

DR. GERHARD HÜPPER



BILLIARDS MANUAL

- THREE CUSHION -

TRANSLATION BY
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Billiards Manual

– Three Cushion –

First Volume

Translation by Alfred Wenzl

Litho Publisher

Wolfhagen, Germany

www.billiardbook.com



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1th Edition 2010
Printed in Germany

ISBN: 978-3-941484-20-7
www.three-cushion.com
www.billiardbook.com
www.lithoshop.eu

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Reasons for the marked improvement in 3-cushion performance

I had initially put this question into the introduction of the first edition:

Better material (tables, covers, cushions, balls, cues), especially the replacement of ivory balls with synthetic materials.

The availability of higher numbers of tournament billiard tables.

The number of players has risen enormously (unfortunately, not in the USA), and competition is known to increase performance.

Many start to play much earlier than at 17 or 18, as used to be the case.

All train much harder, with top players putting in 4 to 6 hours daily.

Professionalism. Nowadays, one can make a living with billiards alone, not necessarily only as a host or operator of a billiard room. Although, a real good income is only made by star players like Ceulemans, Blomdahl, Jaspers, Caudron, Sayginer, etc., while the average professional or semi-professional might only reach the level of a skilled worker or office employee, if that much.

The range of the game. Players have generally become more consistent in basic scoring and, as a rule, expect much more precision from themselves. Everything, that can be “made”, really has to be made.

One is no longer particularly proud of successfully making a difficult shot, but virtually expects to make it. Top players approach such patterns with the attitude: “This will make!”, whereas the average player, most of the time, only sees the difficulty, and doesn’t give his instincts free reign.

The players’ technical abilities (power strokes, etc.) have improved markedly.

Patterns. Nowadays all players are familiar with solving difficult, mostly defensive, positions. Many new solutions have been invented or shown to the broader public.

Position play. Of course, all players pay attention to it. In some ways, players have moved away again from the attempt to achieve a precise, pre-determined position for the first object ball, and for the cue ball to come to rest exactly at the second object ball. The usual position patterns of Vingerhoet and Ceulemans, naturally, are paid attention to. With E. Robin and his 535 patterns, though, it becomes critical. Too extensive and precise position play has shown to lead to poorer, rather than better results, for various reasons.

Apparent is the tendency of some top players to stroke with a little extra speed, where final stopping distances of three feet or more between cue ball and second object ball are no rare occasion.

Above all, one has to watch out, not to “*defend against oneself*”. To recognize, when there is a risk for the object balls to stop near the head rail, while

the cue ball stays in the middle or lower region of the table.

The most common prevention: *distinct extra speed*.

Systems. Whether and how many systems are in reality being used by top players varies individually. Many more systems are known today, and they are much more precise. But most top players, aside from the Japanese and the Turkish, have never used as many and comprehensive systems as are often described in books. Every one of them exactly knows all lines, based on talent and years of experience, and has no need for acrobatics with numbers.

This is altogether a very controversial subject!

Observations at Grand Prix tournaments

gave me further illumination, especially with regard to the question, whether and to what degree one can recognize system play, and how position play is practiced. It was apparent that often a run only ended when the player left a really difficult position for himself.

Defense:

Principally, all players look for it at all times, although possibly not so much during the initial phase of the game. Often, therefore, players have to solve difficult positions, and succeed with it at a clearly higher percentage than average players.

Games usually are characterized by spurts or phases. One player is doing well, the other is not - then again the other way around; with multiple switches in momentum. Towards the end both primarily try to avoid “selling out” at any price, and it may take quite a number of innings before the final point is made.

These typical game patterns and their psychological consequences should be taken into account by all players, pros and amateurs alike, and acted upon, i.e. especially, not to capitulate too quickly.

The main virtue is patience. And, to remain relaxed.

The book at hand

is different from other publications in several ways. The contents are substantial in quantity. Accordingly, it is intended as a teaching tool and manual not only for beginners, but especially for advanced players. It is very well suited for training and as a reference work.

Authors of sports books face a special problem: beginners are quite conscious of the difficulties, which they are expected to overcome in the course of their development; but, of course, they don’t write a book about it. The expert, on the other hand, has long forgotten what his problems were, or if, considering his talent for the sport, they even mattered.

Additionally, the questions at the highest level are different to those players at lower levels of the sport. Therefore, advice should always take the level of the player into consideration. This applies, as an

example, especially for position play.

The author has tried to explain with exact words, not only in the basic text of the general and special subjects, but also in the commentary of each pattern, what matters in particular, what special problems may arise, and what other considerations should be given under certain circumstances. Alternatives, as well as subjectively influenced decisions have not been neglected.

My special concern was to communicate to the player - within limits - how and why certain things happen on a billiard table. Most clearly this can be seen in the discussion of systems. One could simply advocate the memorization of the suggested numbers. That would, in my opinion, not show superior results, because it leaves the player clueless with any change in conditions. I wanted to stimulate a deeper understanding, with a basic knowledge of the reactions of balls and cushions as a pre-condition.

Some of the analyses presented in this book are very specialized. They are marked by italics or referenced to the appendix, and should only be studied in case the reader has problems with it (or simply interest in it).

Pointers for the use of this book

I recommend, that, for starters, and now and then during your progress in the book, you study the glossary. It explains billiard-specific terms and will help avoid difficulties with understanding the main section, and other misunderstandings. The drawn lines in the graphs were established **on medium long tables** (see glossary). On shorter, long, or extra long tables you need to change either the process or the ball positions. Since today's tournament tables generally respond long to very long, one could have reasoned to use their response lines. In spite of that, I could not decide to do this for two reasons.

Actual situation.

Players in their learning and developmental phases - for whom this book is primarily intended - often don't have the chance to play regularly on long, modern tournament tables.

Continuity of the literature.

Almost all billiard books published to date show response lines of short to medium long tables, by today's standards. The reader, trying to make comparisons, would therefore be very confused by extra long lines (which often arrive at the fourth rail more than a diamond different). The problems of long tables are discussed in great detail in a special chapter of Volume 2.

In Volume 1 (this book) you can read about Holdup problems at the end of the first chapter (Shot Selection).

For **setting up the balls** you can go by the diamonds. If you wanted to do it exactly, you would need further lines, which would make the graphs confusing or even, require a graph board as is used in Artistic Billiards. But absolute precision is not

necessary for discussions of the problems, and not even possible. Not only does every table react differently, every player has his own, quite individual stroke. What is a problem for one, is handled left-handed by the next. What matters is that the uniqueness of the pattern at hand and the suggested solution is recognized and imitated.

In many instances alternatives are presented.

When they are not, it doesn't mean that there are none. Often, a change of fractions of an inch in the position of a ball is enough, to turn a "Natural" into an impossible shot, and the other way around.

Each suggested solution in the final analysis only presents a stimulus, and serves to illustrate certain problems. In a real game you may naturally prefer your favorite shots. As a left-handed player you should occasionally set up mirror images of the balls.

Marking of the balls

Generally, the yellow ball is designated as the first object ball (B 1), and shown gray in the graphs. That makes the red ball the second object ball (B 2), shown in black print. But this does not apply to each and every case, for instance in pattern variations. The cue ball is always shown without fill (white).

The cue ball's path is shown in solid lines, alternative solutions and the lines of B 1 in broken or dotted lines.

I would like to especially address two problems, which have emerged from Internet correspondence.

The first question concerns the fact that some players notice on their home tables partly very strong **deviations of the cue ball's lines** from those shown in the book. Apart from individual stroke characteristics the reason can generally be found in the fact that the tables vary in their length of lines (see above). Most of the time it concerns the Holdup response angles, where one can find up to 1.5 diamonds difference on the subsequent rail (usually the end rail). This, one simply has to know, and be aware of.

This is worst on newly covered tables, often requiring a total change of strategy (see chapter 1: "Shot Selection").

In view of the uniqueness of each table and other conditions (room temperature, etc.), some patterns can only be played successfully on shorter, others only on longer tables, because compensation via stroke, speed, English, or hit, are only possible within limits.

The second problem goes somewhat like this:

"Most of what you say and explain I can fully support, and some things only became really clear to me through it. But, in some points I am of quite different opinion, and don't know, what to think about it.

My answer to that:

"No reason to panic. That is the most natural thing in the world. There are many reasons for it:"

A. Genuine errors

Print errors never can be totally avoided, and are more frequent than one would think. Luckily, I was

able to point out in Volume 2 what was a wrong numbers sequence in Volume 1 for corner Whipouts. Even today, whenever I peruse the books, I find small, thankfully harmless errors with both, texts and graphics.

Errors in thought, calculation, or observation still raise their ugly heads. For instance, one can find in Hoppe's and Ceuleman's books, both authors I greatly respect, many an example that can be proven wrong with pencil and ruler.

Even Verworst is not free of minor irregularities. With regard to wrong observation, closer scrutiny of the Hoppe/Conti Rail-first system would quickly reveal, that actual arrival points at rail 3 mostly run shorter or longer than the formula indicates. And I could go on for pages.

We also may want to recall a dictum by Lichtenberg: *"If a book and a head bump into each other and make a hollow sound, it may not always be the book."* With other words, the error may also be found with the reader, caused by misunderstanding or faulty stroke technique.

B. Different equipment, individual stroke variations.

On short or extra long tables the lines don't match the usual standards, so that either modification are necessary, or the suggested pattern can't even be made (see above).

Similar applies to individual strokes.

Some shots present great problems for one, but none at all for the next player. Certain positions result in a kiss-out for one, but not for the other - although neither stroke nor hit seems to indicate any cause for it.

Naturally, some differences do exist, but are only evident in the results. The observer often can't see the underlying causes, and even the player himself can't feel it all properly.

Add to this, that some players address the ball one way, but actually stroke another. It is, therefore, advisable for problem areas to examine how clean and effective one's stroke really is before seriously doubting the questionable advice.

C. Advice and opinions

This is where disagreement is most frequent. Whenever someone gives instructions or advice, it only reflects the sum total of his own, very personal experiences. The reader possibly has had different experiences. So, first of all, it will depend on the author's quality, to what extent one can and is willing to rely on him. Moreover, certain advice may be excellent for one player, yet the opposite may apply to the next.

Some examples:

A long follow-through is almost generally promoted as the standard stroke. But, in some situations, some players do better with *an abbreviated final stroke*. By the way, currently a more natural stroke finish is again being promoted, without any forced

extension or stopping - mind you, this only applies to standard, problem-free strokes. For long Round Balls one can find two main variations: Consistent half full hits on B 1, and, if needed, some Holdup - or thin to very thin hits on B 1, and varying degrees of running English (as a matter of fact, both methods must be mastered, among other things, for kiss avoidance).

Similar comments apply to Cross-Tables and Double Cross-Tables in the direction of the short rail, when the cue ball lies "between" B 1 and B 2: either, generally about a half-full hit with little or no running English - or a thinner hit with modified running English.

With regard to the recommended stroke (speed, follow-through, penetration) one need not slave-like follow the author's recommendation. The deciding question is, whether you can achieve the desired result with your current stroke.

