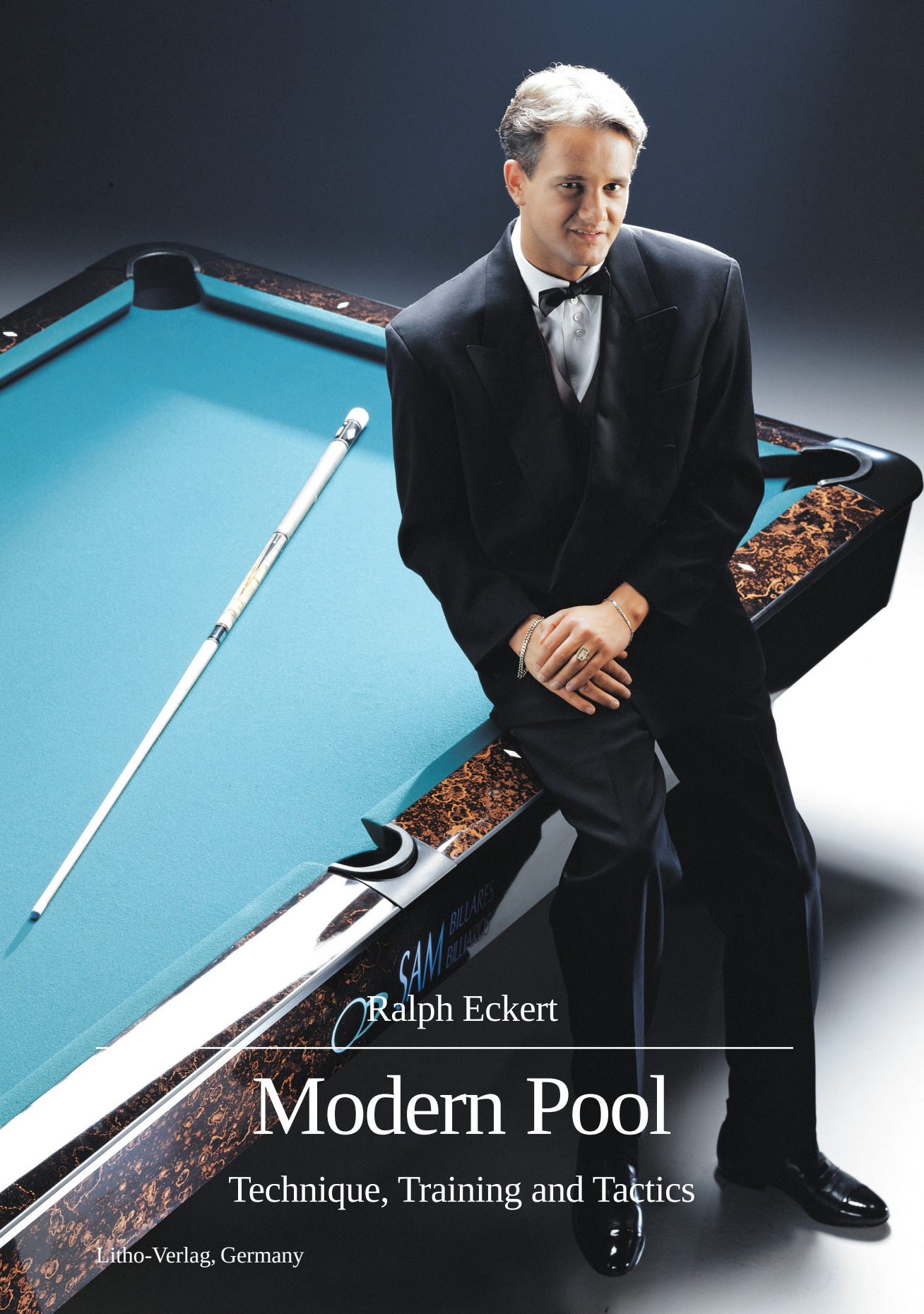

Ralph Eckert

Modern Pool

Technique, Training and Tactics

Litho-Verlag, Germany

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Content

4. The Program

Preface

I regard pocket billiards highly as a game for its entertainment as well as its competition values. The concept underlying this book is trying to do justice to both of these notions. It is thus up to the reader whether he or she wants to work through this book with an aim to improve his game, to discover new horizons or just to enjoy good reading.

Mastering pocket billiards as a sport demands a lot of practice particularly during the learning process. You are choosing a sport, however, in which you may be able to perform actively and successfully up to a very advanced age.

The present instructional program consists of alternating practice sessions and explanatory sessions, which are based consequently upon each other. The practice sessions are based on a performance principle, i.e. you have to successfully complete a certain exercise to move on to the next. This is to ensure that when I am dealing with the theoretical Strategies of the game, these match, the level of performance, the players being addressed after having mastered the preceding drilled.

The demands posed by these exercises are usually quite high but, as courses I have been teaching for years now show, they can be met nevertheless. Some drills are not too hard, others require more effort.

At this point, I should mention that this program is meant to accompany and complement your regular playing. That is to say you should not limit yourself to constantly working on the exercises. Rather, tackling a practice drill once or twice a week and enjoying your usual game the rest of the time is sufficient. Should you not be able to master a drill after repeated attempts, some additional so-called alternative programs have been integrated which are intended to take the student's mind off the drill and to further increase his playing skills nevertheless.

The extensive and numerous examples and explanations are meant to enable individual players to check on themselves and thereby to improve their game since you have to be able to recognize your own mistakes to prevent them from repeating in the future. Work through this program step by step and if and when you think you know everything do it again. When you do something a second time you always notice something you missed the first time. This instructional program is not directed solely at beginners, but also at experienced players that are not making progress because mistakes are hindering their improvement. Anyone who works through this program can without a doubt become a very good player. And who knows, maybe someday, we may meet at a tournament somewhere?

Ralph G. Eckert
November 2004 Mannheim/Germany

It is not beginning something that is rewarded, but only seeing it through to the end.

