he risk either of these courses of action when he can without risk improve his chances of getting the break? Instead, he took off again to black and again sent it to hoop 3, trying unsuccessfully to wire it from yellow. He finished this turn by placing red on the west border about 2 yards from yellow as in diagram 23. Since red had a cut-rush to hoop 2, the opponent again had to move black, and had no more reason than previously to risk shooting, so for the 3rd time black 'finessed' into the first corner.

Extracting the maximum

The next-breaker thought he could do better still, so instead of using red, he played yellow, roqueting red gently and taking off again to black. This time he made sure that red was left where it would be easy to wire black from it behind the 3rd and 6th hoops. Black was again sent to hoop 3, and this time yellow could be hit out so as to give red a six-inch rush along the west border to blue.

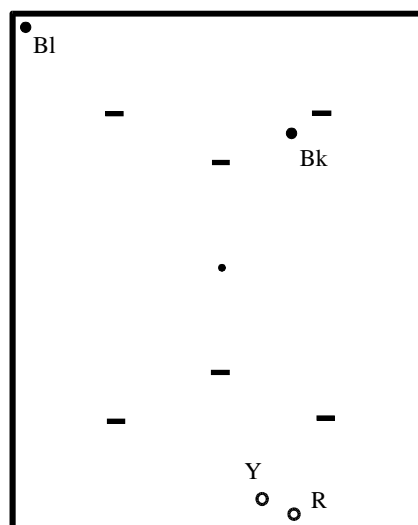


DIAGRAM 22

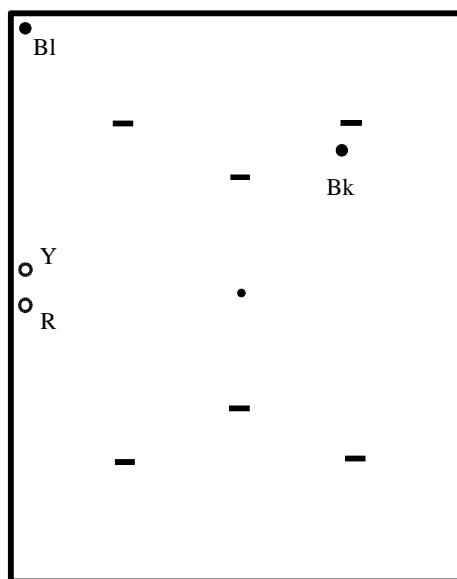


DIAGRAM 23

This produced the situation shown in diagram 24, in which black would no doubt have shot at the double red-and-yellow target, except that he was wired from it! So for the fourth consecutive turn black was hit into the first corner. This gave red the chance to play the six-inch rush and create a cannon with blue in the 2nd corner, followed by an easy break.

Unfortunately, he played it poorly and failed to create the cannon, so he used a stop-shot to place yellow a yard west of hoop 2 and sent blue to hoop 3, trying for position in front of hoop 2. This also failed, so he covered the boundary behind yellow (diagram 25). At last the opponent could afford a shot - albeit a very long one - with blue from hoop 3 at black in the first corner; except that he turned out (not so surprisingly) to be near enough to wired from it! The shot at yellow was out of the question for a safety-firster, so he played blue to the south boundary in front of hoop 1, wide of his partner ball.

Take the first shot

In all of this lengthy manoeuvring red has had two excellent chances to establish a break, and still has the innings. He has not had to take any noticeable risk, since it would have been quite out of character for his opponent to take any of the shots offered. It is apparent in hindsight that at the beginning (diagram 21) the player of black should have taken the shot at red and/or yellow, as he was not going to be given a better chance of roqueting before red had the break set up.

I asked a friend with whom I play practice games why he now seldom 'finesses' or returns wide of his partner ball. preferring to take a shot on every turn in spite of the risks involved. He explained: "Against others I wouldn't always shoot, but against you I know that things are not going to get any better; they'll only get worse. I know that if I pass up any chance to shoot, you will see to it that I don't get any better chance, and you'll end up getting a break anyway. I always find myself later wishing I'd taken the shot in the first place."

And this is exactly how it should be. My friend did not really understand my tactics, but he knew they were different from those normally used against him. He realised that in order to have much chance of winning a game he would have to do things differently himself.

