

*W.L. Newton sculp.*

PERSPECTIVE VIEW of the BILLIARD TABLE. &c.

A  
PRACTICAL TREATISE  
ON THE  
GAME OF BILLIARDS;

ACCURATELY EXHIBITING THE  
RULES AND PRACTICE  
ADMITTED AND ESTABLISHED BY THE FIRST PLAYERS  
OF THE PRESENT DAY ;  
AND ILLUSTRATED WITH  
A NUMEROUS COLLECTION OF CASES,  
EXPLANATORY OF EACH OF THE DIFFERENT FORMS OF  
THE GAME, CALCULATIONS FOR BETTING, TABLES  
OF ODDS, &c. &c.

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BY E. WHITE, ESQ.

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## ADVERTISEMENT.

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It was at first the intention of the author to have formed a small compendium of brief and easy instructions, but considering that no work on the game of Billiards had hitherto made its appearance in this country, he soon conceived, that by giving a little more amplitude to the composition, he might render it of more general utility.

As now offered to the public, he would willingly flatter himself, it may not only be serviceable to the novice, but may be useful, as a book of reference, to those who have already acquired a competent knowledge of the game.

Of the defects of the Work, the author is more sensible perhaps than any other person can be. Of the merit it may happen to possess, those are best able to judge who have an extensive knowledge of the subject, and who consequently know the difficulty of reducing to a system, a game so diversified as Billiards.

The principal obstacles the author has had to encounter in the composition, are, 1st, The difficulty of laying down fixed rules, where the propriety of adopting certain modes of play, in preference to others, must be almost uniformly influenced by the degree of manual dexterity of the player.

2nd, The impossibility of reducing theory to practice, by exemplifying general rules, by regular and connected games. In consequence of these, the work is unavoidably less perfect than he could have wished.

He has, however, attempted to supply,

in some measure, the deficiency by the introduction of select practical cases; and he hopes he has not been altogether unsuccessful.

Not having the advantage of written authorities to consult, the author has spared no pains in collecting the opinions and practice of the most celebrated players of the present day.

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## TREATISE ON BILLIARDS.

## CHAPTER I.

*Of Billiards in general—of the Billiard Table—of the Instruments employed in the Game—and of the manner of using them.*

**B**ILLIARDS, like the greater number of the games which are prevalent in modern Europe, is of French invention. Soon after the French, the Germans, the Dutch, and the Italians brought it into vogue throughout most parts of the Continent; and in a few years afterwards it became a favourite diversion in England, particularly among persons of the first rank. As it is replete with entertainment, and attended with that kind of moderate exercise, which renders it at the same time more agreeable and conducive to health, it will, in all probability,

long remain in fashion, notwithstanding it has, of late years, been in some measure prostituted by a set of men, who infest the various places of public resort, and live upon the spoils of the unwary.\*

\* Billiards being a game of skill, is peculiarly calculated to ensure success to the predatory designs of sharpers. No billiard room of any notoriety is free from men who are gamblers by profession, and who are constantly in waiting to catch the ignorant and unsuspecting, who occasionally drop in, from motives either of curiosity or amusement; and by constant practice they acquire a degree of dexterity, that enables them to obtain an easy advantage over the generality of their opponents. Their grand object is to conceal their skill from their adversary, and to accommodate their play to his, in such a manner, as to appear to obtain the conquest more in consequence of good fortune than good play. In order to effect this, they avoid scoring in the obvious and more easy way, and chiefly depend upon those strokes, the intent of which are apparent only to those who are intimately acquainted with the minutiae of the game. They generally suffer their adversary to gain some few games successively, and then propose to double the stake, to which, he in all probability consents, deluded by the hope of a conquest as easy as the preceding: but in the end, it is well for him indeed, if he escape being fleeced of all the ready money he may happen to have about him. Let the young player therefore be extremely cautious how he becomes the antagonist of any one, (though in appearance and manners the most engaging and respectable,) that he may accidentally meet in houses of this description; or if he be induced to play solely from motives of amusement, let him never be tempted by a deceptive appearance of superiority, to venture upon any considerable stake.

The *game at billiards* is played by two or four people, with *ivory balls*, upon a *table*, which in different countries is made of different shapes. In some parts of the Continent, a round or oval form is most in use, in others, nearly a square one; but the shape almost universally employed in this country, is the oblong; in size from nine to twelve feet long, and from four to six feet wide. It is covered with a smooth green cloth, surrounded with a raised edge or border, which is lined with a stuffed elastic pad, denominated the cushion (a a a, frontispiece), and furnished with six pockets, four of which are situated at the four angles, and two midway in the length of the sides (b b b). The table has an upper and a lower part; across the upper part is drawn a line, the space within which (c c) is called the *baulk*, and within the baulk is described a ring, or semi-circle (d), termed the striking point.\*

Either two, three, four, five, or six *balls* (g) are employed, according to the particular game. Of these, two are *white*, the others are distinguished

\* The game was, for a long time after its invention, played in a very different manner from what it is at present; a pass or bar of iron being fixed on the table, through which the balls at particular periods of the game, used to be passed; but now this method is almost universally laid aside.

from each other by appropriate colours; and of the white ones, a black spot is attached to one as a mark of distinction: one of these being allotted to each player, or to each party, and the *coloured balls* being considered neutral, or common to both.

The *instruments* employed for the purpose of striking the balls are two; the *cue* and the *mace*. The former of these is a long round stick, usually made of ash, and shaped in the form of a cone, being broad at one end, and at the other converging to a narrow flattened, or rounded point (e). The latter consists of a long slender rod, with a thick piece of mahogany or other wood affixed to its extremity, and adapted to it in such an angle, as to rest flat upon the table while the stick is held up to the shoulder in the act of striking. The under side of this is flat and smooth, in order that it may move with facility over the cloth, the upper is concave, and the end to be opposed to the ball is plain and broad (f).

Of these instruments, the cue is by far most universally in use. It possesses various advantages over the mace, and is invariably preferred by all good players.\* The mode of using it is as follows:

\* The advantages which the cue possesses over the mace, will be the subject of future consideration. Vide



The first thing to be attended to, is the *bridge*, or support upon which the cue is to act. This is

the observations on this subject in Chap. II. The cue is the only instrument in vogue abroad, and it is played with amazing address by the Italians and Dutch, but in England, until of late years, the mace has been employed almost exclusively; which the foreigners hold in the utmost contempt, as it requires not near so much dexterity in playing it. It is astonishing to what a degree of skill the management of the cue has been in many instances carried. Examples of this will daily present themselves to those who are much in the habit of frequenting the billiard rooms of our own country; but I think I have upon the whole seen more instances of superior address among foreigners. The keeper of a billiard room in Hamburgh, where perhaps the game is played as much as in any other town in Europe, will at any time engage to make the straight hazard across two contiguous tables: that is, that he will strike the object ball from one table to the other, and hole it in any specified pocket of the latter. But the most remarkable instance of this unusual dexterity, that has hitherto come within my observation, occurred in an Italian, who frequented the billiard rooms at Paris, about the period of the revolution in 1789. I have frequently seen him place two balls in the middle of the table, parallel to each other, and venture an even bet that he would make either the winning or the losing hazard, in any one of the six pockets; and this he usually performed with facility, upon the nature of the hazard, and the particular pocket being determined upon by the spectators. He had so great a facility of making what are called doublet hazards, (i. e. hazards made after a reverberation of the ball from an opposite cushion. Vide fig. 37—43,) that he has been known to hole the red ball in one of the upper holes, by playing

formed by the *left hand* of the player applied to the table, about half a foot from the ball to be struck. In making it, the wrist and fingers only should rest upon the table; the latter being turned outwards and bent to such an angle, as to leave the palm considerably hollowed, at the same time that the thumb is elevated above the level of the knuckles, so as to form a furrow between it and the forefinger, in which the cue is to be received. The next step is to handle and adapt the cue in such a manner, as to render it most free and easy in its motion. This consists in grasping the broad extremity between the thumb and fingers of the right hand, with sufficient force to enable the striker to use an adequate strength in his stroke, and yet free enough to allow of a considerable extent of motion; and in applying the other extremity to the bridge, about half a foot from its point. The bridge being made, and the cue thus adapted to it, it only remains to strike the ball, which is to be done in the following manner. The point of the cue previously rubbed over with a little chalk, or made rough, to prevent its slipping, ought, in the first place, to be made accurately to approach the centre of the ball, which, as was before observed, at it from the striking point, thirty times, without an intervening failure.

should be rather more than half a foot from the hand. It should then be drawn a couple of inches backwards, slightly depressed towards the cloth, then gradually elevated to its former parallel, and lastly forced against the ball, so as to drive it onwards with more or less velocity, as occasion may require.\*

\* Almost every cue player has a mode of striking peculiar to himself. Some in making the *bridge*, have accustomed themselves to lay the hand quite flat upon the cloth; others hollow it to the utmost and expand it by separating the fingers widely from each other; while some again suffer the fingers to remain close, and only give the palm a moderate degree of concavity. In *holding the cue*, many players grasp it firmly in the hollow of the hand; a great number retain it between the thumb and fingers only, while these are held perpendicular to the table; and some use the thumb and fingers only, but at the same time turn the wrist inwards, so that the fingers and back of the hand shall be horizontal instead of perpendicular. Lastly, in *striking the ball* some use a simple push, others a sudden impulsive jerk. It is habit only that has made these different modes of using the instrument familiar and indispensable to the individuals who employ them, but the young player who has not yet formed any particular habit, will, I am convinced, find it preferable to accustom himself to the mode of play here recommended, as it is not only the most elegant, but infinitely the most commodious. This briefly is, with regard to the *bridge*, to turn the fingers outwards, but to retain them close to each other, and to give the palm such a degree of concavity, that the cue when held level with the cloth, may approach the ball about the  $\frac{1}{8}$  of an inch above its

The action of the mace is by far more simple. Previous to the act of striking, its broad extremity is to be adapted very accurately to the centre of the ball; and the stick being then carried up even with the right shoulder, the instrument and the ball are to be, at once, pushed onwards, by the same effort, and without any sudden impulsive force. This should be particularly attended to, for if the ball be struck, rather than pushed onwards, not only is the stroke (usually) considered foul, but the imparted motion will be less correct, and there will moreover be a danger of breaking the instrument.

centre: in *holding* the broad end of the *cue*, to employ either the thumb and fingers alone, or the palm with a moderate firmness, and at the same time to turn the wrist inwards, so that the phalanges of the fingers, and back of the hand, may correspond, or be level with the surface of the table: and in *striking the ball* (unless under some particular circumstances hereafter to be mentioned) to make use of the previous gentle depression of the point of the instrument above described.

## CHAPTER II.

## SECTION I.

*Of the general Principles of the Game of Billiards.*

IN the game of *Billiards*, the general object of the player is, briefly, by striking one ball against another, either to propel one or both of them into a pocket, or with one ball to strike two others successively. Two balls lying in such a situation as to admit of one or both of them being pocketed, presents to the striker what is termed a *hazard*. If the red ball be one of these, it is then called a *red hazard*; if it consist of the two white balls only, it is called a *white hazard*. When after the contact of the balls, the white or striking one is pocketed, the striker is said to have made a *losing game hazard*; on the contrary, when the ball struck at, whether red or white, is made to enter a hole, he makes what is termed the *winning game hazard*. If with his own ball he strike two others successively, the stroke obtains the name of a *carambole*, or *carom*.\*

\* The reader will find the various other terms, made use of in the game of *Billiards*, explained in the progress

It will be the object of the present chapter to lay down those established principles, which are

of the work; but as many which were formerly employed are now fallen into disuse, and as there are some made use of by our neighbours abroad, which have not been introduced into the language of our own billiard rooms, it will not be amiss to present him with the explanatory vocabulary, annexed to the French rules and orders for playing the game, lately published.

*“ Vocabulaire explicatif des Termes usités au Jeu de Billard.*

*“ Acquit.* C'est le premier coup qu'on joue pour se mettre en passe.

*“ Avantage.* Ce sont les points qu'un joueur présumé le plus fort, donne a son adversaire, pour rendre la partie égale.

*“ Bande.* On donne ce nom aux côtés intérieurs d'un billard.

*“ Billard.* Ce mot signifie tout-à-la-fois le jeu auquel on s'exerce, la table sur laquelle on fait mouvoir les billes, et la masse ou le bâton recourbé, avec lequel on les pousse.

*“ Billarder.* C'est toucher deux fois la bille avec le billard, ou pousser les deux billes à-la-fois.

*“ Bille.* C'est une petite boule d'ivoire avec laquelle on joue à billard.

*“ Bille collée.* C'est une bille placée de manière qu'elle est tout près de la bande.

*“ Bistoquet.* Sorte d'instrument avec lequel on joue pour éviter de billarder.

*“ Blouse.* On appelle ainsi chaque trou des coins, et des côtés d'un billard.

*“ Blouser.* C'est jouer en telle sorte que la bille qu'on joue fasse entrer dans un des blousses la bille de celui

applicable to Billiards in general, without having an immediate reference to any particular game, the

“ contre qui on joue. Et l'on dit *se blouser* pour dire  
 “ mettre sa propre bille dans la blouse.

“ *Bricole*. On emploie ce mot pour signifier le chemin  
 “ que la bille fait, après avoir frappé une des bandes du  
 “ billard.

“ *Bricoler*. C'est jouer de bricole.

“ *Carambole*. C'est le nom qu'on donne a une bille de  
 “ couleur rouge, employée avec deux billes blanches.

“ *Caramboler*. C'est toucher avec sa bille les deux  
 “ autres billes.

“ *Coller*. C'est pousser une bille de manière qu'elle  
 “ demeure tout-près de la bande du *billard*.

“ *Décoller*. C'est éloigner une bille de la bande du  
 “ billard.

“ *Doubet*. C'est une manière de jouer qui consiste à  
 “ faire toucher contre un des bords du billard, pour la  
 “ faire revenir du côté opposé.

“ *Être en passe*. C'est être dans un lieu du billard d'où  
 “ l'on peut passer sans bricole (*Vide Note*, p. 3.)

“ *Fer*. C'est ce qu'on appelle autrement la passe.  
 “ Voyez ce mot.

“ *Frais*. C'est ce qu'on paye au maître du billard  
 “ pour jouer.

“ *Guerre*. On appelle *jeu de la guerre*, une partie du  
 “ billard, qui se joue entre un nombre de joueurs, qu'on  
 “ peut étendre depuis trois jusqu'à neuf.

“ *Masse*. C'est un bâton recourbé avec lequel on  
 “ pousse les billes. (*Mace*).

“ *Passe*. C'est l'archet, ou porte, sous laquelle on fait  
 “ passer sa bille.

“ *Perdre (se)*. C'est mettre sa propre bille dans une  
 “ blouse, ou la faire sauter.

“ *Point*. C'est le nombre qu'on marque a chaque coup

consideration of which will form the subject of a subsequent part of the work.

Various circumstances are necessary to be minutely attended to, in order to play the game of Billiards with delicacy and correctness; namely, the particular modification of the *action of the instrument*, with which the impulse is given to the ball; the proper *regulation of the eye* of the striker; the *position* he assumes in striking, and the mode in which he accommodates the instrument to his hand; the precise *point* of the distant or *object ball*,\* or of the cushion which is made to receive the stroke; and lastly, the degree of *strength* necessary to be employed, in order to obtain the desired end.

“ de jeu, et celui qu’il faut atteindre pour gagner la  
partie.

“ *Queue (Cue)*. Sorte d’instrument qui sert à pousser  
les billes.

“ *Queuter*. C’est toucher deux fois sa bille avec la cue,  
ou pousser les deux billes à la fois avec cet instrument.

“ *Sauter*. C’est l’action de faire sauter une bille du  
billard, en lui faisant franchir la bande.

“ *Trainer*. C’est conduire quelque tems la bille sans  
qu’elle quitte le bout de l’instrument.”

\* For the sake of perspicuity throughout the following pages, the ball with which the striker plays, is termed (in some instances, however, improperly) the striking, or *cue ball*, and that which he strikes at, whether red or white, is designated by the term *object ball*.



The accuracy of every stroke will very materially depend upon the proper regulation of the eye of the striker; and this requires a great degree of nicety. There are two objects to be attentively regarded, nearly in the same instant; namely, the *cue ball*, or that to be struck with the instrument, and the *object ball*, or that to be struck at, in order to effect the desired hazard, or carom. The situation of the distant ball is first to be attentively marked; the cue is then to be adapted to the bridge formed by the hand, as before directed, and upon this the eye should be suffered to rest until the instant of striking; previous to the act of which, it should be again carried to the distant ball, and ought to remain intently on it, until the stroke is completed: for invariably, the less frequently the eye wanders from ball to ball, the more correct will be the stroke. Two glances alone are sufficient, and the last of these, namely, from the first to the second ball, should be extremely rapid, at the same time that it is accurately distinct; for if the least hesitation take place after the eye has left the striking ball, either a miss of the cue, or an imperfect stroke will very generally be the consequence.

The position in which the striker stands, whilst in the act of playing, is also of essential import-

ance to be attended to, further than as it regards the elegance of his appearance. I have for many years repeatedly had occasion to observe, that a player whose posture is elegant, who strikes with ease and grace, and who is calm and collected in his game, will uniformly attain a degree of skill, superior to him who stands inelegantly, delivers his ball ungracefully, and in his play is bustling and impatient. These are circumstances however which are much more easily to be acquired by observation, and by the direction of a good player, than by written rules. Thus much however may be observed, the body should be bent just enough to allow of the eye being directed along the cue with ease, and one foot should be extended foremost: a person who plays with his right hand, should stand with his left foot foremost, and, on the contrary, he who is left handed, should stand with his right foot foremost; by which he will be more steady and firm. "Every inordinate affection of the mind, immoderate bursts of passion, and even the fretting at trifling disappointments in his game, are usually found prejudicial to the player: his nerves being affected, it becomes impossible for him to make his stroke with that steadiness and nicety the game requires."

The direction of the motion produced in a moveable elastic body, projected against a body that is fixed and at rest, is simple and determinate; it is independent of the nature of the moving force; and alike under all the varieties of velocity and mode of projection; the reaction will invariably equal the action and be contrary thereto, or the line describing the course of the body, subsequent to contact, will form a counterpart to the motion imparted by the force originally impressed; hence the angle of reflexion must uniformly be equal to the angle of incidence.\* Thus the ball *a*, (fig. 1.) propelled against the cushion *b, c*, in the direction *a, d*, forming with the line *e* drawn through the point of contact, the angle *a, e, d*, will be returned in the direction *d, f*, forming the corresponding angle *d, e, f*.

This, however, is by no means the case with regard to bodies equally moveable and elastic; the motion resulting from the contact of these being compound, or modified by the peculiarity in the action of, and the intensity of the moving

\* “ L’angle d’incidence de la bille contre une des bandes du billard est égal à l’angle de reflexion.”— Nothing connected with the game of Billiards is more essentially important to be kept in mind, than this axiom.

powers; and arising from the joint effect of different causes concurring at the same instant in their operation.\*

It has been found expedient, for the better explaining the varieties of motion resulting from a difference in the degree and mode of contact of the balls employed in the game of Billiards, to divide the object ball, or that against which the player directs his stroke, into four or more parts, representing the precise points upon which the centre of the striking ball is to be received for different ends. This has given rise to the denominations, a *full ball*, a *three quarter ball*, a *half ball*, a *third ball*, a *quarter ball*, an *eighth ball*, &c. Vide Fig. 2.

These terms, however, employed in this sense, are liable to convey a wrong idea to persons unacquainted with the game, as they by no means coincide with what is usually understood by similar expressions in the common language of Billiards. Whenever they occur, therefore, in the progress of the present book, it is of importance that they be understood to apply to the following explanation of them only.

\* As a proposition in mechanics perhaps this may be objected to, but every one, to whom the game of Billiards is familiar, must acknowledge its truth.

The term a *full ball*, or a full stroke, is meant to imply that the contact of the balls is full and complete; or that the central point of one ball, becomes opposed to the centre of the other, as in Fig. 3. By the term a *three quarter ball* is understood that at the time of contact, the striking ball is made to cover three quarters of the object ball; and in consequence that three parts of the former are opposed to, or come in contact with, a corresponding three parts of the latter, as described in Fig. 4. A *half ball*, or *half a ball*, denotes that only half of each ball partakes of the stroke; or, in other words, that the centre of each is the extreme point of contact. *Vide Fig. 5*; and so of the *third ball*, Fig. 6.; the *quarter ball*, Fig. 7; and the *eighth ball*, Fig 8; in which last the edges of the balls only are made to touch each other.

We shall now therefore proceed to represent the motions created by each particular mode of contact above described; and this in the form of diagrams, as most likely to impress a clear idea upon the mind of the reader.

*Fig. 9. The full ball.* Whenever the contact of the balls is accurately central, it follows of necessity, that the course which the object ball obtains, in consequence of the impulse of the striking one, must be precisely the original direc-

tion of the course of the latter; or that the direction acquired by the first ball, from the action of the instrument, and that obtained by the second, in consequence of its contact with the first, must, united, form a straight line. This is what is usually called a straight stroke. Vide Fig. 9, in which a a represents the striker's ball, b, the object ball, c d, a line drawn through the centre of each, and signifying the direction of the stroke before and after contact.

Fig. 10. *The three-quarter ball.* When a ball is propelled against three quarters of another, the direction of the motion obtained by the one ball, will differ materially from that acquired by the other. Supposing a, Fig. 10, be the striker's ball, the greater part of the velocity imparted to it by the instrument with which it is projected, will be communicated to b, which will in consequence be propelled in the direction b c, whilst a will be reflected from its original course to d, if a moderate degree of strength only be employed in the stroke, and to e, if the ball be propelled forcibly; and by a particular modification of the action of the cue, afterwards to be spoken of, to f. *Vide p. 23, (the low stroke.)*

Fig. 11. *the half ball.* A half ball, or a contact, in which the half of one ball is covered by half of

the other, produces in each an equal motion, both with regard to direction, strength, and velocity. Thus in the present figure a and b separate from each other at equal distances from c, a line drawn through the point of contact.\*

\* “ Lorsqu’une bille en rencontre une autre, si l’on  
 “ tire une ligne droite entre leurs centres, laquelle con-  
 “ séquemment passera par le point de contact, cette  
 “ ligne sera la direction de la ligne frappée après le coup.  
 “ Cela supposé, voici quelques uns de ces problêmes que  
 “ ce jeu presente.

“ Les deux billes M, N, (fig. 18,) étant posées la  
 “ première, vers la bande au haut du billard, et la seconde  
 “ vers le milieu du bas, il faut frapper en o la bille M,  
 “ ensorte que celle-ci soit chassée dans la belouse b, de  
 “ l’angle à droite du haut du billard.