Katharina of Siena

1. Material

At the outset, I would like to note that I have consciously refrained myself from mentioning brand names and recommending companies in this chapter. Doing so could lead to discrimination especially since I am convinced that every company strives to supply its customers with the best product possible. Don't hesitate to get advice at your local specialized billiards dealer. The staff there will certainly do its best and below you will find some tips on what to look for.

1.1. The Table

In judging a table, five essential criteria are to be considered:

I. Playing Area – Priorities – Cloth - Pocket Openings – Cushions - Slates
II. Stability & Sturdiness
III. Design
IV. Price
V. Reputation

I. Playing Area (playability):

- Priorities -

The playability of a table should be the most important priority to the player. The layman's or beginner's demands will usually be restricted to the regularity of the playing surface. In other words, the balls should roll straight on a billiards table. A top professional player, however, would demand much more of a table on which he might have to play a very important match. At this point, we will deal with the highest demands a player might make.

The following dimensions should be considered. Professional tournaments are played on 4 ½ by 9 feet tables (so-called 9-foot tables). Some amateur tournaments are also played on 4 by 8 or even 3 ½ by 7 tables (bar tables). On an 4 ½ by 9 table the playing area is 50“ wide by 100“ long. The playing area is measured from the cloth-covered nose of the rubber cushion to the opposite rubber cushion. Note: Most home tables sold in the U.S. are 8ft tables. A perspective buyer should keep in mind that a minimum room size of 13' x 17' is needed to accommodate the table.

- Cloth -

Several aspects are of the utmost importance to the passionate pool player. This, first of all, includes the covering, i.e. the cloth, with which the table is covered. Is the cloth fast or slow, is it old or maybe even brand-new, does the ball have a good grip or does it slide on it, does the cloth pill or not, has it been filled on very tightly or is it so loose that you can almost lift it?

But first things first. The so-called "speed" of the cloth (the further a ball struck with force X rolls the higher the "speed" of the cloth) is mainly determined by its age. With time, the cloth becomes slower and will then retain its "speed-qualities" depending on how well it has been taken care of. The life-span ranges from ¼ – ¾ of a year depending on quality, care, and frequency of use. Tables in private homes are an exception. There, the cloth usually is good for 1 – 2 years, unless it is owned and used by a very ambitious player.

The cloth will seem to be very slippery for the first couple of days, but this soon disappears and then the cloth has more grip. Incidentally, top players should be able to play well on new cloths since the tables are newly covered for big tournaments. A real top player can adjust to almost all kinds of playing conditions anyway.

A cloth with a high wool content may form pills when new, which can impair the game. These kinds of cloth have become rare nowadays, but some quick brushing solves this problem which solves itself of 1 – 2 days.

Have your table refitted only by experts as the cloth will only gain its characteristic speed if it is pulled tightly enough. There are even cloth-tongs specially made for that task. On less tightly pulled cloths, the balls run slightly slower and this effect increases with time.

It remains to be said that Pocket Billiards should be played only on cloth appropriate for the game. Cloths that are used in Snooker or Carom Billiards, for example, are absolutely inappropriate for Pocket Billiards.

To adequately maintain cloth, it should be brushed every day of use. Weekly vacuuming with a small portable vacuum cleaner is also recommended. When not in use, the table should be covered.

- Pocket Openings -

Second, the player should be interested in the width and cut of the pocket openings. Without fooling around with a tape measure, the generosity of a table can be easily estimated using two balls. Since balls used in pocket billiards should have a diameter of 2¼" (=57,2 mm) you can judge how "generous" the table is by taking two balls side by side and placing them in the "jaws" at the pocket. If they both go through the opening, then the table is "loose, easy or generous". If they don't, than the pockets are considered "tight" and require more accuracy.

The pocket openings, then, vary from 4 ½" - 4,875" (114 – 124 mm) depending on the model and brand of the table. For practice purposes, there are tables that have been built with even smaller openings, just like there are tables that have been built more generously for the hobby player.

Of course, where exactly the pocket is (and where it should be) plays a major role. The farther back the edge is the more likely the ball is to "rattle" and hang up. The

farther up front the edge is the more likely the balls are to drop. Here too, are high tolerances as well as there where the angles of the openings are concerned.

- Cushions -

What else about the playing area is there to be considered? This, too, is a complex topic since there are many different kinds of cushions with different qualities. The quality of the cushion essentially depends on the rubber being used. To exhaustively deal with this topic would exceed the scope of this work by far. Since the present work concentrates on the playing aspect of the game the following must suffice:

Cushions are classified as hard, medium, or soft speed. This means you have to know what kind of cushion you are playing on. In playing the game, this makes a big difference and we will have to talk about that in the technical section of the book. The cushions or rather the cushion rubber tends to become slightly brittle with age so it is advisable to renew a table's cushions after a couple of years. If the cushions become brittle or are just too old, they also become softer and softer which makes the balls come up "short" for example on bank shots. How to determine the softness of a cushion will be dealt with in the technical section.

This section on cushions should close with the advice that a player should try to find out during the warm-up phase what kind of cushions he is being confronted. As a good player you will have to be able to adjust to the cushions on any table, at least until they are standardized.

- Slate slabs -

Now a few words on the slabs of slate over which the cloth is stretched. They are also of interest where the playing of the game - particularly in executing extreme shots like the massé or the jump shot - is concerned. The main billiard slate supplier is Italy. Why, some of you may ask, does it have to be slate at all? Why not, for example, a marble slab. Well, if you take a billiard ball and let it drop onto a marble slab from a short distance, you will see that the ball will bounce numerous times before it finally comes to rest again. If you repeat the same with a slate slab you will find that ball will come to rest much quicker. Usually, it will bounce 2 – 3 times. This is due to the slates layered composition which deadens or rather absorbs such impacts more quickly. That such a quality is considered desirable in billiards needs no further explanation. Scarcely any other natural or artificial material exhibits characteristics comparable to slate, not at present at least and not for an economical reason.