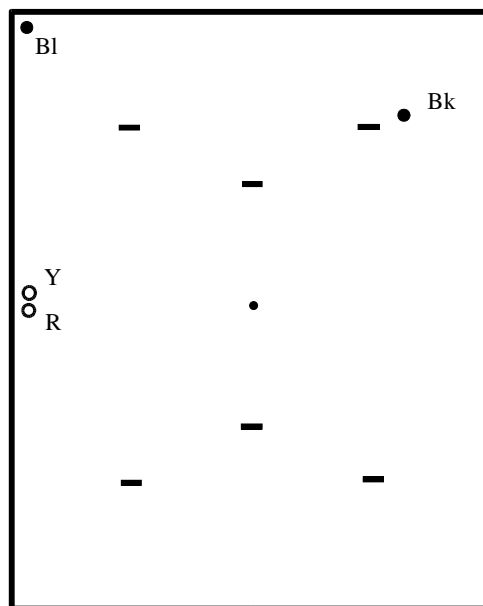


DIAGRAM 24

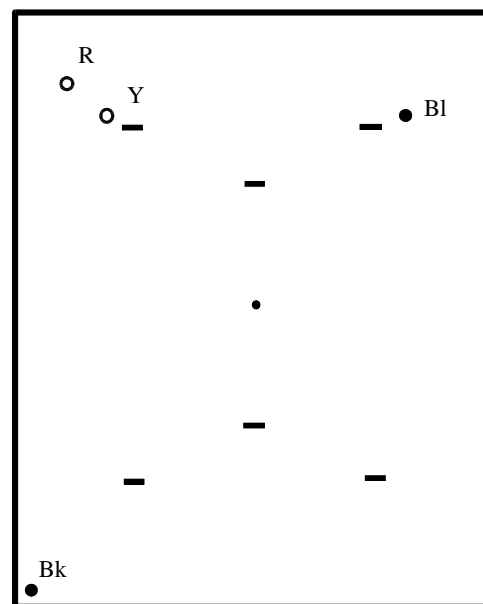


DIAGRAM 25

This further illustrates the point made previously that a 'next-break' strategist is not necessarily an aggressive player with a gambling temperament. An observer watching the manoeuvring process may conclude that he is very timid or conservative or even 'negative' in his play. He seems to be passing up possible chances to establish breaks because of the moderate risks involved. And indeed he is - but only because he sees a way to give himself an even better chance involving fewer risks.

It is unsafe to play safe!

It is also clear that the tactics used by the 'safety-first' player are in fact anything but safe! All he did was guarantee his opponent a 'safe' break, without giving himself any chance whatsoever of preventing it or gaining the innings, since he never at any stage made any attempt to roquet! It is the 'next-break' strategist who is using the safest possible tactics, as he is at all times playing to minimise the chance of his opponent getting a break.

It is worth following the progress of this game a little further, as we can use it to illustrate another point worth making. We have already seen that in diagram 25 blue was played to the boundary in front of hoop 1, about 6 yards wide of his black partner ball, resulting in the position of diagram 26.

This allowed red to make hoop 2 and obtain a backward rush toward the opponent's balls in the first corner. Then he left the yellow ball between the first corner and hoop 1, sent black to hoop 4 while running his red ball a yard or so past blue, cut blue back toward the first corner and used a stopshot to send it to hoop 3. He finished by setting red a 2-foot rush to hoop 3 (diagram 27), more or less wired from blue. Blue shot at black and missed, then red rushed yellow to hoop 3 and this time got the 4-ball break going without further difficulty. Even without the wiring red would have had an excellent chance of a break.