“ *Solution.* Par le centre de la belouse donnée, et  
 “ celui de la bille N, menez ou concevez une ligne droite  
 “ le point où elle coupera la surface de la bille M, du  
 “ côté opposé à la belouse, sera celui où il faudra la  
 “ toucher, pour lui donner la direction cherchée. En  
 “ concevant donc la ligne ci-dessus prolongée d’un rayon  
 “ de la bille, le point où elle se terminera, sera celui par  
 “ lequel devra passer la bille choquante. On sent aisé-  
 “ ment, que c’est en quoi consiste l’habilité dans ce jeu :  
 “ il ne s’agit que de frapper la bille convenablement ;  
 “ mais s’il est facile de voir ce qu’on doit faire, il ne l’est  
 “ pas autant de l’exccuter.

“ *Une bille venant d’en choquer une autre, selon une*  
 “ *direction quelconque, quelle est, après le choc, la direc-*  
 “ *tion de la bille choquante ?* Il est important dans le  
 “ jeu de billard, de reconnoître quelle sera, après avoir  
 “ tiré sur la bille de son adversaire, et l’avoir choquée  
 “ obliquement, la direction de sa bille propre : car tout

Fig. 12. *The third ball.* In the case of the third ball, the course described by a, the striker's ball, approaches nearer to the straight line, whilst that of b, the object ball, deviates more considerably from it.

Fig. 13. *The quarter ball.* In the quarter stroke represented in this figure, it will be seen, that the striking ball, a, obtains a nearer approximation to the perpendicular, drawn through the point of contact, and that the ball b is more widely reflected from it. And in proportion as the stroke is more

“ le monde sait qu'il ne suffit pas d'avoir touché la première, ou de l'avoir poussée dans la belouse ; il faut  
 “ (alluding to the common or winning game) ne pas y  
 “ tomber soi-même.

“ Soit les billes M, N, (fig. 19.) dont la dernière va  
 “ choquer la première, en la touchant au point o ; par ce  
 “ point o soit tirée la tangente O, P, et par le centre n  
 “ de la bille N, arrivée au point de contact, soit menée  
 “ ou conçue la parallèle n, p, à O, P : la direction de  
 “ la bille choquante sera après le choc, la ligne n, p. On  
 “ iroit ici se perdre infailliblement : et c'est en effet ce  
 “ qui arrive fréquemment, dans cette position des billes.  
 “ Le joueurs qui semblent avoir à faire à des novices dans  
 “ ce jeu, leur donne, même souvent, cet acquit captieux,  
 “ qui les fait perdre dans une des belouses des coins. Il  
 “ faut dans ce cas, se bien garder de prendre la bille de  
 “ son adversaire de moitié, suivant le terme du jeu, pour  
 “ la faire à un des coins de l'autre bout du billard ; car en  
 “ l'y faisant, on ne manque guères de s'y perdre soi-même  
 “ dans l'autre coin.”



fine, or the less the degree of contact, so will the angle formed by the acquired course of the object ball, with the original direction of the striking ball, on the line *c*, be more considerable, and the angle formed by the course of the striking ball, previous to contact, with the direction it obtains subsequently, will be smaller.

Fig. 14. *The eighth ball.* The relative directions obtained by the balls, when their extreme points only come in contact, is precisely the reverse of that produced by the three quarter ball, above described: the object ball approaching more or less, nearly to the parallel *d*, and the striking ball to the perpendicular *c*, in proportion as the stroke is more or less fine.

The motion which the striking ball obtains after contact with that against which it is struck, will in every case be modified by the particular action of the instrument with which the stroke is given; and more especially by the particular action of the cue.\* There are *four* points in the ball to which

\* The observations which follow, apply almost exclusively to the cue, which I recommend to all young players in preference to the mace, as it admits of a greater variety of, in its action. The only advantage peculiar to the mace, is the art of trailing; an unfair mode of play, introduced and only practised by swindlers, and which ought to be exploded in every respectable billiard room.

the cue is occasionally applied for different purposes; namely, 1. *The centre.* 2. *Below the centre.* 3. *Above the centre, and level with the table.* 4. *Above the centre, and oblique with regard to the level of the table.*

1. *The centre* (the *central stroke*). This is the usual and common mode of striking. The cue ought always to be applied to the centre of the ball, unless there are any of the objects in view to be presently mentioned. The stroke is not only more sure with regard to the action of the instrument, but a more accurate and even motion is imparted to the distant ball. This mode of striking is universally employed in all common hazards; in the making of common caroms; in playing at the cushion to obtain an even reverberation of the ball; and in those particular cases where it is designed that all the motion acquired by the first or cue ball should be imparted to the second or object

It consists in following the ball with the instrument to such a convenient distance from the other ball, as to make it an easy hazard. The degrees of trailing are various, and undergo different denominations among the connoisseurs at this game; namely, the *shove*, the *sweep*, the *long trail*, and the *dead trail*, or *turn up*: all which secure an advantage to an artful player, according to their various gradations. Even the butt end of the cue becomes very powerful, when used by a good trailer.

ball, in such wise, that the former shall lie dead, or remove little after contact.\*

2. *Below the centre (the low stroke).* When a ball is struck beneath its centre, it recoils from that against which it is propelled with a slow whirling motion; a circumstance which affords an advantage peculiar to the cue player, and which often enables him to score under the most adverse circumstances. This stroke is usually employed in making caroms, where the three balls form either a right angle or less than a right angle, in effecting the losing hazard, when the object ball is too far beyond the hole to allow of its being made in the common mode of striking, and in playing three

\* Although this observation is theoretically correct, yet it is necessary to observe, that it is by no means generally so, in a practical point of view. When the balls are near to each other, the central stroke, it is true, will produce the effect here described, or the one ball will impart to the other the whole of the velocity or quantity of motion communicated to it by the action of the original moving power; but when the balls are farther separated from each other, it will be necessary, in order to produce this effect, to play the low stroke for a recoil, otherwise unavoidable inaccuracies, either in the table or mode of projection of the ball, will frustrate the design of the striker. In the examples therefore under particular games, in the succeeding part of the work, whenever it is intended that the striker's ball shall remain dead, it is prescribed to him to play the low stroke.

quarter balls, when it is expedient to use only a very moderate degree of strength. Before it is attempted, however, it is necessary to be particularly cautious to chalk well the end of the cue, or to make it rough with a file; otherwise, when applied to the ball in this mode, it will be liable to slip. A diagram will render the utility of this mode of striking more obvious than a verbal description. Let a, fig. 15, be the striker's ball, and the object of the stroke a carambole. Now it will be evident in the position of the three balls delineated, that this purpose can by no means be effected in the common way of striking; for if the ball a, be made to receive the stroke of the cue ever so strongly in its centre, it will only recede from b, after contact, in the direction b d; if less forcibly, it will fly off to e; but if it be struck beneath its centre it will roll backwards to the ball at c.

3. *Above the centre, and parallel with the table (the high stroke).* A ball, when struck above its centre, imparts only a portion of its velocity to the ball against which it is propelled, and continues its motion onwards in a direction more or less straight, in proportion to the degree of fulness of the stroke. This mode of play is advantageously used to make the balls follow each other into a

pocket, when they are parallel with each other, and in making caroms, when the third ball is masked by the second : as an instance, let a, fig. 16, be the striker's ball, and his design is to carombole. Now if he strike his ball in the centre, the greater part of the motion he gives it, will be communicated to b, and in consequence it will remain in nearly the position which b occupied ; if it be struck under the centre, it will recoil ; but if it be made to receive the impression of the cue above its centre, it will continue to roll onwards to c.

4. *Above the centre, and oblique with regard to the table (the high oblique stroke).*—In this stroke the cue, instead of being held in the usual way, upon a level with the table, is applied to the ball with considerable obliquity, in some instances nearly perpendicularly, or in a very considerable angle with the cloth, so that the ball is forced against the table, rather than pushed smoothly over its surface, in consequence of which it obtains a leaping, instead of a continued motion ; and the striker is thus enabled to force it over a contiguous ball, either after contact with it, or without touching it at all. This mode of play is chiefly practised in order to strike the third ball when masked by the second, and in making caroms when the balls are parallel with each other, but the third is at a

considerable distance from the second, as in fig. 17 : in this position of the balls, the striker, at a, will, by playing in this manner, be enabled either to strike the ball c without touching b, or to strike both b and c in succession.

The motion which the striking ball obtains after contact, will also be invariably modified by the degree of strength employed in the stroke, the proper regulation of which is of the utmost importance. Thus, in the case represented by fig. 15, the ball a, projected forcibly, will recede after striking b, to e, but if projected with gentle strength, it will arrive only at d.—The strength to be employed in each stroke must differ with the design in view, and will be the subject of future consideration.

## SECTION II.

*Of the Angles of the Table and of the common Hazards.*

HAVING made these introductory observations on the general principles, I shall now proceed to speak of the several common strokes and hazards, which form a part of the different games, the particular laws and rules of which are afterwards to be laid down. They are introduced chiefly as lessons, which it is essentially important the learner should practice well before he attempts to play a regular game.

*Explanation of the Figures.*

Fig. 20—31. *The angles of the table.\** The first thing in the game of billiards to which the attention of the novice should be directed, is what is commonly called the angles of the table, or in other words, the course which the balls obtain by rever-

\* The black lines represent the course of the ball before reverberation; the dotted lines its course after the first reflexion; the faint lines its course after the second reflexion.

beration from the elastic cushion. For this purpose he should at first employ one ball only; he should strike it against various parts of the pad or cushion surrounding the table, and attentively mark the course which it takes under every different relative position, and he will soon perceive that "*the angle of reflexion will be, in every case, equal to the angle of incidence,*" or in other words, he will see that the direction the ball acquires after contact, will be precisely the reverse of, and form a counterpart to its original course; so that before he strikes, he has only to draw a line with the cue from his ball to the particular part of the cushion he intends to strike, and then complete the angle by a corresponding one in the contrary direction, in order to ascertain with precision (provided, at least, the *cloth be smooth, the cushion accurate, and the ball be propelled evenly*) the event of his stroke.\*

\* In playing *bricole*, one caution is absolutely necessary to be observed by the young player. He will find himself very seldom able to give an even motion to his ball after its contact with the cushion, if he strike it with the point of his cue. This arises from no defect either in the cloth, the cushion, or the rotundity of the ball; but it is the effect of the particular manner in which the point of the instrument is applied to the ball, and it requires some delicacy to avoid it. When, therefore, the cushion is played at designedly, the striker, if he seek to obtain an accurate reverberation of his ball, will find it



He will by frequent repetition be able to form a little diagram of these, which he may imprint upon his memory in his absence from the billiard room. After a little practice in this way with one ball, he should proceed to employ two, combining his observation of the motion acquired by the contact of these, with that obtained by their subsequent percussion against the cushion. Nothing is so essentially requisite to constitute a good player, as a perfect knowledge of the angles of the table. By an intimate acquaintance with these, the striker will often be enabled not only effectually to baffle the skill of his adversary by effecting adverse dispositions of the balls, but also to score himself under what appears to be the most unfavourable circumstances.

expedient to use the butt end of the instrument, or rather another butt, which he should keep in readiness for the purpose; for to have the handle of the cue with which he plays sufficiently flattened, would prove an obstacle to the action of his hand. The flattened portion of the cue I am myself in the habit of using, is made differently from what is usual, and I find it infinitely more commodious, and to obtain more of the action of the mace. Instead of being flattened for a considerable part of its length, as cues are generally made, it is cut off only for about two inches from its extremity, and that so obliquely as to form with the parallel nearly an angle of 45 degrees; at the same time that the end to be applied to the ball is also slanted in the opposite direction.

Fig. 32. (*Winning hazards.*) After the learner has acquired some intimacy with the angles of the table, his next preparatory step should be to make himself master of the several common winning and losing hazards. For this purpose he will find it expedient to begin with the winning, which may be considered as a key to billiards in general, for whoever can make a good winning hazard, will find little difficulty in effecting every other which the tables may present to him. The full winning hazard should first be practised; beginning by placing the two balls near to each other, precisely even, and in the direction of a pocket, or what is still better, by marking a particular spot in one of the end cushions with chalk, and upon that precise point directing the stroke of the ball. After a little practice has enabled him to strike this with ease at a short distance, he is to remove the balls farther asunder, and in the end make the extent of his stroke the whole length of the table: and if his eye and hand be steady enough to enable him to strike the mark at pleasure, at this distance, he may consider himself possessing all the requisites for a good player, as the full stroke requires a far greater degree of skill and delicacy than any other; for in order to produce a straight and equal motion in the distant ball, it is necessary that its centre receive

the stroke with the utmost degree of precision. The learner should next proceed to practise the other winning hazards represented in the figure, (32,) as the *three-quarter ball winning hazard* ( $\frac{3}{4}$ ), the *half ball winning hazard* ( $\frac{1}{2}$ ), the *third ball winning hazard* ( $\frac{1}{3}$ ), the *quarter ball winning hazard* ( $\frac{1}{4}$ ), and the *eighth ball winning hazard*, or *cut* ( $\frac{1}{8}$ ).

With regard to winning hazards, the striker should observe one general caution, namely, if he play at the adversary's ball, to use only just strength enough to carry it to the hole, and if he play at the carambole, or red ball, to play strong enough to bring it away from the hole, in the event of his failing to pocket it.\*

Fig. 33, 34. (*Losing hazards*). In this figure are represented some of the most common losing hazards. They must occur, more or less frequently, in every game; and after the different degrees of strength and fulness requisite for each stroke, have been once acquired, they are, of all other hazards, perhaps the most easy; requiring only a little practice and attention to enable the striker, in every instance, to ensure success. When speaking of winning hazards, it was observed, that the more the balls

\* This, as a general rule, is liable to various exceptions, which will be hereafter pointed out.

recede from a parallel with the hole, or the more acute the angle formed by the pocket and the two balls, the more fine must be the stroke, and *vice versa*. It is, however, precisely the reverse with regard to losing hazards; in playing these, the further the hole in which the hazard is to be made, and the two balls recede from the parallel, the more full and strong will it be necessary to strike; and on the contrary, the more they approach to the straight line, the more fine and softly must the ball be played. Thus the hazard  $\frac{3}{4}$  is denominated a *three-quarter ball losing hazard*, and requires the striking ball to be played upon three-quarters of the object ball with considerable strength;  $\frac{1}{2}$  is a half ball losing hazard,  $\frac{1}{3}$  a third ball losing hazard,  $\frac{1}{4}$  a quarter ball losing hazard, and to make the hazard  $\frac{1}{5}$ , the object ball must be only lightly touched upon the side opposed to the pocket, into which it is designed the striker's ball shall enter. In some particular instances however, where there are other objects in view besides the simple hazard, as also where the balls are so nearly in a line with the hole, as to expose the striker to the danger of missing, in consequence of the fineness with which his ball must be played, and it is, at the same time, of importance to make the losing instead of the winning hazard, it becomes expedient to play

nearly full instead of fine; at the same time adapting the cue to the ball above its centre, in order that the latter may continue its motion onwards, after contact, and ultimately enter the desired pocket (ff, fig. 33). The losing hazard, under a variety of circumstances, may be made to much greater advantage, by playing thus full, than in the common way, as the striker will be enabled to use a greater degree of strength in his stroke: the event however, unless to an experienced player, will be by no means so certain. In three quarter ball losing hazards also, it is sometimes of consequence to employ a less degree of strength than would be required in the usual manner of playing them. When this is the case, it becomes necessary to play under the centre of the ball, with gentle force; for, as has been already observed, a ball struck thus softly under its centre, will obtain the same course after contact with the distant one, as when played forcibly in the usual way.

With regard to the hazards here represented, the young player should invariably have in view the following rules; first, when all of the balls are out of the baulk, so to dispose of that which forms the hazard in question, that a carambole, or another hazard in one of the bottom or middle pockets, shall remain for his next stroke: this he will in

every instance be able to accomplish, by varying the action of the cue, and using more or less strength and fulness as occasion may require. And, secondly, when the third ball is within the striking line, rather to sacrifice the hazard altogether, than to play at it, when by so doing he must leave his adversary the baulk.

Fig. 35. (*Winning and losing hazards.*) Cases 1, and 2. These cases represent two hazards, which, from the frequency of their occurrence, are particularly interesting to the learner, who will find his advantage in practising them frequently on the table. In these, and in similar positions of the balls, with regard to the middle pockets, the striker has the choice of three modes of playing; namely, either to try for a losing hazard in the middle pocket, and a winning hazard in a bottom pocket, by playing a three quarter ball from the point b, in Case a, and a half ball from c, in Case d; or secondly, to attempt the losing hazard only, from e e, and at the same time to strike with that due degree of strength, as will bring the ball up again to the middle of the table, for a repetition of the stroke; or, thirdly, to play for the winning hazard instead of the losing. The first of these I affirm to be invariably ill-judged play; the second,

is what ought, generally to be attempted, at least, in the winning and losing game; and if the striker play with address, it will often be in his power to complete his game by the succession of hazards that will present themselves.\* In some particular instances, however, as when the adversary's ball forms the hazard, and it is of importance to obtain the baulk, or when the hazard is presented by the red ball, and the adversary's ball happens to be in such a position as to afford a favourable carambole, after the red ball has been holed and replaced upon the spot, it will be advisable to adopt the latter mode of play, in preference to the former. The learner will do well therefore to make each of these familiar to him, that he may employ either as occasion may require.

\* When the striker's ball is off the table, and he has the whole range of the ring to play from, this may be readily accomplished by every player who is tolerably well acquainted with the game. The usual source of failure among young players, is their placing their balls in an improper situation, and consequently using either too much or too little strength in their strokes. Thus, in Case 1, if the striker play from the point m, he will bring the object ball into the baulk; if from b, he will leave it below the middle pocket; but if he place his ball at e, such a degree of strength will become requisite, as will bring it up to nearly the same part of the table.

*Cases 3, 4, 5.* The hazard here delineated, constitutes what, in the language of the billiard room, is termed a Jenny; and it is one of the most common, as well as one of the most favourable cases that can present itself to the player; insomuch so, indeed, that some players who have acquired a facility of making this particular hazard, consider themselves as nearly certain of obtaining the game, when they are so fortunate as to have it occur to them: for by playing fine, and with a very moderate degree of strength, the ball which presents the hazard, will be propelled in a direct line against the cushion, and will return to nearly its former position; so as to admit of the same stroke being repeated, until the hazard is lost by a failure. If managed properly, it is also as generally a safe, as a successful hazard, wherever the third ball may happen to be; for the necessary gentleness of the stroke will only serve to carry the striker's ball about midway between the bottom and middle pockets, and near to the side cushion: but there is no hazard which requires more delicacy in playing, and consequently none which demands more practice on the part of the learner. As in the preceding cases, the success of this stroke chiefly depends upon placing the striking ball, (provided this be off the table, as is here



supposed to be the case,) in the proper part of the striking ring.—It is of particular importance that the learner make these hazards familiar by frequent practice.

*Case 6. A full ball winning hazard for the pocket g.* The red ball is here represented as occupying its proper spot, and the striker's ball is behind it in a direct line with the pocket. This is a simple and common case, but it is one, which, if managed with address, may, by a particular mode of play, be often turned to much advantage. From the balls being so near to each other, the player will be enabled to vary his manner of striking at pleasure; if therefore, he avail himself of the low stroke above described,\* he may without difficulty make his ball return to the place which it before occupied, and thus will be able to repeat the stroke more or less frequently, proportioned to his share of dexterity. This is well deserving of practice.

*Fig. 36. Winning and losing hazards. Cases 1, and 2.* Each of these Cases is, commonly and vulgarly, termed a Pair of Breeches, for a half stroke will occasion the balls to separate at equal distances from the point of contact, and if the

\* Vide Sect. 1. page 23.

stroke be made with proper care, each will enter a pocket. Such a mode of play, however, in the generality of cases, is by no means prudent, as more advantage is usually derived from making one hazard only, and disposing the balls favourably for a succeeding; yet as in some particular instances, the effecting the double hazard is an important advantage, the young player should endeavour to attain a facility of doing it, and this he will find by no means difficult. The same observations will apply to the common Cases 3, 4. Whenever these double hazards are attempted, one caution is absolutely necessary to be observed by the striker, namely, always to employ such a degree of strength, that if neither ball happen to be pocketed by the stroke, each shall recede to some distance from the hole.

*Cases 5, 6.* The hazards represented in these Cases, although, with regard to position, nearly similar to the preceding, require a mode of play peculiar to themselves, which if practised with address, will often ensure to the striker the most important advantages. There are few positions of the balls more frequent than when either the red or the adversary's ball is before the striking ring, while the striker's ball is off the table; and none perhaps from which a good player may score more

points. By gently touching the side of the ball he will be able to hole himself successively in the middle pocket, and in the end, when the ball has been so far removed, as no longer to admit of this, he will obtain the favourable hazard represented in Case 1 and 2, fig. 35.—This, like the Cases 3, 4, 5, fig. 35, particularly demands the attention of the young player, who will do well to employ a considerable time in practising it.

Notwithstanding the particular mode of play recommended in this case is usually so productive, yet it ought not to be practised in every case; but nothing is more difficult than to lay down fixed rules, when the propriety of certain modes of play must almost entirely be influenced by the degree of skill which the player may happen to possess, and by the facility which he may have of making certain hazards in preference to others; the young player, however, will, perhaps, find his interest in adopting the following. He will perceive that the ball presents ten different hazards.\* If the adversary's ball forms the case, and the red ball is either below the middle of the table, or above it, and without the line; or if the case is formed by the red ball, and the adversary's

\* Vide Case 1, Fig. 54.

is either at the bottom of the table, or at the top of the table, and near to a cushion, play as above directed; but if the red ball is in the baulk, or the adversary's ball is off the table, prefer the winning hazard and the baulk.

Fig. 37—43. (*Winning and losing hazards.*) The hazards delineated in these figures, are what are usually called doublet hazards:\* and none require more judgment and dexterity, inasmuch as success in playing them entirely depends upon an intimate acquaintance with the angles of the table, and the precise degrees of strength necessary to be employed for different ends. In practising, as well as playing all hazards of this nature, it is of importance to mark well the precise point of the cushion to be struck by the ball previous to its reverberation. Use will make this familiar to the eye; but in learning hazards of this description, the novice will find it of advantage to measure the angle before he strikes his ball. This he may do either by means of his cue, or by the eye alone. Thus in Case a b, fig. 39, which presents a losing hazard in the bottom pocket, let him mark with his eye the particular

\* “*Doublet.* “C'est une manière de jouer, qui consiste à faire toucher la bille contre un des bords, pour la faire revenir du côté opposé.”

point in the cushion which he designs his ball (a) shall strike after contact with b; supposing it to be c, let him carry a line drawn from this point, through that part of the ball he purposes to strike (d), and then complete the angle by making a corresponding line below (e); or, in other words, marking the course which the ball a must of necessity obtain, after striking the cushion, provided the angle of reflexion equal the angle of incidence. By this means it will be obvious to him that his stroke must, in this case, widely fail of success, and that it will be necessary to play finer upon the ball, so as to strike the cushion at f; when, by adopting the same mode of judgment, he will perceive that his ball must necessarily enter the pocket g.