Most of the time, the slate is an inch (25 mm) thick. 30 mm would be desirable but is found only rarely (cf. carom and snooker where slabs are around 40 – 50 mm thick). Because slate is a material sensitive to changes in temperature and prone to warp, a thicker plate is, desirable because it is, less susceptible in this respect. Finally, the lacking strength of slate can also be the reason why the balls don't run true on a certain tables. The thicker the slate the easier it is to execute jump shots, for example.

The slate of a pool table is usually in three-pieces. Single-piece plates are not only impractical, they also warp easier and are almost exclusively used in the smaller coin operated tables.

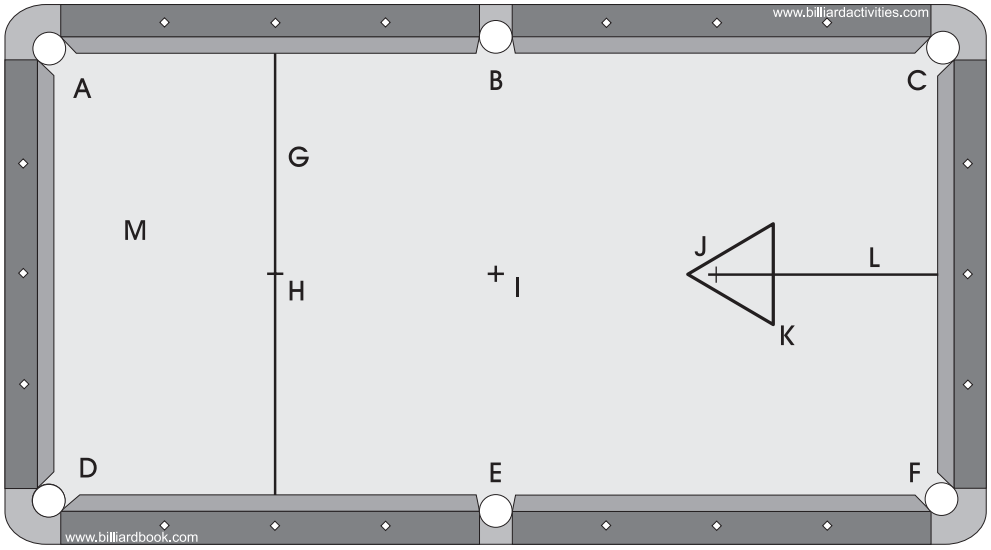
- Marking of the playing area -

We are not yet trough with the playing area. It should also be marked correctly, i.e. foot spot, center spot, head line and head spot, triangle, and replacement line should be marked (see Fig.1).

Fig. 1

A left head corner pocket

After having looked at some of the game-related requirements of a table, we will now turn our attention to the second of our five criteria: stability or sturdiness. What gives a table stability and makes it sturdy? What good does it do for us? If the table's base construction consists mainly of laminated wood, you can imagine that such a table will not last very long if it is used daily. Hence, stability is a criterion of great significance to the buyer of one or even several tables. If a cheap table has to be



B left middle pocket
C left foot corner pocket
D right head corner pocket
E right middle pocket
F right foot corner pocket
G head line
H head spot
I centre spot
J foot spot
K triangle line
L replacement line
M head field (the "kitchen")

II. Stability & Sturdiness

replaced after, say, four years it was actually too expensive. Often it is the expensive tables that exhibit high stability, i.e. a slate frame of massive wood and thus also an extremely high life expectancy. You can also find tables nowadays that, in a departure from tradition, passes a partial or total metal substructure. Of course, here too it depends on your personal priorities, i.e. whether the table is meant for private use at home or if it is to be set up in a billiard hall. With the former, the so-called home tables, you can lower your demands on their stability since the strain on them will not be as high as on the commercial tables that are also used for tournaments.

Although this may be of no interest to the player, I think it is worth who mentioning who, but I would like to supply the fans want to practise their favourite sport at home and persons only come into contact with the game indirectly (e.g. pool hall owners, officials, etc.) with some hopefully interesting information. It is these people, after all, who decide which material are made available to the player on their premises.

III. Design

The third of our criteria is of no consequence to the game and is purely aesthetic. The design of a table is of course purely a matter of taste which varies from person to person. A potential buyer will choose a table that compliments the rest of his furnishings. Styles range from rustic to modern, from plain to gaudy. The various manufacturers often offer the same model with variations in design.

IV. Price

For completeness' sake, the fourth criterion must be mentioned too, as it plays a significant role in the evaluation of a table. Good tournament tables that can also be exposed to the daily operations of commercial establishments usually run between US$ 2500.- and US$ 5000.- Tables for private use, so-called home tables, cover a much wider price range.

V. Reputation

Why is the reputation of a brand or a table important? Well, you will realize why once you find yourself in the situation of having to sell a used table. The better the reputation the higher the demand and it will be accordingly easier to find a buyer that will pay an appropriate price. Additionally, guests find it hard to voice criticism on a table whose brand is commonly associated with high quality.

1.2. The Cue

Photo F001

The difficulties facing a pool beginner begin when buying a cue. Quite by accident, numerous uninformed customers have bought and still frequently buy a carom or snooker cue instead of a pool cue. That doesn't necessarily mean they bought a bad cue – if they used it to play the game it was meant for, namely carom or snooker. These cues are not really appropriate for pool. Using one to play pool would be like playing tennis with a squash racket or vice versa. To an advanced player or a professional, the purchase of a cue poses quite different questions, e.g. what kind of characteristics it should have. But let's start at the beginning.

A pool cue is usually two-piece, approximately 58 inches long, and its weight varies between 17 and 22 ounces, where 17 and 22 ounces can be considered extremes. Although experience has shown that players increase the weight (if they change it at all) of their cue during the course of their career, as a beginner you should take care not to buy a cue that is too heavy, 18 or 19 ounces would be recommendable in the beginning.

