

DALY'S BIG BALL

MAURICE DALY (1913) DALY'S BILLIARD BOOK

Edited by William Welton Harris

CHAPTER VIII PRINCIPLE No4. – AVOID A LONG DRIVE OF THE SECOND OBJECT BALL

Plate No. 56 depicts a characteristic leave where the temptation comes to one to drive the second object ball. Diagram A shows how to try it. Shoot softly, just "dropping on" the second ball, leaving the first object ball near the cushion. Then you get either an easy draw for position or an easy cushion shot for a gather in the corner, the second ball being a "big ball."

What Is a "Big Ball"? --- A "big ball" means an object ball lying near a cushion or cushions in such position that the cue ball approaching it for a carom may hit it either directly or on the rebound from one of the cushions. For instance, on a round-the-table shot, if the second ball lies down in the corner about three inches from both sides of the "jaw," the ball is nearly a "foot big." That is, the cue ball may enter the corner anywhere within the range of a foot, and the count will be made, because it cannot escape counting either directly or on the rebound.

Lansing Perkins holds that any ball, no matter where it lies is 7 inches "big." Place the three balls frozen, side by side in a line, and it is 7-1/8 inches from the outside to the outside of the two balls on the end.

I figure it differently, however. I measure from the center to center of the two outside balls ; that is, from the path or line on which they roll. This gives twice the width of one ball, or 4-6/8 inches. An approaching cue ball coming anywhere within that 4-6/8 inch path is bound to hit the object ball. So it may lend you confidence to know when attempting a difficult shot that the ball is really 4-3/4 inches wide instead of 2-3/8 inches, its own diameter.....

MIKE SHAMOS (1993) THE ILLUSTRATED ENCYCLOPEDIA OF BILLIARDS

big ball (Bill.) An object ball that lies near a cushion or in a corner so that it can be hit either directly or off one or more nearby cushions. A ball so placed is effectively a larger target than it would be if lying in the center of the table. 1913 Daly 78, 1941 Hoppe 74, 1964 Cottingham 144. In Three-Cushions, a ball is considered big only if a rail it lies near need not be contacted for a valid COUNT. In older British usage, LARGE BALL.

large ball (Brit.) = BIG BALL. 1889 Drayson 43.

BIG BALLS NEAR A CUSHION

Maurice reckons that a ball in mid-table iz in effekt 2balls wide for a direkt cannon -- which iz korrekt, depending on what u meen.

DIA 1 TO 5 show the ball hardup, $\frac{1}{2}$ ball off the cush, 1 ball off, 1.156balls off, & $1\frac{1}{2}$ balls off. The qball iz attacking at 30dg.

LANSING reckons that the effektiv 2ball width applys no matter where the ball lyes. Woz Lansing smart or lucky?? Dia1 shows that a ball hardup on a cush duzz indeed prezent a target 2balls wide overall, when inklooding side-cush-first cannons az well az Lansing's direkt cannons.

DIA 1 shows a 30dg angle, but the 2ball width would be enjoyed by any non-zero angle (if the cushion were long'nuff).

IN DIA 1 the side-cush-first width happens to be a $\frac{1}{2}$ ball, & the direkt-cannon width happens to be $1\frac{1}{2}$ balls, by virtue of the 30dg angle. Theze widths will vary with angle, but will allways total 2balls, if hardup.

DIA 2 & 3 show the effektiv widths inkreecing az the ball iz mooved away from the cush. The ball iz getting bigger, bigger than 2balls, & hencely kan be kalled a big ball.