The same plan may be pursued with regard to winning hazards. In Case a b, fig. 38, the ball b made, by being propelled in a straight direction, to come in contact with the cushion at c, would by reverberation arrive at e; it will therefore be necessary in order to make the hazard at d, to play a half ball upon the left side of b, in order that it may strike the cushion at f, and thereby obtain the course described by the lines in the diagram. In playing these hazards, the same rule should be

observed as was laid down when speaking of the winning hazards represented in fig. 32.

Nearly the same observations will apply to various winning and losing doublet hazards; the principal of which are here delineated. It has however been already observed, that it is very generally of more advantage to pocket one ball than two;\* and it may indeed be laid down as a general rule, to make the single in preference to the double hazard; but there are various exceptions to this, which will be pointed out in the examples applicable to the particular games. Every player therefore ought to be able to make either as circumstances may require :† and there are very few positions which a ball can occupy,

\* *Vide Obs. Case 1 and 2, Fig. 36.*

† What is here said should be understood with some limitation. It is not to be supposed that any player, however expert, will be able to make every hazard, and more especially every double hazard of this description, that may present itself to him. To accomplish this would require more dexterity than can ever, perhaps, be attained in the game of billiards; but a good player will have it in his power to make them more frequently, than it appears possible to the eye of an indifferent one; and he will often be able to manage this so adroitly, as to give his success the appearance of chance, and thereby delude his adversary, than whom he wishes to appear less skilful; and who con-

in which it will not present, at the same time, a winning hazard, a losing hazard, and a double or winning and losing hazard.

sidering his defeat as the effect of luck, is often induced to repeat his game, to the unavoidable gain of his more skilful antagonist.

## EXPLANATION OF FIGURES.

## Fig. 37.

*Winning Doublet Hazards.*

- |  |   |
|--|---|
| <p><i>Case a, b.</i> A full ball winning hazard in the pocket c.*</p> <p><i>Case d, e.</i> A full ball winning hazard in the pocket f.</p> <p><i>Case g, h.</i> A full ball winning hazard in the pocket i.</p> <p><i>Case k, l.</i> A full ball winning hazard in the pocket c.</p> <p><i>Case m, n.</i> A full ball win-</p> | <p>ning hazard in the pocket c.—A <math>\frac{1}{2}</math> ball winning hazard in the pocket i.</p> <p><i>Case o, p.</i> A full ball winning hazard in the pocket q.—A <math>\frac{1}{2}</math> ball winning hazard in the pocket t.</p> <p><i>Case r, s.</i> A full ball winning hazard in the pocket t.</p> |
|--|---|

## Fig. 38.

*Winning Doublet Hazards.*

- |  |  |
|--|--|
| <p><i>Case a, b.</i> A <math>\frac{1}{2}</math> ball winning hazard in the pocket d.—A <math>\frac{1}{2}</math> ball winning hazard in the pocket q.</p> <p><i>Case g, h.</i> A full ball winning hazard in the pocket i.</p> <p><i>Case l, m.</i> A full ball winning hazard in the pocket n.</p> | <p><i>Case o, p.</i> A full ball winning hazard in the pocket q.</p> <p><i>Case r, s.</i> A full ball winning hazard in the pocket t.</p> <p><i>Case v, u.</i> A full ball winning hazard in the pocket k.—A <math>\frac{1}{2}</math> ball winning hazard in the pocket t.</p> |
|--|--|

\* The first letter of each case distinguishes the striker's ball.



## Fig. 39.

*Losing Doublet Hazards.*

*Case a, b.* A  $\frac{1}{4}$  ball losing hazard in the pocket g.—A  $\frac{1}{4}$  ball losing hazard in the pocket h.

*Case i, k.* A  $\frac{1}{4}$  ball losing hazard in the pocket m.—A  $\frac{1}{4}$  ball losing hazard in the pocket n.

*Case g.*—A  $\frac{1}{4}$  ball losing hazard in the pocket m.

*Case n, o.* An  $\frac{1}{4}$  ball losing hazard in the pocket q.—A  $\frac{1}{4}$  ball losing hazard in the pocket p.—A  $\frac{1}{4}$  ball losing hazard in the pocket s.

## Fig. 40.

*Winning and Losing Doublet Hazards.*

*Case a, b.* A winning hazard in the pocket d, and a losing hazard in the pocket c, by playing a  $\frac{1}{4}$  ball low stroke upon the right side of b.\*

*Case e, f.* A winning hazard in the pocket d, and a losing hazard in the pocket c, by playing a third ball upon the left side of f.

*Case g, h.* A winning hazard in the pocket i, and a losing hazard in the pocket d, by playing a  $\frac{1}{4}$  ball low stroke upon the left side of h.

*Case k, l.* A winning hazard in the pocket r, and a losing hazard in the pocket s, by playing a  $\frac{1}{2}$  ball smart upon the right side of l.

*Case n, o.* A winning hazard in the pocket s, and a losing hazard in the pocket m, by playing a  $\frac{1}{2}$  ball upon the right side of o.

*Case p, q.* A winning hazard in the pocket r, and a losing hazard in the pocket c, by playing a  $\frac{1}{4}$  ball low stroke upon the left side of q.

\* In the various explanation of figures and description of cases, the author has been obliged, for the sake of perspicuity, as well as in conformity with the common modes of expression made use of in the game, to commit frequent improprieties of diction, which in many instances unavoidably amount to actual solecisms.

## Fig. 41.

*Winning and Losing Doublet Hazards.*

*Case a, b.* A winning hazard in the pocket c, and a losing hazard in the pocket d, by playing nearly full and high upon the left side of b.

*Case e, f.* A winning hazard in the pocket h, and a losing hazard in the pocket g, by playing an  $\frac{1}{4}$  ball upon the left side of f.

*Case i, k.* A winning hazard in the pocket g, and a losing hazard in the pocket h, by playing a  $\frac{1}{2}$  ball upon the right side of k.

*Case l, m.* A winning hazard in the pocket n, and a losing hazard in the pocket q, by playing a  $\frac{1}{2}$  ball upon the left side of m.

*Case o, p.* A winning hazard in the pocket h, and a losing hazard in the pocket n, by playing a  $\frac{1}{4}$  ball low stroke upon the right side of the ball p.

*Case s, t.* A winning hazard in the pocket c, and a losing hazard in the pocket d, by playing an  $\frac{1}{4}$  ball smart upon the right side of the ball t.

*Case v, u.* A winning hazard in the pocket q, and a losing hazard in the pocket g, by playing a  $\frac{1}{2}$  ball smart upon the right side of u.

## Fig. 42.

*Winning and Losing Doublet Hazards.*

*Case a, b.* A winning hazard in the pocket d, and a losing hazard in the pocket c, by playing a  $\frac{1}{2}$  ball smart upon the right side of b.

*Case e, f.* A winning hazard in the pocket g, and a losing hazard in the pocket d, by playing a  $\frac{1}{2}$  strong upon the right side of f.

*Case h, i.* A winning hazard in the pocket k, and a losing hazard in the pocket c, by playing a  $\frac{1}{2}$  ball smart upon the left side of i.

*Case l, m.* A winning hazard in the pocket g, and a losing hazard in the pocket d, by playing a  $\frac{1}{4}$  ball upon the right side of m.—The reverse

by playing a  $\frac{1}{8}$  ball upon its left side. | in the pocket c, and a losing hazard in the pocket d, by playing upon o smart in the nick.

Case n, o. A winning hazard

### Fig. 43.

#### *Winning and Losing Doublet Hazards.*

Case a, b. A winning hazard in the pocket c, and a losing hazard in the pocket d, by playing a  $\frac{1}{4}$  ball smart upon the left side of b. | hazard in the pocket c, by playing a  $\frac{1}{4}$  ball strong upon the left side of i.

Case e, f. A losing hazard in the pocket c, and a winning hazard in the pocket g, by playing a  $\frac{1}{2}$  ball upon the right side of f. | Case k, l. A winning hazard in the pocket d, and a losing hazard in the pocket m, by playing a full ball upon l.

Case x, y. A winning hazard in the pocket m, and a losing hazard in the pocket d, by playing a  $\frac{1}{2}$  ball upon the right side of y.

Case h, i. A winning hazard in the pocket g, and a losing hazard in the pocket c, by playing a  $\frac{1}{2}$  ball upon the right side of f.

## CHAPTER III.

*Of the different Games of Billiards.*

THE following are the different games of billiards, which are played at the present day.

1. *The White winning Game.* This game is played with two white balls, and is twelve in number; which points are scored (independently of forfeitures) from winning hazards only.

2. *The White losing Game.* Which is also twelve in number, and played with two white balls; but is the reverse of the winning; the points in it being scored from losing and double, or winning and losing hazards.

3. *The White winning and losing Game.* This is a combination of the two preceding; that is to say, all balls which are put in by striking first the adversary's ball, reckon towards the game.

The three preceding games are by far the most simple that are played, and should be made introductory to the knowlege of those with three or

more balls, which are more complicated and difficult. For a long while after the invention of the game, they were in almost exclusive use; but are now in a great degree superseded by the different *caramboles*, which have been newly introduced from France; and, at the present day, are most in vogue both in England and on the Continent.

4. *Choice of balls.* This consists in choosing each time which ball the player pleases. This is an incalculable advantage, and is usually played against losing and winning.

5. *The Bricole game.* Bricole is being obliged to strike a cushion, and make the ball rebound or return to hit the adversary's ball. This is a great disadvantage; and is reckoned between equal players, equivalent to receiving about eight or nine points. When both players play bricole, the game is usually ten points in number, and these are scored from bricole hazards and forfeitures only.\*

\* “ Quand des joueurs sont convenus de jouer *tout de bricole*, et que l'un des deux touche la bille de son adversaire, avant d'avoir touché aucune bande, il perd un point. S'il touche la bille de son adversaire, sans avoir touché aucune bande, et vient ensuite à se blouser, ou à se faire sauter, il perd trois points. Et si, après avoir touché en bricole la bille de son adversaire, il se blouse, ou se fait sauter, il perd deux points.”

6. *The bar-hole game.* This is so called from the hole being barred, which the ball should be played for; and the player striking for another hole. When this game is played against the common game, the advantage for the latter, between equal players, is reckoned to be about six points.

7. *One-hole.\** In this game, all balls reckon which go into one hole. The player at it, although he seems, to those unacquainted with the game, to have the worst, has in fact the best of it; for as all balls which go into the *one hole* reckon, the player endeavours to lay his ball constantly before that hole, and his antagonist frequently finds it

\* “Lorsqu’un joueur sauve à l’autre cinq blouses pour une, à perte et à gain, la partie se joue en douze points. —Si celui qui a la blouse, à perte et à gain, ne parle point du saut, il se compte pour l’un, come pour l’autre sur cette blouse. Quand le joueur qui n’a qu’un blouse, à perte et à gain, met la bille de son adversaire, soit seule, soit avec la sienne, dans cette blouse, il gagne deux points : il les gagne pareillement, lorsqu’il a aussi le saut, à perte et à gain, sur le même blouse, et qu’il vient à faire sauter la bille de son adversaire, ou les deux billes ensemble. Le joueur, qui n’ayant qu’une blouse à perte et à gain, vient à se perdre en cette blouse, ne perd rien : la même règle s’observe à l’égard du saut. Lorsque le joueur qui n’a qu’une blouse, à perte et à gain, fait sauter une des deux billes, et met l’autre dans sa blouse, il gagne deux points.”

very difficult to keep one or other ball out; particularly at the leads, when the *one-hole* player lays his ball (which he does as often as he can) on the brink of the hole, leading for that purpose from the opposite end of the table.\*

8. *Hazards*. Hazards are so called because they depend entirely upon the making of hazards, there being no account kept of any game. "Any number of players may play, by having balls which are numbered; but the number seldom exceeds six, to avoid confusion. The person, whose ball is put in, pays so much to the player, according to what is agreed upon to be played for each hazard; and the person who misses pays half the price of a hazard to him whose ball he played at. The only general rule is not to lay any ball a hazard for the next player; which may be in a great measure avoided, by always playing upon the next player, and either bringing him close to the cushion, or putting him at a distance from the rest of the balls. The table, when hazards are played, is usually paid for by the hour.

9. *The doublet game*. In this game, which is usually ten in number, and played with two balls,

\* The laws of the game directs that the lead should be given from that end of the table where the last hazard is made; but this is seldom enforced.

no hazard is scored unless it is made by a reverberation from the cushion.\* The disadvantage compared with the white winning game, against which it is usually played, is estimated at five points.

10. *The commanding game.* In this game the adversary has the power of choosing, at which ball the striker shall play. It is usually played by a good player against the common game of an indifferent one, and is equal to giving fourteen points out of twenty-four.

11. *The limited game.* In this game the table is divided by a line or boundary, beyond which the striker cannot pass his ball without a forfeiture.† It is uninteresting, and rarely played.

12. *The carambole game.* The *carambole* game

\* “ Les parties *tout de doublet* se jouent en dix points. Les billes faites par contre coup seules, sont réputées doublées, et celles qu'on fait en *bricole*, ou à *coup de talon*, sont nulles.”

† “ Dans la partie “ *sans passer la raie des milieux*,” lorsqu'un des deux joueurs fait rester la bille de son adversaire sur la raie, qu'on a formée sur le tapis, il ne perd rien, mais pour peu que la bille outre-passe cette raie, du côté défendu, il perd un point. Si un joueur fait passer la bille de son adversaire au côté qui lui est défendu, et que par le même coup, il se blouse, ou se fait sauter, il perd trois points. Quand il se blouse, ou se fait sauter, sans qu'il fasse passer, du côté défendu, la bille de son adversaire, il perd deux points.”



is played with three balls; one being red which is neutral, and termed the *carambole*; the remaining two white: and one of them allotted to each player. The *carambole*, or red ball, is placed upon an appropriate spot at the bottom of the table, and after leading from the upper end, the view of the striker is either to make the winning or losing hazard, according to the particular form of the game, or to hit with his own ball the other two successively; which stroke is also called a *carambole*, or *carom*, and for which he obtains two points.

The *Carombole game* has been only recently introduced from France. It is sometimes made to consist exclusively of caroms, which are either played successively until a certain number of points (usually twelve) are gained as above described; or in the manner of hazards, a stake depending upon each stroke. It is now however, almost universally played in conjunction with either winning or losing hazards, or both; constituting the following games.

1. *The winning and losing carambole.* The winning and losing carambole game, consists of either twenty-one or twenty-four points, which are reckoned from caramboles, and from winning and losing hazards, equally; both white and red. Each

of the white hazards and the carambole counts two; the red hazard three points.

2. *The winning carambole.* In the winning carambole (or red) game, the points are obtained (independently of the forfeitures, which every game has peculiar to itself,) by winning hazards and caroms only. The game is either sixteen or eighteen in number. *Vide Chap. V.*

3. *The losing carambole.* The losing carambole game is nearly the reverse of the winning. It consists of sixteen or eighteen points, which are made by caramboles, losing, and double hazards; counted as in the winning and losing game. *Vide Chap. VI.*

The *carambole games* are by far the most replete with variety and amusement. They require a considerable degree of skill and judgment, and are usually played with the cue. "In these games, the red ball is placed upon a spot, on a line with the stringing nail, (i. e. at that part of the table from which the player strikes his ball at first setting off, and which is generally marked by two brass nails,) at the lower end of the table; and each antagonist, at the first stroke of a hazard, plays from a mark or ring which is opposite to it, at the upper end of the table. After making of *caramboles* and *hazards*, the grand object of the player is to obtain, what is called the *baulk*; that is,

*making* the white ball, and bringing the player's own ball, and the red one, above the stringing line or nail from which the adversaries begin. By this means the opponent is obliged to play *bricole* from the opposite cushion, and it often happens that the game is determined by this situation."

4. *The Russian carambole.* The Russian carambole is a game which has still more lately been introduced from abroad, and is played in the following manner.—“ The red ball is placed as usual on the spot made for that purpose, but the player, when he begins, or after having been holed, never places his ball on any particular place or spot, he being at liberty to put it where he pleases. When he begins to play, instead of striking at the red ball, he leads his own gently behind it, and his antagonist is to play at which he thinks proper; if he plays at the red ball and holes it, he scores three, as usual, towards the game, which is twenty-four points; and the red ball is put upon the spot, at which he may strike again, or take his choice which of the two balls to push at, always following his stroke till both balls are off the table. He is entitled to two points each time that he caramboles, as at the other game; but if he caramboles, and puts his own ball into any hole, he loses as many as he might have got, had he not holed himself:

for example, if he strikes at the red ball, holes it, and at the same time caramboles, and holes himself, he loses five points: and if he holes both balls when he caramboles, and likewise his own, he loses seven, which he would have got, had he not holed his own ball." In other respects it is played like the common carambole above described.

13. *The Caroline or Carlone game.* This game has hitherto been confined to the Continent. It is played upon a round or square table, with five balls, three of which are neuter, and distinguished by their colour: one of them is red, another blue, and the remaining one yellow. The last is called the *Caroline ball*. The red ball is placed upon its customary spot; the caroline or yellow precisely in the centre of the table; and the blue ball between the two, at the inferior end of the table. The striking spot is in a parallel with the three balls at the upper end. The game is forty-two in number, and the points are reckoned from caramboles, and hazards; the red hazard reckons three, the blue two, and the caroline or yellow hazard, holed in the caroline or middle pocket, six points.

14. *The four game,* Consists of two partners on each side, at any of the common games, who play

by succession after each winning hazard lost. For instance, after a white or red winning hazard has been made, the adversary, who has hitherto been playing, is put out, and his partner comes in.\* —“ It is more frequently played in the white winning game, and in this case the game is made fifteen up ; so that the point or hazard is an odd number : which makes a miss at this game of greater consequence than it is at another, being as much at four, six, or eight, as it is at five, seven, or nine, at the single game.”

15. *The cushion game.* The cushion game consists in the striker playing his ball from the top of the baulk cushion, instead of following his stroke upon the table, in the customary manner. It is usually played in the winning, or the winning and losing game ; and the disadvantage, among even players, is estimated at six points.

16. *Fortification billiards.* In the game of fortification billiards, the table (which is oblong, or of the usual shape) is furnished with *forts, batteries*, and a *pass* through which the attacking balls are obliged to pass. Of the forts and batteries, some are red, others white ; the red are called the *English*, the white the *French fortifications* ; and

\* *Vide Chap. 7. Sect. 1. Ord. 24.*

are arranged at opposite ends of the tables. (Vide *Chap. IX. Sect. 1.*) That end of the table occupied by the red forts, is called the English quarter, that possessed by the white the French quarter. Each player has three balls, one for the attack and two for the defence. The game is twenty in number; and the points are obtained by taking (*striking the ball into an arched cavity furnished with a bell, Vide orders, &c. Chap. IX. Sect. 1.*) the different forts which are to be attacked in succession.

We shall now proceed to consider these games separately, and more at length; and first the *winning and losing carambole game*, as being the most frequently played.

## CHAPTER IV.

*Of the winning and losing Carambole Game.*

THE winning and losing carambole game consists of either twenty-one or twenty-four points, which are counted equally from winning and losing hazards, and from caramboles.\* It is by far the most full of variety, and of all other games the most calculated to afford amusement: indeed the chances in it are so numerous, that the odds of it are not usually calculated, but are generally laid according to fancy, or to the custom of the table, where they are played.

\* The *twenty-one* game is by much the most common. At the billiard tables in St. James's Street, and at some of the principal watering places, the *twenty-four* game is played exclusively; but in by far the greater number of billiard rooms the winning and losing game is made to consist only of twenty-one points.

## SECTION I.

*Rules and regulations to be observed in the winning and losing Carambole Game.\**

1. The game is to commence by stringing for the lead and the choice of balls.

2. In stringing for the lead, the striker must place his ball within the striking ring; and if his adversary require it, he must stand within the limits of the corner of the table.

3. He who, after playing at the bottom cushion,

\* No precise orders for playing the winning and losing carambole game have hitherto been published. Until very lately, the games commonly played were the white winning, and the winning carambole, or what were called the white and red games; but the winning and losing carambole game is now become so popular, that it may, at present, be properly called the common game of billiards; and accordingly I have so considered it in the present work. With the exception of those particular rules which constitute the peculiarity of each, certain general regulations or orders are applicable to all the different games. To save repetition therefore I have chosen to introduce the greater number of them under the present head, and to refer to these in the subsequent parts of the work. As the *French* rules for the carambole game are in several respects different from those observed in our own billiard rooms, the more particular points in which they differ, are explained by annexed notes.



brings his ball nearest to the cushion, at the upper or baulk end of the table, wins the lead, and chooses his ball.

4. If, after the first person has strung for the lead, his adversary who follows him should make his ball touch the other, he loses the lead.

5. If the player hole his own ball either in stringing or leading, he loses the lead.

6. If the leader follow his ball with either mace or cue beyond the middle hole, it is no lead: and if his adversary chooses, he may make him lead again.

7. The striker who leads, must place his ball within the ring, between the striking nails or spots at the upper end of the table: and the same rule must be observed after every losing hazard has been got.

8. The red ball is to be placed on the lower of the two spots, at the bottom of the table.

9. When either of the white balls has been holed, &c., it must be replaced in, and played from the striking ring, when it is the striker's turn to play, as at the commencement of the game.

10.\* When the red ball hath been holed or

\* Si la carambole se trouvait faite, ou hors du billard, et que quelqu'un jouât avant qu'elle fût remise à sa place, il ne pourroit rien gagner, et perdrait un point.

forced over the table, it must be replaced on the same spot where it originally stood, at the beginning of the game, and the present striker is bound to see it thus replaced, otherwise he can win no points while it is off the spot, and the stroke he may make is to be deemed foul.

11. If the striker does not hit his adversary's ball, he loses one point, if by the same stroke he pocket his own ball, he loses three points and the lead.\*

12.† If the striker happen to force either of the balls over the table, he loses the lead.

13. If the striker force his own, or either of the other balls over the table, after having made a carambole or hazard, he gains nothing by the points he would otherwise have obtained, and loses the lead.

14. If the striker hit both the red and his adversary's ball with the ball he played with, he wins two points.—This stroke is called a *carambole* or *carom*.

15. If the striker with his own ball holes his adversary's ball, he wins two points.

\* When the striker gives his adversary a point, by missing intentionally, it is sometimes required that he pass his ball beyond the middle pocket; or in the case of his adversary having the baulk, that he pass both the other balls by playing bricole; but these are rules which are now seldom enforced.

† *Vide Chap. V. Sect. 1. Art. 15, note.*

16. If the striker hole the red ball, he wins three points.

17. If the striker hole his own ball off his adversary's ball, he wins two points.

18. If the striker holes his own ball off the red ball, he wins three points.

19. If the striker hole both his adversary's and the red ball, he wins five points.

20. If the striker, by playing at the red ball, holes his own and the red ball, he wins six points.

21. If the striker by striking the white ball first, hole both his own and his adversary's ball, he wins four points.

22. If the striker by striking at the red ball first, should hole both his own and his adversary's ball, he wins five points:—three for holing his own ball off the red, and two for holing the white ball.