In the 80's the trend was for professionals to use cues in the 19.5 to 20 ounce range. During the 90's, professionals found that the cue ball was easier to finesse with a lighter cue. Most of today's pros use a cue in the 18.5-19.5 range. Most amateurs make the mistake of purchasing a heavy cue thinking it will give them a more powerful

stroke. Actually the opposite is true.

A good pool cue also has a 13mm tip. There are tips ranging from 12 to 13,5mm, these are rare, however.

It is also important to note that a pool cue is flexible. This means that if you hold the cue at the wrap and give it a light tap right behind the joint, you will see that it vibrates. This is supposed to happen and depending on the cue's brand it will be more or less pronounced. This does not determine the cue's quality, however. What is important is that it exhibits a certain degree of flexibility. The reason for this is based on the game itself. To explain this, I will have to take a closer look at another variation of billiards.

- Some differences between pool & snooker -

In contrast to pool, snooker, for example, is played on a 12-foot table (pool 9-foot). Naturally, there are different rules, balls, and cues. Because of the bigger table and the smaller holes you could easily draw the fallacious conclusion that snooker is a harder game to play than pool. The fact is that the priorities are different. The pocketing of a ball is more difficult, the position game – the positioning of the cue ball – is limited due to the low margin for error caused by the narrow holes. You will, for example, rarely see a good snooker player put much english on the ball because he will not risk failing to pocket the ball.

In pool however, where the holes are wider and the tables are smaller, pocketing the ball is the lesser problem. In pool, the control and positioning of the cue ball is of greater importance. The player will realize this truth to its full extent when playing any variation of rotation pocket billiards (9-ball, 10-ball, rotation).

Once again: the position game, as well as the pocketing of the ball is of fundamental importance in both snooker and pool, but in snooker the primary objective is the pocketing of the ball, with the position game ranking second. In pool, the primary art to be mastered is the control of the cue ball, with the pocketing of a ball ranking second.

In other words: both aspects, the position game and pocketing of balls, are prime prerequisites in both games, snooker and pool, to have a successful performance in the spirit of the rules.

To put it simply:

Snooker: the lesser the tolerance of the hole the fewer shot techniques can be employed.

Pool: the greater the tolerance of the hole the more shot techniques are required.

In pool, you can send the cue ball on a different course simply by playing the object ball into the left or the right half of the pocket. Snooker does not offer that

alternative. Since the position game in snooker is usually restricted to draw shots, follow shots, stop shots and the stun shot technique, a rather stiff cue is required, which is held over an open bridge, which in snooker, represents a standard. In pool billiards, a rather more flexible cue is required, which is usually held with a closed bridge, as, in addition to the types of shots mentioned above, the pool player is frequently required to make english, kiss, throw, warp, massé, jump, and curve shots. These are shots or techniques that must be mastered in pool because the high tolerances of the holes make them possible. In snooker, these shots rarely make any sense, at all.

- A few words on more and less flexible cues -

When you cause a cue to vibrate as described above, you will notice a rather big amplitude at the top of the cue, the center of the vibration will be roughly 1 foot from the top, and the vibration will also continue on behind that spot. If you hit the cueball with a cue like that with right or left english and shoot the shot with a solid follow-through, you can imagine how the cue gives in in the direction of the english during the course of the stroke. By giving in, the contact of the cue with the cue ball is prolonged and this again increases the transfer of rotation onto the cue ball. This plus a rotational effect is exactly what is needed in pool and this is exactly why a pool cue must have this flexible quality.

To prevent misunderstandings: it should not be your goal to find the most flexible cue out there. That would be wrong. A cue can be too flexible or too soft. If a cue is too flexible, a lot of unwanted rotation may be put on the ball in situations (e.g. a long straight shot) that would not be desirable, because no english should be put on the ball, at all.

At the other end of the spectrum, too, cues that are too hard or stiff have a decisive disadvantage. If you strike the cue ball with a hard cue and a lot of english, then a greater deflection (deviation from the aiming line, see chapter on english) must be expected. When playing with soft or hard cues the different effects on rotation and deflection must be distinguished.

As a rule of thumb:

- soft cues can create a lot of (in some cases) unwanted rotation, but have less deflection when playing with english.
- it is harder to create the desired rotation with a hard cue (but they transfer less unwanted rotation, however), but a greater deflection must be taken into consideration when playing with english.

Note that this is only a rule of thumb since the hardness or softness of a cue is not

only determined by its flexibility but also by factors like hard or soft leather, joint (metal, plastic, or ivory), ferrule, the kind of wood it is made from and so on. There are probably more factors. For more information you might want to contact a manufacturer.

Thus, the optimum lies somewhere in the middle, and a player chooses according to his stroking habits and playing abilities. As a basic rule, a player whose stroke is not refined will benefit from a cue on the softer side of the spectrum. With such a cue, he will achieve the desired results sooner and easier. This is due to the fact that if a cue ball is struck off center by a flexible cue, the said cue gives accordingly and thereby prolongs the contact with the cue ball. The longer the contact of the cue with the cue ball, the more rotational effect can be transferred. The duration of this contact is mainly a function of the stroke, that is how far the cue was followed through. Since the beginner usually has difficulties with a straight, soft, controlled and smooth follow through, it is self-explanatory that he will have less problems with a soft cue.

A player with a good stroke should correspondingly choose a harder cue. For such a player the task becomes one of exactly controlling the amount of spin put on the cue ball, e.g. not letting a draw shot roll to far or end up short.