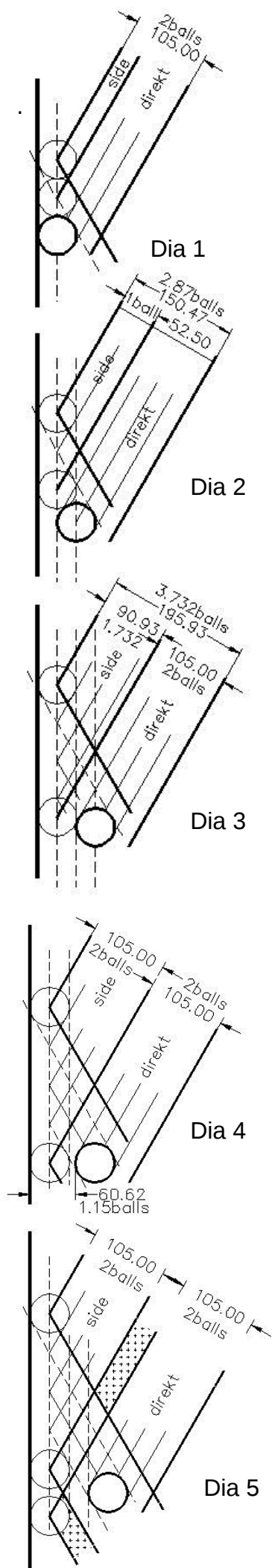
DIA 4 shows that the effektiv width reeches a maximum of 4balls when the ball iz 1.156balls off the cush. This iz for 30dg. The needed kleanorance inkreeces az the angle nears 90dg, but the effektiv width kan allways be 4balls if the ball iz far'nuff off the cush (if the table iz wide'nuff). But for exakty 90dg the width iz 2balls not 4balls.

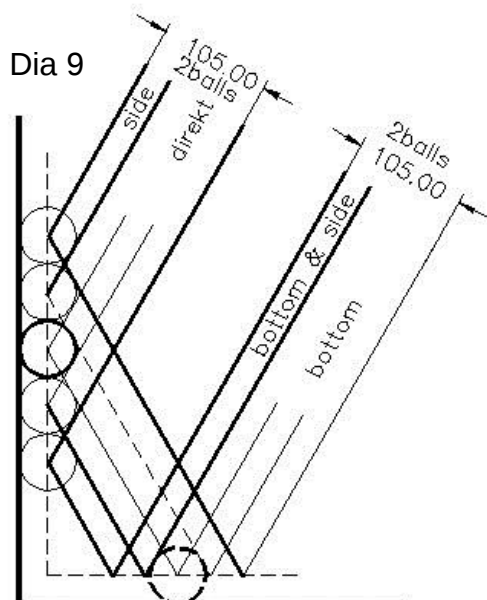
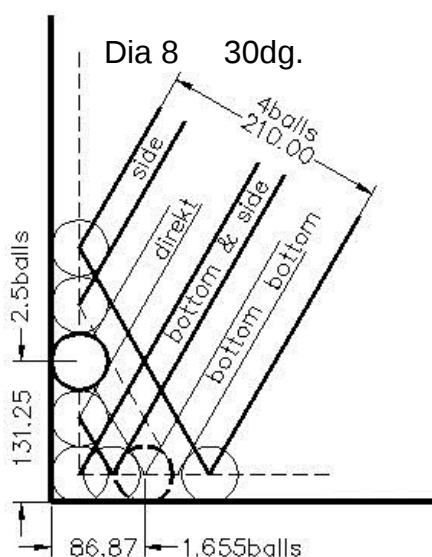
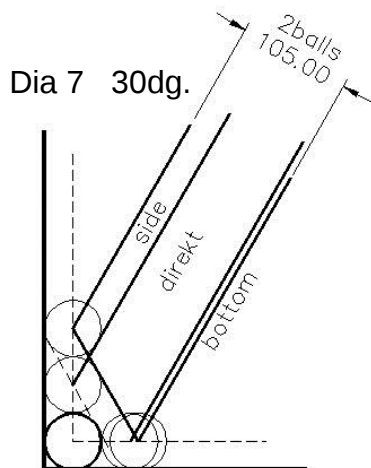
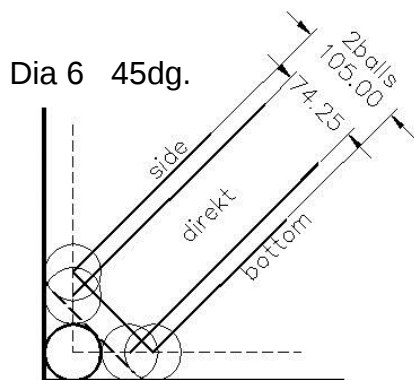
DIA 5 shows that a ball too far off the cush allows the qball to miss the cannon by passing inside (hatched pathway). Bad luck, good try, dezerved better.