23. If the striker play at his adversary's ball first, and should hole his own ball and the red, he wins five points:—two for holing his own ball off the white, and three for holing the red ball.

24. If the striker play at his adversary's ball, and hole it, at the same time that he pockets his own ball, and the red, he wins seven points:—two for holing his own ball off the white; two for holing his adversary's ball; and three for holing the red ball.

25. If the striker play at the red, and hole his own ball off the red, and the red ball, and his adversary's, by the same stroke, he wins eight points:—three for holing his own ball off the red; three for holing the red ball; and two for holing the white ball.

26. If the striker makes a carambole, and by the same stroke pockets his adversary's ball, he wins four points:—two for the carambole, and two for the white hazard.

27. If the striker make a carambole, and pocket the red ball, he wins five points:—two for the carambole; and three for the red hazard.

28. If the striker carambole, and hole both the red and his adversary's ball, he gains seven points:—two for the carambole; two for the white; and three for the red ball.

29. If the striker make a carambole by striking the white ball first, and should hole his own ball by the same stroke, he wins four points:—two for the carom; and two for the white losing hazard.

30. If the striker make a carambole by striking the red ball first, and by the same stroke should pocket his own ball, he wins five points:—two for the carambole, and three for the red losing hazard.

31. If the striker play at the white ball first, and

should make a carambole, and at the same time, hole his own and his adversary's ball, he wins six points:—two for the carambole, and two for each white hazard.

32. If the striker play at the red ball first, and should carambole, and by the same stroke hole his own and his adversary's ball, he gains seven points:—two for the carom; three for the red hazard, and two for the white hazard.

33. If the striker carambole, by playing first at the white ball, and also hole his own and the red ball, he wins seven points:—two for the carom; two for the white losing hazard; and three for the red winning hazard.

34. If the striker carambole by striking the red ball first, and at the same time, should hole his own, and the red ball, he wins eight points:—two for the carom; three for the red losing, and three for the red winning hazard.

35. If the striker make a carambole by striking the white ball first, and should hole his own ball, and his adversary's, and the red ball, he wins nine points:—two for the carambole; two for each of the white hazards; and three for the red hazard.

36. If the striker make a carambole by striking the red ball first, and by the same stroke should hole his own ball, and the red, and his adversary's white

ball, he gains ten points :—two for the carambole ; three for the red losing hazard; three for the red winning hazard; and two for the white winning hazard.

37. After the adversary's ball is off the table, and the two remaining balls are either upon the line, or within the stringing nails or spots, at the upper end of the table, where the white balls are originally placed in leading, it is called a *baulk* : and the striker who is to play from the ring, must strike the opposite cushion, to make his ball come back again, so as to hit one of the balls in the baulk ; which if he doth not, he loses one point.

38.\* It sometimes happens after the red ball has been holed or forced over the table, that one of the white balls is found to have so occupied its place, that it cannot be put upon its proper spot without touching the same. In every such case, the marker must hold the red ball in his hand, while the striker plays at his adversary's ball, and immediately afterwards replace it on its proper

\* “ Quand la bille d'un joueur occupe la place de la carambole qu'elle a blousée, ou fait sauter, celle-ci doit être remise au milieu du billard, entre les deux belouses ; et celui qui est en tour de jouer, est obligée de tirer du but. Si le but se trouve occupé par une bille, et la passe par une autre, on relève la bille qui est au hut, et on la met au milieu : si le milieu est pareillement occupé, la bille relevée se met entre les deux fers.”

spot, so that it may not prevent a carambole, &c., from being made.

39.\* If the striker play with the wrong ball, it is deemed a foul stroke.

40. If the striker is going to play with the wrong ball, no person in the room hath any right to discover it to him, except his partner, if they are playing a double match.

41. If the striker play with the wrong ball, and his adversary do not discover it, he may reckon all the points he gained by the stroke, and the marker is obliged to score them.

42. If the striker, after having made a hazard or carom, should move, with his hand or stick, either of the balls which remain upon the table, the stroke is deemed foul.

43. If a ball is found to have been changed during the course of the game, and it is not known by which player, the game must be played out with the balls as they then are.

44. No one hath a right to take up or otherwise move a ball, without permission of the adversary.

\* “Celui qui joue la carambole perd trois points: on relève alors toutes les billes, et le joueur qui a gagné le coup, jeu le premier.—Celui qui joue la bille de son adversaire, perd un point.”

45.\* If a player, in the act of striking, touch his ball with the instrument twice, the stroke is deemed foul.

46. If a player, in the act of striking, is baffled or impeded in his stroke by his adversary or a spectator, he has a right to recommence his stroke.

47. If the striker should accidentally touch or move his own ball, without intending at the time to make a stroke, he loses no point; but the adversary may put the ball back in the place where it stood.

48. If the striker, in the act of striking, touch his ball, and make his mace or cue go over or past it, he loses one point.

\* “Lorsqu’un joueur vient à billarder, ou à toucher deux fois sa bille, sans qu’on soit convenu de jouer à *tout coup bon*, il perd un point, et celui qui le gagne donne son acquit. Quand un joueur billarde, et que son adversaire en fait la remarque à haute voix, avant que les billes soient reposées, ce dernier ne gagne qu’un point quand même l’autre viendrait ensuite à se blouser sans toucher: mais si en pareille circonstance, on garde la silence jusqu’à ce que les billes soient reposées, on pourra tirer du coup tout l’avantage qu’il présentera. Ainsi, dans le cas où le joueur, qui a billardé, ou touché deux fois, viendrait à se perdre sans toucher, son adversaire, qui n’auroit pas fait remarquer la faute, conteroit trois points.”



49.\* If either of the players, in the act of striking, happen to move his own, the adversary's, or the red ball from the place it occupied on the table, the stroke is deemed foul.

50. When the striker's ball, and either of the other balls are so close to each other as to touch, and in playing the former off, the latter is moved from its place, the stroke is considered foul.

51. If the striker, in attempting to make a stroke, do not touch his ball, it is no stroke, and he must strike again.

52. If, when the balls are very near each other, the striker, by accident, should make his ball touch the other ball, it is to be considered a stroke, though not intended as such.

53.† If the striker play upon a ball which is still running, the stroke is considered foul.

54. Whoever stops a ball when running, either

\* “ Si, en jouant, on déränge les billes arrêtées sur la table, on perd autant de points, qu'il y a eut des billes dérangées : et l'on ne peut tirer aucun avantage du coup ; mais si le joueur ne touche aux billes qu'après que le coup est consommé et les billes arrêtées, il doit compter ce qu'il a gagné, et perdre ensuite autant de points, qu'il a dérangé de billes.—En ce cas chaque bille se remet à sa place.”

“ † Le joueur qui joue sur une bille roulante perd un point.”

with the hand, the instrument with which he plays, or otherwise, loses the lead, if his adversary does not like the ball he has to play at the next stroke.

55. Whoever retains his adversary's cue or mace, when he is in the act of striking, makes the stroke foul.

56. If the striker interrupt the course of his own ball, when it is running towards a hole, after having made a miss, and it is the opinion of the marker that it would have entered the pocket, had it not been interrupted, he loses three points.

57. If the striker interrupt, stop, or put his adversary's ball out of its course, when running towards or into a hole, is subjected to the same forfeiture.

58.\* If the striker, after having made a hazard, or carambole, interrupt the course of his own ball, the stroke is foul; and he cannot score any of the points he may have thus made.

59.† He who blows upon a ball when running,

\* "Quand un joueur blouse la bille de son adversaire, ou carambole, et qu'ensuite il touche la sienne, il perd deux points."

† "Si un joueur souffloit sur sa bille roulante, il perd deux points, et s'il souffloit sur celle de son adversaire, il n'en perdrait qu'un : dans ce cas-ci, les billes seroient relevées, et celui qui auroit gagné le point donneroit son acquit."

makes the stroke foul; and if his own ball was running towards a hole, or near a hole, and he is seen by his adversary to blow upon it, he loses two points.

60.\* If the striker play with both feet off the ground, the stroke is deemed foul.

61. Whoever strikes the table when the ball is running, makes the stroke foul.

62.† If the striker throw his mace or cue upon the table so as to balk his adversary, he causes him to make a foul stroke.

63. If a ball is made to go extremely near the brink of a hole, and after sensibly standing still, for a longer or shorter time, should fall into it, the striker wins nothing, and the ball must be put on the same brink where it stood, before the adversary makes his next stroke; and if it should fall into the hole at the instant the striker hath played upon his ball, so as to prevent the success of his stroke, the striker's, and the adversary's balls must be placed in the same relative position, or as near

\* "Si l'on joue sans avoir mis un pied à terre, on perd un point."

† "Lorsqu'après avoir joué, un joueur laisse son billard sur le tapis, et que sa bille vient à y toucher, il perd deux points; mais il n'en perd qu'un, si la bille qui touche à son billard est celle de son adversaire."

as possible thereto, and the striker must play again.

64. He who leaves the game before it is finished, and will not play it out, loses the game.

65. If a person agrees to play with the cue, he is obliged to play with it during the whole of the game or the match; but if no agreement hath been previously made, he may at any time change it for the mace, and vice versa: neither party, in such case, having any right to object to either mace or cue being played with in the said match. But when the parties agree to play mace against cue, the mace player hath no right to use a cue, nor has the cue player any right to use a mace, without permission from his adversary.

66. When a person agrees to play with a cue, he must play every ball within his reach with the point thereof; and if he agrees to play with the butt of the cue, he has no right at any time to play with the point, without permission. Also, when the parties agree to play *point and point* of the cue, neither of them has any right to use the *butt*, during the match, without permission; but every person who plays with a cue may use occasionally a long one, and in such case he may play with the point of a long cue or a mace, to great advantage.

67. If the striker, in playing a stroke, should make his mace or cue touch both balls at the same time, it is deemed a foul stroke, and if discovered by his adversary, he wins nothing for any points he may make by the stroke, and his adversary may break or part the balls.

68. Whenever a foul stroke is made, it is at the option of the adversary either to part the balls, and play from the striking ring, as at the beginning of the game, or if the balls happen to be in a favourable position for himself, to suffer the preceding striker to score the points he may have made; which the marker is obliged to do, in every case where the balls are not broken.

69. The adversary only is bound to see that the striker plays fair, which if he neglect to do, the striker wins all the points he may have made by that particular stroke, and the marker is obliged to score them.

70. No person has a right to discover whether a stroke be fair or foul until asked, unless they are playing a four match; and in that case, none but the player and his partner have a right to ask it.

71. Should a dispute arise between the players concerning the fairness of a stroke, the *marker* alone is authorized to decide the question, and

from his decision there is no appeal: but if, through inattention, he happen to be incompetent to make the required decision, he should enquire the particulars of the case from the disinterested company present, and upon demanding silence, should go round the table to each person separately, and be particularly careful to ask if he hath any bet depending thereon, if he understand the game, and the nature of the dispute then in question; and the majority of the disinterested company then present, is to decide the dispute.

72. Whoever proposes to part the balls, and his adversary agrees to it, the person who made the proposal loses the lead.

73. With regard to betting—no person in the room has a right to lay more than the odds on a hazard or on a game; but if he err in this respect through ignorance, he should appeal to the marker, or to the table of the odds.—Each person who proposes a bet, should be very cautious to name the precise sum; and also should be extremely careful not to offer a bet when the striker had taken his aim, or is going to strike, least it may disturb or interrupt him; and no bet ought to be proposed on any stroke, that may have any tendency to influence, or lessen the judgment of the player.—If A proposes a bet which is accepted by B, it must be

confirmed by A, otherwise it is no bet.—If any bets are laid on the hazard, and the striker should lose the game by a miss, at the stroke in question, it cannot be a hazard: the game being out by a miss. In all cases the betters are to abide by the determination of the players, and the betters have a right to demand their money, when their game is over, to prevent disputes.

74. Every person ought to be very attentive, and listen for the stroke, before he opens the door of a billiard room.

75. The striker has a right to command his adversary not to stand facing him or near him, so as to annoy or molest him in his stroke.

76. Each party is to take care of his own game, and his adversary has no right to answer any questions; as,—if the ball be close?—If he touch the ball? &c. &c. These and other similar circumstances the player is to discover himself.

77. The marker should be careful to make those persons who do not play, stand from the table, and give room for the players to pass freely round.

78. Those who play, ought to be particularly careful and attentive to their strokes, when any bets are depending thereon: but even should they play carelessly, the bets must in every case be decided by the event of their strokes.

79. No person hath any right to discover to the player in what manner he may play his ball to the greatest advantage. This is often done by signs, winks, and various gestures; and when discovered by the adversary, he may prevent the striker from scoring the points he may have made by the stroke. Neither, after a stroke hath been played, hath any one a right to detect any error the striker may have committed, as a stroke of the same kind may occur repeatedly in the same game.

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“ 68. Quand un joueur traîne, il doit en avertir son adversaire, avant de commencer la partie, sinon il est obligée de l'achever sans trainer; car s'il quittoit alors la partie, il la perdrait.”

“ 69. Tout joueur qui traîne, doit trainer droit sur la bille; et s'il marche en trainant, il perd un point.”

“ 77. Tout joueur perd pareillement un point quand il frappe sur le tapis avec son billard, ou autrement tandis que la bille roule.”

“ 78. Quand un joueur vient à quitter, et que celui qui reste trouve à l'instant un autre joueur, pour faire sa partie, il doit avoir le billard préférablement à tout autre.”

“ 79. Mais si deux joueurs, ne voulant plus jouer



l'un contre l'autre, ont chacun un nouvel adversaire, ils doivent tirer au plus près de la bande, pour savoir auquel des deux le billard restera."

"80. Lorsque deux joueurs quittent le billard, et que deux autres le prennent, les premiers ne peuvent le reprendre, dès que l'un des nouveaux entrants a gagné deux points, par une bille faite; quand même les frais du maître ne seroient pas encore payés."

"81. Quand on ne joue que les frais, ou pour boire, celui qui perd la partie, paye le maître du billard; mais si l'on joue de l'argent, celui qui gagne paye les frais: et si son gain ne suffit pas pour cet effet, les deux joueurs payent le surplus par moitié."

"82. Lorsqu'un joueur a fait un pari avec quelque particulier, et qu'ensuite les deux joueurs conviennent de quitter la partie, le pari devient nul, quel que soit l'avantage de l'un des parieurs, attendu que ceux-ci doivent sciconformer aux résolutions des joueurs; mais cette règle reçoit une exception pour le cas où les parieurs seroient convenus qu'en quelqu'état que seroit la partie, *qui plus auroit, tireroit*: alors le parieur qui auroit l'avantage du point, gagneroit le pari."

"83. Les parties et les paris équivoques, sont nuls."

"84. L'argent qu'on joue, et qu'on parie doit être mis au jeu."

## SECTION II.

*General Observations and Cautions.*

1. After having strung for lead, in playing first, if the match be pretty equal, and no considerable odds are given, it will be prudent to miss the red ball intentionally, and lay yourself in the baulk, about midway between the striking ring and one of the side cushions, in an advantageous position, to enable you to take advantage of any hazard your adversary may leave after the succeeding stroke: but if you give considerable odds, then bring the red ball into the baulk, in such a way, as either to double it into the corner pocket, or failing in this, to leave it at some distance from the hole. This is to be effected by placing your ball at one extremity of the ring, and striking a high stroke full upon the red ball, with a strength just sufficient to make it recede a little from the cushion, when brought up to the top of the table, by which you will leave your own ball near to the side cushion at the bottom.—Many make it their object to bring both balls into the baulk, by playing a half ball

strong upon the red ; but this is too hazardous to be generally attempted, as its failure must in every case be attended with the utmost risk.\*

2. If you are second player, and your adversary has previously given a miss, and brought his ball into the baulk, endeavour so to lay your own and the red ball, that he may obtain no points at the succeeding stroke. This is most effectually done by striking half a ball gently on the red, so as to bring it, after returning from the bottom cushion, almost close, about midway between the middle and bottom pockets; and your own, in consequence, nearly in the same position, on the opposite side of the table :† but if by his first stroke he has brought the red ball into the baulk, and left himself below the middle pocket, and in such a situation as to afford you no losing hazard, then drop his ball gently down towards the corner pocket, so as to lay it close under the cushion, if you fail in your attempt to hole it.

3. In playing *bricole* in order to strike a ball situated in the *baulk*, remember the axiom that “ *the angle of reflexion will always equal the angle of incidence.*” Fig. 30, and 31, are diagrams repre-

\* *Vide Case 2. Fig. 55.*

† *Vide note to Case 2, Fig. 55, and Cases b, c,—c, d,—m, n. Fig. 57.*

senting the different angles, which more especially require the attention of the striker. From these, it will be seen, that, in such cases, there are two modes of playing; 1. To strike at the bottom cushion, in order to make the stroke by one simple reverberation; 2. To direct the ball to the corner or side cushion, in order that it may be twice reverberated, and enter the baulk obliquely: the former is more safe and easy, the latter is most advantageous in certain situations of the balls, as it enables the striker to carom under a greater variety of circumstances. In every case it is of importance to observe one caution, namely, to play with sufficient strength to bring your ball out of the reach of your adversary, if you fail in the object of the stroke.

4. Never make a stroke without some object in view, as by so doing, you may leave incalculable advantages to your adversary. This is a fault with most young players; they strike the balls at random, and depend more upon the chances of the table than their own foresight: a fortunate hazard left after a random stroke of this description, leaves the game open, and often leads the way to a series of losses; for a skilful player will not only make the points he more immediately plays for, but will endeavour at the same time, to lay the balls in

such a position, as to ensure himself a hazard the next stroke.

5. Always choose that mode of play by which you have a chance of gaining most points, provided you can do so without risk ; but if you are diffident of your own ability, or from the situation of the adversary, it is probable that the consequence of a failure would be a certain hazard in his favour, either decline the chance altogether, and lay the balls safe, or make that stroke which seems most sure and easy.\*

6. When the balls are situated so disadvantageously, as to leave no probability of your scoring off of them, let it be your object to lay your adversary in such a part of the table, that he also may make no point ; namely, either close to the cushion, or out of any favourable angle.—That player will be, *cæteris paribus*, invariably most successful, who defends his game with the greatest address.†

7. Whenever your adversary's ball is off the table, in consequence of having been just pocketed, sacrifice every doubtful hazard to the object of making a baulk, by striking both balls within the line, extended across the upper part of the table. ‡

\* *Vide Cases, Fig. 44—9.*

† *Vide Case 3, and 4, Fig. 57 ;—Case 2, Fig. 63.*

‡ *Vide Cases Fig. 53—5.*

8. Never play at your adversary when he is close under the cushion. It is always better in this case to choose the red ball, and if you despair of scoring upon it, to lay it for a hazard in that part of the table most distant from where your adversary is situated; for if he miss in consequence of his disadvantageous position, you have, by this means, a chance of gaining four points; if he strike either ball, there are five chances to one you lose nothing by the stroke, provided the balls have been laid properly.\*

9. Never play at the red ball when your adversary's ball is near, without you have a certain hazard or carom before you. Under such circumstances, if the white ball afford no favourable hazard, it is more advisable to drop it down to the furthest part of the table, so as either to make it in the corner pocket, or lay it close under the cushion †

10. When you are ahead of the game, play at the white ball, in every case in which the red presents no tolerably certain hazard; and in playing at your adversary's ball, always have two objects in view; first, to make the desired points; and, secondly, to lay your own ball safe, if you happen

\* *Vide Cases Fig. 55.—Case 6, Fig. 52.*

† *Vide Case 1, Fig. 59.*

to fail. On the contrary, when you are backward in the game, and a tolerable red hazard presents itself, it will be right to prefer it to the white. The propriety of this caution is obvious, for the red ball being the common object of both players, in striking at it, it is two to one you leave a hazard, if you don't succeed in scoring; whereas, in playing with a due degree of caution at your adversary, the chances are more than equal that you leave nothing for him, if you fail to obtain the desired object.

11. Never vary your mode of striking by using the high or low strokes, without the necessity of doing so be obvious; for by frequent needless strokes of this kind, you run the risk, either of missing your cue, or striking the ball ineffectually; for a considerable degree of dexterity is required, in such cases, to prevent it from acquiring an uneven motion, or assuming an unfavourable position. The cases which more especially make it requisite to strike *under the centre* of the ball, are, 1st, The position of the balls being such as to render the common mode of striking insufficient for the obtaining the desired end: such is the case with regard to losing hazards, when the hole and the two balls form less than a right angle; as also of caramboles, when the three balls are in a similar

relative position : 2dly, When it is desirable to use only a gentle strength, with the design either of keeping the baulk, or retaining the balls above or below the middle holes, at the same time that you attempt to make a losing hazard in the corner pocket; for an inconsiderable degree of strength thus employed, will be found adequate to a forcible stroke made in the common way of playing.—The chief design of striking *over the centre*, is to make the balls follow each other into a pocket, or to effect caramboles under circumstances where only an inconsiderable deviation from the straight line is required.\*

12. Although you may be greatly ahead of the game, never strike at the wrong ball by way of experiment, nor otherwise play carelessly; supposing it impossible for your adversary to get up with you: for by an unlucky stroke on your part, he may even win the game, although previously under the most adverse circumstances. What from the angles of the table, and from the adverse breaking of the balls, there are so many chances in the game of billiards, that it should never be considered as certain, until the whole number of points are actually made.

\* *Vide Chap. 2. Sect. 1. p. 21, et seq.*



13. When you are close under a cushion, or otherwise situated so unfavourably as to despair of scoring, and to run the risk of leaving the balls to a disadvantage by the attempt, if there is little probability of your adversary's making the red hazard at his next stroke, it will be better, in all cases, to give an advantageous miss, than to run the chance of missing unintentionally, and thereby leaving a hazard or carom; and do not be deterred from this, by the circumstance of your adversary being ahead of the game. It is good play in many cases, thus to give him a miss, when he even wants two only of being up.\*

14. Never be too solicitous about making caramboles in untoward situations of the balls, as by vain attempts, you run the risk of leaving advantages to your adversary. On the contrary a carom sometimes made happily under particular circumstances, where there are future objects in view, is followed by repeated successes, and gives a turn to the game in your favour.