Relevant is, what desired physical condition your cue ball is in at the moment of contact with the object ball, and often there are many different ways to lead to it.

It is interesting, for example, that even absolute top players occasionally use a certain excess speed, not because the solution requires it, nor for position considerations. No, they simply want to score the carom with the greatest certainty in such situations, when the usual reduced speed tends to be too sensitive (certain short angles, etc.).

One could continue with such examples indefinitely, especially with suggestions for shot selection. Although there usually exists a prevailing opinion among top players, there are always dissenting views, just as in legal literature. In this connection, just examine pages 76 -78 on my website, about the use of systems.

What conclusions

can you draw from all that?

If you don't have a problem with an aspect under discussion, immediately pass it over (especially the chapter on psychology), "let sleeping dogs lie".

If you have genuine difficulties, you should first analyze your current situation, preferably with assistance of a third party:

"What exactly am I doing?"

Often one is not really clear in one's mind, how one actually handles stroke and shot selection. It is often enough, to simply eliminate recognized errors and wrong decisions.

If this doesn't solve the problem, I would first listen to advice by world class players -

but where can I get that ?

and what should I do, if those players have totally different opinions as well? -

change my way accordingly -

and stick to it for a few weeks, or, better still, months, without getting discouraged by temporary setbacks,

before possibly switching to an alternative method.

Note: frequent change is deadly!

On the other hand, don't let the multitude of methods scare you: "That's life!"

The quest for the ideal stroke and style is an illusion – long live individuality.

Advice can, and should differ according to playing level, learning ability, individual talent, etc. Everyone goes through phases in his development, during which it can even happen, that one goes back to a previously abandoned method.

Your task:

Find the personally optimal method for yourself, or at least the best compromise, and stay with it!

General Section

Criteria for the selection of the right pattern

The first step in handling any position is the selection of the right solution, as well as the choice of its best variable.

1. Preface:

The trouble with familiar patterns

The first thing a beginner will do is look for an easy, familiar shot, preferably a “Natural” Around-the-Table or Round Ball. As soon as he sees such, he stops all further considerations, only to blame bad luck for any kisses and/or self inflicted problem positions as a result of his shot.

You should drop this attitude altogether. Around the Tables and Round Balls are only easier because they are played more often. Purely theoretically it makes no difference whether a ball comes out of a corner with running English or as a Backup (with reverse English). A long “Up and Down” is no more difficult than a Five Railer “Twice-Around”, but has usually better odds and less chance of a kiss-out.

Let us recap:

Any reasonably comfortable shot without technical difficulties is equally valid, regardless of length or complexity of the taken path, however unusual - assuming a fair knowledge of the game and diligent practice on your part. Above all you should expand your repertoire during practice, and use common sense in competition.

In the past, positions used to be divided into many categories of difficulty: natural, easily playable, less playable, technically difficult, barely playable, hardly ever playable. Missing a Natural was dramatic, missing a less playable shot was excusable.

Nowadays you should only distinguish between 2 kinds of shots: playable, and hardly playable.

Since an overwhelming number of shots belong in the “playable” category, it is psychologically less burdensome to miss an easy shot, considering that one will score with many others, which we previously would have considered too hard and not have seriously tried to make.

With this attitude you will make a greater effort to actually solve unfamiliar or “difficult” positions, rather than make a cursory attempt to bring the cue ball into the approximate vicinity of ball 2.

By the way, precision is essential for every shot, and there is almost no task that is totally simple, with the possible exception of a standard “Ticky”.

2. Preface: Position Play.

If you are a raw beginner, or would have to consider yourself lucky to even make the shot, you should forget about this.

If, on the other hand, you are facing a simple shot you are sure to make, you should definitely consider whether through minor modification of stroke, hit, or English you may achieve a better position for continuation.

Between several equally good shots select the one with the best continuation.

Whatever you consider an easy task will naturally depend on your playing level. For the beginner, “Short Angle” and “Around the Table” shots may be the limit.

For star players most patterns are somehow solvable. In general, the game at this level has become distinctly more aggressive, with the thought not merely about the point at hand, but about a (possibly long) run. However, in continuation of this train of thought, one must not go overboard, considering that although the next point may be made, it may well result in an unplayable position.

You should rather think about the risk of running into a self-inflicted “Safety”.

3. Preface: Defense

When facing a **hardly solvable position**, defense must be your priority. But even then you should make a genuine effort to actually score on ball 2, otherwise that will happen as good as never.

In extreme cases the best strategy may be to forsake the point by making a formal effort, while concentrating solely on defense.

Facing several **equally bad options**, one obviously selects the one with good defense.

In case of **various different odds** the decision is difficult. More about this in section → *Attack and Defense (Volume 2)*.

Selection criteria for medium difficult to difficult tasks:

1. Advantageous approach angle to ball 2

is of paramount importance.

Whenever B 2 lies 1 to 1.5 ball widths from a rail or in a corner, it presents a target the size of a football. B 2 also has a particularly good position, when the cue ball can approach it somewhat parallel to a cushion. A few examples of this below.

Even in cases of B 2 frozen to a rail the scoring odds can be improved if you manage an as flat as possible approach angle of the cue ball to that rail.

2. Is the intended solution readily playable?

a) A kiss-out is not threatening

or is easily avoided. This needs to be mentioned first, since it is forgotten with amazing regularity.

b) Uncomfortable body position

If you are short and have to stretch on your stom-

ach on the table, you better look for a different shot (unless you are looking at a Natural). Definitely learn to shoot left handed and also to use the artificial bridge.

c) The distance of the cue ball to B 1

should not be too big, provided the rest of the shot pattern makes reasonable sense.

d) The cue ball and/or B 1 are not frozen to a rail

In case of doubt you should play the closer ball, or the one that is not on the rail.

3. Avoid so-called “sensitive” shots.

a) Practical hit on B 1

A half-ball hit is easiest (from a good 3/8 to barely 5/8). It is the most forgiving.

A very thin, or a pretty full hit on B 2 becomes a real problem when the cue ball is close to, or frozen to a rail, or the distance to B 2 is too long.

b) Advantageous angle – normal running English

This is at hand when the planned run of the cue ball can be left to its natural roll, without any need for “bending” it short or long.

Rail responses to reverse English often present problems!

More on the subject at the end of this chapter!

c) Point of arrival at the rail

should, if possible, not be in a particularly sensitive area. See chapter → *Sensitive Shots (Volume 2)*

d) Natural stroke

presents the least risk of choking. Think doubly about power draws off a far distant B 1 – especially as cross-tables.

4. Multiple chances

A “big” B 2 naturally offers several chances to score. But we are talking about the odds of a cue ball returning over quite some distance, and possibly another one or two corners after missing B 2, or else catching the wrong rail, and in either case giving you a second chance to score. *More on the subject in chapter → Multiple Chances (Volume 2).*

5. Personal favorite shots

There always will be an individual side to the game. If someone has a knack for a particular kind of shot he may of course favor it.

On the other hand: by persistently overlooking or ignoring other possibilities of objectively seen better shots he may forsake chances for position play, and a possible continuing run.

In some cases he eventually won't be able to avoid playing other shots, and find out that he

can't handle them.

6. The option of playing the “short” solution (short run of ball), which can be technically difficult, or sensitive – or a more regularly stroked, longer running ball, but which, due to unfavorable angles, shows less promise of a precise arrival at the final rail and B 2.

If the chance to score (the “hole” around B 2) is equally bad in both cases, you are better off choosing the short shot - unless this would put too high a demand on your technical abilities.

That is the only way to “get a handle” on these critical shots - which are mostly small “Rail-first” shots, “Rail Reversals”, compressed “Short Angles”, “Draw-Cross-Tables”, etc. - while the long shot will always remain somewhat uncertain in its result.

There is a psychological background to this.

If you miss the long shot, you feel you have an excuse: “That can happen on this shot”.

With the short solution it is clearly you who missed. But you should not shirk the responsibility.

7. What should not influence the decision:

Length of scoring path, unusual pattern, reverse returns, etc.

8. How does one reconcile all the criteria?

Highest priority goes to playability (2.), again stressing the risk of kiss-outs. Right after it comes the more or less favorable approach angle, possibly rivaled by playability: In case of a real good approach to B 2 one can assign less importance to playability.

The remaining points can be considered in roughly the order of listing.

In conclusion I cannot deny that there are players and **writers who recommend defense for every shot.**

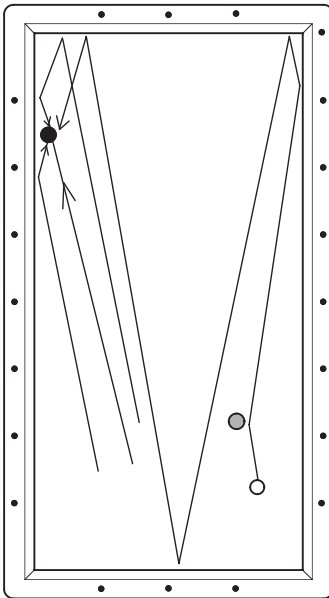
9. When should these considerations be made?

Preferably during practice! Over time you will acquire a repertoire of standard positions, which then can be called on in competition.

9. If you simply can't think of any reasonable shot, check in order: short or long, as well as atypical Rail-first shots – long extensions, often with Backup – methods of extreme lengthening or shortening – Follows – extreme Draws – Curved shots – Massé shots – Bump shots – Artistic shots. etc.

Examples

Favorable approach

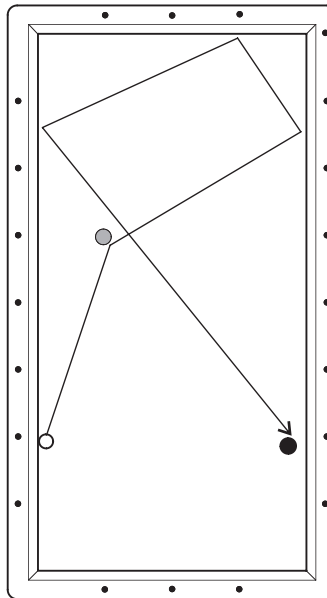


This "Up and Down" gives you a B 2 the size of a football.

A 5-railer "Around the Table" on the other hand takes much more precision, just like a Cross-Table.

Take note: Knowing that you may have two or more ways to score encourages a more confident stroke, and consequently more secure scoring.

Playability

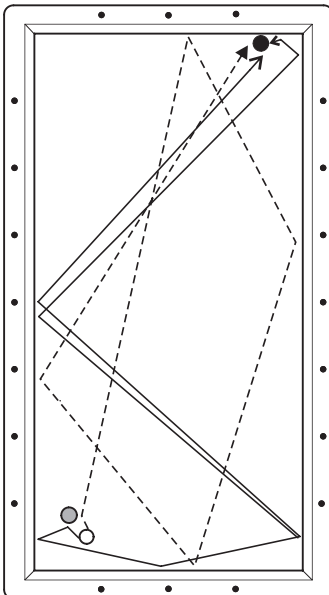


On any shot off the red ball the rail interferes with proper cueing, while shooting off the yellow is less hampered.