NON BIG BALLS A lone ball out in mid-table iz in effekt 2balls wide, for a direkt-cannon. This iz our standard ball size, ie a non Big Ball 1ball in diameter haz a 2ball margin for error.

BIG BALLS The max width abov iz 4balls, which iz 2balls wider than a non Big Ball. Thusly its like cannoning onto a real ball 3balls in diameter out in mid-table (ignoring the 3D problem). Thusly our max Big Ball iz 3balls in dia, not 4ball dia. Just saying.

For simplicity theze diagrams are drawn for a hypothetikal table where (a) the rebound-angles equal the attack-angles, (b) rebounding balls dont kurv, (c) the cushion dusnt kompress, & (d) the qball duznt skid along for a distance while in kontakt with the cush. Allso for simplicity (e) the attack-angles are all drawn parallel (ie at the same angle), not radiating away from some far-off point. Real shots & real tables & real cannons are not so simple.





HARDUP NEAR A CORNER

LOOKING AT DIA6 & DIA7 a ball sitting in a corner iz a target 2balls wide, when inklooding cush-first cannons (az well az the direkt cannon).

DIA9 shows that a ball hardup on the side-cush but well kleeer of the corner allso prezents a target 2balls wide, for qballs cannoning direktly plus side-cush-first. (The broken ball on the bottom-cush would enjoy the same 2ball width etc but for a qball attacking from the other direktion at 60dg, & them pathway descriptions dont apply for the broken ball).

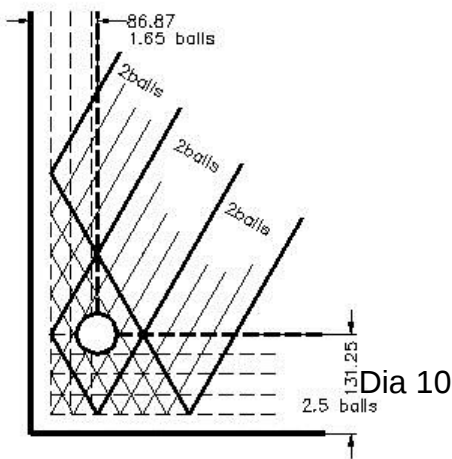
DIA9 allso shows that well away from a corner, a hardup ball prezents an overall target width of 4balls, if inklooding bottom-cush-first cannons, & bottom&side-cush- cannons. (The broken ball on the bottom-cush would enjoy the same 4balls width, & them pathway descriptions dont apply).

DIA8 shows that this 4ball width iz enjoyed once the hardup ball iz at least 2balls kleeer of the corner, if the attack-angle iz 30dg. (The broken ball on the bottom-cush enjoys a 4ball width when 1.16balls kleeer of the side-cush az shown, & them pathway descriptions dont apply).

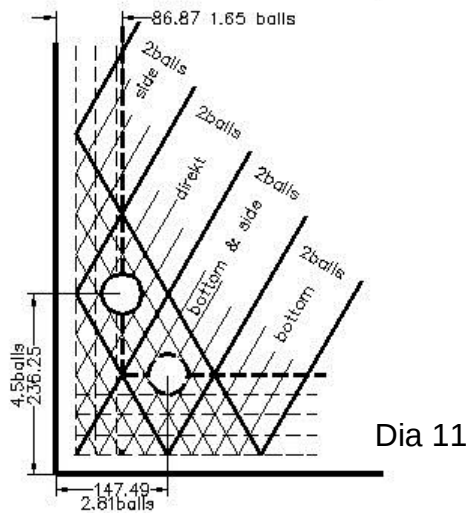
REGARDING the 4ball width enjoyed in Dia9, this 4balls allso aplys when the ball iz hardup a long-long way from the corner, but in that case the effektiv target for a good akurat player iz probly only the minimum of 2balls. The bonus 2balls would only help an inaccurate tyro, or praps a good player having a long-range allround bash.