15. Never play for the losing hazard when by so doing you must leave your adversary the baulk; for in this case you are likely, in the end, to lose more points than you have gained by the stroke:

\* *Vide Cases, Fig. 55.*

in the first place, a probable miss from the cushion, and afterwards, perhaps, the red hazard.\*

16. Never make the white winning hazard when the balls afford any other mode of scoring, unless you will be enabled to make a baulk by your succeeding stroke. It is always better to have three balls upon the table than two; and by pocketing the white ball when the red ball is situated unfavourably for a baulk or hazard, you give to the adversary an important advantage in his having the striking ring to play from.†

17. Whenever you hole your adversary's ball, and the red ball remains upon or near the spot, and you are doubtful of making the red hazard, either give a miss, and lay your own ball in an advantageous part of the baulk; or endeavour to make a baulk by striking both balls into it; or to bring the red ball within the striking line, and leave your own at the bottom of the table; or to part the balls as directed in Obs. 2. The choice of one or other of these, will depend upon the position you occupy on the table. ‡

18. Always mark well the position of the balls before you strike, and consider the course which

\* *Vide Cases Fig. 46.*

† *Vide Case 4, Fig. 56.*

‡ *Vide Case 2, Fig. 55.*

the ball you are striking, will take, after the completion of the stroke, and so regulate the strength, as to bring the latter either near a pocket, or in a favourable position for a carom. No circumstance connected with the game is so essential to success, as a judicious anticipation of the position the balls will assume after contact, and the probable consequences of every stroke.

19. Be cautious how you play for a red hazard in any pocket to which your adversary may happen to be near, and always use strength enough to bring the ball away if you fail to pocket it, otherwise he will obtain an almost certain hazard.

20. Never suffer the red ball to remain near a pocket, unless you have a dead winning hazard upon your adversary's ball; and if you are off the table in consequence of having been pocketed, and the red ball is situated near one of the baulk holes, play at the red hazard bricole, notwithstanding you may have a tolerable losing hazard upon the white.\*

21. In playing white winning hazards, use a gentle strength, in order to leave the white ball near to the cushion, if you do not pocket it. In playing red winning hazards, use a strength sufficient to bring the red ball away from the pocket.

\* *Vide Cases 4, and 5, Fig. 55.*

## SECTION III.

*Select Cases in the Winning and Losing Carambole Game.*

HAVING laid down the orders to be observed in the game, and the rules and cautions necessary to be attended to by the player, we shall, in the next place, present to the reader a collection of practical diagrams, representing various positions which the balls are liable to assume ; and, under each, point out the most judicious mode of play : in doing which, it will be expedient, in the first place, to notice those cases which are either of most frequent occurrence, or for other reasons more particularly require the attention of the learner, and afterwards to speak of those which are more rare, or require a greater degree of skill and judgment on the part of the player.

## EXPLANATION OF THE FIGURES.

N. B. In the following Diagrams, the Figures equally denote the order of the Cases, and, unless where the contrary is specified, distinguish the striker's ball.

## Fig. 44.\*

## Case 1.

A full ball winning hazard upon b in the pocket e.

A full ball winning hazard upon c in the pocket d.

Pocket the adversary's ball and make a baulk.

## Case 2.

A full ball winning hazard upon b in the pocket d.

A losing hazard upon c in the pocket e, by playing a  $\frac{1}{2}$  ball upon its left side. †

Whether c be the adversary's or the red ball, make the losing hazard with sufficient strength to bring the ball down to the middle of the table.

N. B. In the first of these cases it will be seen, that both

\* The examples represented in the present and five succeeding figures, are intended to afford an illustration of our fifth general observation on the winning and losing game. *Vide Sect. 2, Ob. 5.*—One ball presents a hazard by far more easy, but less profitable than the other. By one mode of play, the striker will obtain a certain number of points only; by another, he will ensure to himself a series of subsequent advantages; he must therefore be influenced in the choice of the one or the other of these, by the confidence which he has in his own skill: if he is doubtful of being able to make the one, his prudent play will be to ensure the other, but if he can with equal facility make both, let him choose that which is likely to be the most profitable.

† *Vide note Fig. 40.*

balls are within the striking line; in the second, that one of them is below it. These are circumstances which should always be attentively marked by the striker, as also, in the latter case, whether the ball which is above the line be the adversary's or the red ball, and if it present a winning or a losing hazard. Whenever one of the balls is below the line, and the other which is above it, affords a losing hazard, by making which, the striker will be enabled to bring the other below also, it is invariably good play to sacrifice the baulk to the object of obtaining the advantageous hazards described in *Cases 1, 2. Fig. 35, and 5, 6, Fig. 36.*

But if the ball within the line affords but an unfavourable losing hazard, or a winning one only, the prudent play is to pocket the adversary's ball and make a baulk; in doing which the striker should be cautious to play either a high or a low stroke, according to the place which the ball in the baulk happens to occupy, in order that his own may obtain such

a position as will enable him either to play gently on the red ball, or reflect it from the cushion favourably for his succeeding stroke, in the event of his adversary's missing bricole.

### *Case 3.*

A full ball winning hazard upon b, in the pocket a.

A full ball winning hazard upon c, in the pocket b.

Make the red hazard by a low stroke.

N. B. This forms the reverse of Case 1.—It may be regarded as a general rule, subject however to exceptions, which will be pointed out hereafter, that at the top of the table, when each ball presents an equally good winning hazard, you ought to choose the white, and under similar circumstances at the bottom of the table, you ought to choose the red ball. In the latter case, after having holed the white ball, the striker would have only one ball to play at, and moreover would be in danger of leaving his game open, by affording to his adversary the advantage of the striking ring;\* whereas,

\* *Vide N. B. Case 4, Fig. 56, and Sect. 2. Obs. 16.*

by pocketing the red ball, he will obtain two succeeding hazards, or a carom, upon it, being replaced upon the contiguous spot.

#### Case 4.

A losing hazard upon b, in the pocket f, by playing a  $\frac{1}{8}$  ball upon its right side.

A losing hazard upon c in the pocket f, and a winning hazard in the pocket e, by playing a  $\frac{1}{2}$  ball smart upon its left side.

A carambole by playing a  $\frac{3}{4}$  ball upon the right side of b.

Make the losing hazard upon b, with a strength just sufficient to bring it out a short distance from the cushion; and afterwards, either make the losing hazard upon c, (*as advised with regard to Cases 1, and 2, Fig. 35,*) or the winning hazard and carom, as the ball b may happen to be situated more or less favourably.

N. B. In the preceding case, if the striker were to play for the losing hazard upon c, and should even have the address to make the winning hazard in d, by the same stroke, he would, in the first place, gain

less points than by adopting the mode above recommended, and in the end would leave nothing, at least no favourable hazard or carambole for his next stroke.—“In choosing one of two modes of play, provided each are equally safe, the striker should invariably prefer that which is likely to produce the most subsequent advantages.”

#### Case 5.

##### *Striker's ball off the Table.*

A full ball winning hazard upon b, in the pocket g, by playing from the point d of the striking ring.

A carambole by playing a  $\frac{1}{2}$  ball upon its right side from e.

Make the carom very gently so as to ensure a hazard in the bottom pocket.

In this case, by making the winning hazard upon the adversary's ball, the striker in all probability, would be able to gain only two points, and might, more particularly if his adversary be a tolerable player, lose many subsequently; for the red ball at c, being situated unfavourably, if he fail to score upon it, he will be in

danger of leaving a hazard: if he bring it into the baulk by playing a low stroke full, and leave his own ball near the cushion in the place it occupied, his adversary it, is pro-

bable, at his succeeding stroke, will either drop the latter down into the corner pocket, or lay it to a disadvantage under the bottom cushion.

### Fig. 45.

#### Case 1.

A  $\frac{1}{2}$  ball losing hazard upon b, in the pocket e.

A  $\frac{1}{2}$  ball losing hazard upon c in the pocket d.

A carambole by playing a  $\frac{1}{4}$  ball either upon the left side of b, or upon the right side of c.

Play for the carambole upon the adversary's ball with gentle strength, in order to carry it near to the pocket, that you may make a baulk at your next stroke.

#### Case 2.

A losing hazard upon b, in the pocket g, by playing a  $\frac{1}{2}$  ball upon its right side.

A winning hazard upon b, in the pocket g, by playing a  $\frac{1}{4}$  ball upon its left side.

A losing hazard upon c, in the pocket e, by playing a  $\frac{1}{4}$  ball upon its right side.

A winning hazard upon c, in the pocket e, by playing a  $\frac{1}{4}$  ball upon its left side.

Make the losing hazard upon c, in the pocket e, (whether c be the adversary's or the red ball) with a strength that will bring it down towards the opposite middle hole.

#### Case 3.

A losing hazard upon b, in the pocket k, by playing a  $\frac{1}{2}$  ball upon its right side.

A winning hazard upon b, in the pocket k, and a carambole by playing a  $\frac{1}{2}$  ball smart upon its left side.

Whether b be the red or the adversary's ball, play for the losing hazard; and regulate the strength of your stroke in such a way as to bring it up favourably for a carambole afterwards.



*Case 4.*

A full ball winning hazard upon b, in the pocket g.

A losing hazard upon c, in the pocket l, by playing a  $\frac{1}{2}$  ball upon its left side.

If c be the adversary's ball, make the winning hazard upon b, by a low stroke, that your own ball may lay dead, so as to enable you afterwards to make the losing hazard or the carambole.

If c be the red ball, make the losing hazard in the pocket l, smart enough to bring the ball above the middle of the table.

N. B. The four preceding cases are similar to each other, and a little consideration must render obvious the motive for the particular mode of play recommended under each.

## Fig. 46.

*Case 1.*

A losing hazard upon b, in the pocket d, by playing a  $\frac{3}{4}$  ball upon its left side.

A losing hazard upon c, in the pocket h, by playing a  $\frac{1}{2}$  ball upon its left side.

Make the hazard upon c, whichever ball it may be, with a degree of strength that will leave it above the middle of the table.

*Case 2.*

A losing hazard upon b, in the pocket d, and a winning hazard in the pocket i, by playing a  $\frac{3}{4}$  ball smart upon its right side.

A winning hazard upon b, in the pocket d, and a losing

hazard in the pocket g, by playing a  $\frac{1}{4}$  ball smart upon its left side.

A full ball winning hazard upon c, in the pocket h.

If c be the red ball, play for the winning hazard upon b, in the pocket d, with just sufficient strength to carry the ball the requisite distance, and that will enable you to make a good baulk if you succeed in holing it.

If c be the adversary's ball, play for the losing hazard in the pocket g, and the winning hazard in the pocket d, with considerable strength, in order to bring the balls away from the pockets if neither of them happen to be holed.

*Case 3.*

A losing hazard upon c, in the pocket h, by playing a  $\frac{3}{4}$  ball upon its left side.

A carambole by playing a  $\frac{1}{2}$  ball smart upon the left side of b.

Carambole, and bring the balls down to the middle of the table.

*Case 4.*

A losing hazard upon b, in the pocket f, by playing a  $\frac{1}{2}$  ball upon its left side.

A winning hazard upon b, in the pocket f, and a carambole by playing a  $\frac{1}{4}$  ball smart upon its right side.

Play a smart stroke for the carom, and the winning hazard in f.—If b be the adversary's ball and you hole it, make a baulk.

N. B. In all of the foregoing cases it will be seen that a particular mode of play, although the most easy and obvious, is proscribed, as by adopting it, the striker must almost unavoidably leave to his adversary the baulk.\*—The only exception to this restriction, is where the striker only wants the number of points which the hazard affords to make up his game.

Nothing is of more importance in the game of billiards than to be able to foresee the course which the balls will take after their contact. The cases here represented will serve to suggest to the learner various others of a similar nature.

**Fig. 47.***Case 1.*

A full ball winning hazard upon b, in the pocket f.

A losing hazard upon b in the pocket c, by playing a  $\frac{3}{4}$  ball smart upon its left side.

A full ball winning hazard upon c, in the pocket g.

If c be the red ball make the winning hazard upon the adversary's ball b, to obtain the baulk.

If c be the adversary's ball, make the losing hazard upon the red ball b.

\* *Vide Sect. 2, Obs. 15.*

## Case 2.

A full ball winning hazard upon b in the pocket d.

A losing hazard upon b, in the pocket e, by playing a  $\frac{1}{4}$  ball upon its left side.

A full ball winning hazard upon c in the pocket k.

Make the losing hazard upon b with moderate strength.

N. B. The positions of the balls represented in these two figures, are nearly alike, but in the one the losing hazard occurs at the lower end of the table, in the other at the upper end, in consequence of which the former requires a mode of play precisely the reverse of the latter.

## Case 3.

A full ball winning hazard upon b in the pocket k.

A full ball winning hazard upon c, in the pocket d.

A carambole by playing a  $\frac{1}{4}$  ball upon the right side of b.

Supposing b the adversary's ball, play for the winning hazard and the baulk.

If c be the adversary's ball, and you are ahead of the game,\* drop the ball c gently down to the pocket d.

If c be the adversary's ball, and your game is backward, or if neither party have yet scored many points, play for the carambole.†

## Fig. 48.

## Case 1.

A carambole by playing a  $\frac{1}{4}$  ball upon the right side of the ball b.

A full ball winning hazard upon c, in the pocket d.

A  $\frac{1}{4}$  ball losing hazard upon c, in the pocket e.

If c be the adversary's ball, play for the winning hazard softly.

If c be the red ball, play for the losing hazard strong.

## Case 2.

A carambole by playing either a  $\frac{1}{4}$  ball smart, or a  $\frac{1}{4}$  ball with moderate strength upon the left side of b.

A losing hazard upon c, in the pocket e, and a winning hazard in the pocket d, by

\* i. e. count more points than your adversary.

† *Vide Sect. 2, Obs. 10.*

playing a  $\frac{1}{4}$  ball smart upon its right side.

A winning hazard upon c, in the pocket e, by playing a  $\frac{1}{2}$  ball upon its left side.

A losing hazard upon c, in the pocket d, by playing a  $\frac{1}{4}$  ball upon its left side.

A winning hazard upon b, in the pocket e, by playing a  $\frac{1}{2}$  ball upon its right side.

If c be the red ball, play for the losing hazard in the pocket d, strong enough to bring the ball out of the baulk.

If c be the white ball, make the losing hazard in the pocket e, just strong enough to lay the ball c over the hole d, without pocketing it, and by your next stroke make a losing hazard, and bring the ball up for a succeeding carom.

### Case 3.

A carambole by playing a  $\frac{1}{2}$  ball upon the left side of b.

A losing hazard upon b, in the pocket k, by playing a  $\frac{1}{4}$  ball upon its left side.\*

A losing hazard upon c, in the pocket g, by playing a  $\frac{1}{4}$  ball smart upon its left side.

Play for the carambole upon b, with gentle strength.

N. B. The above examples are introduced for the sake of warning the young player against a source of danger which he ought to beware of in attempting to carambole or hazard, (unless by a bricole or doublet stroke) when the ball to be first struck happens to be near to a cushion. In these cases the design of the striker is most frequently (and in the present instances would be unavoidably) frustrated by a kiss;† the one ball returning after reflexion so as to intercept the course of the other, as will be seen by considering the figure. This the striker should always anticipate and guard against by an appropriate mode of play.

With regard to the last described case, it may not be amiss to observe, that when a ball is thus close under a cushion, and forms with the hole and the striker's ball nearly right angles, as a, c, k, that the losing hazard may often be made without difficulty, through the intervention of a kiss, by playing a  $\frac{1}{4}$  stroke gently upon the side of the ball opposed to the pocket. When the ball

\* *Vide note, explanation of Fig. 40.*

† *Clashing of the balls without caramboing.*

is not quite close, the hazard is made with more difficulty. It may be useful perhaps, to know this, but it is a mode of play which ought seldom, perhaps never, to be practised in a regular game, notwithstanding the adversary's ball may happen to be near to a cushion.

## Fig. 49.

## Case 1.

*Striker's ball off the Table.*

A losing hazard upon d, in the pocket k, by playing a  $\frac{1}{2}$  ball upon its right side from the point b.

A losing hazard upon d, in the pocket f, by playing a  $\frac{1}{2}$  ball upon its left side from the point c.

A winning hazard upon d, in either bottom pocket, and a carambole, by playing a  $\frac{1}{2}$  ball upon either side, from the point a.

If d be the adversary's ball, play for the losing hazard.

If d be the red ball, play for the winning hazard and the carambole.\*

## Case 2.

A losing hazard upon b, in the pocket f, by playing a  $\frac{1}{4}$  ball upon its right side.

A winning hazard upon b,

in the pocket c, by playing a  $\frac{1}{4}$  ball upon its right side.

A winning hazard upon b, in the pocket f, by playing a  $\frac{1}{4}$  ball upon its left side.

A full ball winning hazard upon c, in the pocket d.

A losing hazard upon c, in the pocket e, by playing a  $\frac{1}{2}$  ball smart upon its left side.

Supposing b the adversary's ball, play for the winning hazard in the pocket f, just strong enough to carry your own ball to about e.

If c be the adversary's ball, play either for the losing hazard upon b, in the pocket f, with considerable strength, or for the winning hazard in the pocket d gently. — If you make it, bring the red ball into the baulk, as in Case 5, Fig. 54.

N. B. In the case of b being the adversary's ball, the striker must at once perceive the intention of playing for the

\* *Vide Sect. 2, Obs. 16. and N. B. Case 4, Fig. 56.*

winning hazard in the pocket f, rather than for the losing hazard in the same pocket, or the winning hazard in the pocket c. An accidental failure in attempting these last must inevitably leave the game open to the adversary, by giving him the red hazard.

*Case 3.*

A carambole.

A losing hazard upon c, in the pocket d, by playing a  $\frac{1}{2}$  ball upon its right side.

Make the losing hazard strong enough to carry the

ball c to the pocket f, and b to the pocket e.

N. B. In cases of this kind where the two object balls touch each other, and are near to a cushion, little advantage is usually derived from caramboling. It is a mistaken opinion with young players, that they ought to carambole in every case in which they can do so without difficulty. Thus in *Case 4*, the striker will get most points from making the winning hazard upon c, in the pocket g, by playing very softly on the right side of the ball b.

**Fig. 50.\***

*Case 1.*

A carambole by playing either upon the point e of the cushion g, h, or a  $\frac{1}{4}$  ball smart upon the left side of the ball b.

A full ball winning hazard upon c, in the pocket h.

If c be the adversary's ball, play for the carom *bricole*.

If c be the red ball, play either for the carom upon b,

\* In this and the two following figures, are represented various cases of caramboles, which particularly require the attention of the young player. The making of caramboles with address, entirely depends upon an intimate knowledge of the angles of the table, and of the degrees of strength necessary to give the balls the requisite velocity, in order to obtain the ultimate desired advantage of the stroke; for in every case of carambole, the judicious striker will have it in his power to create a favourable hazard.

or for the winning hazard with considerable strength.

In either case of playing for the carambole, employ a degree of strength that will obviate the danger of leaving your own ball near a pocket if you fail, and at the same time will afford you a subsequent hazard or carambole if you succeed.

N. B. This masked situation of the balls, usually proves perplexing to those whom practice has not yet rendered expert. It is also frequently a dangerous one, as in the present instance, if the lowest of the two balls be the white; in this case a miss would be inevitably followed by a loss, greater or less, proportioned to the skill of the adversary.

It is expedient therefore, in such cases of playing bricole, to mark well the precise part of the cushion to be struck with the ball. Use will make this familiar to the eye, but the novice will do well to examine accurately the relative positions of the three balls before he strikes, and to hold in mind the axiom that—the

*angle of reflexion equals the angle of incidence.*\*—Thus, were he to strike the cushion at d instead of e, his ball would be reflected to g, below the ball b; if at f, it would be reverberated to h, in a line with the lower part of the ball c; but in either case it will be seen, that each returning line is equal, or answers to, the striking one. It is always easy, therefore, to measure the angle with the eye or with the cue. †

#### Case 2.

A carambole either by striking the cushion at e, or by playing a  $\frac{1}{2}$  ball upon the right side of b.

A full ball winning hazard upon c, in the pocket h.

A losing hazard upon b, in the pocket f, by playing a  $\frac{1}{2}$  ball smart upon its right side.

A losing hazard upon b, in the pocket e, by playing a  $\frac{1}{2}$  ball upon its left side.

Carom bricole smart enough to bring the balls away from the cushion, and leave hazards in the bottom and middle pockets.

\* *Vide Chap. 2, Sect. 2, p. 41.*

† *Vide Chap. 2, Sect. 2, Fig. 20—21.*

N. B. It may not be improper to observe, that whenever the balls are thus close to each other, and in a direct line with a pocket, the winning hazard may always be made with the greatest ease. To do so however, in the case here represented, would be injudicious, unless the striker could make his game by the stroke, as the carambole is

equally easy, and affords the greater number of chances.\*

*Case 3.*

A bricole carambole by playing at the cushion at d.

A losing hazard upon b, in the pocket f, by playing an  $\frac{1}{2}$  ball upon its right side.

Play for the carambole with a strength that will just bring the balls down to the middle hole.

**Fig. 51.**

*Case 1.*

A carambole by playing a  $\frac{1}{2}$  ball hard upon the right side of the ball b.

A full ball winning hazard upon b, in the pocket e.

A losing hazard upon b, in the pocket i, by playing a third ball smart upon its right side.

A winning hazard upon b, in the pocket d, by playing a  $\frac{1}{2}$  ball upon its right side.

If c be the adversary's ball, make the winning hazard upon b, in the pocket c, by a high stroke, that your ball may assume a position, that will

enable you to make the carom to advantage, upon the red ball being replaced upon its spot.

If c be the red ball, play for the carambole.

*Case 2.*

A carambole by playing a  $\frac{1}{2}$  ball either upon the right side of the ball b, or upon the left side of the ball c.

Carambole off the red ball † strong enough to carry it towards the pocket e, for a subsequent hazard.

*Case 3.*

A winning hazard in the

\* *Vide Sect. 2. Obs. 5.*

† *Vide Chap. 4, Sect. 2, Obs. 8.*



pocket i, and a carambole by playing a high stroke full and strong upon b.

The winning and losing hazards represented in Case e, f, Fig. 41.

Carambole with just enough strength to carry the ball to the pocket.

*Case 4.*

*Striker's ball off the Table.*

A winning hazard in the pocket g, and a carambole by playing a high stroke full upon b, from the point a.

A losing hazard upon b, in the pocket e, by playing a  $\frac{3}{4}$  ball upon its left side, from the point e.\*

A losing hazard upon b, in the pocket i, by playing a  $\frac{3}{4}$  ball upon its left side from the point e.

If c be the adversary's ball,

play for the losing hazard in the pocket e.

If b be the adversary's ball, play for the carom, and the winning hazard strong enough to bring the red ball away from the cushion—If you succeed in holing the adversary's ball, make a baulk.

N. B. Whenever the balls deviate at all from the parallel, this mode of caramboling becomes easy, and may be practised although they happen to be at a considerable distance from each other. In this case however, it is bad play to attempt it, unless the adversary is close to the cushion, as in such positions the striker may always adopt a mode of play not only more safe, but by which he may dispose the balls to a greater advantage.

**Fig. 52.**

*Case 1.*

*Striker's ball off the Table.*

A losing hazard upon b, in the pocket d, by playing a  $\frac{3}{4}$  ball hard upon its right side from the point f.