Plus, the red as B 2 is a "big ball". Even better would be a right-English shot, if the yellow were lying closer to the end rail: long Round Ball off the yellow, with Holdup finish from the left Side rail.

Is B 2 a "Big Ball"?

Consider which shot



would give you better scoring odds.

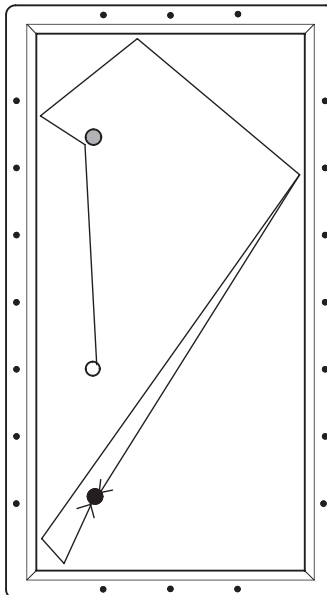
It is obviously the pattern with solid lines!

Principle:

Approach to B 2 in a shallow angle is of advantage.

It gives you multiple scoring odds.

If B 2 lies as a Two-Way

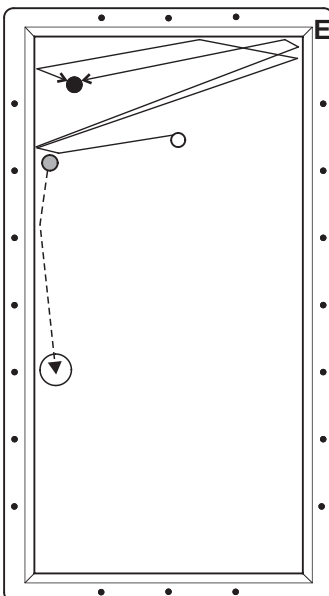


out of the corner, you should always aim at the side of the ball which gives you a second chance if you pass it.

It is a capital offense to miss B 2 on the wrong side.

In our example you also need to use slow speed, to prevent too sharp a Backup.

As an advanced player

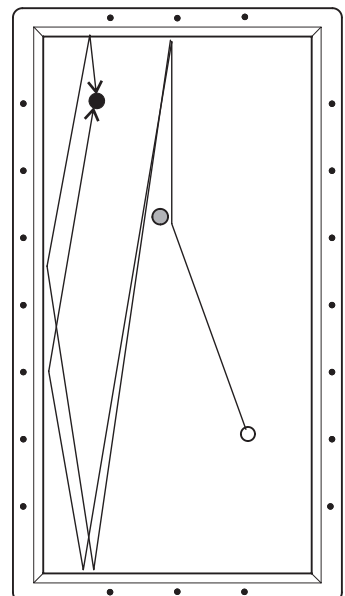


you should also choose unusual shots, if they present good scoring odds and/or a promise for good continuation.

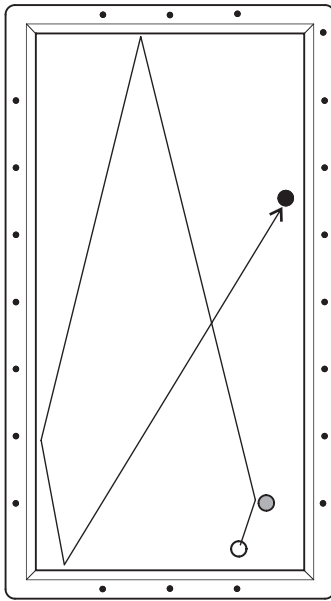
The "Cross Table" **on the left** is a sure thing, with a thin hit and slight right English, if you meet the long rail just before the corner, and gives you a natural "Around the Table" to continue.

The obvious temptation to play the Round Ball off the left side of the yellow gives you single scoring odds, and carries the risk of a kiss.

On the right the "Up and Down" end rail shot is preferable for similar reasons, rather than the Double End Railer (right side of Yellow-S-L-S-L) or the long 5-Railer (off the right side of the yellow, with risk of a kiss!) or the Cross-Table.



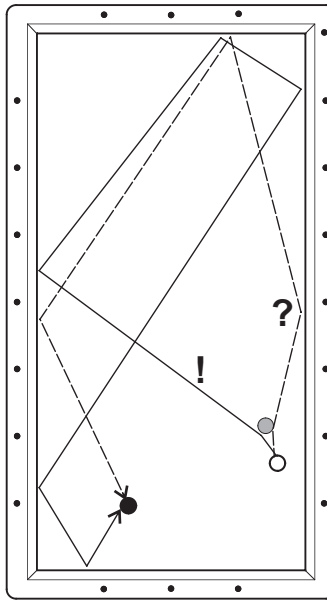
Examples



“Around the Table” off the Red looks like the familiar shot.

Yet the long end-rail shot off the Yellow deserves consideration for two reasons:

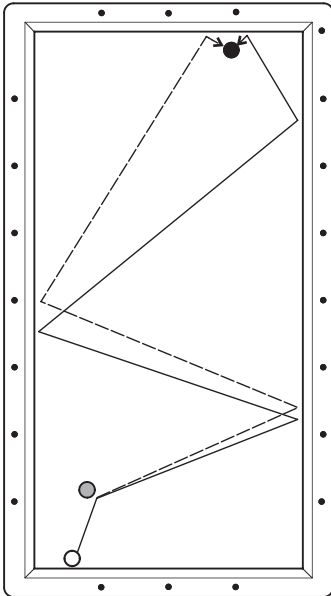
B 2 is closer, and there is no hole to slip through at B 2.



A backup is preferable under such circumstances, when the angle of deflection off B 1 presents no problem and the exact aim point on the first rail can readily be met.

Because of the sensitive angles, the seemingly simpler “Natural” (broken line) can actually be more difficult.

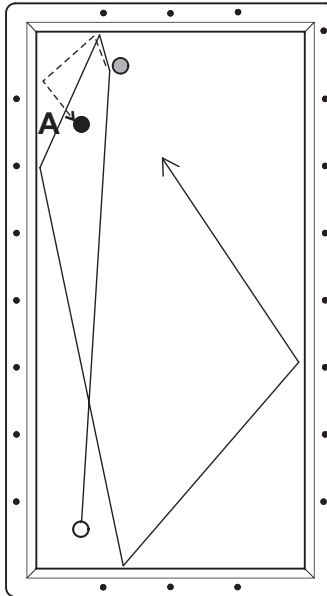
The position offers two Around the Table shots, but the Five-Railer can be played more precisely.



The **Holdup** shot over 3 rails (broken line) may be more intuitive, but needs to catch the short rail just before the red ball.

The short ball over 3 or 4 rails (solid line) has better scoring odds.

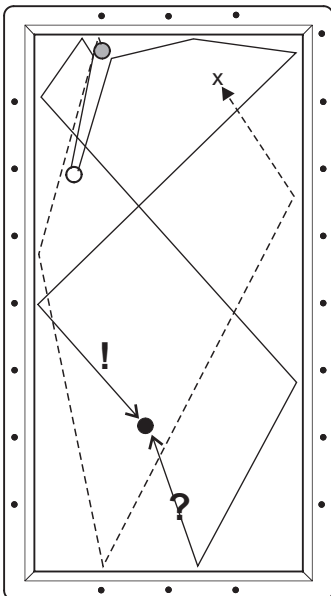
If you are comfortable with the reverse-English angles of cross-table shots you should have no problem with the recommended “shorter” solution.



Should you try for a thin hit on B 1, risking to slip through the hole (A) at the end?

Yes, you should! Most of the time one underestimates the wide bounce off even quite a thin hit.

Furthermore, an extremely thin hit will give you a second chance as a Five-Railer, while you would instantly suffer a kiss-out if you hit B 1 just a hair too full.

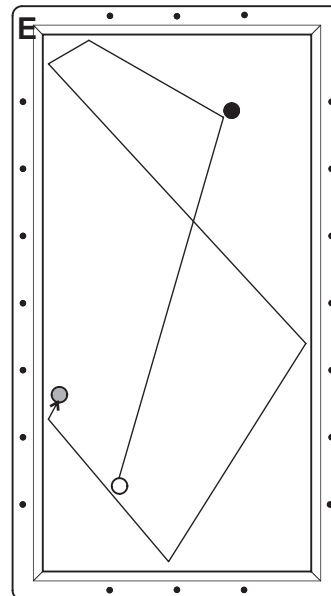


Shooting off the Red is hardly worth considering, and the Round Balls off the Yellow are rather sensitive.

The Plus Shots right or left off the yellow are simpler - short over three cushions, or extended over four.

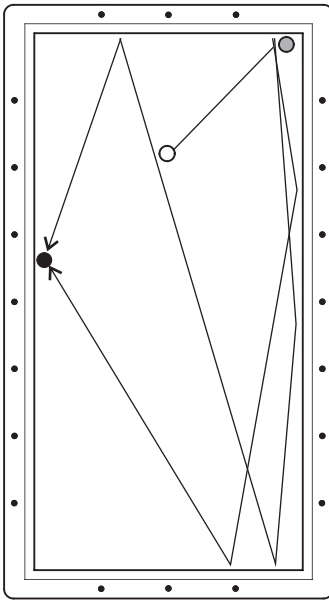
At that the extended 4-Railer is rather sensitive to slight variations of speed, English, and stroke on the return off the bottom short rail.

The path of the 3-cushion Plus-shot is more stable, and also results in better defense, since B 1 is returned back up to the far end rail (broken line).



The better approach angle to the Yellow as B 2 makes it a “big ball”, which is why you should play the shot off the Red.

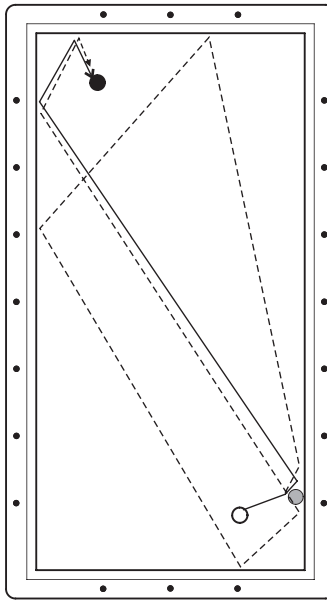
Examples



Here you can play over 3 rails or - lengthened - over 4 rails.

Interestingly, the longer path is in this case less sensitive and therefore, preferable.

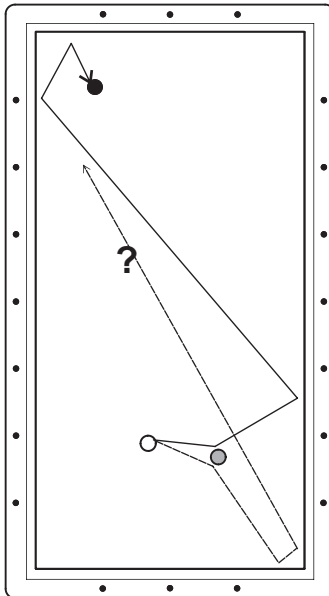
It also has better scoring odds because of the flatter approach angle to B 2.