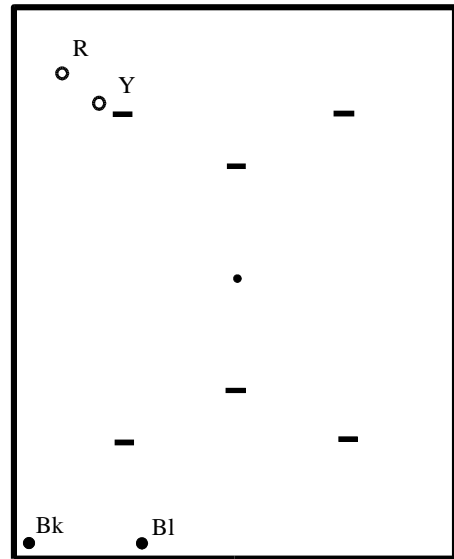


DIAGRAM 26

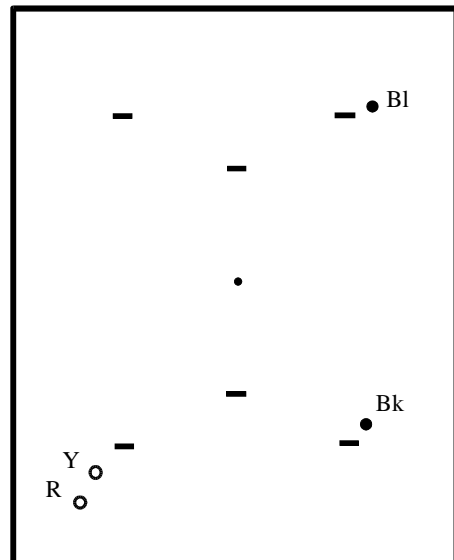


DIAGRAM 27

Returning wide is seldom correct

Notice that if blue could have shot at black in diagram 25 he would have probably done so, and although this would have placed the black and blue balls together in the first corner, red's task in setting up a break would have been slightly more difficult. He could have still rushed yellow to the boundary alongside hoop 1, but there would be at least a small risk involved in stop-shotting one opponent ball to hoop 4 while staying close enough to be sure of roqueting the other. The alternative would have been to send yellow to the 4th hoop while going to the opponent's balls in the first corner, and rush one of them to hoop 3. In this way he may have succeeded in establishing the break immediately, but an inaccurate rush would find him having to approach hoop 3 and make it with an opponent ball, and with his yellow ball out in the lawn. This is why it seldom pays to return wide of your partner ball when playing against a 'next-break' strategist. It not only passes up a chance to roquet, but often makes it easier for him to set for a break than if your balls were together. For similar reasons, a ball on the border in forward play is less likely to be of help to a 'next-break' strategist than it would to many other players. Unless the break is already set up with the other three balls, a border ball in forward play would seldom offer the 70% or more chance of a break that he is looking for. He can probably use it to manoeuvre his way to an 'ideal leave', but no more easily than if it were almost anywhere else.

A misleading term

Perhaps this is as good a time as any to register my dislike of the term "finesse". Although I have used it in this book, I believe it is misleading to the extent that it implies there is some degree of subtlety or cleverness involved in such a move. I have made clear my view that this is very rarely the case. The only alternative term I have heard was at a small country club where a player told me that his opponent was "egging out". I commiserated with him, assuming that he meant "pegging out", but he explained, "No, he is chicken - just keeps running off and laying an egg in the corner!"

EXCEPTIONS

It must be said that in a game of croquet there will at times occur positions in which the theories and principles discussed in this book do not apply. The idea of playing for an 'ideal leave', for example, is often of great value in the early part of the game, but is harder to use when one clip is already on or past 4-back. When both clips are on the rover hoop the 'next break' strategy is likely to be pointless, since a break is no longer possible. In such positions it may well be advisable to set yourself a rush and leave the opponent's balls as far apart as possible. And there may be little sense in covering the boundary when there is nothing you would want to do with your opponent's ball if he should shoot at your balls and miss.

that he would not have got if you had given more thought to your tactics. In actual fact, however, a player who does not consider the percentages is likely to do this sort of thing not just once, but many times in each game. Even if he only made five or six such "slight" tactical errors in each game, there is mathematically a better than even chance in every game that his opponent will get at least one additional break. Of course, the break still has to be played, and does not necessarily guarantee that the game will be won by the opponent even if played faultlessly. But it cannot be denied that a player who is unwilling to consider percentages is giving each of his opponents a sizeable advantage which he need not give them.

PSYCHOLOGICAL CONSIDERATIONS

Every serious croquet player is aware that psychology plays an important part in almost every game. There are many facets of the game where psychological factors are relevant, some well known and others rarely understood. Here I will mention only one such area: the psychology of risk-taking.

Some years ago I entered my first top-division tournament, and in one game I had a clip on 2-back while my opponent's clips were on 4-back and hoop 1. I established a break with my other ball and took it around to the peg. My opponent got in and later managed to peg out the ball I had taken to the peg, while my other clip was still on 2-back; and I ended up losing the game. Afterwards, several onlookers suggested that I had been most unwise to go right to the peg while the partner ball was still on 2-back, as I was "simply asking to be pegged out".

Was I 'asking for it'?

I was more inclined to blame my loss on the fact that after my ball was pegged out I had three excellent chances to make a three-ball break with my remaining ball and finish the game, but ruined them all by making elementary errors. I was not convinced that stopping short of the peg would have improved my winning chances. Since a single peel and peg-out would not have been difficult for my opponent, I would presumably have had to stop at penultimate. This would have reduced the chance of my ball being pegged out, but also required me to do a double peel or take additional turns in making the final two hoops. It worried me that my judgement seemed so much out of line with the insistence of several very knowledgeable players that it is far too dangerous to go to the peg in such a situation.

I went home and decided to try a percentage calculation of the various possibilities and probabilities (the first I ever did) in order to satisfy myself one way or the other. I convinced myself that in this instance I was right, although there have been many instances since in which a percentage calculation has forced me to admit that my judgement has been in error. Why, then, do so many others maintain that going to the peg is incorrect? This puzzled me until I realised that they are victims of a common psychological illusion.

A dangerous illusion exposed

When a player goes right to the peg and his opponent manages to peg out the ball and goes on to win the game, there is a very strong tendency to blame the loss on the fact that you went right to the peg. Because this is the most obvious and distinctive feature of game, it is the thing that sticks in your mind. You may have also missed short roquets, gone out on take-offs and stuck in simple hoops, but these are all more or less normal, so you do not tend to blame them for your loss. Most players can quote several instances in which they "learned the lesson" that going right to the peg is likely to result in loss of the game after the opponent pegs your ball out. But no-one ever quotes an instance where they lost because they DID NOT go to the peg.