A carambole and a winning hazard upon b, in the pocket d, by playing a  $\frac{3}{4}$  ball smart upon its left side, from the point b.

If c be the adversary's ball, carom with very gentle

\* *Vide Case 5, Fig. 35.*

strength, so as just to carry the ball b to the pocket d.

If c be the red ball, either carom smart enough to bring it away from the hole, in the event of its not being pocketed,\* or play for the losing hazard in the pocket d.

N. B. Caramboles of this kind are by no means, generally speaking, so easy to be made, as they appear; for as in Case 1, Fig. 50, a considerable degree of delicacy is required, more especially where the balls are widely separated from each other, in order to strike the cushion at the necessary point. The worst consequences also are often to be apprehended from a failure, as in the case here represented, provided c be the adversary's ball. It will therefore be better, under such circumstances, if the striker is doubtful of being able to make the carom, either to lay the balls safe, or to choose the hazard, if any tolerable one present itself at the same time, as is usually the case.

#### Case 2.

A carambole by playing a

$\frac{1}{4}$  ball smart upon the left side of the ball b.

A full ball winning hazard upon c, in the pocket k.

If c be the red ball, play for the carambole.

If c be the adversary's ball, play for the winning hazard in the pocket k, and the baulk.

#### Case 3.

A bricole carambole by playing upon the cushion at e.

A losing hazard upon b, in the pocket e, by playing a  $\frac{1}{4}$  ball smart upon its right side.

Make the carambole strong enough to carry the balls for hazards in the middle pockets.

N. B. In playing for the hazard, the striker would in all probability lose the baulk by a kiss.—With regard to bricole caramboles, it should be a rule never to play for them, unless, *first*, the balls being near to each other, the striker can ensure success; or *secondly*, the adversary happen to have no hazard upon the red ball, so that a miss would most likely be followed by the loss of one point only.

\* *Vide Obs. on Fig. 32; and Chap. 4. Sect. 5, Obs. 19, 21.*

*Case 4.*

A carambole by playing a  $\frac{3}{4}$  ball upon the left side of the ball b.

A losing hazard upon b, in the pocket g, by playing a  $\frac{1}{2}$  ball smart upon its right side.

Whether c be the adversary's or the red ball, carambole, and dispose b for a hazard in the pocket g: if it be the adversary's ball, endeavour to leave a winning hazard; if the red ball, a losing one.

*Case 5.*

A bricole carom by playing upon the cushion at d.

The hazards represented by Case e, f, Fig. 41.

A  $\frac{3}{4}$  ball winning hazard upon b, in either of the upper corner pockets.

If b be the adversary's ball, play for the winning hazard either in the pocket f or k, with just sufficient strength to carry it to the top of the table, whereby you will lay your own ball safe near to the side cushion.

If c be the adversary's ball, either part the balls by playing a  $\frac{1}{2}$  ball gently upon b, or give a point and lay your ball above the middle of the table.

The same rules will hold good with regard to a similar position of the balls at the upper end of the table.

*Case 6.*

A carambole by playing a high stroke full upon b.

N. B. This is a case of by no means unfrequent occurrence, but it is one which requires a great degree of nicety in managing properly. In the hands of an expert player, the carambole would be certain, but by an indifferent one, the attempt would perhaps often be dangerous. If the lowest of the two balls, however, be the adversary's, the carambole may always be played for with safety, but on the contrary, it will be advisable to separate the balls by playing an  $\frac{1}{3}$  ball smart upon the right side of b.

## Fig. 53.\*

## Case 1.

*Adversary's ball off the Table.*

A full ball winning hazard upon b, in the pocket f.

A  $\frac{1}{2}$  ball winning hazard upon b, in the pocket d.

Play for the winning hazard in d, with gentle strength, so as to leave it within the baulk if you do not hole it, and to dispose your own ball near to the side cushion at c.

## Case 2.

*Both striker's and adversary's ball off the Table.*

A winning and losing hazard upon b, as in Case a, b, Fig. 42.

A full ball doublet winning hazard upon b, in the pocket e, by playing from the point f.

A  $\frac{1}{4}$  ball losing hazard upon b, in the pocket o, by playing from the point k.

\* In the game of billiards, as much judgment is required in defence, as skill in execution. No stroke whatever, even though success appear certain, should be made, without maturely considering the probable consequences of a failure. It often happens, that a player, much inferior to his adversary in point of execution, will get the best of a match or game, merely by the policy of his strokes. This is a circumstance often taken advantage of by those who are much in the habit of betting, and who almost uniformly gain, by making their bets in favour of the side, which to those not so well acquainted with the game, appears the weakest. A bold and inexperienced player will play at every ball that offers to him a probability of scoring; on the contrary, a judicious player will never attempt any point, unless, on the one hand, he is pretty certain of making it, or on the other, is conscious the balls will be left safe in the event of his not succeeding.—The Cases described in these figures, exemplify Art. 7, Sect. 2. Chap. 4.

Either play for the losing hazard in the pocket o smart, or for the doublet winning hazard in the pocket e, by a low stroke. If you fail to make the hazard in the first case, you will part the balls by laying one near to each side cushion; in the second, you will bring the red ball into the baulk, and leave your own ball nearly in the place it occupied.

### Case 3.

*Adversary's ball off the Table.*

A  $\frac{1}{4}$  ball losing hazard upon b, in either of the middle pockets.

A  $\frac{1}{4}$  ball winning hazard upon b, in each of the upper pockets.

Make a baulk by playing a  $\frac{1}{2}$  ball upon b, with moderate strength, to bring the balls after reflexion to m and n.

### Case 4.

*Adversary's ball off the Table.*

A  $\frac{1}{4}$  ball winning hazard upon b, in the pocket c.

An  $\frac{1}{4}$  ball losing hazard upon b in the pocket c.

Play a low stroke full upon b, in order to bring it into the

baulk, and leave your own ball in its place.

N. B. It would be very possible in this case to make a baulk, by playing fine and strong upon the left side of the ball b; but this is not to be ensured, and consequently ought not to be attempted, as the striker has it always in his power to lay the balls safe, as here prescribed.

### Case 5.

*Adversary's ball off the Table.*

A  $\frac{1}{2}$  ball winning hazard upon b, in the pocket e.

Make a baulk by playing upon b bricole.

N. B. In this and every case of making a baulk, the striker should, *in the first place*, be careful to regulate his strength in such a way as to leave the red ball the highest of the two; and, *secondly*, never carry either of the balls so near a pocket, as to afford an easy bricole hazard to his adversary.

### Case 6.

*Adversary's ball off the Table.*

A  $\frac{1}{2}$  ball losing hazard upon b, in the pocket d.

A  $\frac{1}{2}$  ball winning hazard upon b, in the pocket e.

Make a baulk, by playing for the winning hazard: and use a strength that will bring your own ball sufficiently away from the cushion to allow of your making the hazard subsequently, if you fail in the first attempt.

*Case 7.*

*Adversary's ball off the Table.*

A  $\frac{1}{8}$  ball losing hazard upon b, in the pocket p.

A  $\frac{1}{2}$  ball losing hazard upon b, in the pocket e,

Make a baulk by playing a  $\frac{1}{4}$  ball upon its right side.

Fig. 54.

*Case 1.*

*Both adversary's and striker's balls off the Table.*

A  $\frac{1}{4}$  ball losing hazard upon b, in each middle pocket.

A full ball winning hazard upon b, in each middle pocket.

A full ball winning hazard upon b, in each bottom pocket.

A full ball doublet winning hazard upon b, in either of the upper pockets.

Play for the doublet winning hazard, and strike beneath the centre of your ball that it may recoil and make a baulk.

*Case 2.*

*Both striker's and adversary's balls off the Table.*

A  $\frac{1}{2}$  ball losing hazard upon b, in the pocket f.

A  $\frac{1}{4}$  ball losing hazard upon b, in the pocket c.

A  $\frac{1}{4}$  ball losing doublet hazard upon b, in the pocket d.

A full ball doublet winning hazard upon b in the pocket e.

A full ball winning doublet hazard upon b, in the pocket h.

Make a baulk by playing an  $\frac{1}{8}$  ball strong upon its left side from the point k.

*Case 3.*

*Adversary's ball off the Table.*

A  $\frac{1}{2}$  ball doublet winning hazard upon b, in the pocket c.

A  $\frac{1}{4}$  ball losing doublet hazard upon b, in the pocket f.

Make a baulk by playing an  $\frac{1}{8}$  ball strong upon its right side.

## Case 4.

*Adversary's ball off the Table.*

A  $\frac{1}{2}$  ball doublet winning hazard upon b, in the pocket a.  
The same in the pocket f.

An  $\frac{1}{8}$  ball losing doublet hazard upon b, in the pocket a.  
The same in the pocket f.

A  $\frac{1}{2}$  ball losing doublet hazard upon b, in the pocket c.

Play a  $\frac{1}{4}$  ball upon its right side with a strength that will carry it above the line, and bring your own ball to about g.

## Case 5.

*Adversary's ball off the Table.*

A full ball winning hazard upon b, in the pocket c.

A  $\frac{1}{2}$  ball winning doublet hazard upon b, in the pocket d.

Play for the doublet hazard in the pocket d, with a strength that will leave b within the baulk, and carry your own ball to about f.

N. B. In all of the foregoing cases, it will be observed, that the hazard is declined for the purpose either of making a baulk, or of laying the balls safe; and it should be a rule with the striker to do so in every instance where the adversary's ball is *in hand*,\* unless *in the first place* he anticipate more important advantages from the hazard, and is able to make it with facility: or, *secondly*, when a certain number of points only, which the hazard would give him, are necessary for the completion of his game.

## Fig. 55.

## Case 1.

*Striker's ball off the Table.—*  
*Adversary has the baulk.*

If b be the adversary's ball, play from d, upon the point e of the cushion f, g, for a carambole.

If c be the adversary's ball,

give a miss (if your game will admit of it,) and lay your ball at a, in a line with the other balls, and with the pocket f.

N. B. This is a very common case; the adversary has the baulk, and a dead hazard in the middle pocket, (supposing c to be the white ball,)

\* *Off the Table.*

if the striker miss in playing bricole. It will be prudent therefore, to give him a point, by disposing the balls as above recommended, so as to intercept his hazard, and obtain the chances of the table; there only remaining the choice of a carambole from the cushion i, or by playing the high oblique stroke described Chap. 2, Sect. 1, p. 25, and a losing hazard in the pocket k. In doing this, however, the striker should be extremely cautious to dispose the balls precisely in a line with each other, otherwise he will give his adversary an easy carambole.\*

*Case 2.*

*Both striker's and adversary's ball off the Table; b red ball.*

The hazards represented by case e, f, Fig. 41.

A full ball doublet winning hazard in either of the upper pockets.

Either part the balls by playing a  $\frac{1}{2}$  ball gently upon either side of b, or play for the doublet winning hazard, by striking either a low stroke in order that your ball may

remain at the bottom of the table, or a high stroke that it may be reflected near to the side cushion.

N. B. The case here described, must occur more or less frequently in every game: both of the white balls have been pocketed, and the red remains upon the spot.— Under such circumstances the striker has the choice of three modes, by which he may lay the balls safe; either *first*, to bring the red ball into the baulk, and leave his own ball at the bottom of the table by a full stroke, as above mentioned; or, *secondly*, to bring both his own and the red ball into the baulk, by playing a  $\frac{1}{2}$  ball hard upon the latter; or, *thirdly*, to part the balls, or lay each near a side cushion, by playing a  $\frac{1}{2}$  ball with gentle strength upon the red. Of these, the last is attended with least risk: in bringing the red ball into the baulk, it often happens that you leave a hazard upon your own; and the consequence of a failure in an attempt to bring both balls into the baulk, would be too destructive to admit of its

\* *Vide Cases 3, and 4. Fig. 51.*



being made, where the game is pending on the event of a stroke.

In disposing the balls as above directed, the striker should observe two cautions, first, never to use strength enough to produce the case b, c, Fig. 57; secondly, to avoid laying the balls quite close to the cushion.

*Case 3.*

*k, Striker's ball; h, red ball; g, adversary's ball close under the cushion.*

Give a point and lay your ball at i.

N. B. The intention of disposing the balls as recommended in this case, is too obvious to be insisted upon; the adversary is close under the cushion, the striker himself in a situation that renders him incapable of easily scoring upon either ball: by placing his own ball, therefore, thus advantageously, if the adversary should either miss or make an imperfect stroke, a

certain hazard must be the consequence.\* Whenever from an unfavourable position you are incapable of scoring, and your adversary happen to have no hazard upon the red ball, it should be an invariable rule rather to give a point, than to run the hazard of missing unintentionally, and thereby leaving the balls to a disadvantage.†

*Case 4.*

*Striker's ball off the Table; adversary's ball in any part of the table in which it does not present a dead hazard;—red ball before the pocket q.*

Play for the red hazard bricole, by striking with a due degree of strength upon the bottom cushion at c, from the point e. ‡

N. B. In cases of this kind it is always better to play bricole by one reflexion than by two.§—The inevitable consequence of leaving the red ball over a hole, unless you

\* *Vide Sect. 2, Obs. 8.*

† *Vide Chap. 4, Sect. 2, Obs. 13.* ‡ *Vide Fig. 30, and 31.*

§ *Vide Chap. 4, Sect. 2, Obs. 3; and Expl. of Fig. 20—31.*

have a sure hazard upon your adversary's ball, must be at least a loss of three, perhaps of six points; but whenever you have at the same time a favourable winning hazard upon your adversary's ball, it is in every such case good play, to prefer the latter, in order to gain the red hazard subsequently.\*

*Case 5.*

*m, Striker's ball; l, adversary's ball; n, red ball.*

Push your ball gently round to the upper side of l.

N. B. In doing this, the striker must be cautious to make the balls touch each other, and to leave them close to each other, otherwise his design will be in a great measure frustrated.†

**Fig. 56.**

*Case 1.*

*Striker's ball off the Table.*

A full ball doublet winning hazard upon b, in the pocket i.

A carambole by playing a  $\frac{1}{3}$  ball upon the left side of b.

A losing hazard upon b, in the pocket g, by playing a  $\frac{1}{4}$  ball upon its right side.

A losing hazard upon b, in the pocket h, by playing a  $\frac{1}{4}$  ball hard upon its right side.

Whether b be the adversary's or the red ball, carambole with a strength that will leave b above the middle of

the table, and create a hazard upon c, in the pocket k.

*Case 2.*

*Striker's ball off the Table;— one of the balls at b, as before, the other at d.*

If b be the adversary's ball, play for the the winning hazard to make a baulk.

If b be the red ball, play for the carambole strong enough to bring your own ball away from the pocket k, and the red ball from l, in

\* *Vide Chap. 4, Sect. 2, Obs. 20.*

† *Vide Chap. 4, Sect. 1, Art. 50.*

case you do not succeed in making it.

*Case 3.*

*Striker's ball off the Table;— one of the balls at b, as in the first and second cases, the other ball at e.*

*The hazards as before.*

A carambole and a winning doublet hazard upon b, in the pocket i, by playing a  $\frac{3}{4}$  ball upon its left side, from the furthest part of the striking ring.

If b be the red ball, and the adversary's ball is close under the cushion at e, play for the winning hazard and carambole.

If b be the adversary's ball, play for the losing hazard in the pocket g, and bring the ball out for a subsequent winning hazard in the same pocket: \* if you succeed, make a baulk.

N. B. The cases here described are particularly interesting to the young player, from the frequency of their occurrence: the striker's ball being off the table, with one of the balls in the baulk, and

the other at a short distance from the side cushion, and near to the striking line; and the striker should be influenced in the mode of play he adopts by two circumstances, namely, by the position of the ball within the baulk, and whether it be the white or red ball. Thus in Case 1, the ball c is so near as to render the carambole certain, in consequence of which it should in all cases be played for, as being most profitable. Case 2, however, is materially different; the ball d being at a considerable distance from b, the carom may be readily missed, by playing either with more or less than the requisite degree of fullness; when by the position the balls will obtain, if incautiously and unsuccessfully struck, an almost certain hazard or carom will remain: it will therefore be more expedient to play for the winning hazard to make a baulk; as it will also in Case 3, provided e be the red ball, but if e be the adversary's ball, no loss can ensue from playing for the carambole, as the adversary in his close

\* *Vide Cases 3, 4, and 5, Fig. 35.*

situation, will be incapable of taking advantage of a failure. In the two last cases of caramboling, a little address will enable the striker either to pocket the ball *b* by the same stroke, or dispose it before a pocket for the succeeding: in the former case, before the pocket *l*, in the latter, before the pocket *i*.

*Case 4.*

*Striker's ball off the Table.*

A full ball doublet winning hazard upon *n*, in the pocket *g*.

A winning doublet hazard upon *n*, in the pocket *h*, and a losing doublet hazard in the pocket *f*, by playing a  $\frac{1}{2}$  ball smart upon its right side.

The reverse, by playing an  $\frac{1}{2}$  ball smart upon its left side.

A carambole by playing a  $\frac{1}{4}$  ball, or a  $\frac{1}{2}$  ball upon the left side of *n*, if the third ball is situated at *q*; if at either *o* or *p*, by playing a  $\frac{1}{2}$  ball upon its left side.

If *n* be the adversary's ball, and the red ball be at *q*, play for the winning hazard to obtain the carambole, upon *n* being replaced upon its proper spot.

If *n* be the adversary's ball, and the red ball be either at *o* or *p*, give a miss, if your adversary wants more than three points to complete his game, and lay your ball at a short distance from the opposite cushion.

Supposing *n* the adversary's ball, and the red ball to be situated at *t*, play to hole the latter in the pocket *h*, with moderate strength.

If *n* be the red ball, and the adversary's ball occupy the spot at *o*, give a point, if the adversary's game wants more than three of being up, and lay your ball at *r*.

If *n* be the red ball, and the adversary's ball is either at *p* or *t*, drop the latter gently to the pocket *h*, and in the event of holing it, make a baulk.

N. B. It should be a rule never to make the winning hazard upon the white ball, (if any other mode of scoring presents itself at the same time,) when you will have no hazard upon the red ball afterwards, or will be unable to make a baulk, or bring one of the balls into the baulk, and leave the other safe. By pocketing the adversary's ball,

you give him the whole range of the striking ring to play from, and consequently an opportunity of profiting by your leaving the balls to any disadvantage.\*

## Fig. 57.

## Case 1.

*Striker's ball off the Table.*

A  $\frac{3}{4}$  ball winning hazard upon a, in the pocket h.

A  $\frac{3}{4}$  ball winning hazard upon b, in the pocket g.

A losing hazard upon a, in the pocket h, by playing either a  $\frac{3}{4}$  ball, or a high stroke nearly full upon its left side, from the point e.

The same with regard to b, in the pocket g.

A carambole by playing a  $\frac{3}{4}$  ball either upon the right side of a, or upon the left side of b, from the point f.

Play for the carambole with moderate strength upon the adversary's ball.

## Case 2.

*Striker's ball off the Table.*

A full ball winning hazard upon b, in the pocket h.

A full ball winning hazard upon c, in the pocket g.

A carambole by playing a  $\frac{1}{2}$  ball upon the right side of b, from the point d, or upon the left side of c from the point h.

Either by a low stroke drop the adversary's ball down to the corner pocket, or carambole upon the adversary's ball, with a strength that will bring your own rather above the middle pocket, if you happen to fail, and leave the former below the red ball.

## Case 3.

A winning hazard upon f, in the pocket h, by playing a  $\frac{1}{2}$  ball upon its left side from the point f.

The same upon k, in the pocket g.

A carambole by playing a  $\frac{3}{4}$  ball strong upon the cushion side of either ball.

\* *Vide Chap. 4, Sect. 2, Obs. 16.*

Drop the adversary's ball gently down to the corner pocket, and play a low stroke, so as to leave your own near to the side cushion: if you succeed in holing it, give a point, and lay your ball in the baulk.

N. B. In the cases above described, and all similar ones, it should be a rule to play at the adversary's rather than the red ball.\* In the first, it will be proper to play for the carambole in preference to the hazard, as a failure with regard to the latter, would almost inevitably prove the loss of two or more points, by leaving a carambole for the adversary; whereas, by playing for the former you will be enabled to lay the balls safe, in the event of your stroke proving unsuccessful; but in the last, in playing at the hazard, although unsuccessfully, the striker's ball will remain out of danger, and the adversary will be laid close under the cushion, in which situation he must play to a disadvantage, and will run the risk of leaving his game open, if he attempt to score otherwise, than by gently

dropping the white ball in return, to the opposite corner pocket.

#### Case 4.

##### *Striker's ball off the Table.*

A winning hazard upon n, in the pocket h, by playing a  $\frac{1}{2}$  ball upon its left side, from the point d.

A winning hazard upon m, in the pocket g, by playing a  $\frac{1}{2}$  ball upon its right side from the point h.

A winning doublet hazard upon n, in the pocket p, by playing a full ball from the point e.

A winning doublet hazard upon m, in the pocket o, by playing a full ball from the point g.

A carambole by playing strong upon either ball in the nick, † from the most distant part of the striking ring, as from the point h, with regard to the ball n.

Play for the doublet hazard upon the adversary's ball, by a low stroke, and use a strength that will leave it near to the upper cushion, if you do not pocket it.

\* *Vide Chap. 4. Sect. 2. Obs. 10.*

† The angle formed by the ball and the cushion.

## Fig. 58.

*Case 1.**Striker's ball off the Table.*

A carambole, and a winning hazard upon c in the pocket f, by playing a  $\frac{1}{2}$  ball smart upon its right side from the point b.

A carambole by playing a  $\frac{1}{2}$  ball upon the right side of d, from the point a, or a  $\frac{1}{4}$  ball upon its right side from the point e.

If c be the adversary's ball, carambole upon d, from the point a, strong enough to leave it a hazard for the middle pocket.

Supposing c the red ball, and the adversary's ball to be d, play for the carambole upon the latter from the point e, smart enough to carry c up

to the middle of the table, and leave a winning hazard upon d, in the pocket h.

If c be the red ball, and the adversary's ball be near to the cushion as at e, play upon c for the winning hazard and the carambole.

*Case 2.*

The hazard represented in Case 1, Fig. 36.

A winning hazard in the pocket h, and a carambole by playing smart upon k in the nick.

If i be the adversary's ball, play for the winning and losing hazard upon its right side.

If i be the red ball, play upon k for the winning hazard and the carambole.

## Fig. 59.

## Case 1.

*Striker's ball off the Table;—red ball on the spot;—d, adversary's ball, too low for a carambole, by playing as in Case 4, Fig. 56, and too high to admit of a carambole being easily made, as in Case 1, Fig. 58.*

A winning hazard upon d, in the pocket e, by playing a  $\frac{1}{2}$  ball upon its right side from the point e, or a  $\frac{3}{4}$  ball from the point a.

A losing hazard upon d, in the pocket e, by playing a  $\frac{1}{4}$  ball upon its left side from the point c.