Play it short or long?

On principle one should choose the short solution, as long as it is technically not too demanding. That is the only way to learn precise play.

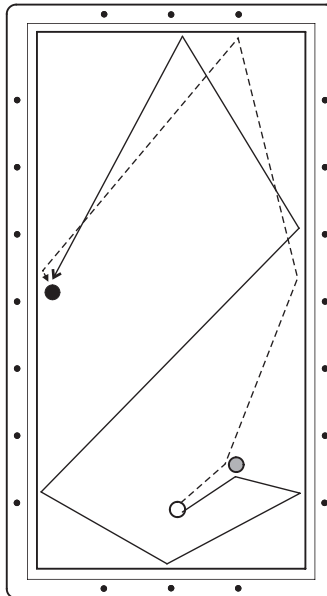
Though the long shot can be played precisely as well, it often is only successful, when the balls are lying "on the numbers" (at good angles). In this example one can not necessarily confirm that, which is why the short ball over 3 rails is preferable.



Here too you should choose the shorter path exactly over 3 rails.

The Plus-Shot over 3 or 4 rails feels more difficult, considering that you have to pick an exact hit point on the third rail.

Although many players will simply play the shot in the general direction, that is exactly what you should avoid.

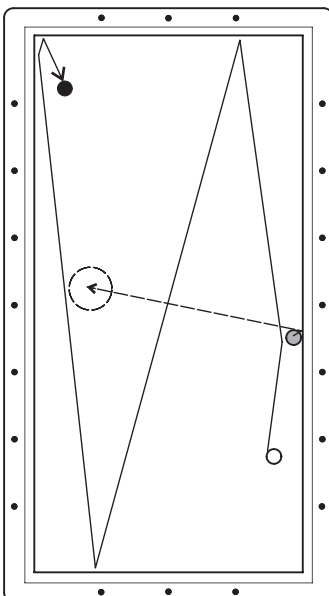


In this case, as an exception to the rule, one may consider the longer path the better shot, since it turns B2 into a Big Ball.

The direct run over 3 rails, with a difficult, thin hit on B 1, would have to be played extremely precise (broken line).

Alternatives

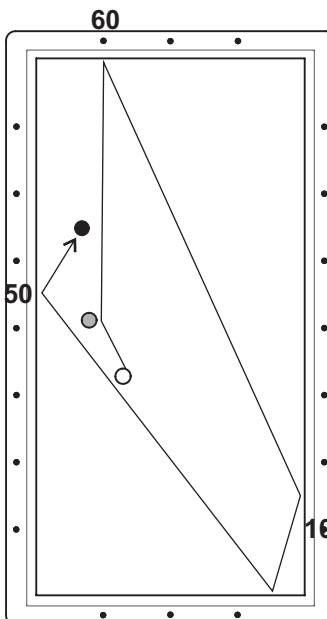
1. Long End-Railer off the Yellow.
2. Up and Down with Holdup. Sequence: off left side of B 1, right side rail, head rail, foot rail, B 2



The Up and Down is preferable over the Twice-Around.

The reasons:

1. Most importantly, B 2 is a Big Ball. With reasonably correct stroking it actually is hard to miss it.
2. No threat of a kiss-out - assuming a very thin hit on B 1.
3. Likelihood of good continuation (Around-the-Table).



Playing the closer ball

is easily possible, figuring per Conti's or per Natural English system, plus promises better position for continuation.

Off the end rail:

Conti

$$D\ 60 - A\ 50 = Z\ 10$$

Natural System

To get from D 60 to Z 10 - with a right angle hit on the end rail - you need 3 o'clock, or full running English.

Best execution of a chosen shot

Once conscious of the principle lines of the balls, there one often is able to make changes with small modifications of English, hit on B1, hit point on rail, speed and stroke, without losing focus of the carom as the main purpose.

What criteria should be used for modifications?

1. With relatively easily manageable shots kiss-outs rank first.

The correlation of English and hit on B 1 is a classic example: More English, for instance, and a thinner hit on B 1 as compensation.

2. The next consideration should be **position**, with similar application.

3. With difficult shots **defense** has absolute priority; "slow to the red" applies almost universally. Additional concern is the placement of B 1, primarily again by varying hit and English.

Once these problems are checked, we need to concern ourselves with the highest **assurance of scoring** the billiard.

Consider the following:

1. **Taking advantage of Two-Ways**, if B 2 is close to (up to a ball's width) a rail, or in a corner. You must go for as full a hit as you can on B 2 - but if you do miss the direct carom you better make darn sure you pass it on the side that gives you the second chance. What that means is you need to favor one side of B2.

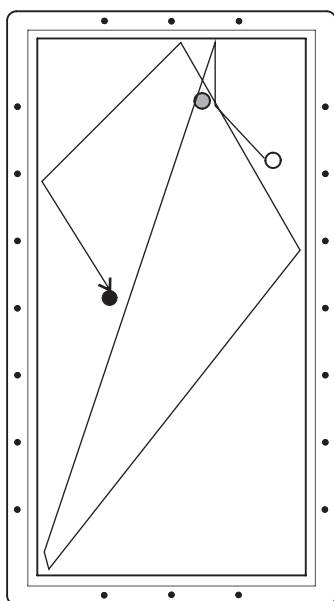
2. As long as the cue ball is not very close to B 1 one should **aim at a half ball hit of B1**, because that gives the most forgiving bounce. Possibly needed correction can be made with English, stroke, and speed.

3. In case of doubt you should give **natural angles to the first rail and full running English** priority.

This applies to most uncomplicated Around-the-Tables and Short-Angles, for which you can use Conti's system.

4. When using a system, the hit point on the first rail is very important. It needs to be calculated carefully and actually hit very precisely. Whenever the shot can be lined up with an actual diamond, or even half diamond, it is easier to aim off B 1. Compensation, if needed, as usual.

3-cushion Team World Championships 2000 in Viersen



Final Sweden vs Holland. Match Blomdahl vs Jaspers, game 2.

In this position Blomdahl took uncharacteristically long to think, and then decided to the surprise of most spectators in favor of the shown solution. The cue ball just got by the immediate kiss by the Red on the way to the foot rail, and barely scored on B 2 as well.

Why not the Short Angle off the yellow? Why no End Railer or Long Angle off the red? Why no Long Angle off the right side of the yellow?

The reasoning

seems to lie in the fact that all those solutions require rather sensitive shots with respect to hit and spin, while the extended End Railer, played with heavy English, lies exactly "on the numbers", provided the red ball is narrowly passed.

Additionally, a miss offers a measure of defense, even though that should in this case not be the deciding factor, since this is a position where a sure defense is hardly possible.

Supplement – Always Round Balls?

*It am often surprised to find how some players tend to show little inclination to deal with shot selection at all. It gives the impression they are so convinced of their choices, that any discussion is useless. Many a player may shy away from the mental strain itself. The real underlying reason may well be **the fear of having his intelligence questioned**, while he is convinced that his thinking - as opposed to technical skills - is the equal to any player of considerably advanced level.*

Contrarily - I believe, that players of all levels should constantly take stock of their way to approach certain positions.

The habits of world class players give the most important evidence. Naturally, decisions also have to be made on an individual basis, according to skill, personal preferences, and current intuition. Match situation and personal form level play a role as well.

*But such considerations should primarily be made outside of competition. **The guidelines must be made during practice**, only to be called on when needed.*

F. Caudron, in his recently published 3-cushion book, offers as one of his major recommendations for shot selection, to **give priority to shots with running English, i.e. where the path follows regular rail sequence** (for instance side rail, end rail, side rail, end rail etc.), because hold-up angles are particularly problematic under conditions of top tournaments (new cloth!).

In contrast to that I first addressed 'The trouble with Naturals' at the beginning of this chapter, and subsequently took aim at a **number of other views of shot selection**. Did I complicate things unnecessarily, and am I contradicting the top players? I do not believe so, but more about that later.

Without question:

a) Being offered an uncomplicated running English shot without threat of a difficult-to-avoid kiss-out, one would naturally accept it in most cases.

b) In positions where a regular rail sequence is not at all, or only with great effort, possible, back-ups or rail-first shots cannot be avoided.

c) Anything in between is what presents problems:

Although possible with running English, but technically difficult or saddled with kiss danger, and in the end still difficult to hit B 2 reliably - at what point should one switch to a possible solution involving Holdup?

There is no universally applicable answer, and each player must find his own, according to his current level of development, and the specific peculiarities of the table.

The following examples cannot serve as more than points of reference, and the positions under discussion are not to be understood as templates for practice, nor necessarily as the best solutions, but only as presentations of underlying principles.

What we are dealing with here are **so-called 'sensitive shots'**, meaning that even the slightest change of hit point at a rail, of stroke, speed, or spin, will result in big enough variations in the run of the ball to fail to

score.

To put a fine point on it one could say that any attempt to repeat the shot from the same position several times will often lead to wildly different results. Therefore they are best avoided.

Particularly critical are patterns with reverse hits on a rail.

New cloth, extra long playing cushions, and of course unfamiliar tables with irregular rail responses compound the problems, which can hardly be overcome within a 5 minutes warm-up.

Add to this the possible **changes within a short time period**. With new cloth one can already notice this from match to match.

Even during the course of a single match the reactions can change, depending on climatic conditions of the room, dirty balls and/or table etc.

This is where one should do exactly as Caudron advises, and try to find the shots with regular rail sequence with running English whenever possible.

One should, however, keep in mind that running English alone does not automatically bring more reliable results. It only applies in such cases **when all other shot components fall into a middle range:**

Close to diagonal angles on the rails, average speed, no severe side, high or low spin, a thin to half hit of B1, no special stroke. If all that applies, there are no problems - but we are weighing the pros and cons of trying to play the Natural at all costs, and the accompanying risks, versus the problems presented by a reverse-English shot.

The most important is to assure the carom and score the billiard.

Therefore your first thought should be given to how to maximize the odds of scoring.

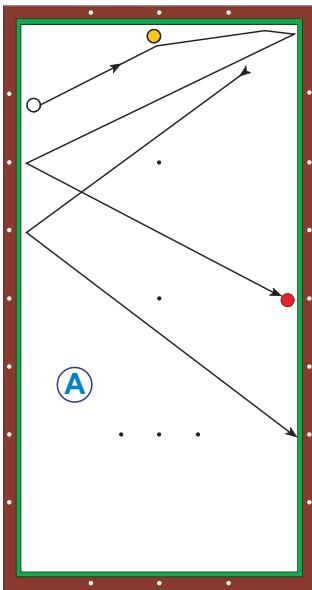
Which ball to choose as B 2, and how to optimize the approach angle to it?

Favorable: Proximity to a rail or (better still), to a corner, supported by a good final approach angle.

Possible further improvement by heavy side-spin or Back-up Drop-in.

If these conditions can be weighed successfully against each other, one may be able to find compensation for the disadvantages of Holdup on the one hand, or possibly extreme stroke demands (of a running-English shot) on the other.