- The latest research -

Currently, shafts or entire cues are being offered by one cue manufacturer (by now even several) that can reduce the above mentioned phenomenon of deflection (while aiming at the cue ball to create english, see also the chapter on english) by about 25% due to their special properties while even increasing the spin by about 15%. When I once tested such a shaft I hardly had to calculate for any deflection at all while playing with english. And indeed it could not be denied that more spin could be transferred onto the cue ball. Unintentional effect was actually being swallowed by these shafts. That would have been reason enough to change shafts but it turned out that with some shots where deflection or even a curve was desired it was actually difficult to achieve. Which would not have been too tragic since this concerned only a few types of shots that occur rarely enough. However, the frequency with which I missed easy shots increased. The quality shot – which I had attained through years of practice – slowly wasted away since this quality was rarely called for anymore. I would tend to draw the personal conclusion that experienced player do not necessarily have to change equipment to increase their levels of performance. In some cases it may be advisable, in other cases not. Every player has to find that out for himself. Beginners, however, may achieve much quicker results in their performance with such a tool and maybe a new generation of players will play on an entirely new, extremely high level due to this new technology. Snooker players who want to get more into pool might also profit from such shafts or cues. In the end, the price will probably keep most beginners from buying such a shaft because it is 3-4 times as expensive as a regular shaft. It is really

hard for me to refrain myself from mentioning the brand and model but what can I do but hope for understanding.

- Manufacturing cues: mass production or art -

There is more to be said about cues, e.g. about the kinds of wood that are used in the production of cues. Shafts are almost exclusively made of Canadian maple wood. More variations are possible for the butt piece. Maple, ash, snake wood, birdseye maple, Mexican Bocote, Gabon ebony and Coco bola wood just to name a few can be used for the butt. Birdseye maple will be found most frequently. Inlays are usually made from ebony. Mother of pearl, silver, gold, gems and until recently ivory are also being used. These additions do not necessarily improve a cue, but the increased effort put into the creation of the cue and the value of the inlaid elements themselves obviously increase the price or the value of the cue. It becomes a rarity, more expensive, and more exclusive.

Manufacturing cues is not only an industry but also an art. Today, there are many manufacturers of cues. Cues are being mass produced or individually created by a master craftsman. With only a few exceptions, almost all of today's important manufacturers are located in the USA. While in former times (beginning/middle of this century) cues were being kept on the plain side, nowadays manufacturers do not hesitate from using even the most complicated and very costly inlays, which have been made possible most of all by new computer-guided manufacturing facilities. In the early 90s, this lead to an extraordinary increase in prices on the cue market (caused also by an increase in demand), even though these modern production facilities and the reduced production time resulting from them should have led to lower prices. Cue manufacturers who have switched over to this method of production have reached higher numbers of items produced in a shorter time and other manufacturers who have started with this type of manufacture do not set their prices according to their expenses but are guided by a comparison with handmade cues of similar design. Thus, when buying a cue you should be careful to note whether a specific cue was handmade or not. The former would indeed justify a higher price. A cue that was produced by modern means using a machine is not necessarily an inferior product with regards to its playing characteristics, but you should be able to get it cheaper than a hand made cue of similar design. By now, the market has corrected itself anyway.

What exactly constitutes the art of cue manufacturing? Is it the finely crafted, detailed inlays or is the playing qualities that distinguish a great cue? There are manufacturers that focus on producing a cue that is as nice as possible. The playing qualities of these cues emerge more or less by chance. This means that the playing qualities of cues of the same brand may actually vary quite a bit. One cue may be more flexible than another, it plays harder or softer, its weight distribution may be top- or butt-heavy etc.

As beautifully and as finely crafted as these cues may be, a player will always have difficulties finding a cue that is suitable for him. In fact, a master cue craftsman is characterized by his ability to bring out certain playing qualities in his cues of which he is convinced are indispensable to a cue where to enable a player to shoot great pool is concerned. These cues do not have to look good (although plain cues, too, can look good), but there are a few select cue manufacturers who manage to unite both aspects. Mentioning brand names has been intentionally avoided here, but the elaboration regarding the characteristics of a cue was meant to expand and improve the selection criteria.

- The leather and the ferrule -

Some points concerning the cue are still to be discussed, e.g. the tip, the leather that is located on top of the so-called ferrule. The ferrule is usually made of different types of plastic. Ivory used to be the most common material, but in recent years manufacturers have more and more departed from this practice. The playing qualities of the cue are hardly influenced by this change. By changing the cue tip (which is always made from leather), however, you can influence the playing characteristics of a cue considerably. Fundamentally, only an adhesive leather can be taken into consideration for a good cue, i.e. the leather is glued to the ferrule. Cues that are equipped with a screw-on tip are not recommendable for competitive pool. A two component glue is best used for glueing on the tip. First, the old tip is removed, then the ferrule and the new tip are sanded down so that they become free of grease, smooth and level. For the ferrule, there is a special device for this task. Then the glue is applied, the tip is centered and is left to dry for several hours under pressure with another special appliance. Instant glue will certainly speed up this process, but it tends to soak the leather and make it a lot harder than it actually is. Instant glue can be used well with the so-called layered-leather tips (several layers of leather pressed together to form one tip) that have been available since the middle of the 90s since the glue tends to soak only the first layer, which never enters into play anyway.

But how does the tip influence play? There are cue tips of different brands and correspondingly varying qualities. The pool player usually distinguishes between hard, soft, and medium cue tips. This is a rough guideline at best as you can end up with a very hard tip even when using a brand that is known for softness and vice versa. With regards to the playability, you can somewhat balance the hardness resulting from an inflexible shaft with a soft tip (not in actual effect but with regards to the feeling of the shot) and vice versa.

- Care & Maintenance -

To extend your enjoyment of your precious cue, you must take good care of it. Maintenance is usually restricted to the shaft as the butt is practically not exposed to

any wear. Occasionally, you give it a new wrap or even a refinishing, which may include a renewal of the varnish amongst other things. In the maintenance of the shaft, which also includes the trimming of the tip, the following tools and aids are used: : powder, sand track, sandpaper, cue tip former, cue-tip roughener, detergents, etc.

