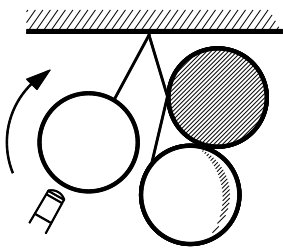


RUB NURSES

DALY'S BILLIARD BOOK (1913)

The "rub-nurse" arose in the development of cushion caroms. It is the finest cushion carom position possible, sometimes resulting in very long runs. It is shown in Plate 138. In playing it the cue ball moves a small fraction of an inch and the object balls even less. I have seen Martin Mullen, an amateur, make more than **100** points at this nurse in cushion caroms, moving the balls only a **few inches**. It is just as useful in straight rail, and in balk-line astride the line at its end. The cue ball strikes the **cushion first** generally (not always), with a little **reverse English** and "**top**". Then it caroms, but the reverse and top English **deadens** the cue ball so the object balls are scarcely disturbed. Sometimes the **chuck-nurse** position grows out of spoiling the **rub-nurse** position. But whenever you get the balls close together on the rail, watch the chances to nudge them into one of these positions, or into the **anchor**. The latter is far more difficult to execute, and in modern competition games it is barred as being too easy, though no players ever made many at it except **Schaefer** and **Ives**. In ordinary **balk-line** competitions i think by all means it ought to be allowed. It adds greatly to the variety of play and hence the interest of the game..... **RUB 1** This iz ruffly what Daly's Plate 138 looked like. Daly sez...



The Rub Nurse -- Cue-ball top and reverse english. Cushion first, very softly, just barely getting to 2nd ball, then repeat. **MY COMMENTS** So, Daly meens a 1-stroke-sequence. It iznt clear whether Maurice meens Running, or Stationary (ie a rocker), or Semi-Stationary. Praps **SEMI-STATIONARY**, the red & yellow slowly spreading apart a few

inches, leeding to *Mullen...make more than 100 points....moving the balls only a few inches*. But praps Maurice's **MOVING** meens Running, the 3 balls mooving **ALONG** a few inches, whilst keeping their basic shape but spreading a little. Why duz Maurice show the red **OFF** the cushion? I reckon that the red will be frozen in about 10 out of 10 instances of such a nurse. Why duz Maurice show the yellow touching the red? I reckon that the yellow will be apart from the red in about 10 out of 10 instances of such a nurse. Why duz Maurice show reverse english (left-side)? Right-side will allmost instantly ruin any touch, u won't be able to land softly on the yellow with any consistency. And left-side iz allmost az bad. Zero side iz the key to any consistency, certainly with the small English ball. Why duz Maurice say that top deadens the qball? Overspin iz impossible at slow pace. Why duz Maurice say that.....*The cue ball strikes the cushion first* **GENERALLY (NOT ALWAYS)**? I suppoze that u might need to play RCY if the qball got between the red & yellow, in which case u would allmost certainly need some right-side. But praps Maurice ment YCR, or YRC, or RCY (this iz most probable). Or if playing away from the cushion, RY. If the qball woznt covered (ie if it couldn't see the cushion), then the only use for a red-first cannon would be to get the qball well out, to allow some sort of yellow-first recovery stroke, to herd the yellow back closer to the cushion, or to amend the shape of the balls. Why duz Maurice say that a Chuck Nurse (ie what the Bible calls The Rocker) might grow out of a Rub

Nurse? Surely it iznt possible for the yellow to leak east of the red without playing some sort of yellow-first cannon. The mention of a Chuck Nurse growing from the spoiling of a Rub Nurse suggests that the Rub Nurse iz often partly a **THINALONG**, ie either a 90° verzion or even a 70° verzion. But the only time that Maurice shows a drawing of anything like a ThinAlong, anywhere in hiz book, he only shows it az being played az a single bridging stroke leeding to **THE NORMAL RAIL POSITION RECOVERED**.

RISO LEVI BILLIARDS, THE STROKES OF THE GAME (1910)
Riso duznt mention the Rub-Nurse. Dia 740 shows an ordinary thin cush-first-cannon.

If the object balls are taken very thinly a gentle stroke will move them very little, and when they are only grazed their position after the stroke will be little different from what it was previous to the stroke having been played.....

MANNOCK BILLIARDS EXPUNDED (1910)
Duznt mention the Rub-Nurse, or anything similar, just the uzual thin cush-first cannon.

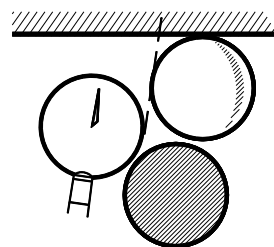
TOM REECE DAINTY BILLIARDS (1925) Tom sez zilch.