I uzuually avoid uzing different terms for the one thing. In this chapter i sometimes say margin for error, sometimes target width, or size of the bigball, or praps width of pathway, or nett effektiv width, or odds for a cannon etc. Dont worry. I might do a proper edit later, if it will get me a Nobel Prize for billiards.

BIG BALLS NEAR A CORNER

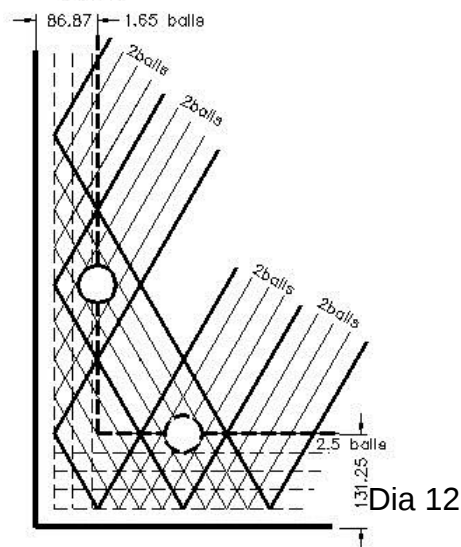


DIA 10 A ball direktly out from a corner (1.15balls kler of the side-cush & 2balls kler of the bottom-cush) presents a target width of 6balls (for a 30dg attack).

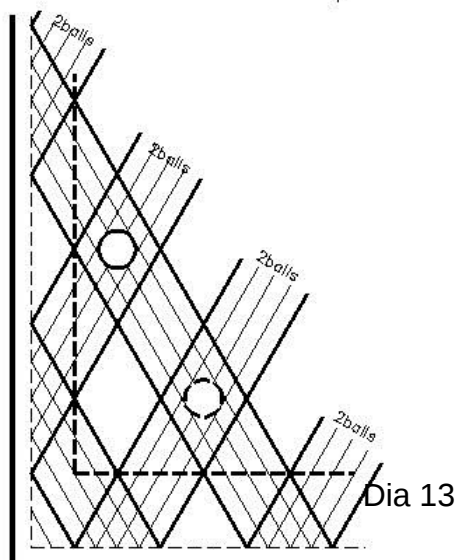


DIA 11 With the ball 1.15balls kler off the side-cush, mooving the ball to away from the bottom-cush inkreeces the margin for error for a cannon to 8balls once it iz 4balls kler.

(The broken ball enjoys a 8ball margin allso, this iz 2.31balls kler off side & 2balls kler off bottom. The pathway descriptions dont apply to the broken ball).



DIA 12 Mooving the ball further away from the bottom-cush duznt inkreec the margin for error, 8balls iz the most u kan get. The overall pathway width for a cannon inkreeces, but it haz a void in the corner, & the nett scoring pathways add to only 8balls. (Likewize for the broken ball).



DIA 13 Mooving the ball further out into midtable likewize duznt inkreec the size of the bigball. There are 3 voids where u miss a cannon, & the scoring pathways add to only 8balls. (Likewize for the broken ball, ie for 60dg).