Is this because such instances do not occur? I believe that in fact more games are lost by players not going to the peg when they should have done so, than by going too far in a break. The results of my percentage calculations support this. It just seems natural to blame a loss on something you did wrong, rather than something you did not do. Similarly, you often hear a player say in explanation of why he lost "It serves me right - I knew I shouldn't have attempted that hoop. I should have gone back to my partner ball." But you never hear him say "I should have had a go at that hoop - there was a fair chance I could have made it". In reviewing his games, the 'next-break' strategist must learn to think objectively and realise that the loss of a game is just as likely to result from sins of omission as from sins of commission; or in other words from things you didn't do as from things that you did do.

There are many other more common situations where the 'next-break' strategist's assessment of risks will differ from that of a player who uses the standard strategy. The difference arises from the fact that the assessment made by the next-break strategist will tend to be objectively based and will involve estimation or calculation of percentages. Each risk will be considered in the light of his aim of obtaining the next break and/or winning the game. He will tend to take risks which others would avoid if he believes that in so doing he is increasing his chance of achieving these aims. and will avoid risks which others would take when they do not offer any such increase. Here we will consider briefly only two examples:

(The psychology of risk-taking is considered in much greater detail, together with many other ways in which psychological factors are involved in the game of croquet, in my booklet "Croquet: The Mental Approach". Some players seem to be temperamentally incapable of bringing themselves to take risks, even when they have been forced to agree that by taking the risks they are improving their chances of winning the game. It is noticeable that in croquet this problem occurs on average in women players far more often than in men. People may disagree as to the reason for this difference in the sexes, but its existence is indisputable. I know of no other field of activity where it is so pronounced.)

HITTING IN

Diagram 29 shows a position from a doubles game in which the yellow and black clips were both on 4-back. Blue was for hoop 3 and red (my partner) was for hoop 1. Black and blue are together about halfway along the west border, with red on the south border and yellow in the lawn about a yard in front of hoop 5. My partner thought I was crazy when I suggested that he shoot with red at yellow, and wanted me instead to 'hit out' by shooting with yellow at red.

I pointed out that if I succeeded in roqueting red I could only set up for him, and with my clip already on 4-back I would not expect to get a leave which offered much more than a 60-65% chance of getting the break. I suggested that he would have almost the same chance of making the 8-yard roquet, after which he could send yellow to hoop 2 while going to the opponent balls, and so had an excellent chance of an immediate break.

On the other hand, if I missed the shot at red, blue could rush black to the first corner and send it to hoop 4, then use our balls to get a rush to hoop 3. If my partner shot with red at yellow and missed, then (provided he hit hard enough to reach the north boundary) blue may still be able to get a break going by sending black to hoop 4 and rushing yellow to hoop 3, but his task would be slightly more difficult.

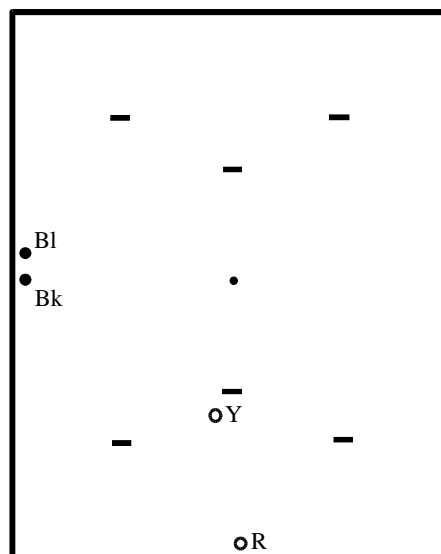


DIAGRAM 29

A convincing argument?

Thus, if we were going to roquet we would much prefer to be using red; while if we missed it would still be better to have done so with red. My partner thought there had to be something wrong with my reasoning, as he had been told many times by experienced players that in most situations you should hit out rather than in. Since he could not find an immediate answer to my argument, he reluctantly agreed to hit in, and fortunately roqueted yellow. Had he not roqueted, I doubt that he would ever have taken my advice again.

In this case almost any player who thinks, whether he is a 'next-break' strategist or not, should be able to see the advantage in playing the ball with which a break can be made. In many situations, however, the advantages are less clear. The player (and there are many) who does not think for himself, but relies on generalised advice ("Don't hit in"; "never leave balls out in the lawn where your opponent can use them", etc.) is more than likely to make the wrong choice. He is also likely to later blame his loss on the fact that he "couldn't hit a roquet when he needed it", when the real reason was his poor tactics.

PLAYING THE BORDER BALL

In diagram 30 all clips are still on hoop 1. Red has sent his yellow partner ball to hoop 2 while going to the opponent's balls in front of hoop 3. He had intended roqueting blue on the border and sending it into the lawn (say, to hoop 3) while getting a rush on black to make hoop 1 and establish a break. However, red has finished about 4 yards from blue and about a foot from black. I have seen many players in such positions still roquet blue and rush black to hoop 1.