Sandpaper with extremely fine grain size (800 and upwards) serves to keep the shaft free of grease so that the clean surface easily glides through the hand. The disadvantage of this procedure is that the continuous sanding will of course slowly wear away the shaft. This does not only mean that you have to buy a new shaft about every two years, but also that the playing characteristics of the cue change slightly but continuously. The advantage of this method is its comfortable handling. A possible alternative would be to use powder or rather talc. Talc is available that is supposedly produced especially for billiards players and is suited for their needs. That is what the manufacturers claim, at least, and so the price is quite high. Standard talc from a chemist can be up to ten times cheaper. It is slightly more coarse-grained than baby powder and is also odorless. This guarantees an almost unlimited durability of the shaft. The disadvantage of this method is that you always have to have powder with you and it may have to be applied several times during a single match.

Possible dents in the shaft – they may result if the cue falls down or the player can not resist the urge to "rake" or move the balls with the cue – can, incidentally, be easily removed by dripping boiling water onto the respective spots. The hot water causes the damaged wood to swell. If you polish the spot with sandpaper, the shaft should be O.K. again. It may be necessary to repeat this treatment several times. Some players prefer to use the hot steam from a tea kettle to remove dents.

After it has been treated with sandpaper, you should take care, however, to quickly and solidly wipe off the shaft with a piece of paper ($ bill or beer coaster) or with a leather rag available specifically for this purpose. This makes sense since the small pores in the wood are open after the sandpaper treatment and would quickly fill with dirt again. The thorough wiping generates heat along the shaft which smoothes the pores in the wood so that the shaft will not become dirty as quickly.

The tip requires special care. If the leather surface has become too smooth and the chalk does not adhere as well anymore – frequent miscues inevitably follow (you should have noticed it earlier, though)– using a leather roughener or tip tapper usually suffices. This is a piece of metal with grooves hammered into it, similar to a file. To finish the treatment, a leather former is used, e.g. if the tip's roundness has been diminished. It should approximately have the roundness of a quarter and a prominent edge. The handling of the leather former need not be explained. This is not the case with the sand track which with regards to the tip has a plurality of uses. You can use the sand track to roughen and form your tip. A special application of the sand track is the adjustment of tips that have been broadened, i.e. its edge does not run parallel to the ferrule. If this is the case, the sand track can be used to carefully wear away the tip's

edge without damaging the ferrule. Since the ferrule may be damaged despite careful handling, a regular pencil sharpener (for big pencils, of course) can also be used. of course, the pencil sharpener's blade must be held parallel to the length of the cue. The edge of the tip that juts out can then be removed cleanly. After this has been accomplished, the tip may not be left in this state since the edge is now practically "open" and thus can be easily deformed again. It must now be hardened again because it is the edge of the tip that has to absorb the entire impact of the shot when playing with english (also includes high and low). To strengthen the edge of the tip after the polishing, first the edge of the tip is moistened slightly and then the tip is rubbed quickly, solidly, and using quite some pressure preferably on a wooden surface – but maybe not the table. The heat which is generated strengthens and smoothes the tip's edge and prevents it from becoming quickly deformed again. If all of this is to much for you then you should have your leather glued on by an expert in a specialty sports store. These will not be found in every town, however.

Finally, it needs no mention that a cue should be stored in a suitable case to save it from wear and tear. This case should be big enough to also hold the maintenance equipment and perhaps also a second cue (a break cue – see the chapter "9-ball break" – or a jump cue – see the chapter "Jump shots").

1.3. Pool Balls

Photo F002

- Facts -

Pool billiard balls used in tournaments have a diameter of 2 ¼ in. (57,2mm), but are available in other sizes for hobby players. They consist of plastic, phenol resin to be precise. Balls made from polymers or polyester are also available, but these occasionally exhibit deficiencies in quality. Phenol resin balls have a life-expectancy that is 5 times as long in comparison. Tournament balls have a weight of approximately 166 grams. The weight of the balls is more consistant in the more expensive sets of balls (deviation of less than 1g), while far greater differences in weight occur in cheaper sets of balls. One major ball manufacturer offers sets of balls in three different qualities. Expensive sets exhibit greater hardness and hence have a much longer life-span and do not have to be polished as often. Which is not to say that they don't have to be polished at all. Some pool halls are not too particular about the polishing of their balls. Well polished balls are not only better to play with, they also create a better impression with the customers. Polishing once a week should be an absolute minimum. For a pool hall with 7 tables that would mean polishing one set a day and that should be feasible.

One set consists of 16 balls, one (white) cue ball and 15 (colored) object balls. The 15 colored balls are numbered from 1-15, where 1-8 are fully colored and 9-15 are white with a colored stripe. It is interesting to note, furthermore, that the balls 1-7

correspond to the balls 9-15 in color. From the facts mentioned above alone, you can imagine that the number of different game situations and playing variations are near infinite. This is one of the most essential advantages of pool billiards over other variants of billiards.

- The White Ball, or Cue Ball -

The white ball is usually marked by a small symbol so it can be assigned to the set of balls of the corresponding brand. As far as I know, these are the following symbols:

Red Circle Cue Ball	Most common for tournament play in the U.S., they say that it is the "truest rolling" cue ball. I personally don't know why. I once wrote the manufactorer to find out the reason, but I didn't receive an answer yet! This cue ball is not assorted to a special set of balls.
Red Triangle Cue Ball	Since about the year 2000 it is now marked "a" for "Aramith". So it is now a "Red Aramith Cue ball". Highest quality ball of the factory.
Blue Aramith Cue Ball	In Quality one step below the red one, but still of high quality.
Blue Circle Cue Ball	Belongs to the "Brunswick" set of balls. Somebody said one time that this ball is ½ gram (not much) heavier than the red circle. But this difference should have disappeared after a year or so.
Black Cross Cue Ball	Belongs to the (mostly European used) "Dynamic" set of balls.
Blue Dot Cue Ball	Heavier and not much used.
Multiple red dot cue ball	New Cue ball for TV Matches. High Quality and the viewers can see the spin on it, because of the big red dots on it!