A full ball winning doublet hazard upon d, in the pocket k, by playing from the point e.

A full ball winning doublet hazard upon d, in the pocket l, by playing from the point a.

A losing doublet hazard upon d, in the pocket f, by playing a  $\frac{1}{4}$  ball smart upon its right side from the point a.

Play for the doublet hazard in the pocket l, and strike low upon your ball, that it may remain nearly in the place

occupied by that of the adversary, and with such a degree of strength as will just serve to carry the latter to the top of the table.

Should the order of the balls be reversed, and the adversary's ball happen to occupy the neighbourhood of the spot, and the red ball be at d, while the striker is either off the table, or situated about the striking ring, he may either play fine upon the right side of g, for the carambole, by which he will either hole g in f, or lay it over the pocket, or he may play for the losing hazard in the pocket e smart, by which he will part the balls, as in Case 2, Fig. 53; or he may play a  $\frac{3}{4}$  ball high stroke smart upon the left side of g, in order either to hole it in the upper corner pocket h, or lay it under the cushion, while his own ball assumes the position i. Of these modes of play, the first will be most profitable if successful, the latter more safe, if the stroke prove ineffectual.



## Fig. 60.

*Case 1.*

*Striker's ball off the Table;—  
one of the remaining balls at  
b, the other at c.*

The hazards described in Case 4, Fig. 56, upon either ball.

A carambole by playing a  $\frac{1}{2}$  ball smart upon the right side of b, or upon the left side of c; or the reverse.

Either give a point and lay your ball towards the lower side cushion, parallel with the red ball, or play with gentle strength upon the adversary's ball for the winning hazard in the upper corner pocket.—If you succeed in holing it, make a baulk.

N. B. The motive for choosing the winning hazard in the upper instead of the middle pocket, may not perhaps, at first sight, be obvious to the young player; the latter being so much the most easy way of scoring. When the adversary's ball is off the table, and the red ball is situated on one side of the table, as at b, and the striker's opposite to it on the other side, as at c,

as would be the case in the present instance, provided the winning hazard were made in the middle pocket, it is usually a matter of difficulty to make a baulk, and the striker if he be only a moderate player will run the risk of leaving his game open in the attempt; in such cases therefore, it is always of consequence to avoid this by choosing a different mode of play.

*Case 2.**h Striker's ball.*

The hazards represented by case e, f, Fig. 41.

A  $\frac{1}{4}$  ball winning doublet hazard upon i, in either of the lower pockets.

A  $\frac{1}{4}$  ball winning doublet hazard upon k, in either of the upper pockets.

A carambole by playing a  $\frac{1}{2}$  ball smart upon either side of either ball.

Either part the balls by playing a  $\frac{1}{2}$  ball gently upon the red as in Case 2, Fig. 55, or play for the winning and losing hazard upon the adversary's ball, as directed in Case

e, f, Fig. 41, with a strength that will just bring your own ball beyond the middle pocket, if it do not enter it.

*Case 3.*

A winning hazard upon n, in the pocket g, by playing a  $\frac{3}{4}$  ball upon its left side.

A winning hazard upon n, in the pocket e, by playing a  $\frac{1}{2}$  ball smart upon its left side.

A losing hazard upon o, in the pocket p, by playing a  $\frac{1}{8}$  ball smart upon its right side.

A losing hazard upon n, in the pocket f, by playing a  $\frac{1}{8}$  ball smart upon its left side.

A winning hazard upon o, in the pocket l, by playing a  $\frac{1}{2}$  ball upon its right side.

A winning hazard upon o,

in the pocket p, by playing a  $\frac{1}{2}$  ball upon its left side.

A carambole by playing a  $\frac{1}{3}$  ball smart upon the right side of o, or upon the left side of n.

Make the losing hazard upon the red ball, strong enough to carry it just above the middle of the table.

N. B. It is here supposed, that both balls are equally close to the cushion; but if the adversary's ball is at a short distance from it, it will be prudent to prefer the carambole to the hazard, or to give a point, and dispose the ball about the centre of the striking ring, as the striker's game may happen to be more or less forward.\*—To make the winning hazard in this case, would be of little advantage.†

Fig. 61.

*Case 1.*

A winning hazard upon b, in the pocket e, and a carambole by playing a  $\frac{1}{2}$  ball strong upon its left side.

A losing hazard upon b, in the pocket e, by playing a

$\frac{1}{8}$  ball smart upon its right side.

A losing hazard upon b, in the pocket l, by playing a  $\frac{1}{4}$  ball upon its left side.

A winning hazard upon b, in the pocket m, by playing a  $\frac{1}{2}$  ball upon its right side.

\* *Vide Sect. 2, Obs. 10.* † *Vide N. B. to Case 4, Fig. 56.*

A full ball doublet winning hazard upon c, in the pocket h.

A  $\frac{1}{2}$  ball doublet winning hazard upon c, in the pocket i.

A losing doublet hazard upon c, in the pocket m, by playing a  $\frac{1}{2}$  ball upon its left side.

Whether b be the adversary's or the red ball, play for the winning hazard and the carambole, strong enough to bring your ball down to about d, in case the stroke prove ineffectual.

### Case 2.

A winning hazard upon g, in the pocket h, by playing a  $\frac{1}{2}$  ball upon its right side.

A winning hazard upon g, in the pocket i, by playing a  $\frac{1}{2}$  ball upon its left side.

A losing hazard upon g, in the pocket k, by playing a  $\frac{1}{2}$  ball upon its right side.

A losing hazard upon g, in the pocket h, by playing a  $\frac{1}{2}$  ball upon its left side.

A carambole by playing a  $\frac{1}{2}$  ball strong upon the right side of g.

A winning hazard upon k, in the pocket l, by playing a  $\frac{1}{2}$  ball upon its left side.

If g be the red ball, play

strong for the losing hazard in the pocket k.

If g be the adversary's ball, play for the winning hazard in the pocket i, with a strength that will bring your own ball a little away from the bottom cushion.—If you pocket the ball, make a baulk as directed in Case 5, Fig. 53.

N. B. In all cases in which the adversary's and the red ball are close to the same cushion, it should be a rule never designedly to make a miss, as by doing so you must leave an easy red hazard in one of the corner pockets.

### Case 3.

A winning hazard upon n, in the pocket e, by playing a  $\frac{1}{2}$  ball upon its left side.

A losing hazard upon n, in the pocket l, by playing a  $\frac{1}{2}$  ball smart upon its right side.

A full ball winning hazard upon m, in the pocket i.

A carambole by playing an  $\frac{1}{2}$  ball smart upon the right side of the ball n, or upon the left side of the ball m.

Play for the carambole.—If n be the adversary's ball, carambole by playing upon m, and the reverse.\*

\* *Vide Chap. 4, Sect. 2, Obs. 8.*

N. B. Although in conformity with general rules, it is here recommended to carom by playing upon the red, rather than the adversary's ball, yet it is obvious that more advantage must result from caramboling off n, whichever ball it happen to be. The propriety of doing this will depend upon the confi-

dence the striker has in his own dexterity. In caramboling off the ball n, the strength should be so regulated, as to bring the latter up about the middle of the table, and at the same time preserve the hazard upon m, in the pocket e, ensuing from the carambole.

### Fig. 62.

#### Case 1.

A winning hazard upon b, in the pocket c, by playing a  $\frac{1}{2}$  ball upon its right side.

A losing hazard off b, in the pocket i, by playing a  $\frac{3}{4}$  ball smart upon its right side.

A winning hazard upon b, in the pocket k, by playing a  $\frac{3}{4}$  ball upon its left side.

A carambole by playing a  $\frac{3}{4}$  ball upon the right side of the ball b; or if the third ball be at d, by playing a  $\frac{1}{2}$  ball smart upon its left side.

Supposing b the red ball, and the adversary's ball to be situated at c or d, play for the carambole strong.

If b be the adversary's ball, and the red ball is at c, play

for the winning hazard in the pocket e.

If b be the adversary's ball, and the red ball is at d, play for the losing hazard in the pocket i.

#### Case 2.

A full ball winning doublet hazard upon o, in the pocket e.

A winning hazard upon p, in the pocket g, by playing a  $\frac{3}{4}$  ball upon its left side.

A losing hazard off p, in the pocket h, by playing a  $\frac{1}{4}$  ball upon its left side.

A losing hazard off p, in the pocket f, by playing a  $\frac{3}{4}$  ball smart upon its right side.

A winning hazard upon o, in the pocket k, and a caram-

bole by playing a  $\frac{1}{2}$  ball smart upon its left side.

If o be the adversary's ball, make the winning hazard in the pocket e, and play a high stroke, in order that your own ball may roll low enough to admit of your making a good baulk.

If o be the red ball, play for the carom and the winning hazard strong enough to bring your own ball to the top of the table, and at the same time carry o below the middle pocket if the stroke fail of success.

### Fig. 63.

#### Case 1.

A full ball winning hazard upon b, in the pocket d.

A losing hazard upon b, in the pocket f, by playing a  $\frac{1}{4}$  ball smart upon its right side.

A losing hazard upon b, in the pocket e, by playing a  $\frac{1}{4}$  ball smart upon its left side.

A winning hazard upon c, in the pocket e, by playing a  $\frac{3}{4}$  ball strong upon its left side.

A winning hazard upon c, in the pocket d, by playing a  $\frac{1}{2}$  ball upon its left side.

A carambole by playing either a  $\frac{3}{4}$  ball upon the right side of b, or an  $\frac{1}{8}$  ball upon the left side of c.

If b be the adversary's ball, play for the winning hazard and the baulk.

If c be the adversary's ball, either carambole upon b with moderate strength, or make the winning hazard upon b, and afterwards give a point and lay your ball about e.

#### Case 2.

##### *Striker's ball off the Table.*

A winning hazard in the pocket e, and a carambole by playing smart upon n in the nick, from the point f.

If n be the adversary's ball, play for the winning hazard and carom strong enough to bring your ball down to some distance from the upper cushion.

If m be the adversary's ball, give a point, and lay your ball about the spot o.\*

\* *Vide Case h, i, k, Fig. 55; and Sect. 2. Obs. 8.*

*Case 3.*

A losing hazard off the ball q, in the pocket g, by playing a  $\frac{1}{2}$  ball upon its right side.

A full ball winning hazard upon q, in the pocket f.

A carambole by playing smart upon r in the nick.

Whether q be the adver-

sary's or the red ball, play for the losing hazard in the corner pocket, with strength enough to bring your own ball down midway between the upper and middle pockets if you fail, and leave a losing hazard in one of the bottom pockets, or a carambole for your next stroke, if you succeed.

## CHAPTER V.

*Of the winning Carambole Game.*

THE red winning game is eighteen\* in number, which are made from winning hazards and caroms only. It is subject to fewer chances than the winning and losing game, and for this reason is often preferred by good players.

\* The red winning game is played in two ways: either by the players striking alternately, or by their following their successful strokes. In the former case, the number of points are usually sixteen, in the latter, eighteen: the latter mode of play is now almost exclusively adopted.

## SECTION I.

*Orders for the Red winning Game.*

1. The stroke, and the choice of balls must, in the first place, be strung for, as in the winning and losing game.

2. The red ball is to be placed on a spot made for that purpose, in the centre, between the stringing nails or spots at the bottom of the table, higher up than in the carambole winning and losing game.

3. The white or striker's ball is to be played from a spot made for that purpose, or from within the ring usually described in the centre between the stringing nails, in the baulk, or upper end of the table.

4. After the first striker has played, his adversary is to play next, and so on alternately; or the striker is to follow his gaining stroke, as may have been previously agreed upon.

5. When the red ball has been holed or forced over the table, it must be replaced on the spot where it originally stood.

6. When either of the white balls has been holed, it must be placed in, and played from



the striking ring, when it is the striker's turn to play.

7. If the striker miss both balls, he loses one point; if by the same stroke he strike his own ball into a pocket, he loses three points.

8. If the striker carambole he wins two points.

9. If the striker holes his adversary's ball, he wins two points.

10. If the striker holes the red ball, he wins three points.

11. If the striker holes his adversary's ball, and the red ball by the same stroke, he wins five points.—N. B. Two for the white, and three for the red ball.

12. If the striker makes a carambole, and at the same time pockets his adversary's ball, he wins four points.—N. B. Two for the carom, and two for holing the white ball.

13. If the striker makes a carambole, and at the same time holes the red ball, he wins five points.—N. B. Two for the carom, and three for pocketing the red ball.

14. If the striker make a carambole, and by the same stroke holes both his adversary's and the red ball, he wins seven points.—N. B. Two for the carambole, two for the white, and three for the red hazard.

15. Forcing either of the balls over the table,

as in the winning and losing game, reckons nothing.\*

16. If the striker force his ball over the table, and at the same time make a carambole, or hole either of the other balls, he gains nothing by the stroke.

17. If the striker forces either his adversary's or the red ball over the table, and by the same stroke holes his own ball, he loses nothing.

18. If the striker in playing a stroke should make his mace or cue touch two balls at the same time, it is deemed a foul stroke, and if discovered by the adversary, he wins nothing for any points he may have made by the stroke, and his adversary may break or part the balls, and play from the proper spot on the red ball, as at the beginning of the game. But if by the foregoing stroke, which

“ On ne gagne rien quand on fait sauter la bille de son adversaire, ou la carambole, mais si, du même coup, on carambole on gagne deux points; et si l'on fait la rouge, on en gagne cinq, pourvu-qu'en même temps on ne se perd pas, car si ce cas arrivoit, on perdrait autant de points qu'on auroit pu en gagner.—Lorsqu'un joueur fait sauter sa bille en tirant sur la blanche, il perd deux points; et s'il tiroit sur la rouge, il perd trois; mais si en faisant sauter sa bille, il carambole, il n'en perd que deux; si du même coup, il fait la blanche, et carambole, et saute, il perd quatre points; et cinq s'il fait la rouge: enfin s'il arrive qu'en faisant sauter sa bille, il fasse le deux autres, en carambolant, il perd sept points.”

is deemed foul, his adversary does not break the balls, and play from the proper spot, &c., then the striker may reckon all the points he made by the stroke, and the marker is obliged to reckon them.

19. If the striker make a foul stroke, and at the same time holes his own ball, he loses two or three points, according to which ball he struck first.

20. After a red ball has been holed or forced over the table, the present striker is bound to see the ball placed on its proper spot again, before he strikes, otherwise he can win no points while the ball is out of its place, and the stroke he made is deemed foul.

21. After a white ball has been holed or forced over the table, the striker is obliged to replace it in the striking ring, otherwise he can win no points he may make by the stroke, which is likewise deemed foul.

22. After the striker has made either a carambole or a hazard, if he should touch either of the balls with his hand, stick, or otherwise, he gains no points, and the stroke is deemed foul.

23. If the striker play with his wrong ball, the stroke is considered foul.

24. If the striker play with the wrong ball, and his error be not discovered by his adversary, he

may reckon all the points he made by the stroke, and the marker is obliged to score them.

25. If the striker is about to play with the wrong ball, no one hath a right to discover his error to him, except his partner, if they are playing a four match.

26. If the striker play with the wrong ball, and at the same time make a losing hazard, he loses either two or three points, according to which ball he struck first, and the stroke is considered foul.

27. If the striker play with the wrong ball, and miss both the remaining balls, he loses one point, and if the ball should go into a hole by the stroke, he loses three points, and it is deemed foul.

28. If either, or both the balls should be upon the line, or within the stringing nails or spots, after the adversary's ball is off the table, it is called a baulk, and the striker who is to play from the ring or spot, must strike the opposite cushion to make the ball come back again, to hit one of the balls within the baulk, which, if he does not, he loses one point, and, if at the same time he holes his own ball, he loses three points.

29. If the striker pocket either or both the balls, or make a carambole, when the balls are within the baulk, he wins two, three, five, or seven points, according to the stroke.

30. "When the striker plays from the spot or circle, at either of the balls within the baulk, he is obliged to pass one of the balls, otherwise it is no stroke."\*

"31. When the striker's ball and the red ball are within the baulk, he is not obliged to pass the ball."

"32. If after the red ball has been holed or forced over the table, either of the white balls should lie so that the red ball cannot be placed on its proper spot, without touching the same, the marker must then hold the red ball in his hand, while the striker plays at his adversary's ball, and immediately afterwards replace it on its proper spot, so that it may not prevent a carambole, &c. being made."

"33. When either of the white balls has been holed, and the red or the white should stand upon, or so near the spot, that the striker cannot place this ball without touching the other, the marker must hold the red ball in his hand, as directed in the foregoing rule."

"34. If either of the balls should be either before, behind, or one side of the spot, so that

\* The observance of this rule is now confined almost wholly to the white games.

the striker can place his own ball without touching the other, he must play the ball as he can from the spot, neither of which balls must be moved to make way for him to play."

" 35. Each person who proposes a bet, should name the sum, and should likewise be very careful not to propose a bet when the striker hath taken his aim, or is going to strike, least it might disturb or interrupt him; and no bet ought to be proposed which may have any tendency to influence him."

*N. B. The rest of the rules and regulations are likewise to be observed as in the carambole winning and losing game. Vide Chap. 4, Sect. 2, Art. 37 to 67.*

## SECTION II.

THE carambole winning game is by no means so full of variety as the winning and losing, but it requires a greater degree of judgment, and depends more materially upon the skill of the player.

The general principles of the game however differ little from those of the preceding, and most of the observations and cautions laid down for that, are applicable to both: the caroms are precisely similar, and the striker is influenced by the same grand object of making the baulk.

In the carambole winning game, the principal objects to be held in view by the striker, are, *first*, so to regulate his stroke, that in making the desired winning hazard, he may not at the same time make the losing, and *secondly*, to dispose the balls in such wise, that his adversary may either have no hazard at all, or a hazard in playing which, there will be an equal chance of holing his own and the ball he plays at.

share of address, for in certain situations of the balls, it will be found extremely difficult to pocket the one without the other; or to carambole without at the same time pocketing the striking ball. The requisites in order to avoid these sources of danger, are, a perfect knowledge of the angles of the table, an ability in the striker to avail himself of the different modifications in the action of his instrument, and a studious attention to the different degrees of strength. For instance, in the position of the balls represented by a, b, Fig. 64,\* it is obvious, that by striking in the usual way, there will be an equal chance of pocketing each ball; the prudent striker, therefore, when he plays under such circumstances for the winning hazard, will strike beneath the centre of his ball, so that its course after pocketing b, shall be altered in the direction b, c. The case d, e, is precisely similar, and in this the danger will be avoided equally, by playing under or obliquely over the centre of the ball. † By employing the first means, the striking ball will assume the course e, f; by means of the latter, its course will be altered to e, g. With regard to the cases h, i, and o, p, a player who

\* In the cases represented in Fig. 64, the letter s distinguishes the striker's ball.

† Vide Chap. 2, Sect. 1, *the high and low strokes.*



knows the angles of the table, and consequently can foresee the course his ball will take after every stroke, will at once perceive the danger of making the losing hazard in l, and n, by playing for the winning in m and k; to avoid it therefore, he will regulate the strength of his stroke accordingly. When the object ball is in a line with that of the striker, and near to a pocket, the same caution is required to prevent the former, after contact, from rolling in after the latter. If the ball be at some little distance from the brink, the low stroke or recoil will generally prove effectual in obviating the danger; when however, it is extremely close, so as to render this inadmissible, recourse must be had to playing bricole, as in the case q, r.

It is not prudent in this, as in the winning and losing game, for the first player to make a miss; for the red ball being upon the upper mark, (about midway between the centre of the table and the bottom cushion) the adversary will have a good winning hazard. It is preferable to bring the red ball into the baulk, and at the same time play rather high upon the striking ball, in order that it may roll onwards towards the bottom cushion. In case of playing for the winning hazard, it will be prudent to use a degree of strength that will

bring the balls away from the pocket, in the event of the attempt proving unsuccessful.

Much of the success of the striker in this game, will depend upon his skill in striking the full or straight hazard.\* Some players are extremely expert at this, inasmuch as that when they get the balls in a direct line between two holes, they are enabled to make the game by successive winning hazards, without allowing their adversary another opportunity of playing. Thus suppose the red ball to be on the spot, and the striker's ball at *s*, Fig. 64, if it be projected evenly by the cue, after propelling *t* into the pocket, it will roll onwards towards *v*, in consequence of which the striker will have to repeat his stroke, after *t* has been replaced, and so on, backwards and forwards, until he commit a blunder, and lose the hazard. Others, on the contrary, who are, with regard to billiards in general, equally good players, make all other hazards with greater facility. The great art in making straight hazards, consists in the rapidity with which the eye surveys the hole and the balls, and in the consequent smartness and suddenness of the stroke; for success in these cases will seldom allow of a very studied attention to the mode of

\* Vide Explan. of Fig. 32.

striking, and “ the more frequently the eye is suffered to wander from one ball to another, the more certainly will the stroke be unsuccessful.”\*

In this game the striker may often avail himself with great advantage, of a facility of making what are called *reflected* or *doublet* hazards; for whenever the red ball is situated unfavourably, and the white ball presents no *direct* hazard, it is uniformly preferable to attempt the *reflected* hazard with gentle strength upon the latter. Hazards of this description are more easily to be made than they appear to be; indeed there are few positions which a ball can obtain, in which it may not be doubled into one or another pocket, by a player perfectly acquainted with the angles of the table; as is exemplified in Fig. 37, 38. The same directions however will not hold good with regard to the red ball, for in playing at this, the utmost caution should be used not to bring it into any hazardous situation, for which reason when the chances of scoring are equal upon each ball, and no important advantage is in view, from playing at the red, it is uniformly deemed better play to choose the white. Whenever the reflected hazard is attempted, one caution should always be observed, namely, “ in the case of the red hazard, to play strong enough

\* Vide Chap. 2, Sect. 2, *winning hazards*.

to bring the ball away from the pocket, and in the case of the white hazard, to use such a moderate degree of strength as will leave it over the hole if it do not enter it.\*

The red winning game possessing fewer chances than the winning and losing, the striker may more frequently with impunity sacrifice an uncertain or difficult hazard, to the purpose of laying the balls safe; he ought therefore, in every case in which he despairs of scoring, to have one object only in view; to lay his own or his adversary's ball in that part of the table which affords no hazard or carom.

\* *Vide Obs. on Fig. 32, 37, 38.*

## CHAPTER VI.

*Of the losing Carambole Game.*

THE losing carambole game, like the winning game, is played with three balls. It is either *sixteen* or *eighteen* in number,\* according to the option of the players; which points are scored by caramboles and *losing* and *double hazards*.

## SECTION I.

*Orders for the Red or carambole losing Game.*

1. The game begins in the same manner as the carambole winning game.

2. If the striker misses both balls, he loses one point, and if he holes his own ball by the same stroke, he loses three points.

3. If the striker hits the red ball and holes it, he

\* The number of the points is determined in the same way as in the red winning game, (Vide note p. 177,) as is also the turn of striking.

loses three points, and the red ball must be replaced upon its proper spot.