This seems to me a case of taking an unnecessary risk. The rush can be obtained more certainly by taking black out to the border near blue. There is no need at this stage to get the fourth ball off the border. It can easily be brought into the break after making hoop 2. By bringing it into the lawn immediately you are making it easier for your opponent if your rush and approach shot are such that you cannot attempt hoop 1.

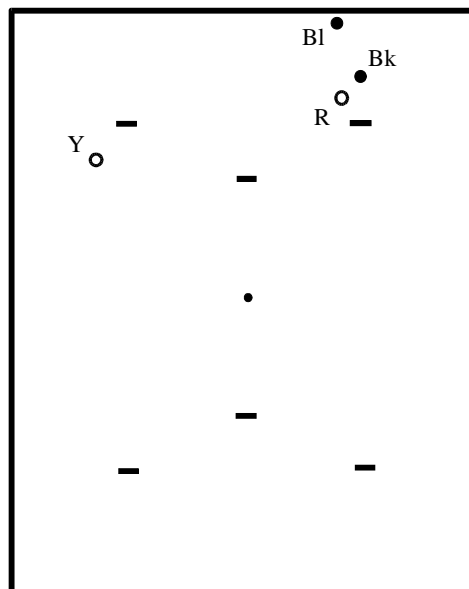


DIAGRAM 30

In addition, the roquet of just over 4 yards probably cannot be regarded as a certainty. The risk of missing it may only be slight, but why take any risk at all which does not increase your chance of obtaining the next break? Onlookers may gain the impression that your decision not to attempt the roquet on blue results from a lack of courage, but objectivity rather than courage is more likely to win croquet games.

CONCLUSION

The reader may be wondering about the possible implications for the future of the game if the ideas presented in this book become widely accepted. There is probably no need for concern, since few players are likely to understand the ideas, let alone agree with them; and even those who accept them in principle may find that they are unable to change the way they have been taught to think about the game. However, I cannot resist the temptation to indulge in a bit of crystal ball gazing, even if it amounts to nothing more than wishful thinking.

I believe that as the game becomes more professional and games are played for higher stakes, players will be forced to approach it more objectively. Gut feelings and intuition may be fairly reliable at times, but for your next meal and money to pay the rent you like to depend on something more substantial and more objective.

The ideas I have presented here have covered only a few of the more obvious tactics arising from 'next-break' strategy. There are many important ideas and principles waiting to be discovered and explained. Some of these will apply to situations which occur only rarely, but others may well turn out to be of more general use. Many of my ideas will in time be refined and modified. Some will no doubt be proven wrong. Perhaps I will have at least succeeded to some extent in laying the groundwork and pointing out the way in which the theory of the game can be developed. I am certain that it must be based objectively on percentages.

In order to increase the objectivity, it is desirable that accurate statistics be available, as the results of percentage calculations are more reliable if based on accurate statistics rather than estimations. How often, for example, would you expect an A-class player to be able to play a stop-shot from the first corner which sends the croqueted ball to hoop 2 and also gains position for the striker's ball to safely run hoop 1? How often are games won by a player after one of his balls has been pegged out, leaving various clip positions? Until the game becomes fully professional there will be little incentive for anyone to spend the enormous amount of time and effort required to record, interpret and publish the statistics from which authoritative answers to such questions can be derived. As I observed earlier in the book, the theory of croquet is still very much in its infancy.

I do not believe, as some of my friends have suggested, that if these ideas are widely adopted the game will become little more than a type of mathematical exercise, and will lose much of its interest and challenge. On the contrary, I believe that the standard of play would improve dramatically and games between opponents who are both trying to apply these ideas will offer more interest and excitement than most of the games we see at present. The calculation of probabilities, understanding of strategies and adoption of 'percentage-game' tactics are all important, but the game has to be won out on the lawn with a mallet, not sitting at home with a book or calculator.

Finally, I look forward to (but will probably not live to see) the day when the rules are altered to allow coaching of players during an opponent's turn. This would be analogous to the role of a Davis Cup tennis coach who discusses tactics with his players during change of ends. It would provide a valuable and active role for our leading players when they become too old to continue in competition at top level. and enable them to pass on the benefit of their experience to younger players in the most effective manner possible. This could only lead to a rapid improvement in the general standard of play, but as one experienced player to whom I explained the idea observed: "It seems too logical a step to be given serious consideration!"