Unmarked white balls usually belong to a set of balls of lower quality. It is important to know that balls can "run down" over time, this means that because of the permanent wear and tear by rolling over the years (depending on frequency of use) the balls' diameter decreases. And since the white ball rolls the most over the years it registers the most wear and tear. Compare the size of the white ball in your pool hall with the size of the others. Is it already a little smaller than the others? If that is the case then it is time to order a couple of new whites. You do not have to buy complete a new set, single white balls are also available. That this has a bearing on the game should be obvious. After all, a smaller white is also lighter than the balls it hits. The effect is that draw shots are more easily accomplished (ricochet of the smaller off the heavier mass) and follow shots are harder to pull off. The "diameter decrease-effect" is <u>much</u> lower on high quality sets of balls!

If you are at a table where the cue ball is bigger or heavier than the colored balls you are probably playing on a coin-operated table. The cue balls of coin-operated tables are heavier, bigger, or filled with a metal core so that they can be separated from the object balls and end up in the ball-box. For serious games, these balls do not make much sense.

- Short History -

Ever since the historical beginnings of pool billiards in the middle of the nineteenth century, cue balls with the same specifications as the object balls have been the norm, mostly because plastic was unknown back then and the possibilities for variation were limited as the same material was always being used: ivory.

Much to the detriment of the elephant population, the base material of the balls was always ivory. John Grissim's book "Billiards" notes that at that time (end of the 19th century) around 12,000 elephants had to give up their lives so that enough ivory balls could be produced. That number is astounding when you consider that 4 elephants had to bite the dust for only one set of snooker balls. As a result, the price of ivory rose drastically. This led one well-known company in the billiards industry to offer a prize for a cheaper alternative to ivory. The prize offered was US$ 10,000 which today would amount to US$ 100,000. Chemist John Wesley Hyatt discovered a material in New York in 1868 that consisted of camphor, alcohol, and nitro-cellulose and displayed ivory-like qualities.

It is a little-known fact that the search for a replacement for ivory billiard balls led to the discovery of plastic as a by-product so to say.

The quest to achive ivory qualities is still alive today in the industry. Some, however, are of the not quite unjustified opinion that the typical ivory qualities have long since been surpassed. In that respect, you should know that the friction temperature between the ball and the cloth during a typical 9-Ball break can easily reach 250° Celsius. Not every ball survives this treatment without a trace. A modern high quality ball can also bear loads of up to 5 tons and is, of course, a lot less vulnerable to wear and tear especially when used on poorly maintained equipment where there is a lot of dirt present in the cloth (from lack of brushing), inside the pockets or ball returns. Also nails which should hold the pockets can damage balls, when they are shot hardly into the pocket.

1.4. Chalk

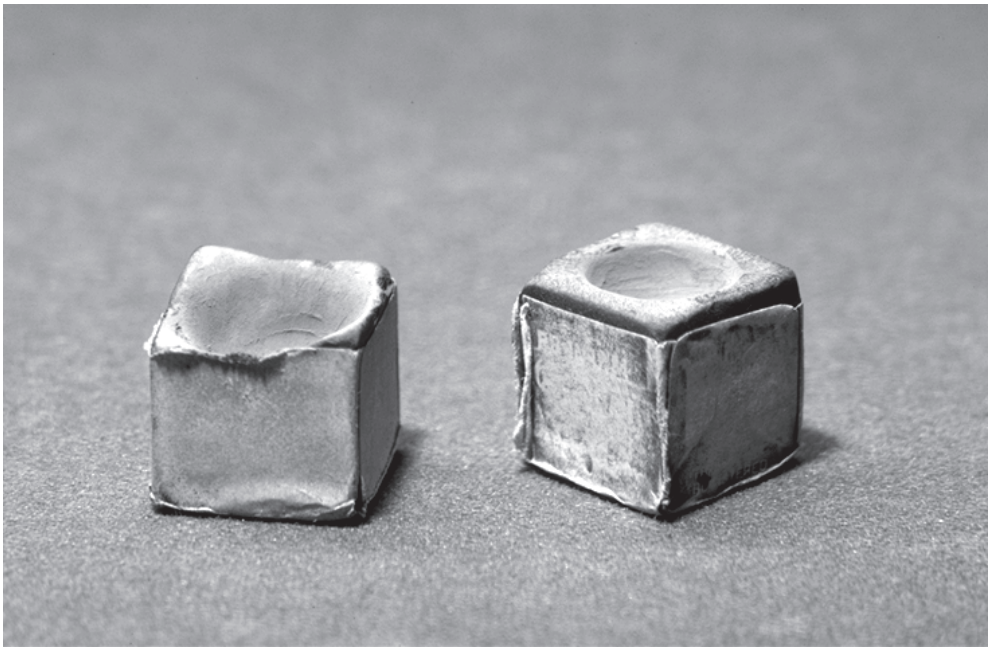


Photo F003

Last but not least, the chalk should also be mentioned since it facilitates the contact between the tip of the cue and the cue ball. If it wasn't for the chalk, you would inevitable miscue as soon as you hit the ball off center with the cue. It is the small grains of chalk that settle into the pores of the seemingly smooth surface of the ball and the leather surface of the tip. This is the actual reason for roughing up the tip: so that the chalk adheres better to it.

Chalk is produced by different manufacturers, too, the differences are by and large very small and hence negligible. You should take care, however, not to use chalk that is coarse-grained – it adheres correspondingly badly. Colors also vary, incidentally, but of course have no bearing on the game at all. Blue chalk is most commonly used, closely followed by light green.

One piece of advice that does affect the game: you should chalk after every shot. It should become a downright habit to have chalk in your hand and use it on the tip while you are studying the given game situation on the table. You can never use too much chalk, only too little.

2. Rules, Game Variants, and Facts

Before I start with the actual program, I would like to take a look at the rules of the various games. I do not want to give a detailed representation of the rules - or even print them in their entirety here - but just supply a general overview and stick to the essentials. Official rules can, after all, be altered or revised. Furthermore, there are regional organizations whose rules differ from those of the international organizations in certain details. So even if international rules were reproduced here they might in only a few years not be accurate in a few but nevertheless important details. I also have to be careful as some federations / associations claim copyright for “their” rules. It has happened before so I must ask for your understanding. If you have understood the nature and the most important basic rules of a game, the most questions concerning rules become superfluous anyway. Besides, I can introduce far more game variations if I limit myself to the essentials. This is not supposed to be a rule-book, anyway.