Always Round Balls?



In comments on the characteristics of cushion responses on new cloth one usually only hears of the failure of the cushions to respond to reverse English, and to expect responses with an angle equal to the hit, or even flatter (due to slippage).

In reality the matter is somewhat more complex.

For illustrative purposes let us begin with Plus Shots with reverse English at the third rail: A.

Since the shot is played with medium running English the third rail has to deal with medium reverse English.

The **Equal Angle** response rule for the old, medium long tables that were in use years ago was: Arrival on third rail at second diamond gives a return to fourth diamond on the opposite rail, arrival at third diamond goes to sixth on the opposite rail, etc.

As we can see, even then no noticeable shortening effect was expected as a result of reverse English.

At higher arrival points the ball **tends to slip** and get a longer response off the rail - the limit used to be the 4th diamond, nowadays considered to be 3 to 3.5.

In extreme cases that meant that the cue ball would not arrive at the corner, coming off the 4th diamond, but could almost slide as long as to the middle of the short rail.

This shows very wide variations: **B**

To make matters worse, the **'transition point'** from equal angle responses to slippage is hard to define (ca. 3rd to 4th diamond). Therefore additional uncertainty!

When, relative to 3rd and 4th rail, is B 2 placed well or not? C

A. Close to 3rd rail is bad, since that rail has to be hit very exactly before the ball (but that is no different to basic short angle shots, even with assistance of heavy-sidespin, which has an equivalent in the extra slide on the long Plus Shot). –

B. B 2 in moderate distance to the rail (about 3 to 12 inches) is good, because the fluctuating response of the rail is still almost inconsequential.

C. The problem becomes bigger the further B 2 lies from the 3rd rail, with the worst position being right at the 4th rail (C1 to C3) –

D. B 2 in a short distance of the 4th rail is somewhat better again, since it makes it a bit of a Big Ball. – Similar logic applies to the 4th, 5th and 6th rail in the case of longer shots.

Conclusion: The more B 2 can be seen as a Two-Way, or Big Ball, the less one needs to be concerned with the fluctuating effects of reverse English.

'Low' Arrival Numbers. D

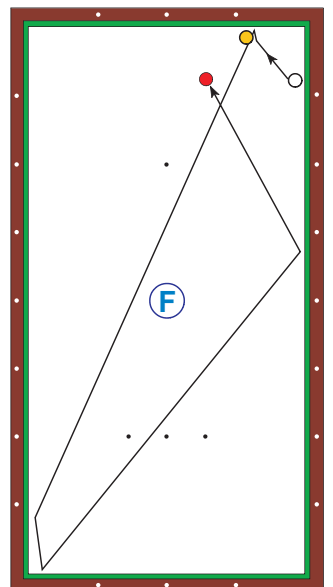
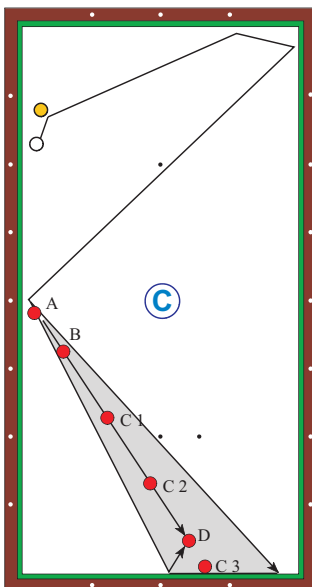
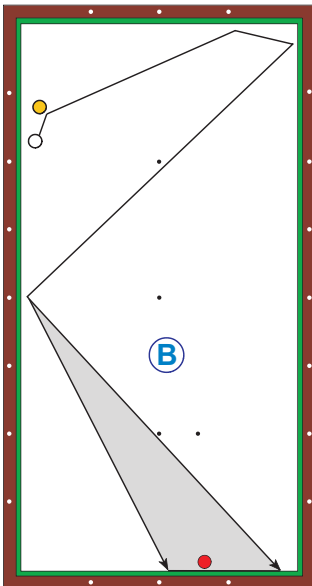
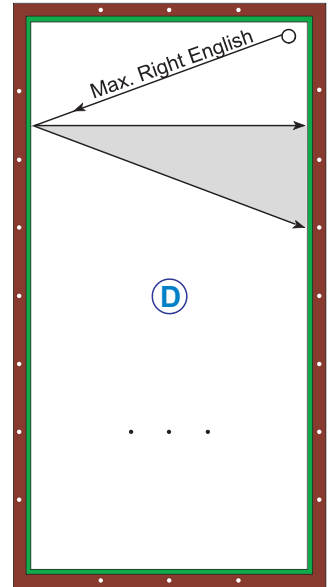
Meaning the cue ball arrives at the 3rd rail at a steeper angle.

Now one does notice a tendency to come off shorter, that is the reverse spin can have more of an effect. Unfortunately, the limits are within a relatively wide range (diamond 1 to 2.5).

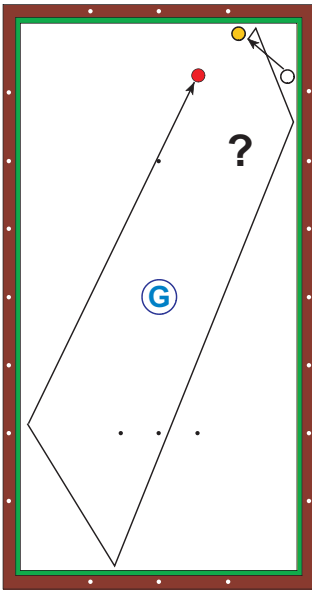
Of course, as always, this is subject to English, speed, etc.) For instance, playing with maximum Holdup from the corner to diamond 1.5 on brand new cloth, one can never be sure of the effect of the spin, and whether the return will be more or less in a right angle, or whether there will be little effect of reverse spin or none at all. Here it gets truly problematic.

Example (Reverse English at 1st and 2nd rail): E

What else could be played here? The extended End Railer, of course, to the left lower side rail: **F**



Always Round Balls?



Same position: The Round Ball off the right side right of the Yellow, the way the balls are lying here, can hardly be played with precision; and no defense either: **G**
 Although it may sound crazy: If the Running-English End Railer out of the left lower corner is not possible, the extended 'Up and Down' should not be ignored. The angles can be felt more reliably than with the previously mentioned extended 'Double the Railer', even though it has a long run, and a "small" B 2.: **H**

Three more examples of angled and steep Cross-Tables with critical return angles follow, with the first one often not all that bad, since B 2 is big in the corner.

1. **I**
2. **J**

3. **K** Here something pleasant for a change: Again we are dealing with a Holdup Cross-Table, this time with draw.

Depending on the 'negative' hit angle on B 1, or the 1st rail respectively, on old tables without slide it can get difficult to bring the cue ball down towards the short rail (at 45° it would already require an artistic billiards shot). On new, slippery cloth on the other hand it becomes easier - that too, has to be known.

Further cases which require decisions of whether to play with running English or Holdup:

L: In this position one could play a simple running-English shot either off the Yellow or off the Red (broken line), although with almost a dead ball and a well measured fine hit of B 1 - which may not always come easy, unless the cue ball is close to B 1.

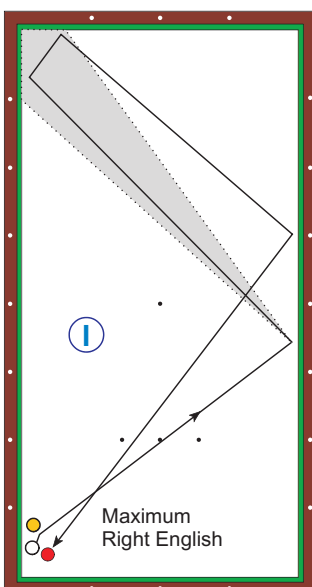
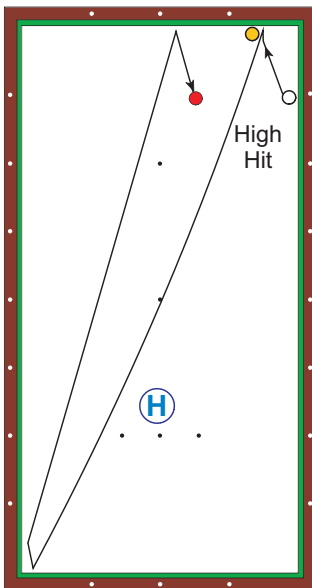
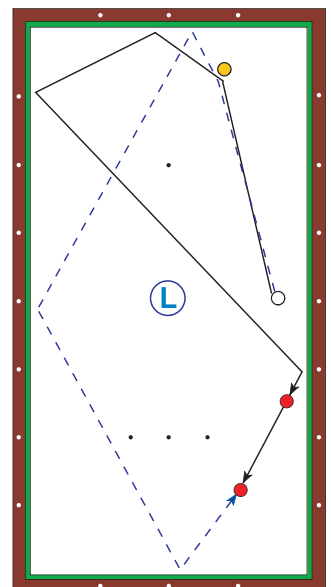
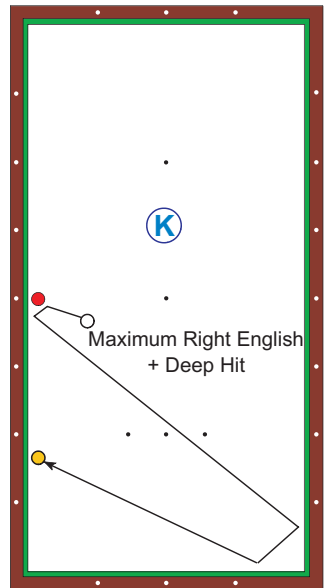
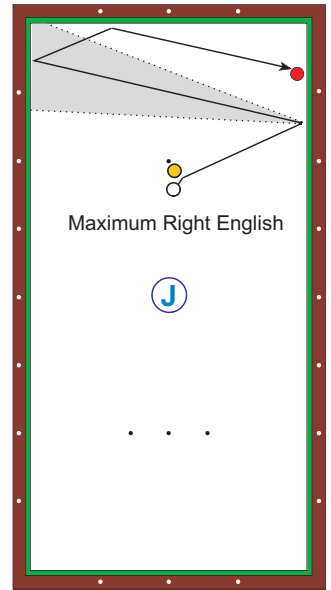
A half-ball hit would be much of an advantage in reaching the precise point on the 3rd rail - but for that one would have to choose to play with reverse English (at third rail, solid line).

If B 2 is not very far from the 3rd rail one could in my estimation accept the unsure reverse-English response - you decide!

One could of course also try a Draw Around-the-Table off either the Yellow or the Red, or else a lengthened Around-the-Table of the right side of the Yellow.

But do you really think that those are the best solutions? (the lengthened shot off the Yellow may be relatively the best).

Additional things to consider with all possible Around-the-Table shots are
 the **threat of kiss-outs** -
 the possible **need for a power stroke** (for instance extreme draw) -
 possible **lack of defense** -
 and/or still **no certainty of accurate scoring** -
 all of which negate any advantage versus a solution with Holdup.