SUMMARY

1. A player who adopts 'next-break' strategy (or 'NBS') will not find himself taking greater risks than he was before, though it may appear this way to others who do not understand NBS. He will certainly be taking DIFFERENT risks, some of which he would not have taken before; and he will be taking them for different reasons. He may, for example, take a greater risk of immediately losing the innings, but only because by doing so he is REDUCING the risk of losing the game. On balance, NBS is the SAFEST possible way to play.
2. Although many of the ideas involved in NBS can be used by players at all levels, its real relevance is best seen in games between players at A-class level. A player whose skill level is below this class should give first priority to improving his technique.
3. NBS involves 'playing the percentage game'. Actual calculation of percentages during a game is usually impractical, and to a large extent unnecessary. Many players will be able to get by on their intuitive judgement, provided they always bear in mind the aims of NBS and are prepared to allow their judgements to be modified by experience.
4. NBS is designed to give the player at all times the BEST POSSIBLE CHANCE OF WINNING THE GAME.
5. NBS as outlined in this booklet is based on the assumption that in maximising your chance of getting the next break, you will also be maximising your chance of winning the game. This is true for players who can make breaks, once they have them set up, with only a small chance of breaking down. There will be certain situations and conditions in which this assumption is not valid, and a different strategy is therefore desirable.
6. NBS is aimed at obtaining the NEXT break, as distinct from an IMMEDIATE break. It may be necessary to sacrifice any chance of an immediate break in order to maximise the chance of getting the NEXT break.
7. The tactical moves by which a player implements his NBS will depend to some extent on his particular strengths and preferences.
8. The adoption of NBS will for most players involve placing greater emphasis on the desirability of playing the ball which, if a roquet is made, will give the best chance of a break.
9. NBS involves the avoidance of taking even the slightest of risks if it does not stand to increase the chance of obtaining the next break.
10. The understanding and use of 'ideal leaves' will be an important part of NBS for any player. These will at times differ from the leaves commonly adopted by most players, as it may involve setting your balls out from the border, not giving yourself a direct rush to a hoop, etc.

11. The 'ideal leaves' are based on the position of your own clips, and can be worked out during the opponent's turn. It is useful to have always in mind certain leaves for commonly occurring clip positions, and these can be worked out at home. A player who is unwilling to do this would have to rely on his ability to find good (if not 'ideal') leaves on the spur of the moment, or else copy the leaves of another NBS player.

12. In order to be of regular use, an 'ideal leave' must be achievable without necessarily having full control of the balls. For this reason, leaves involving wiring are generally omitted from consideration in this context.

13. The NBS player should have some idea of the percentage chance which an 'ideal leave' offers him of getting the next break, and he should play to set it up unless he sees an alternative which clearly offers a better chance.

14. Even when a player decides to play for an immediate break, he may do well to bear in mind the 'ideal leaves' for the position of his clips. It may not be difficult to retain the option of setting an 'ideal leave' in case the immediate break is not finally achieved.

15. The setting of an 'ideal leave' may take more than one turn. The NBS player will learn to manoeuvre his way to the desired position without allowing his opponent any roquet worth risking in the meantime.

16. An 'ideal leave' is usually easier to find and achieve when your clips are on corner hoops and not on the same hoop.

17. When one ball is already around you will have fewer options in finding a leave which gives the best chance of a break with the other ball regardless of what the opponent does. It is therefore more likely that you will need to depend on an accurate rush, but also more likely that by then you will have a better 'feel' of the lawn.

18. NBS is an almost perfect answer to Aunt Emma strategy, provided, of course, that you are not likely to break down too often once you have the break set up.

19. The NBS player is also aiming to MINIMISE the chance of his opponent obtaining the next break, and to this end he should play so as to retain the option of 'covering the boundary' while getting a break started, as well as at the end of it.

20. NBS players will tend to shoot at a ball on almost every turn, rather than 'finesse' by hitting a ball out of play into a corner. The reason for this is simply that positions are rare in which finessing actually gives the best possible chance of obtaining the next break.

21. NBS players will also tend to avoid returning wide of the partner ball instead of shooting at it. If the opponent is also an NBS player he will usually find it easier to achieve an 'ideal leave' from a position where your balls are a few yards apart than if they were together. However, you need to assess his chance of getting an immediate break if your balls are together.