MAP FOR BIG BALLS NEAR A CORNER

Daly says

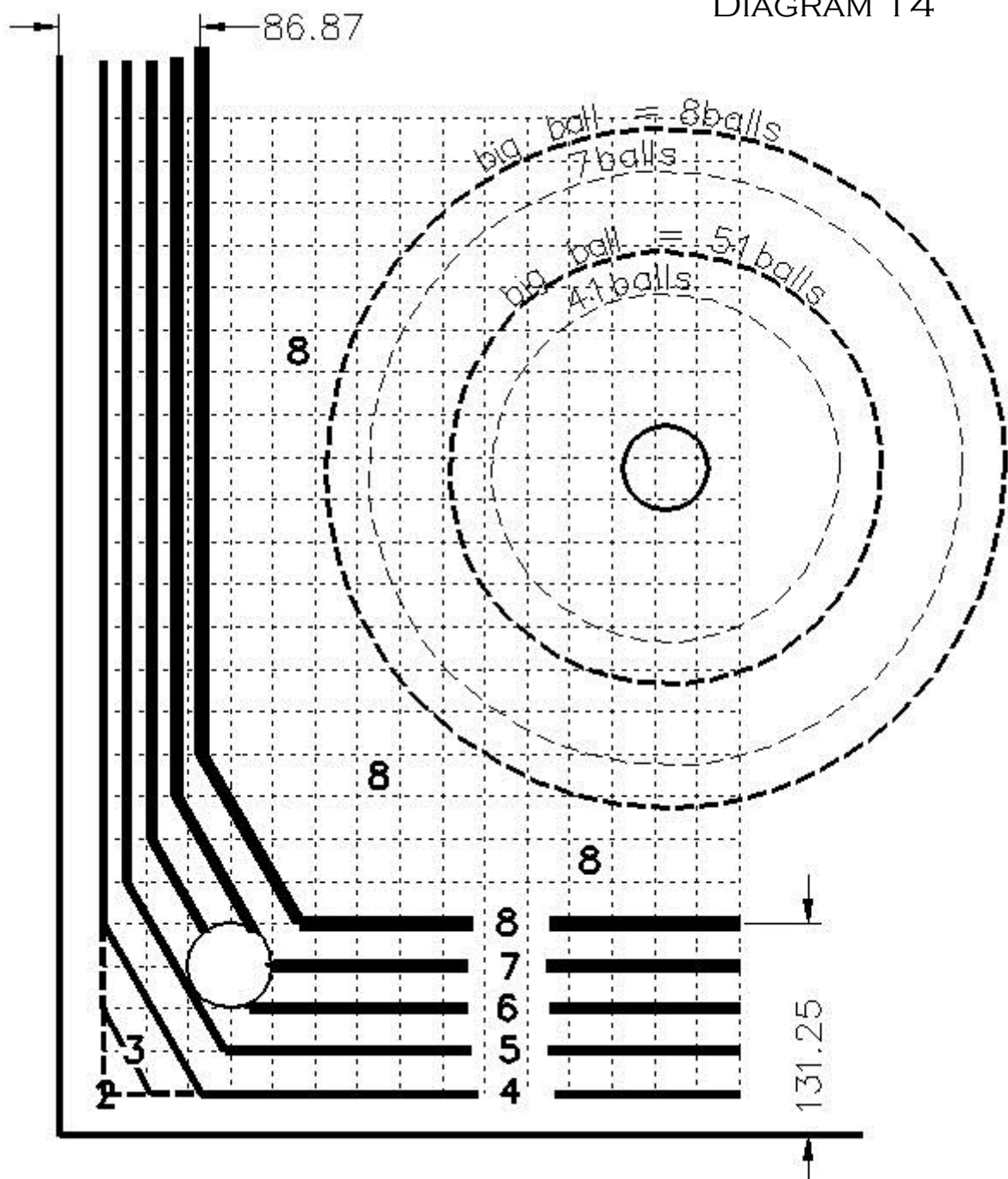
.....For instance, on a round-the-table shot, if the second ball lies down in the corner about three inches from both sides of the "jaw," the ball is nearly a "foot big."

A foot is 5.1 balls, each ball being $2\frac{3}{8}$ in. However Daly then says....

....That is, the cue ball may enter the corner anywhere within the range of a foot, and the count will be made, because it cannot escape counting either directly or on the rebound

This definition has the big ball in effect one ball smaller than a foot, ie 4.1 balls in diameter.

DIAGRAM 14



DIA 14 This big ball map shows the margin for error for a cannon near a corner for an attack-angle of 30dg. The maximum margin iz 8balls, if the ball iz well off both cushions. The minimum margin iz 2balls, if the ball iz hardup in the corner. The margin iz 4balls if hardup but well away from the corner.

CONTOURS The margin gradually tranzitions tween 2ball 3balls & 4balls in the vicinity of the corner, & tween 4ball 5balls 6balls 7balls & 8balls, along the cushions, az shown by the contour lines. The broken grid iz $\frac{1}{2}$ ball by $\frac{1}{2}$ ball. The dimensions are for a 52.5mm ball (ie 2-1/15").