Always Round Balls?

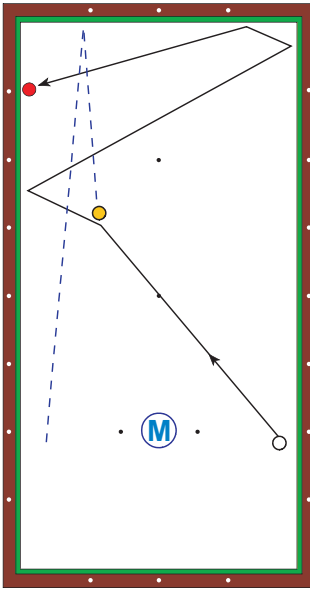


Fig. M : Although the Cross-Table does not present any technical difficulty, has no kiss-out, plus probability for good position, there may be some uncertainty in the response of the Holdup on rail 2 and 3 on new cloth. Defense would be o.k.

Fig. N : The Power-Draw "Around-the-Table" on the other hand is not only technically difficult for some players, but also contains several kisses, and is not exactly predictable, due to the required unavoidable excess English.

Fig. O : The "Twice-Around" is also difficult, could get kissed out as well, and above all may be hard to play precisely to ball 3.

Fig. P : "Rail-Reversals" in this context are generally relatively unproblematic, as long as the cue ball hits the first rail at a fairly shallow angle and ball 3 lies not too far from the corner.

Let's return to the question we asked at the beginning of this chapter:

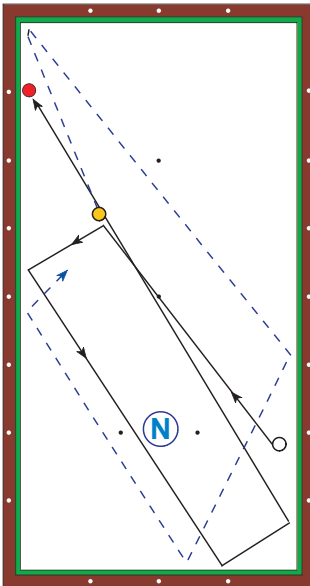
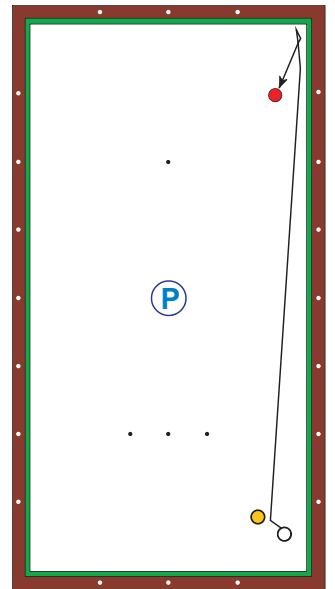
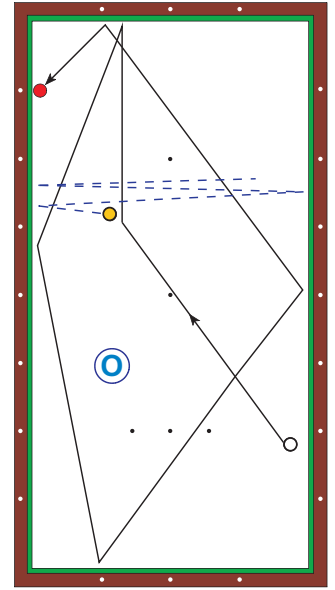
Are the many principles for favoring "running English" on new tables, as propagated by top players, still valid?

Of course they are!

And so are considerations of:

kiss threats, favorable approach angles to ball 3, distance to ball 2, thickness of hit, balls frozen at rails, no stroke extremes, "simple" solutions, questions of defense - at times even as priorities.

My advice, to acquire a full range of possible solutions - which definitely includes reverse-English shots - is directed at players, who are still developing, as is my book in general.



Statistics show that players of world class level are just as likely to score with their reverse-English shots as they do with running English shots (although they may avoid them in very critical positions) - but what weaker to average player can make that claim?

Consequently I would suggest

a) in practice – by yourself as well as in games – to give strong consideration to reverse-English, or "Holdup" shots, particularly on tables with varying playing characteristics, like newly covered home tables, so that you become comfortable with situations you may later face in tournaments.

I personally do not recommend that players practice exclusively on their favorite table.

b) in competitive games on home tables (or similar, familiar tables at other clubs) one should also not be afraid of Holdup shots.

c) in tournaments on newly covered or inconsistent tables one all the same does have to be conscious of the dangers of reverse-English or Holdup, and possibly consider alternative solutions, even if those present new problems.

This includes everything you do from the moment your opponent leaves the table to the moment you strike your cue ball. It concerns the correct, consistent and thorough preparation for your shot.

It is imperative to adopt a distinct behavioral routine. Such a routine, once second nature, will relieve your mind of having to “reinvent the wheel” in a serious game, when there are plenty of more important things on which to focus.

Proceeding in such a manner will prevent you from forgetting to check on any danger (like the always dreaded kiss-out), and prevent undesirable reflexes (like pulling the trigger prematurely).

Don't underestimate the time and practice it takes before your desired routine becomes second nature to you.

Do not allow any exceptions. Stick to your thorough and consistent preparation, even on very easy shots.

1. Basic principle: Always remain calm!

2. Shot selection

takes place according to the known criteria, including defense, etc.

3. Any kiss threats?

After studying the balls' positions for a while, especially with a difficult shot (or a very easy one!), it is only too easy to forget to check for kisses. For that reason this has to be done without exception as an early part of your routine.

4. Visualization and internalizing of ball paths

This includes not only any system calculation, but above all the visualization of the overall pattern on the green cloth (i.e. planned running lines, ball and cushion responses, possible “holes”, space in the corners, etc.).

The key word is surveillance. With this we mean walking around the table, preferably in the direction of the cue ball's running path.

With an “Around-the-Table” Natural for example one would walk to the long rail first, visualize the angle from rail 1 to rail 2, then walk to rail 2 (the short rail), and possibly rail 3, repeating the process at each rail.

The opposite view from the corner between the 2nd and 3rd rail back to the first rail (and ahead to the 4th rail) should never be neglected. This view is often sufficient for experienced players in not very critical positions, who may not need to make the complete walk around the table on each shot.

5. Thought processing

of shot components.

These MUST be made **while still standing upright!**

The individual questions are:

How full a hit on B 1? What spin, what speed, what type of stroke? Any need for special effects?

There is an exception to this rule:

With some **special shots** (for instance reverse-English “Ball-first” shots) one gets better feed-back about required parameters of the shot (particularly hit on B 1 and contact point on the first cushion) while bending over the balls. In such cases one has the option of addressing the ball **to test the stroking feed-back** of cue ball and B 1.

But subsequently you should stand up again, step back from the balls, and go through your setup routine from scratch.

6. Please bend over the table

only when you are absolutely clear in your mind about all the aforesaid.

But Stop!

At this point one should calmly let it all sink in for a couple of seconds - especially the planned paths of the balls. This semi-subconscious information is of great importance for the performance of the subsequent, extremely sensitive movement mechanism.

Taking your stance is a **dynamic process!** The player moves feet, body, arms, hands, then the cue, with relaxed test strokes in direction of the hit point on B 1.

He virtually “moves into the shot”.

While moving towards the cue ball and setting his feet the player should aim to acquire the correct hit points on the cue ball and B 1. Accordingly, one should initially look primarily at B 1, since that is the crucial direction for a correct body and foot position.

Intuitively one could - hitting the ground running, so to speak - pull the trigger right then. But that is exactly what one should not do.

7. Body position

The suggestion to bring your head very much down close to the cue, the way snooker players do for accurate aim, is not necessarily commendable for three-cushion play.

This is, arguably, a technique for feather-fine hits when B 1 is far distant and a lot depends on a precise hit.

For system play one could argue:

It is advisable to mentally ignore the subsequent path of the cue ball, since the hit on B 1, as well as the contact point on the first rail, as well as spin and type of stroke, are sufficient. Therefore one could take a very crouched position.

Take note: *If you do prefer to take the snooker position, be mindful of possible tension in your neck area. This can be avoided by lowering your rear, bringing down the whole body, thereby decreasing the angle of your upper spine and reducing the tilt of your head. It is generally better to **stand relatively upright** and oversee the “battle field” from above “with a general's*

eye". This way your actual shot will give you a visual impression in relation to the mental picture you had during planning. There will be more of an experience of the lines the balls take and the angles at the cushions. If you crouch down too low you may see B 1 very well, but will have a reduced view of all other areas.

Additional advantages:

the diamonds are a lot more visible -
it is easier to stroke with a level cue -
special shots, like Rail-Reversal and Force-Follows, are surprisingly easier to execute.

Above all there is less danger of a jerky stroke, since there is no reason to raise your head quickly to observe the run of the balls - your head is already in good position to see.

8. Fine tuning

This means the precise English and the exact hit on B 1 in connection with the planned speed and stroke. This will be taken care of next.

Glance back and forth from cue ball to B 1, while making little wiggling moves with the cue tip.

The emphasis is on "fine". If it feels that the orientation towards B 1 is clearly wrong (for instance planning a half hit, while being lined up for a quarter hit), one should not try to correct the direction with moving side-ways with the cue tip, turning the body, or tripping with your feet. It is better to start the setup again from scratch.

Totally wrong would be, to ask only at this point in time: "*How thick a hit - and how much English do I actually need?*" All that has to be cleared well before!

In case of any doubts: Stand up again, step back, and consider all aspects anew.

9. The Pre-Stroke

a) The pre-strokes should resemble the planned stroke in strength, length, dynamic, and type.

"Let it be seen what you want - show the stroke you are after!" The pre-strokes should principally look exactly like the actual stroke, as the case may be - slow, medium, or quick; smooth or aggressive, with or without follow-through etc.

Already during the pre-stroke one should try, accelerating slowly from behind, with increasing speed at follow-through, to instill the feeling of moving into the cue ball with the actual stroke. As a rule it is not the whip from behind, but the push forward and into the ball that is desirable.

The pre-strokes should be soft and even.

Under no circumstances should it be like this: slow back-and-forth movement, then a sudden, intense thrust.

b) How many Pre-Stroke?

There is no binding rule. The right moment for pulling the trigger depends on the psyche of the player, and on how many he needs.

If you are accustomed to relatively few pre-strokes, between 1 and 4, it is important to keep the number of pre-strokes always the same if at all possible. However, top players often use more than 10.

● *On the positive side of using a higher number of pre-strokes: The stroke takes on a life of its own, becomes somewhat independent and autonomous. Any unhealthy tension may also be released during this time. Instead of an exaggerated try to hit B 1 perfectly at the exact point - the desire for a good general feel for the stroke becomes a priority. Once that is achieved, the hit will also be good.*

● *The opposite view:*

To pre-stroke simply for its own sake, and just focusing on swinging freely while neglecting the accurate aim on B 1 will result in many misses. Accurate aim has to be part of the effort! It is best to pre-stroke relatively briskly back to front while visually lining up the cue tip with the exact hit point on B 1. At the forward extreme of each pre-stroke the eyes briefly fix on the line-up of cue tip and B 1 and absorb it into eye-hand coordination.