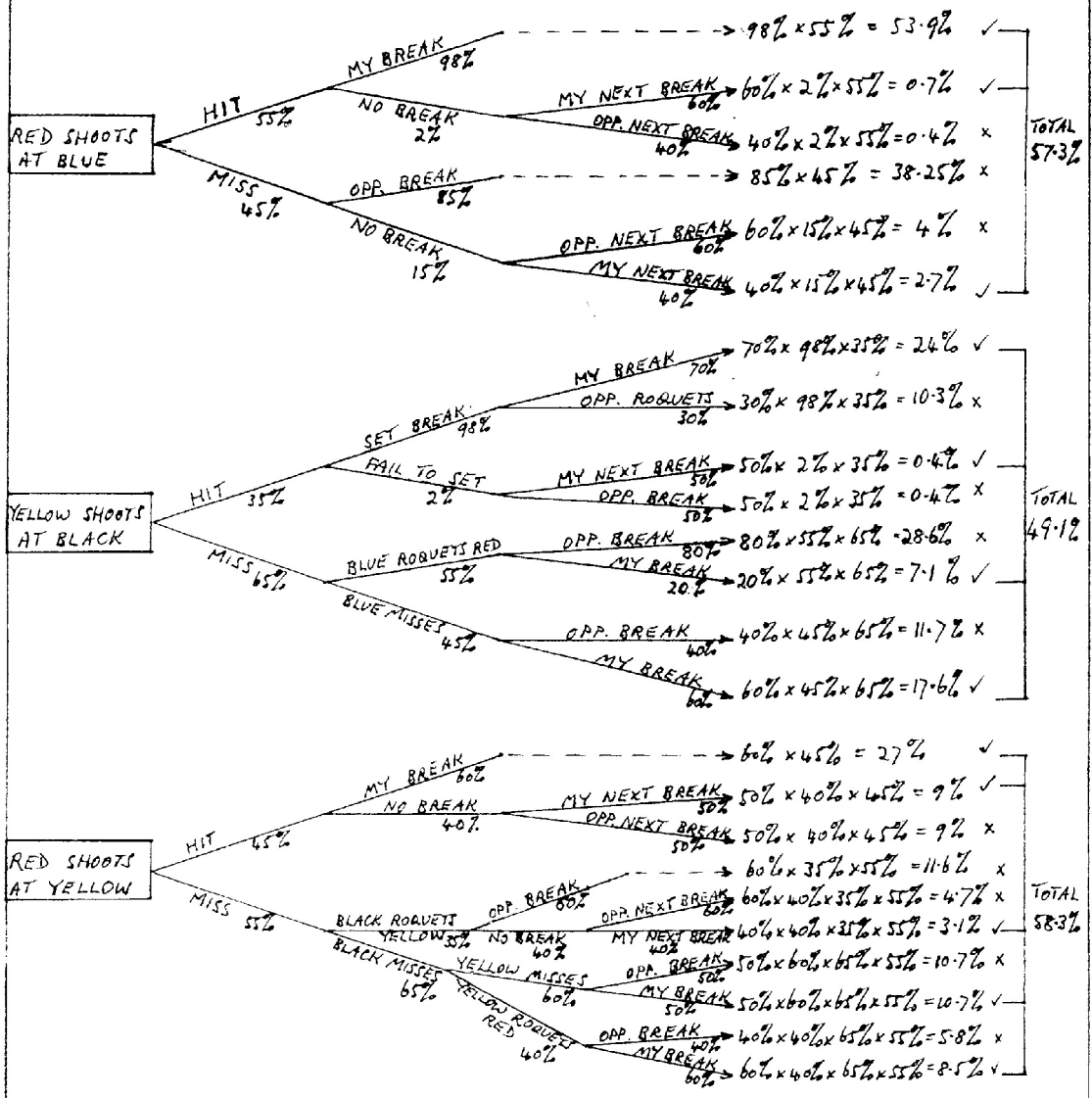
22. The NBS player will not mind giving his opponent the opportunity to rush a ball to a hoop and make it, provided that in doing so there is no easy way for him to get a break started. This underlines the need for the NBS player to be constantly thinking ahead to the next turn, or even the one after that.

23. The NBS player will not be unduly concerned about taking shots which put his balls into the opponent's 'forward play', provided the balls are on the border and there is no break set up. In general, balls on the border in forward play are just as likely to hinder the opponent in setting up a break or achieving an 'ideal leave', as they are to assist him.

24. The use of NBS means that the opponent will commonly feel himself to be under constant pressure. For psychological reasons the NBS player should usually strive to MAINTAIN the pressure. This is another reason why he will at times be prepared to leave both of his balls out in the lawn in preference to taking one of them out of play; and will avoid tactics involving 'finesses' and 'returning wide', which are designed to frustrate rather than pressure the opponent.

25. In reviewing his games, the NBS player must remember that a loss can result from failure to take risks that should have been taken, as well as from the taking of unnecessary risks.