In general, however, I consider it one of the major advantages of pool billiards that you can choose from so many variations or games. The possibilities seem to approach the infinite: 8-ball, 9-ball, straight pool, rotation, one-pocket, 10-ball, 6-ball, 7-ball, cribbage, bowlliard, bank-pool, back-pocket 9-ball etc. I will restrict myself to the first six of these games as they are among the most well-known and most popular.

2.1. 8-ball

8-ball is probably the most known among all variations of pool billiards (although 9-ball may catch up soon) since even if you have never played pool before you probably know at least the fundamentals of this variant.

As well-known and as widely spread 8-ball may be, interpretations of the rules differ from place to place and from country to country, even though the various organizations are continually trying to standardize these rules. The occasional player who is not as well-versed in pool billiards may even assume that this is the only game you can play on a pool table and thus equates the game 8-ball with the generic term pool billiards.

8-ball is played with a complete set of balls with one player playing the striped (semi-colored, 9-15) balls and his opponent playing the solids (fully colored, 1-7). Only after the respective groups of balls has been sunk, may the corresponding player try to sink the black 8-ball. The first player to sink the 8-ball wins the game. There are,

however, varying opinions in which pocket the 8-ball should be sunk. To clarify this matter: In every official championship, be it regional, national, or international, the 8-ball may be sunk in any hole, provided that you "call" the shot before you attempt it. If you take a look around in pubs, bars, or game-halls all over the world, you will find that in almost all the games being played the eight must be played into the pocket the last ball of the respective player's group was pocketed. If it ends up in another pocket this is considered a loss. Fact is that this rule is not written down in any official set of rules, nor is it being used in any official championships. How this variation of the official rules came into existence is no longer comprehensible and the fact that this variant could have spread practically world-wide almost solely on the smaller 7- or 8-foot hobby tables is even more amazing. One explanation may be that most smaller tables are coin-operated, i.e. the sunk balls stay inside the table and you have to pay again once the game is finished. This rule offers a possibility to prolong the game, which in the long run saves quite some money. That aside, the "8-ball last pocket" variant also has its appeal from the point of view of the game itself, where not only the players but also where the spectators are concerned. I am even of the opinion that it should be made an official rule for the real top players because the variant generally used has become almost too easy. To "run" five or six games in succession is no rarity here. For TV and the spectators, the "last pocket" variant would be more interesting, too. In my opinion, it should at least be considered.

It remains to be mentioned that 8-ball is still by far the number one game in all the big amateur associations but has become virtually meaningless to professional associations or events with professional players.

2.2. 9-ball

9-ball is a game that is gaining popularity internationally and is absolutely dominating at professional events and with professional players.

9-ball relieved traditional straight pool in the 70s in the United States as the top game and has since spread world-wide and is thus the number one game of almost all regular active players. But laymen have also come to appreciate it more and more since it is a special quality of 9-ball that is as entertaining for a beginner as it is interesting and full of challenges to an advanced player. This game was popularized in no small part through the 1986 movie "The Color of Money", directed by Martin Scorsese and featuring Paul Newman and Tom Cruise. Just like "The Hustler" from the year 1961, it is based on a novel by Walter Tevis.

But back to the rules: They have been changed in detail but have remained the same in the essentials. 9-ball is played with nine balls and the cue-ball. These nine balls are set up in the rack with the one being placed in front and the nine in the middle. For the remainder of the game the ball with the lowest number on the table must be played first. Note that the ball with the lowest number only has to be hit first, it does

not matter which ball is eventually sunk. Interestingly, in 9-ball, pockets and balls do not have to be called. Thus, you can try to sink the balls in order or to make use of given possibilities for combinations. Hitting a ball illegally or even not hitting it at all is considered a foul.. This is rather unpleasant as it allows the opponent to take the cue ball and place it anywhere on the table, from which he may then continue to play. Should the cue ball drop into a pocket scratch, the same applies. Committing three fouls in a row results in loss of the game. The player who legally pockets the nineball wins.

This should suffice as far as explanations of the rules go. Your local club will help you with more detailed questions. It goes without saying that 9-ball is played in sets, i.e. as a "best-of" of a previously determined number of games won, e.g. seven. The winner of the set is the player first wins seven games. In important tournaments, this can be extended to two or three sets just like in tennis. Or, as in the case on international professional tournaments, alternating the number of games to be won may be raised to eleven, thirteen, or fifteen.

These rules explain why this game is popular among good players and beginners alike. Since you do not have to announce which ball is to be pocketed the following may apply in 9-ball: The lower the skill of the players the higher is the proportion of luck involved in winning the game and the better the players are the lower the luck-factor. This luck-factor approaches zero when world class players are involved. 9-ball is also quite a fast game and since the mode of play is easy (whoever sinks the nine wins) it is easy for spectators to follow. Thus, after a short time the spectator can identify and understand more intricate and refined shots and strategies. And you will find out very quickly that in this game anything can happen.

2.3. Straight Pool

Straight pool, called 14/1 continious, is a game of persistent popularity especially among pool enthusiasts, a game that came into existence in the United States at around the turn of the century.

For world championships, which in the USA were carried out according to a system of challenges similar to that in boxing, straight pool was used for the first in 1912. From then on until the 70s, it was the king of all the variants of pool billiards.

Straight pool was played in pool billiards' golden age in the big cities of the United States of the 20s and 30s. It was the game played by Eddie Felson (Paul Newman) and Minnesota Fats (Jackie Gleason) in the 1961 movie "The Hustler."

Nowadays, there are almost no straight pool tournaments held in the US anymore. For the time being, the last major tournaments were held in the mid-90s.These tournaments had a more traditional character in the form of a US Open and were