After the last pre-stroke, and during the back swing for the actual stroke one can even leave the eyes focused on B 1.

● *At any rate you need not blame yourself for having missed the shot because of rushing it.*

Other players often feel distracted by lots of pre-stroking and the associated movement.

There are even players who don't take any pre-strokes at all, but go into their shot after a short moment of concentration on B 1 (it seems 2 seconds is the minimum).

If you are one of the impatient:

You should have at least 2 - 3 pre-strokes (not counting the tiny wiggles while taking your stance).

The first two are usually enough to give you the feel for stroke and aim, and the third is more or less for confirmation and relaxation. Should the right feel still not be present, you should pause briefly and add a couple more pre-strokes.

Players who tend to pull the trigger prematurely (for fear to miss the right moment) have to learn to make a consistent minimum number of pre-strokes before **every** shot, while genuinely trying to achieve precision and conviction.

The alternative will always be rushed and erratic shots.

The pedantic on the other hand wants to reassure himself over and over that all is perfect. His concentration level fades in and out, causing a frequent need for re-focusing. This could possibly be helpful to work off any undesirable excess tension. However, it can also lead to a tightening up, a loss of psychic energy and lucidity, and despite all precaution result in missing the right moment for the stroke after all.

c) Pausing between pre-strokes – Pausing before stroke

Like so many things, the question whether to pause

between pre-strokes, and possibly even more distinctly before the actual stroke, is much argued about, and is best answered on an individual basis.

Most authors plead for a fluid and seamless motion, particularly, that taking back the cue after the last pre-stroke should follow without pause.

This is certainly good advice to achieve a harmonious, smooth, fluid and consistent stroke that resembles as much as possible a replica of your pre-strokes. A pre-requisite to this is that the player has no problems with precise hits on B 1. Exactly that, however, presents most players with a dilemma - they find it difficult to focus on both things simultaneously: Stroke and aim.

The pauses serve the purpose of checking and correcting hit point and English, **the two things only work together!**

Some players simply cannot manage this during fluid movement without pauses.

Some need the distinct break before pulling the trigger for a final heightened concentration on aim and stroke.

Here again you will have to decide for yourself what feels best for you, and what gives you the best results in the end.

Long pauses hurt the feel for the stroke.

No pauses at all decrease the chances for precise direction and hit.

We have to concede that optimal precise aim is best achieved when coupled with a good feel for correct, fluid movement.

d) Only stroke when you are sure of your shot.

Never assume: "*This should be **about** right, therefore I don't want to drag it out any longer*".

Compare with chapter → *Psychology*, Vol. 2.

e) Advantages

of such standardized routine:

The image of the ball's reaction is already included in the preparation for the shot.

Pre-strokes and stroke are alike, making the result more reliable. Uncontrolled quick starts are avoided.

10. Identify also with B 1 – Make a mental picture of paths before and during the stroke.

At least during the final phase of the stroke one is well advised to look at B 1.

There are some players, however, who advise for the total phase of pre-stroking:

"Just look at the cue ball". Compare with chapter → *Aiming*.

Right from the beginning and throughout the stroke (!) one has to feel and experience the run of the cue ball to B 1, the hit of the desired point, the reaction with B 1, and the continued run.

One can improve this psychic absorption of B 1 – in case one is not close enough – by temporarily stepping up to it and visualizing the cue ball in

position shortly before the hit.

In this position one can also better judge how thick a hit one needs.

One should go through pre-strokes and stroke with the intent and the feeling of the cue ball, after contact with B 1, hitting **the intended point on the first rail** and possibly following rails (see → *Psychology*, Volume 2.)

Some even suggest to include the total path of the cue ball in your stroking image.

Slogans: "Wanting the path" – "Stroking the path" – "The path accompanies and guides your stroke".

This is even valid if you use the **Conti system** to determine the exact contact point on the first rail, or the **Ball system** to use the position of all 3 balls on the table to figure out hit and English.

Although Ball systems serve a good purpose for basic orientation, since they help avoid total error, it is still the stroking of the path by feel which brings fine tuning to the shot. This goes specifically for long angles "Around-the-Table".

Warning

The psychic connection to the run of the cue ball must not lead to a jerky stroke or quick lift of your head to follow the run with your eyes. An absolutely straight stroke towards and beyond the hit point on B 1 is imperative.

Take note

Psycho-physiologically motion always includes a certain "One as well as the other". And in the end one has to ignore even that in order to enable the process to take place as an automatic, subconscious reflex. Only then are real top performances possible.

11. The Bridge

Precision of play in three-cushion will also improve with a shorter rather than longer bridge, provided no special effects are required (see → *Glossary*).

This is particularly valid for short angles, and when cue ball and B 1 lie close together. But you can use a short bridge even with long angles.

Technical advantages: The cue tip is better guided. There is reduced danger of an involuntary change of stroke type and length.

Psychological advantages: A short bridge conveys more of a feel of precise play, similar to playing balk-line; one feels "nearer to the cue ball".

Counter argument: there are exceptional cases of players who have extremely high accuracy of B 1 hits even with a long bridge; they feel more freely this way. A pre-requisite is a naturally straight stroke.

12. The Grip

The bridge length and the placement of the right hand at the cue butt have to be treated variably.

As a rule of thumb, the distance between left and right hand should remain relatively constant. The

right forearm should hang down more or less vertical, so that a free pendulum swing out of the elbow joint is possible. Of course there are always quite a lot of associated, partly also balancing, movements of the wrist, the fingers, the upper arm and the shoulder.

For stronger strokes, particularly power shots, lengthen the bridge, step a little back, and also move the grip a little backward. Otherwise there is not enough stroke length, and the weight of the cue does not fully come into play. It produces less energy, for which one tries to compensate with an abrupt, hard stroke.

However: The farther you place the grip towards the rear end of the cue and the longer the back swing is, the more one tends to raise at the end of the back stroke, and the stroke is no longer level. So don't overdo things! Otherwise it means that extreme high is practically hardly possible (when using a normal bridge), an intended middle ball already turns into slightly low, so that one must not be surprised to get more of a bounce off B 1 than expected.

The long bridge (long distance between the left hand and the cue ball) magnifies any aberrance of the cue, be it lateral or up and down. You should make every endeavor to move the cue stick as level as possible and stroke straightforward.

Particularly with long strokes, applying some English, one should be mindful of a **horizontal swing**. Even the slightest elevation of the cue will cause more or less of a deviation from a straight path.

(see chapter → *Physical Principles*).

13. Thumb-Forefinger-Ring

Usually the cue will rest in a loose (!) ring made by the thumb and the index finger, and middle finger respectively.

Alternatively:

For an **even better feel** for reactions and run of the cue ball a modification of the right hand's technique may be helpful:

a) Leave the ring made by the index finger very loose and rest the cue mainly on the 3rd and 4th fingers. During the actual stroke the first three fingers open up and the cue is only held by the 5th finger.

So, the right hand does not tighten its grip towards the end of the stroke, but the cue simply glides out of the hand instead.

This can possibly help to improve the reliability of one's stroke, by reducing some sources of mistakes.

There is less risk of jerking the cue during the final phase of the stroke, and unintended spin is avoided.

(see → Glossary → Spin).

b) You need not be afraid to lose power and spin. Remarkable results, at least as good as with a standard method, can be achieved with this technique as well. Draw, follow, and side-spin are generally even more effective.

c) Interestingly, even at quite natural bounces off B 1 (at

the break shot for instance) the sideways reflection is usually more pronounced than with standard grip and slight closing of the hand.

Spin as well (no matter whether side spin, high, or low ball) will be magnified: strong spin becomes stronger; mild spin becomes milder. Applying this technique can for instance enable you to make long angles run somewhat shorter.

Criticism: All this does not present absolutes. Every player has to figure out for himself what is of advantage for him personally.

Compare chapter → **the Stroke, Wrist-Snap**.

14. Relax please, instead of tightening up!

Check during pre-stroking, and particularly just before your actual stroke, whether you are tightening your jaw.

Practice a slack jaw!

If you have a tendency to tighten up easily you should try the following:

Place the left lower arm, including the elbow, flat on the table. Keep elbow bent. Relax your left hand (while still keeping a narrow cue guide!), as well as lower arm and shoulder.

This will necessitate a transfer of all feel for the stroke to the right arm and hand. According to "lead right hand" theory of motor function (for right-handers) exactly that is desirable.

Initially it may give you a feeling of less stroking power, but this is a misconception and will go away after a short adjustment period.

Lastly every player knows and feels best himself what he can expect his right hand to handle.

15. Pay attention to your breathing

Breathe quietly, with medium depth and speed.

Breathe once in, and then easy out, without pressing, just before your stroke.

16. Recap

Before bending over the table, **always** ask the question: "**What about kisses?**"

Then take your stance, get in position and make your first visualization of your shot while gently wiggling your cue tip back and forth: "**How does this feel?**"—

Do I feel good about making this shot, or reaching my planned point at the 3rd rail respectively, etc.?

This is followed by the second, more intense visualization (mental image), accompanied by your normal pre-strokes and absorption of the feel for stroke and accurate hit on B 1, etc.

In case of a need for small corrections **please adjust spin, bridge, grip, and possibly your stance** as well again. Do not merely change your aim!

You have to learn to wait calmly for the optimal feel.

Only when you are convinced of the correctness of all components (primarily type and speed of stroke,

plus aim at B 1) should you allow yourself to pull the trigger. Don't be afraid of losing a momentarily positive feel by not shooting immediately.

Then simply "let it happen":

Without haste, **experience** the cue tip moving forward and setting the cue ball in motion. The way it runs toward B 1 and takes the previously visualized position at the exact moment of contact with B 1. How it then deflects off B 1 and continues to the next rail.

In this manner one avoids stroking blindly and too hard.

Anyway, the warning:

"Beware of excess speed!"

is appropriate for many players most of the time.

1. Standard model – Variations

The stroke consists of back stroke and forward stroke.

It usually should be carried out forward through the cue ball, that is it should show an effective follow-through: stroke consequently in one motion from back to and through front.

This makes it obvious that you are taking charge and are clearly showing your intent, exactly as with your pre-strokes.

You get a better feel for the reaction of the cue ball on B 1 and from there on.

Naturally, one has to know and take into account that such a stroke results in more effective ball action, compared to a hesitant, abbreviated stroke.

The stroke should yield effect, regardless of amount and type of English, or fullness of hit.

● Although a **long follow through** the cue ball is indicated in most instances, it has to be soft, smooth, and **with even acceleration**. Normally the follow-through should be natural and not vary too much, but always be of about the same length. As long as no special effects are required, one should generally pay attention to an even stroke execution.

● As Mr. Weingartner expresses rightly, only with an even, repetitive type of stroke can the brain file away in its memory the feel and experience of the ball's reaction, bounce, and run.