MIKE SHAMOS ILLUSTRATED ENCYCLOPEDIA OF BILLIARDS (1993)

.....Hints of its beginnings appear in 1881 NYT (Nov 15)...

..... but its invention is later credited to Eugene Carter.....

RUB-ROCKER 2 The Rub-Nurse didn't hav a major place in old English billiards, but the Rub-Rocker did. **TOUCHING** The yellow & red are hit thinly & softly & don't roll out of their footprints. But u get touching-balls sooner than u think. If u hit harder to avoid touching-balls the red will leak away. If the red finds a **PIT** (a massé bruise), then this might help a rocker. If the yellow also finds a pit

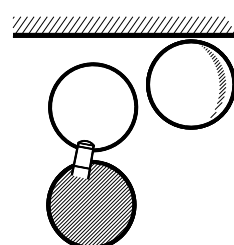


then u might set a new record. In my opinion the American professors praktised massés on the championship table to help their rockers. Although Rub-Rocker 2 looks promising, i reckon that the standard English rocker iz better (see Rocker 1 in ch30).

RUNNING SIDE U play the Rub-Rocker either cushion-first (CYR), or yellow-first (YCR). One problem with the YCR iz that it iz often not possible to hit the yellow very thinly (due to simple geometry), if u aim very thin on yellow u might hit the cushion first. Hence a bit of lhs would keep the yellow quieter in a YCR cannon (koz u will be direktly hitting yellow thicker than very thin).

MISS A CYR cannon haz problems. U kan rebound off the cush & then hit the yellow very thinly az intended, but sometimes u might miss the yellow altogether (due to a simple geometry problem here). **OR-OR** Hence it might be best to aim in between, i meen to aim for an **OR-OR** type of contact, where u don't care whether u hit the yellow first or the cushion first. **HIT HIGH** I show the qtip hitting the qball well abov center. I reckon that this leeds to better control of pace compared to hitting on or below center (equator). It haz nothing to do with Daly's (silly) overspin. **RIGHT-SIDE** I reckon that some right-side might help u to play a CYR cannon when the needed attack iz not far off 90°. But uzing side, especially running-side, iz suicide for control of

pace. **SLIP-THROO RUB-NURSE 3** Here we hav played a few Rub-Nurses or Rub-Rockers, & the balls hav spread & we might now be thinking of playing a slip-throo to regain close cannons of some kind. One of the troubles with Rub-Nurses az the balls spread iz that u hav to play over the red az shown. And praps u are near the middle of the

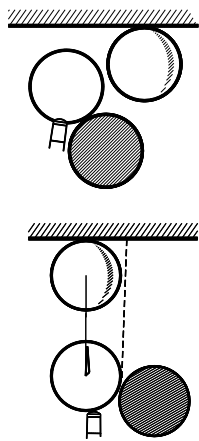


cushion, ie u hav to reech-out-&-back. Here, when we do slip-throo, we will find ourselves on the wrong hand (unless left-handed). There are dozens of ways of regaining close cannons here (if u are on the top cush).

RISO LEVI BILLIARDS THE STROKES OF THE GAME, PART 3 (1910)

Riso sez that in 1910 the **TOUCHING-BALLS RULE** woz in force (ie the same az today's rule), & that this rule came into force in March 1898.

but in October, 1907, it was temporarily superseded by a rule which compelled the striker to play from the position of the cue ball on the table, & in order to be able to score he had (when the cue ball was only in contact with one ball) either to play at the ball with which the cue ball was not in contact, or else he had to hit a cushion before a ball...The new rule had only a short life, but its existence made very big breaks possible by means of rocking cannons, & in 1908 Cook made a break of 1,000 unfr which contained over 400 of these cannons....



RUB-NURSE TOUCHING ROCKER 4 This iz my drawing not Riso's. It shows a Rub Nurse kind of **INSIDE-ROCKER** (Riso uses the term rocking cannon), which iz praps the shape they were most fond of in thozе lawless days (ie CRR or YCR). Alltho Riso shows only the common rocker in hiz drawings (ie Rocker 5). This inside rub nurse rocker would hav benefited from the 1907 touching balls rule.

CLASSIC TOUCHING INSIDE ROCKER 5 This shape might be the classic English Inside Rocker (ie moreso than the Rub 4 shape), the qball duznt touch the cush (ie YR or YRR). This would hav benefited from the 1907 touching balls rule.