BIG BALLS The two outer biggest big balls show the size of Daly's big ball for both definitions, one iz 8balls in dia, the other 7balls. Theze are based on the standard 2 1/15" (52.5mm) ball (shown in the center). Daly aktuallly reckoned that hiz big ball woz 5.1balls (or 4.1balls), & theze diameters are shown by the two smaller inner big balls, once again based on the English 2 1/15" ball.

SMALL BIG BALLS Theze big balls are only full sized if well away from the cushions. They would be only a half of thems sizes if the red sits hardup on a cushion, & only a quarter if the red sits in the corner.

30DG Some of theze details apply only to an attack-angle of 30dg. But the general form of the map iz ok for all attack-angles. For all angles, the size of Daly's big ball transitions from 2balls to 8balls depending on pozzly. For angles narrower than 30dg the 8ball contour would be closer to the side-cush but farther from the bottom-cush.

8BALLS I reckon that Daly's big ball shood be 8 times the size of a ball (2-3/8"), not 5.1 times. Daly's nearly a foot big shood hav been nearly 19in (ie 1ft 7ins).

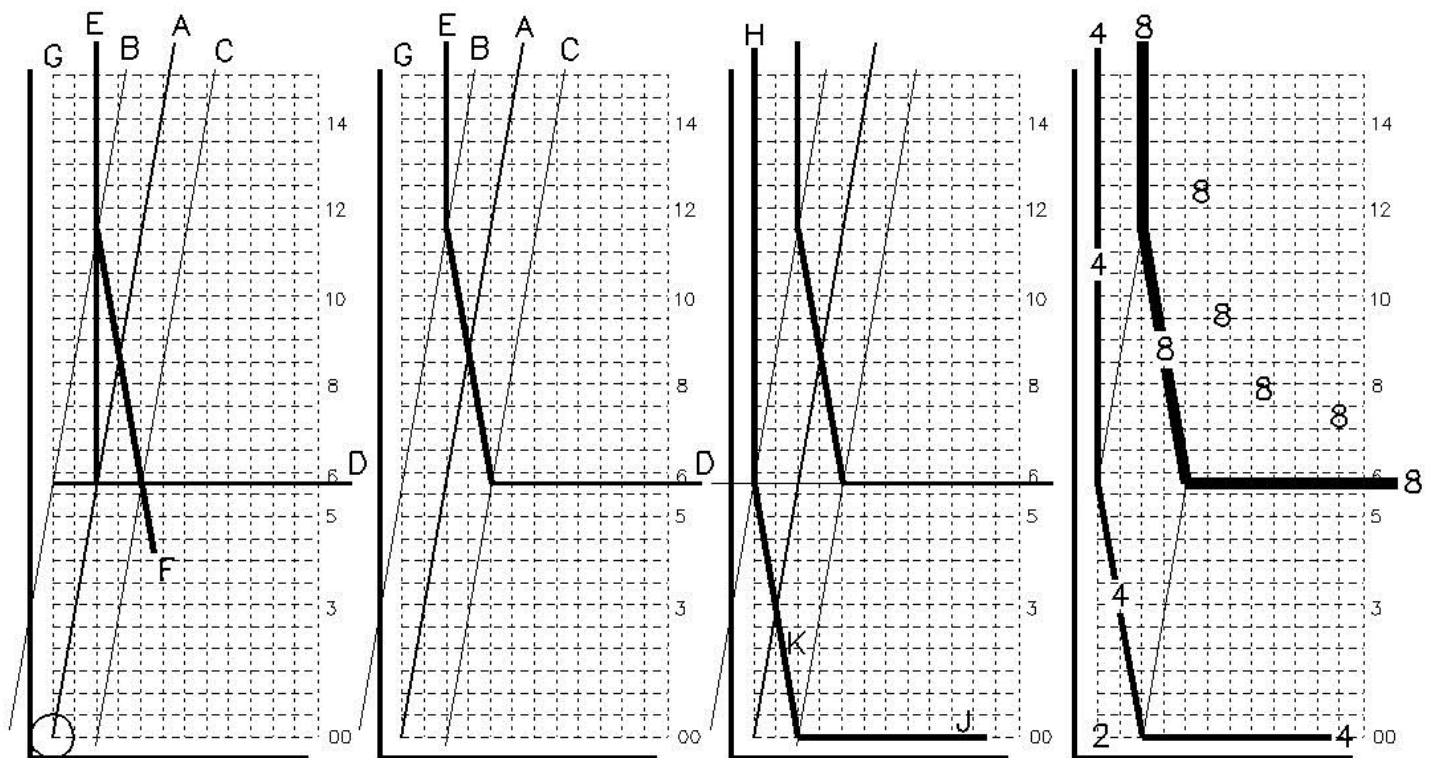
ABOUT THREE INCHES FROM BOTH SIDES

On the other hand Daly duzz say

..... on a round-the-table shot, if the second ball lies down in the corner about three inches from both sides of the "jaw," the ball is nearly a "foot big." ...

If the attack-angle iz approx 10dg then a ball three inches kleeer from both sides would be sitting near'nuff on the 5ball contour, & hencely Daly's big ball would indeed be near'nuff only a foot big, based on hiz 2 3/8" ball. But Maurice sayd on a round-the-table shot, & a round-the-table shot attacks at approx 30dg or up to 40dg, & on theze angles that ball would be sitting on the 6ball or 7ball contour (az shown by the ball in dia14).