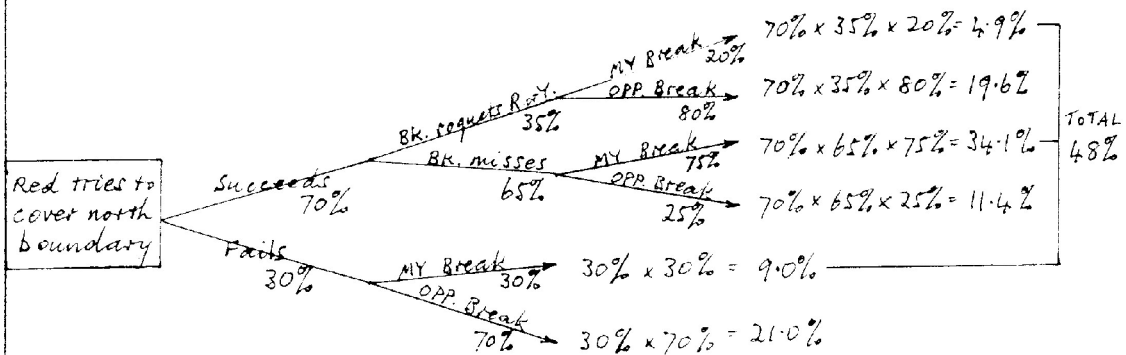
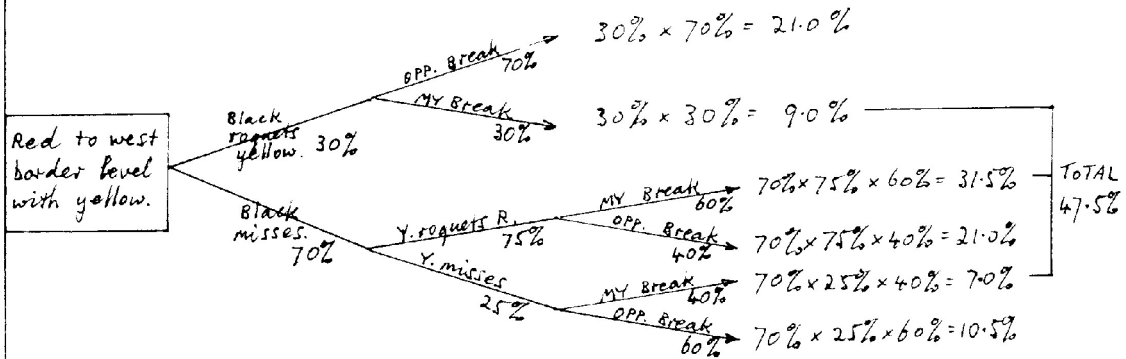
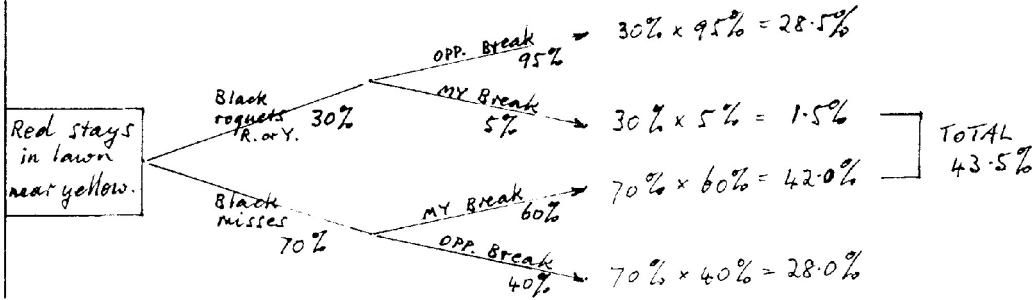
APPENDIX A : PROBABILITY CALCULATION for diag. 5.



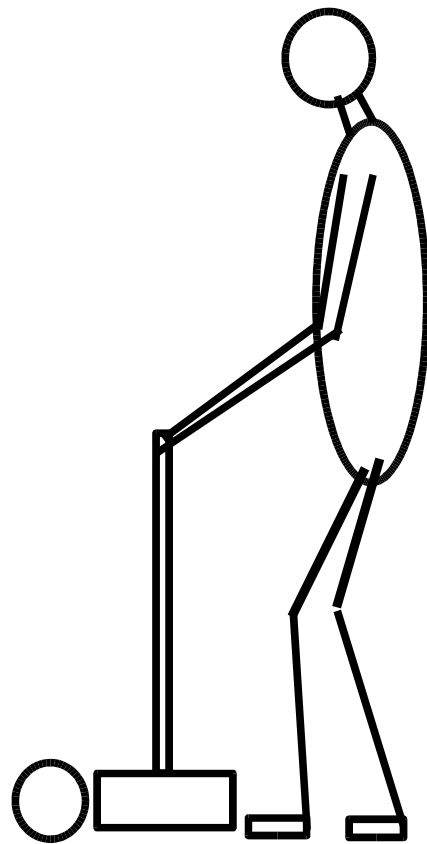
NOTES:

- ① The percentages are estimates, but surprisingly are not critical to the result, as errors in estimation tend to cancel out. For example, whatever % change I give myself of roqueting or obtaining a break, I must also allow to my opponent in a similar situation.
- ② A player with the innings, but with the opponent balls separated and out of play, is given about a 60% chance of getting the next break.
- ③ The % chances of roquets being made over various distances are as recorded in other publications, and are based on statistics from games of div. 1 and 2 players, i.e. 7-8 yds = 55%; 9-10 yds (tice) = 50%; 11-12 yds = 45%; 15-16 yds = 35%, etc. If these were all increased (eg. to 60%, 55%, 50% and 40%) or decreased, there would be no significant effect on the outcome of the calculations.

APPENDIX B : PROBABILITY CALCULATION for diag. 12.



CROQUET: NEXT BREAK STRATEGY



by John Riches

The cover on the preceding page can be printed on blue card to allow binding of the complete booklet. John Riches did it this way in the days before cheap colour printers.