THE COIN CONUNDRUM

When a coin is rolled across a billiards table the coin always turns towards the bottom (baulk) end of the table. **(i)** A coin rolled down the table (towards baulk) switches direction left right left right etc & refuses to fall over. **(ii)** A coin rolled up the table quickly spirals & falls over. **(iii)** A coin rolled slowly across the table always turns towards the baulk cush before spiraling to a stop. **(iv)** If the coin is initially given a kurv towards the top cushion it nonetheless turns toward the baulk cush. **(v)** A coin rolled somewhat faster sometimes turns towards the bottom cushion twice. This behavior occurs on standard tables having a napped, woolen cloth. **(vi)** On napless cloths a coin would simply continue its initial kurv in every case. A directional nap is produced by teasing & brushing the woolen cloth during manufacture. The cloth is laid so that the nap runs towards the top end of the table & any brushing or ironing must be in that direction. How does the nap cause this phenomenon? My interest was aroused when i saw a preposterous explanation on a television show. The answer is that there are three effects acting on the coin. **THE LEANING EFFECT.** Consider a coin rolling across the table. As the rolling coin flattens the fibres of the nap the ends of the fibres move in the direction of the nap & exert a force **F_U** on the coin acting up the table (this is in the front portion of the contact). Similarly as the fibres rebound they exert a force **F_D** down the table (in the rear portion of the contact). The 2 forces act along the line of the nap, & both hav maximum effect when the coin is rolling directly across the table, & have zero effect when the coin is rolling directly with or against the nap. Each force exerts a torque about the coin's vertical diameter. The force **F_D**, & an equivalent amount of the force **F_U**, exert a torque (torq 2**F_D**), acting clockwise about the vertical diameter. The remaining force (**F_U**-**F_D**) exerts a torque (torq **F_U**-**F_D**), acting about a

diameter that is almost horizontal. However torq $2F_d$ does not make the coin turn right, it makes it lean left. If a bicycle wheel is held by its axle & spun it will be found that attempting to turn the wheel clockwise will make it lean left. Consider the rotational dynamics. When a torq acts on a rotating body the speed of rotation & the direction of the axis of rotation may change. In the present case the vector RMV representing the rotational momentum of the coin will be attracted towards the vector TV representing the torq. By convention the directions of these two vectors are established by using the right hand rule. The right hand is held so that the curl of the fingers accurately follows the known direction of action of torq $2F_d$, the extended thumb then gives the direction of vector $2F_d$. This points vertically down through the centre of the coin. Similarly the initial direction of RMV is established by holding the right hand so that the curl of the fingers follows the rotation of the coin & the extended thumb then points left. More simply, RMV always points through the centre of the coin, along the axis of rotation. As shown RMV will tilt down towards torq $2F_d$, & so the coin will lean left. Leaning is critical to the existence of turning as it allows the existence of the centripetal force necessary to sustain a kurved path. **THE TURNING EFFECT.** Torq F_u-F_d appears to act to make the coin lean left about a diameter that is almost horizontal, but, it actually makes the coin turn left. Vector F_u-F_d points to the rear of the coin along a diameter tilted slightly below the horizontal. Therefore RMV is attracted anticlockwise towards vector F_u-F_d , & so it makes the coin turn left. There is one other contribution to the Turning Effect. As the coin leans under the influence of the Leaning Effect the weight of the coin produces a third torque, torq mg . This also appears to act to make the coin lean left but it too makes the coin turn left. **THE NAP SKID EFFECT.** The force F_u-F_d , which causes the Turning Effect also causes the Nap Skid Effect. As F_u-F_d acts in the direction of the nap, towards the top cushion, the coin skids in that direction. This is a relatively weak effect, &, as it opposes the other effects, which act to take the coin to the baulk cushion, it merely diminishes the contributions of them 2 effects. And so the strange behavior of the coins iz explained. It is easy to predict whether the coin will fall head up or head down, & the unscrupulous can exploit this for financial gain. But take care with the pace otherwise you may get result (v) which spells ruin.

THE LETTER S TRICK NEWMAN MOND TRICKS ON THE BILLIARDS TABLE 1954

Much fun can be caused by introducing this trick in a most unassuming way. Using a penny or half crown it must be rolled along the cloth on its edge to cause it to describe a letter S as shown in the diagram. When you have done this & someone has seen you do it, suggest that a game of five points up should be played scoring one point for each letter S. You & your opponent roll the coin in turns & you can offer to concede him two points in a total of five. Taking up your position at the top of the table allow your opponent to commence the game from the other end. Each time you roll the coin it will describe a letter S & you will score a point, whereas your opponent will fail to make it do anything except curl round in one direction. When you have scored four points ask him to come & stand behind you & observe from over your right shoulder just how easy it is. Roll the coin towards the middle pocket & tell him that the coin is radar controlled by the electricity from your arm. Pretend to remotely control it by waving the arm as though directing the movement of the coin. If you can convince him to try it he will find that he is successful. The whole secret lies in the fact that it will only describe a letter S when rolled against the nap of the cloth'.