10BALLS There are 5 skoring pathways on Daly's pocketless table, eech up to 2balls wide. However u never enjoy a 10ball margin koz all 5 pathways never exist at one time, ie at one place. For example u karnt hav a possible cannon off the side-cush then bottom-cush, plus a possible cannon off the bottom-cush then side-cush. Or, u kan, but only in a narrow pathway heading allmost direktly for the corner. And here the waiting ball would be hit by the attacking qball before the qball gets to the cushion, ie u would get a direkt-cannon. On the other hand u kood hav a margin of 10balls or even more if u hit the qball hard'nuff such that it goze round the table again & haz a second bite.



We hav a side-cush & bottom-cush & a ball in the corner & a halfball grid from the ball. Draw lineA at 10dg from the ball, & draw linesB & C offset 1ball dia from lineA. Draw lineD from the intersekt of lineB & gridG. Draw lineE from the intersektion of lineD & A. Draw lineF from the intersekt of lineE & B to the intersekt of lineD & C. Trim linesE F D, to make LineED which iz our 8ball contour for 10dg. Draw lineJ along grid 00 from the intersekt of lineC & grid00. Draw lineH along gridG from the intersekt of lineD & gridG. Draw lineK from the end of lineH to the end of lineJ. LineK happens to be at 10dg from the side-cush. LineHJ iz our 4ball contour for 10dg. There iz a short 2ball contour point in the corner. If u like u kan draw equally spaced intermediate 3 & 5 & 6 & 7ball contours parallel to the 8ball & 4ball.