● A **mechanized Stroke** like in balkline is still not advisable, aside from a few limited cases, such as the even, standard strokes used in particular with the ball system, and of course the standard cushion-first shots of the Conti-System. With the latter the stroke type, English, and speed has to be modified individually to fit player and table.

● With **force-follows** maximum cue speed must not be reached at contact with the cue ball, but has to accelerate through the ball "all the way to the next table."

It is generally accepted that Follows - similar to Draw Shots - require a special kind of feel. In order to gain this kind of feel, one should practice effective Follow Shots at reduced speeds as well. It is not absolutely necessary to take the cue ball extremely high. However, one should check one's stroke height.

● **The opposite** to the long, decisive follow-through is the Stop-Stroke (see → **Jab**).

● Another technique asks for a soft stroke **with a loose wrist**, which is relatively short, but can occasionally be somewhat longer.

● **"Stroked" shots**, letting the cue simply glide out of your hand, are used primarily for the ball system, as well as for shots without English.

● **"Slip-through" shots** can be used with feather-fine hits – for instance for extra short angles.

● **Variations of stroke** are asked for to a high degree in three-cushion play. In order to solve the technical aspects of the many different patterns - simple bounce shots, intentional Buttage shots (see Glossary), lengthening, shortening, drawing, changing of angles - in short all methods of "bending the balls", a player needs a large and complete repertoire.

● Some common stroking errors

An abrupt, short, vehement, or over-powering stroke.

To stroke (despite similar patterns) carefully on one occasion, next time energetically, once soft and gentle, and then again abruptly.

2. A stroke alternative

Some players simply never master the standard stroking techniques despite their best efforts. They constantly and uncontrollably vary length of follow-through.

*In such cases it may be advantageous to **keep the follow-through relatively short**, with defined stroke length and possibly gentle closing of the grip at the end of the stroke.*

*This holds true **above all for patterns** where cue ball and B 1 are either far apart, or when a precise hit on B 1 is a priority, or long angles or end-rail shots when there are no special effects required.*

For some players this technique seems to guarantee direction, clean English as well as absence of undesirable side effects.

But I want to stress again that a shortening of follow-through is generally not advisable, and most authors insist on good follow-through. My concern is to relieve you of any inhibitions, in case you do favor a short stroke.

As always, there isn't just one way of doing it, and all techniques have their specific pros and cons.

But whatever you decide on, you should accept with conviction.

With shortened follow-through you should consider the slightly reduced effect of all spin, although you may find this an easier way to standardize it.

*My subjective impression is that the cue ball bounces off B 1 **at a slightly sharper angle** than otherwise, provided the shot is not played very slowly.*

*But we are still **not** dealing with real jab strokes!*

3. Wrist-snap – closing grip

It is an open question whether one should combine a long follow-through with a final "wrist-snap." With this we mean that the player throws the wrist of the cue hand forward at the end of his stroke, simultaneously closing his grip with middle, ring, and small finger.

This causes a **final acceleration**, making certain effects particularly achievable (increased bounce off B 1, increased draw, more running English even with fuller hits).

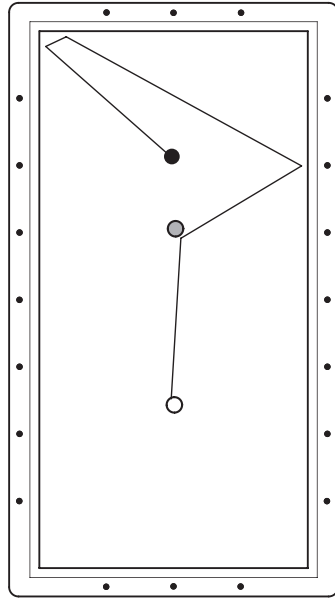
This is related to the energetic, short whip stroke.

The stroke has a pre-programmed, defined finish,

with the promise of increased **consistency** of effects.

However, the whole thing is rather sensitive, because the use of the wrist-snap can lead to a premature finish of the stroke, resulting in the exact opposite effect.

The distinct closing of the grip **changes the effects** considerably, most of the time in the sense that it is overdone. It requires lots of experience and practice.



Take note: One cannot simply change the type of stroke as one pleases. It should be planned, which pattern to play one way, and which another. Once that is decided, please don't keep changing!

Use it when?

Some propose use of the wrist-snap for long power strokes, for instance:

Nine-Railers, long Rail-Reversals at right-angle to the head rail, long extreme Draw Shots, extremely compressed Short Angles. This is not necessarily advisable. As a matter of fact one can observe many top players play even such shots with distinct and long follow-through, yet soft and with free release (see. **Glossary**).

The danger of using the wrist-snap in such cases is a premature deployment, and early closing of the grip. As a result the stroke is then not long and effective enough, and will not show the desired result. As a reaction to this one tends to over-adjust on the next occasion, which makes the results hard to predict.

It may be better to use the wrist-snap primarily for medium, occasionally even short distances, when a special effect is required. In most cases that would be compressed Short-Angles - or Around-the-Table patterns, where a fuller hit on B 1 is needed to catch the long rail at the right point.

However, when a lesser bounce angle off B 1 is desired, a soft, stretched stroke (with adjusted English) may be better.

Few players deploy the Wrist-Snap as standard stroke in the belief that the defined finish makes it easier to standardize the stroke.

closing of his grip virtually the secret of his success.

Contrary to this Hans Niedermayr warns in 1934 of firm closing of the grip for long, as well as for short strokes.

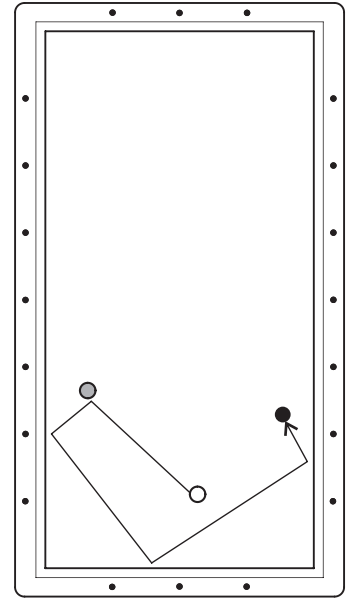
Right and left above we show **two examples** of deployment of the Wrist-Snap. According to the maxim:

Achieve a high, yet controllable degree of bounce and draw effect.

If one **consciously and determinedly speeds up the closing of the grip** at the end of

the stroke, one can achieve very special effects as a result of this maximum final acceleration:

Lengthening of Rail-First Twice-around-the-Table bank shots (for which there is even a number system), Force-Follows, Rail-Reversals.



3. Special Effect Strokes

Force-Follows over three to four rails, Follow and Draw Rail-Reversals and Same-Rail-Twice, and other extreme draw shots require special practice to achieve the effect without particular effort. Despite the increased power requirement smoothness is always desirable.

Here too, there is no absolute standard recommendation.

The shots may be played with extremely long follow-through as well as with a soft shake of the wrist.

Some players claim it is enough for them to freely "throw the cue into the ball."

4. Delayed Stroke (sneaking up to the ball)

This is an alternative to the usual running start straight out of the back stroke, by applying a barely noticeable slow-down at the end of the back swing - some players even add a short pause at the back end.

The first phase of the forward stroke is also carried out slightly slower.

Neither does any feel of snappy acceleration get transferred to the end of the backswing - there is no "bouncing off the ropes" - but only a consequent, even and directionally stable acceleration forward.

This way, it is hoped to gain increased control over a precise hit on B 1; not to jerk the stroke, but to guide the cue arrow-straight forward with exactly measured effects.

One strokes more confidently towards B 1, so to speak.

The German world class player of the fifties, Walter Lütgehetmann considered the consistently determined

If anything, there is a surprisingly increased effect of Draw and English.

In any event one has to get used to this different type of stroke, not only psychologically, but also with regards to the resulting effects.

In this connection we should address the position of the hand on the butt of the cue - in particular for very crouched body position as in snooker:

Under no conditions should you bend the wrist towards your body, not even during the stroke itself.

If anything at all, a bend away from the body can be accepted. This advice is helpful towards a **straight stroke**, and applies especially to play with left (or the wrong) hand.

5. Stroke technique with the mechanical bridge

Use of the bridge often makes the cue ball run short, which above all shows up in the Diamond System.

Therefore one must make a special effort, particularly on bank shots, to stroke long and soft, and with maximum English, especially when the cue ball lies close to the first rail. This prevents the otherwise unavoidable shortening of the running path.

Similar observations can be made using the left hand -

and for both you need **lots of practice!**

6. Individual stroke and physics

Purely mechanically, it only depends on the movement of the cue ball at the moment of impact on B 1 - disregarding the thickness of the hit, of course.

First we need to mention the strength:

Degree of forward motion (transfer).

Degree of rotations (spin effects: high, low, side) - absolute as well as relative to transfer and hit thickness

on B 1;

Curved path, effected by cue elevation, before and after contact with B 1;

Height of contact point of cue ball with B 1.

An elevated cue, resulting in a jumping cue ball, can often cause the contact point with B 1 to be higher than the middle of the balls. The subsequent higher bounce of the cue ball off B 1 results in reduced friction of the cue ball with the cloth on the table surface, and consequently to a delayed effect of a high or low stroke.

Alone, a high, as opposed to a low stroke, is said to effect a higher contact point of the cue ball with B 1, particularly with Jabs.

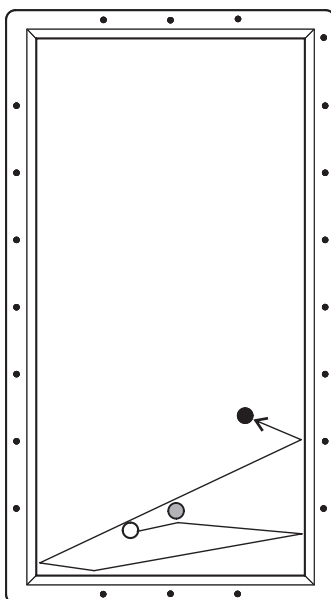
The contact of the two balls lasts merely for a few centimeters, after which B 1 is gone, and nothing you do with your cue, such as distinctly long Follow-Through, is of any physical consequence.

Therefore, one could argue against any individual stroke: "No matter what you do when you shoot, as long as you achieve the desired result."

On the other hand the advice is based on the experience of hundreds of top players (though partly also pure fads), and should not be casually dismissed.

"Examine everything and retain the best for yourself!"

In the end you will realize that, for **physiological reasons**, the stroke execution **after the hit on B 1** is eminently important after all for what takes place at the crucial moment of the balls' contact.



Optimization of the feel for the stroke

Instead of a "measured thin" hit on B 1 (thin, but not too thin), which is always critical, one should not overlook this variation: thin hit on B 1, but with extension over a 4th rail.

Paradox reaction

Because of the curved first and second section of the path this pattern *may not call* for a distinctly high ball.

But a *moderately low stroke* would actually rather stretch the shot undesirably (make it longer).

A *very soft real low stroke* runs initially shorter - but that quickly turns into too short.

Therefore: **Moderately high stroke, with lots of left English**

Alternative: **Jab**