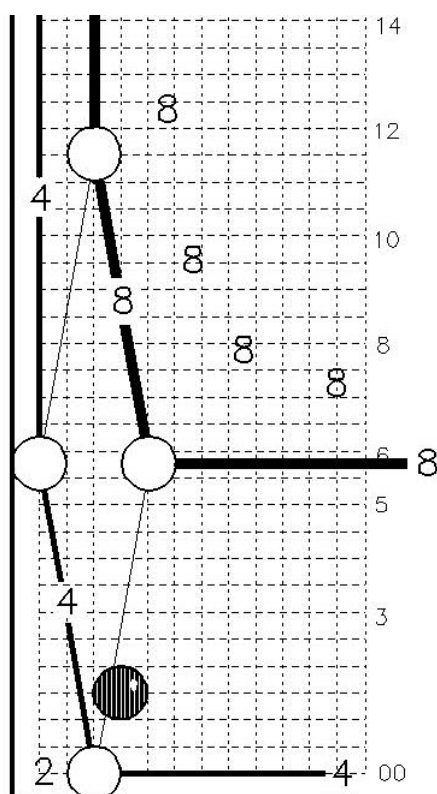


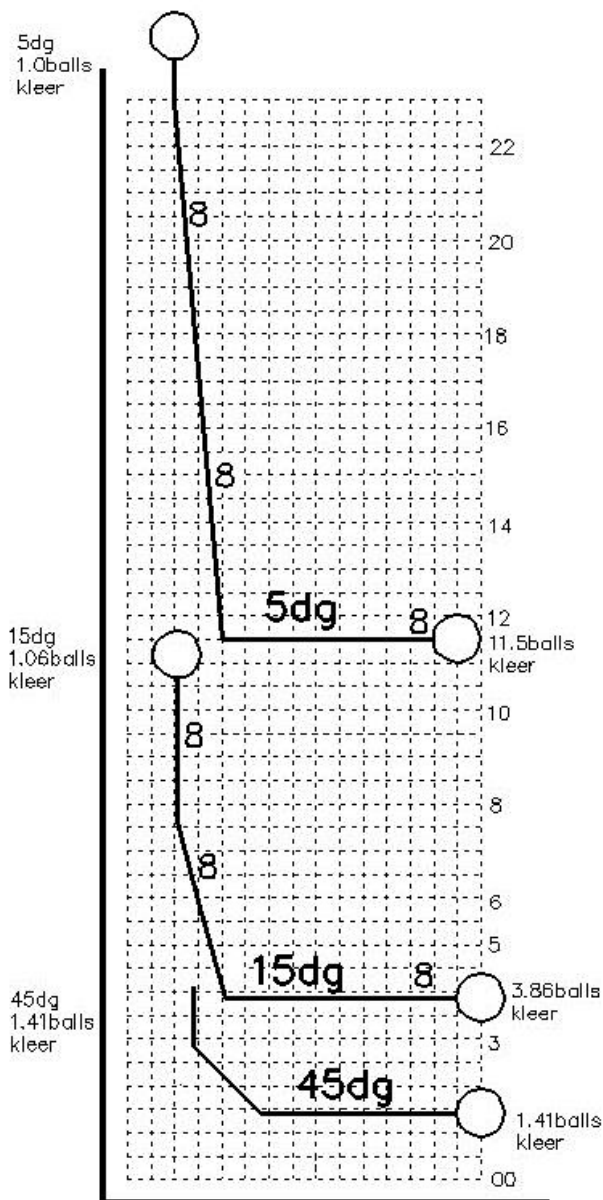
DIAGRAM 16 10DG MAP

The 2 balls on the 8ball contour enjoy an 8ball margin for error for a cannon. Likewise any ball sitting further out in mid-table, outside the 8ball contour.

The 2 balls sitting hardup on the cushions on the 4ball contour enjoy a 4ball margin for error for a cannon. Likewise any ball sitting hardup further from the corner. And any ball sitting on the diagonal bit of the 4ball contour.

A ball sitting in the corner would enjoy a 2ball margin for error for a cannon.

The redball iz sitting $1\frac{1}{2}$ balls kleeer from both cushions, ie a little more than Daly's three inches off. Az kan be seen, the redball would be on the 5ball contour (had we drawn it). I assume Daly meant three inches kleeer from the cushions.



5DG 15DG 45DG

DIAGRAM 17

Az shown or az kan be seen by the 8ball contour for 5dg if u want the full amount of the 8ball margin for error a ball shoold dezirably be more than 1.0ball klee of the side-cush when more than 23balls klee of the bottom-cush, & more than 2balls klee when more than 11.5balls klee of the bottom-cush.

DOUBLE COUNTING

DIAGRAM 18

Here the 2 balls are sitting in a narrow 1ball pathway where they can be hit by a qball rebounding off the side-cush then the bottom-cush, but az kan be seen theze balls would be hit by the qball direktly, ie before the qball gets to the cushion.

The same diagram kan be uzed (with a minor change to the pathway description etc) to show a similar 1ball pathway for a qball rebounding off the bottom-cush then the side-cush.

Thusly in this narrow zone there iz a double counting involving 2balls of pathway, & thusly the potential 10balls of margin for error iz yet again only 8balls wide.