4. If in like manner he hit the white ball and hole it, he loses two points.

5. If the striker by the same stroke, hole both the red and the white ball, he loses five points, two for the white, and three for the red ball.

6. If the striker makes a carambole, he wins two points.

7. If the striker makes a carambole, and holes either of the balls, he wins nothing for the carom, and loses either two or three points, as he may have struck the red or the white ball first.

8. If the striker play at the white ball first, carambole, and at the same time holes his own ball, he wins four points;—two for the carambole, and two for holing his own ball.

9. If the striker play first at the red ball carambole, and also holes his own ball, he wins five points:—three for the red ball, and two for the carambole.

“ 10. If the striker make a carambole by striking at the white ball first, and by that stroke should hole his own and his adversary's ball, he wins six points:—viz. two for holing his own ball off the white, two for holing the white ball, and two for the carambole.”

“ 11. If the striker make a carambole by striking

the red ball first, and by the same stroke should hole his own, and his adversary's white ball, he wins seven points:—viz. two for the carambole, two for holing himself off the red, and two for his adversary's white ball.”

“ 12. If the striker make a carambole by striking at the white ball first, and by the same stroke, should hole his own and the red ball, he wins seven points:—viz. two for the carambole, two for holing his own ball off the white, and three for holing the red ball.”

“ 13. If the striker make a carambole by striking the red ball first, and by the said stroke should hole his own and the red ball, he wins eight points:—viz. two for the carambole, three for holing himself off the red, and three for holing the red ball.”

“ 14. If the striker make a carambole by striking the white ball first, and should hole his own and his adversary's ball, and the red ball, he wins nine points:—viz. two for the carambole, two for holing his own ball off the white, two for holing his adversary's white ball, and three for holing the red ball.”

“ 15. If the striker makes a carambole by striking the red ball first, and by the said stroke should hole his own, and the red, and his adver-

sary's white ball, he wins ten points:—viz. two for the carambole, three for holing his own ball off the red, three for holing the red ball, and two for holing his adversary's white ball."

" 16. If the striker holes his own ball off the white, he wins two points, if off the red, three points."

" 17. If the striker, by striking the white ball first, should hole his own ball and his adversary's ball, he wins four points: viz. two for holing himself off the white, and two for holing the white ball."

" 18. If the striker by striking the red ball first, should hole his own ball and his adversary's white ball, he wins five points:—viz. three for holing his own ball on the red, and two for holing the white ball."

" 19. If the striker strike his adversary's ball first, and holes his own ball, and the red, he wins five points:—viz. three for holing the red ball, and two for holing his own off the white."

" 20. If the striker strike the red ball first, and holes his own and his adversary's ball, he wins five points:—viz. three for holing his own ball off the red, and two for holing his adversary's white ball."

" 21. If the striker strike his adversary's white ball first, and holes his own ball and his adversary's



ball, and the red, by the same stroke, he wins seven points:—viz. two for holing his own ball off the white, two for holing his adversary's white ball, and three for holing the red ball."

" 22. If the striker strike the red ball first, and holes his own ball, and the red, and his adversary's white ball by the same stroke, he wins eight points:—viz. three for holing his own ball on the red, three for holing the red ball, and two for holing the white ball."

" 23. If the striker strike the red ball first, and holes his own ball and the red ball, he wins six points:—viz. three for holing his own ball off the red, and three for holing the red ball."

N. B. The rest of the rules and regulations are likewise to be observed, as in the carambole winning game, &c. *Vide Chap. 4, Sect. 2, Art. 37 to 67.*

## SECTION II.

*General Observations on the Carambole losing Game.*

The red or carambole losing game requires a greater degree of judgment than the winning, and the chances in it are often more various; especially if the players do not properly understand the skilful part. It depends entirely upon the defence, and the knowledge of the degree of strength with which each stroke should be played, either to defend or make a hazard. When properly understood however, a losing game hazard is much more easy to be made than a winning game hazard is in general.

It will be unnecessary to repeat here many of the observations we have already made, which will apply to billiards in general; vide the general observations on the winning and losing game, Chap. 4, Sect. 2; precisely the reverse, however, of the rules laid down for the carambole winning game is applicable to the losing; the chief objects to be attended to by the striker, being to avoid making the winning hazard in attempting the losing.

After what has been said with regard to the preceding games, the means of effecting this will readily suggest themselves to the striker.

It is of particular importance in this, as well as in the white losing game, for the striker to be able to play *bricole*, as it is termed;\* for it is very common for a player, in order to ensnare his adversary, to lay his ball in such a way before a pocket, that the latter will often find it extremely difficult to avoid holing it, if he play the direct stroke; by taking the proper angle however, and striking the cushion previously, he may always obviate this

“ \* Il s'agit de frapper une bille *de bricole*. La bille M, Fig. 65, est cachée, ou presque cachée derrière le fer, à l'égard de la bille N, en sorte que cherchant à la toucher directement, il seroit impossible de le faire, ou qu'il y auroit grand danger de rencontrer le fer, et de la manquer. Il faut alors chercher à toucher la bille *de bricole* ou par réflexion; pour cela concevez du point M, sur la bande D, C, la perpendiculaire M, o, prolongée en m, de sorte que O, m, soit égale à O, M, visez à ce point m; la bille N après avoir touché la bande D, C, ira choquer le bille M.”

“ Si l'on vouloir frapper la bille M, par *deux bricoles*, ou après deux réflexions, en voici la solution géométrique. Du point M, (Fig. 65), concevez sur la bande B, C, la perpendiculaire M, O, prolongée, en sorte que O, m, soit égale à O, M, du point m, soit conçue sur la bande D, C, prolongée en q, la perpendiculaire m, P, prolongée en q, en sorte que q, P, soit égale à P, m: la bille N dirigée à ce point q, ira après avoir frappé les bandes D, C, C, B, choquer la bille M.”

danger, and will very generally be enabled to make the desired losing hazard. Examples of this mode of play are represented in Fig. 65, (Vide a, b, c, d, e, f.)

## CHAPTER VII.

*Of the White winning Game.*

THE white winning game is vastly more simple than any we have hitherto described. Together with the white losing game, it is considered a key to billiards in general, and should be practised by all learners, before they attempt the more complex carambole games. It is played with two white balls, and consists of twelve points; which are scored from winning hazards exclusively. When four persons, however, play at the same time, the game is usually made fifteen up.

## SECTION I.

*Orders for the White winning Game.*

1. The game begins by stringing for the lead and choice of balls.
2. In stringing for the lead the striker must stand within the limits of the corner of the table.
3. The striker who plays at the lead, must also

stand with both feet within the limits of the corner of the table, and must not place his ball beyond the stringing nails or spots, and his adversary only is bound to see that he stands and plays fair, otherwise he can be subject to no forfeiture.

4. If the leader follow his ball with either mace or cue, beyond the middle hole, it is no lead, and if his adversary chooses he may make him lead again.

5. Immediately after a hazard has been won, the balls are to be broken, and the striker is to lead as at first.

6. When a hazard has been lost in either of the corner holes, the leader is, if his adversary requires it, to lead from the end of the table where the hazard was lost, but if the hazard was lost in either of the middle holes, it is at the leader's option to play from either end of the table he pleases.

7. If the striker miss his adversary's ball, he loses one point ; if by the same stroke he hole his own ball, he loses three points, as in the carambole games.

“ 8.\* If the striker hole his own or both balls, or

\* Si la bille de celui qui a joué vient à sauter, et que son adversaire la remette sur le tapis, le coup est bon, et le joueur ne perd rien ; mais si l'adversaire, en remettant

forces both of them over the table, or on a cushion, he loses two points."

" 9. If the striker forces his adversary's ball over the table, and his adversary should chance to stop it, so as to make it come on the table again, the striker nevertheless wins two points."

" 10. If the striker forces his own ball over the table, and his adversary should chance to stop it, so as to make it come on the table again, the striker loses nothing by the stroke, and he has the lead, because his adversary ought not to stand in the way, or near the table."

" 11. If the striker misses his adversary's ball, and forces his own over the table, and it should be stopped by his adversary, he loses one point, but has the lead if he chooses."

" 12. If the striker who plays the stroke, should make his adversary's ball go so near the brink of a hole, as to be judged to stand still, and it should

la bille sur le tapis, la fait entrer dans une belouse, le coup est nul, et celui qui a joué donne son acquit.

Il en est différemment quand la bille qui a sauté est remise sur le tapis, par quelque spectateur; en ce cas, celui qui a joué perd deux points. Lorsqu'un joueur fait sauter la bille de son adversaire, il gagne deux points, quand même cette bille seroit remise sur le tapis, en touchant celui à qui elle appartient, ou quelqu'un des spectateurs.

afterwards fall into it, the striker wins nothing, and the ball must be put on the brink where it stood, for his adversary to play at the next stroke."

N. B. There is no occasion for challenging the ball if it stops as some people imagine.

" 13. If the striker's ball should stand on the brink or edge of a hole, and if in attempting to play it off he should make the ball go in, he loses three points."

" 14. If a ball should stand on the brink or edge of a hole, and it should fall into the hole, before or when the striker has delivered his ball from his mace or cue, so as to have no chance for his stroke, in that case the striker's and his adversary's balls must be placed in the same position, or as near as possible thereto, and the striker must play again."

" 15. If by a foul stroke, the striker holes his own or both balls, or forces his own or both balls over the table, or on a cushion, he loses two points."

" 16. The striker is obliged to pass his adversary's ball, more especially if he misses the ball on purpose, and his adversary may oblige him to place the ball where it stood, and play until he has passed."

17. If the striker play with a wrong ball he loses the lead, if his adversary requires it.



18. If the ball should be changed in a hazard, or in a game, and it is not known by which party the hazard must be played out by each party with their different balls, and then changed.

19. If the striker play with his adversary's ball, and holes or forces the ball he played at over the table, it is deemed a foul stroke.

“ 20. If the striker play with his adversary's ball, and miss, he loses one point, and if his adversary discovers that he hath played with the wrong ball, he may part the balls and take the lead.”

21. In all the beforementioned cases of playing with the wrong ball, if the error of the striker be not discovered, his adversary must play with the ball the striker played at throughout the hazard, or part the balls and take the lead.

22. Whoever proposes to part the balls, and his adversary agrees to it, the proposer thereof loses the lead.

23. Two missings do not constitute a hazard, unless it is previously agreed on to the contrary.

“ 24. When four people play, the game is fifteen, and each party may consult with, and direct his partner in any thing respecting the game &c. ; and the party who misses twice before a hazard is made, is out, and it is his partners turn to play, but if after the two missings have been made by the

party, his adversary should hole a ball, so as to make a hazard at the stroke following the said two missings, yet the party who did not make the two missings, is to play, as he cannot be supposed to be out who has not made a stroke.

N. B. Vide the orders for the winning and losing game. Chap. 4, Sect. 2. Art. 37 to 67.

## SECTION II.

### *General Observations.*

THE general principles of the red winning game may be applied with little variation to the white. *Vide Chap. 5, Sect. 2.*

## CHAPTER VIII.

*Of the White losing Game.*

THE white losing game is the reverse of the white winning, the points in it being reckoned by losing and double hazards. Like the white winning game it is played with the two white balls, and is twelve in number.

## SECTION I.

*Orders for the White losing Game.*

1. At the beginning you must string for the lead, and for the choice of the balls as in the other games.
2. If the striker misses the ball he loses one, and if he hole his own ball by the same stroke, he loses three points.
3. If the striker holes his adversary's ball, he loses two points.
4. Forcing either or both the balls over the table, or on a cushion, reckons nothing, but the striker loses the lead.
5. If the striker misses the adversary's ball, and

forces his own ball over the table, &c. he loses one point and the lead.

6. If the striker hole his own ball he wins two points.

7. If the striker hole both balls, he wins four points.

8. If the striker holes either of the balls, and forces the other over the table, &c., he loses the lead only.

N. B. The rest of the regulations, &c. as in the winning and losing, and winning games, are likewise to be observed. Vide Chap. 4, Sect. 2, Art. 37 to 67.

## SECTION II.

### *General Observations.*

Vide the general observations on the red losing game. *Chap. 6, Sect. 2.*

## CHAPTER IX.

*Of the simple Carambole Game.*

THE carambole game is played with three balls, and consists usually of twelve points, which are scored by caramboles and forfeitures. It possesses but few chances, and consequently requires a considerable share of skill and judgment. It is seldom played alone, but usually by an able player against the winning and losing, or the winning game of an indifferent one; and is considered equal to giving fifteen out of twenty-four points.

## SECTION I.

*Rules for the Carambole Game.*

1. The game commences in the usual manner, the red ball being placed upon an appropriate spot at the bottom of the table, and the players stringing for lead, and choice of balls, as in the preceding games.

2. The game is played in two different ways. In the first, hazards lose, in the second, they count for nothing; the first has been the most usual mode of play, and the striker upon making a hazard loses as many points as he would have gained by that particular stroke, in the winning or losing game.

3. If the striker miss both balls, he loses one point; if by the same stroke he pocket his own ball, he loses three points.

4. If the striker make a carambole, he gains two points.

5. If the striker make a carambole and hole himself off the adversary's ball, he loses two points for the hazard, and gains nothing for the carambole.

6. If the striker make a carambole and hole himself off the red ball, he loses three points, and gains nothing for the carambole.

7. If the striker carambole, and by the same stroke hole the adversary's ball, he loses two points.

8. If the striker carambole and hole the red ball by the same stroke, he loses three points.

9. If the striker carambole, and hole both his own and the adversary's ball, he loses four points.

10. If the striker carambole, and at the same time hole both his own and the red ball, he loses five points, if he played at the white, and six if he played at the red ball.

11. If the striker carambole and hole all three of the balls by the same stroke, he loses either seven or eight points, according to the ball which he played at.

The rules 39 to 67, for the carambole winning and losing game, are also to be observed to the carambole game.

#### SECTION II.

##### *General Observations, and select Cases in the simple Carambole Game.*

IN the simple carambole game, as hazards are disregarded, it only remains for the striker either to endeavour to carom, as the only means of scoring, or to lay the balls safe, or in such a position that his adversary may obtain no carambole. If he despairs of accomplishing the first, or deems the attempt attended with risk, the latter is more easily to be effected in this game than in any other,

it having fewer chances; and yet there are few positions of the balls in which it is not possible for an expert player to carom. Whoever has been much in the habit of frequenting billiard rooms, must have observed matches in which a common walking stick, or the hand without any stick, is played by a good player against the cue or mace of a bad one, and that the stick or hand player most commonly comes off victor. If he were to pay a more minute attention to such games, he would perceive that the greater number of points gained by the latter, are scored from caroms, which his adversary had thrown in his way, through ignorance of the game; and which he almost exclusively depends upon, being unable, under the disadvantage in which he is placed, to make a stroke firm enough to ensure many of the common winning and losing hazards; but to carom under a variety of circumstances, requires a very great share of judgment and dexterity. The greater number of the common cases of caroms have been already represented in the carambole winning and losing game. In the present section, we shall present the reader with some examples, representing the mode of caramboles under some of the most common



cases of winning and losing hazards. Various others might have been added, but these will readily be suggested to the striker, by a little consideration and practice.

Fig. 66.

*Case 1.*

A full ball winning hazard upon c in the pocket d.

A  $\frac{1}{8}$  ball losing hazard upon b, in the pocket e.

A  $\frac{3}{4}$  ball losing hazard upon b, in the pocket f.

A carambole by playing a  $\frac{1}{2}$  ball smart upon the right side of b.

*Case 2.*

A full ball winning hazard upon b, in the pocket d.

A carambole by playing a  $\frac{1}{2}$  ball smart upon the left side of b.

*Case 3.*

A full ball winning hazard upon c, in the pocket h.

A  $\frac{1}{4}$  ball losing hazard upon b, in either of the corner pockets.

A carambole by playing a  $\frac{1}{4}$  ball smart upon the right side of b.

*Case 4.*

A  $\frac{1}{2}$  ball losing hazard upon c, in the pocket e.

An  $\frac{1}{8}$  ball winning hazard upon c, in the pocket e.

A  $\frac{1}{2}$  ball losing hazard upon c, in the pocket d.

A  $\frac{1}{4}$  ball losing hazard upon b, in the pocket g.

A carambole by playing a  $\frac{1}{2}$  ball strong upon the right side of b.

Fig. 67.

*Case 1.*

A full ball winning hazard upon c, in the pocket e.

A  $\frac{3}{4}$  ball winning hazard upon b, in the pocket f.

A  $\frac{1}{2}$  ball losing hazard upon b, in the pocket b.

A carambole by playing a  $\frac{3}{4}$  ball strong upon the right side of b.

*Case 2.*

A  $\frac{3}{4}$  ball winning, and a  $\frac{1}{4}$  ball losing hazard upon b, in the pocket b.

A  $\frac{3}{4}$  ball (low stroke) losing hazard upon b, in the pocket a.

A  $\frac{1}{2}$  ball losing hazard upon c, in the pocket d.

A carambole by playing a  $\frac{3}{4}$  ball hard upon the right side of b.

*Case 3.*

A  $\frac{3}{4}$  ball winning hazard upon c, in the pocket b.

An  $\frac{1}{4}$  ball losing hazard upon c, in the pocket b.

A  $\frac{1}{2}$  ball losing hazard upon b, in the pocket c.

A full ball winning hazard upon b, in the pocket d.

A carambole by playing a  $\frac{3}{4}$  ball smart upon the right side of c, or a  $\frac{1}{2}$  ball with considerable strength upon the right side of b.

Fig. 68.

*Case 1.*

A  $\frac{1}{4}$  ball losing hazard upon b, in each middle pocket.

A  $\frac{1}{4}$  ball winning hazard upon b, in each bottom pocket.

A carambole by playing a  $\frac{1}{2}$  ball strong upon the right side of b.

*Case 2.*

A  $\frac{1}{2}$  ball losing hazard upon each ball.

A carambole by playing a  $\frac{3}{4}$  ball strong upon the left side of h, or the right side of c.

## Fig. 69.

*Case 1.*

A  $\frac{1}{4}$  ball losing hazard upon  
b, in the pocket c.

An  $\frac{1}{4}$  ball winning hazard  
upon b, in the pocket c.

A  $\frac{1}{4}$  ball losing hazard upon  
c, in the pocket a.

A carambole by playing a

$\frac{1}{2}$  ball hard upon the right  
side of b.

*Case 2.*

A full winning hazard upon  
each ball.

A carambole by playing a  
 $\frac{1}{2}$  ball smart upon the right  
side of b.

## CHAPTER X.

*Fortification Billiards.*

IN the game of fortification billiards, besides the ivory *balls*, which are *six* in number, there are,

*First*, ten *forts* made of wood, in the form of *castles*, which have lead put into them for the purpose of making them heavy, so that in playing the balls, they may not be moved from their places. In the front of each fort, at the bottom, is an arch full wide and high enough to admit the ball, which is to be put through it, to attack the fort; and within the arch of each fort, a small bell is hung.

*Secondly*, the *pass* through which each of the adversary's balls must pass before a fort can be taken.

*Lastly*, the *grand batteries*, and ten *flags* or *colours*.

Two of the *forts*, called the *grand forts*, are made larger than the rest, and have an arch cut through them, of the size the others have. Five of the *forts*, including one of the *grand forts*, one of the

batteries, and five of the flags or colours, are usually painted red, and the forts and battery are painted like brick work; which colour denotes them to be English; and on each fort one red colour is hoisted, on the centre of the front thereof. The other five forts, the grand fort, battery, and colours included, are of a white colour: the forts and battery painted with black, like stone, and called French: one white colour being hoisted on each as before mentioned.

The *pass* which serves for the purpose of both parties attacking balls to go through, is made in the form of the grand forts, but rather longer for distinction; and has an arch of the size of the grand forts, and is painted of different colours; viz. one of the ends where the arch is, of a red, continuing half way of each side, and the same on the top; and the other end of the arch white, continuing in the same colour over the other half, as beforementioned.

There are likewise two *colours* or *flags* hoisted on the *pass*, one red, and the other white; the former of these is hoisted at the English end of the *pass*, the latter at the French end. The *pass* is placed in the centre of the table; the red end facing the English forts, the white end the white forts.

The limits of each party's *quarter*, is from the end cushion where his forts are placed, to his pass on each side of the table. That end of the table occupied by the red or English forts, is called the *English quarter*; that possessed by the white, or French forts, the *French quarter*.

The two forts in each quarter, in the first angle from the pass, are to be taken first, and are therefore called the *advanced forts*; the two forts in the second angle are to be taken next, these are called the *reserved forts*; lastly, the grand fort, with the battery placed before it, is the last to be taken.

The height of the *advanced and reserved forts*, is usually five inches and a half, the breadth and length of the *advanced*, five inches to the square, and the length of the *reserved* forts five inches and a half, and the back of them are rounded off. The height of the *grand fort* is five inches and a half, the breadth and length six inches and a quarter. The *batteries* are made in a triangular form; the height of them three inches, the breadth at the extremity, two inches and a half, and the length three inches and a half. The height of the *pass*, is five inches and a half, the breadth six inches and a quarter, and the length seven inches. The height of the concave in the forts, where the *attacking ball* must enter, is three inches, the breadth two

inches and a half, the depth two inches and three quarters.

The *bell* which is to be within the arch in each fort, must be hung one inch and a half within it.

The *balls* which are to be played with, at this game, are in diameter, one inch and three eighths.

*Explanation of the Plate.*

- a a a, The balls.
- b, The pass.
- c c, Advanced forts.
- d d, Reserved forts.
- f, Grand fort.
- g, Battery.

## SECTION II.

*The Rules of Fortification Billiards.*

“ 1. THE game is twenty in number.”

“ 2. The striker who strikes the opposite cushion, and brings his ball nearest the cushion where he struck from, shall have the first stroke, and the red (or English) side of the forts, and must commence hostilities and begin the attack.”

“ 3. Each party has three balls; viz. one *attacking ball* and two *defending balls*.”

“ 4. The balls are placed on appropriate spots, and parallel with each other, (as represented in the figure), the attacking ball is put in the middle, the defending balls on each side thereof.”

“ 5. The ball for the *attack*, on the red (or English) side of the forts, must be spotted with red, and the *defending* balls must be marked with small black circles.”

“ 6. The ball for the *attack*, on the white (or French) side of the forts, must be white; i. e. plain, each of the *defending balls* marked with eight black spots.”



“ 7. Before you can attack any of the forts, you must make the pass.”

“ 8. When you have made the pass, you must take down your adversary’s colours, and then attack either of his advanced forts, which must be taken first.”

“ 9. If after you have made the pass, you do not take down your adversary’s colours, you must make the pass again from your own side of the forts, but you must not return to the spot.”

“ 10. If you take either of your adversary’s forts after you have made the pass, and have not taken down your adversary’s pass colours, you lose two points, and must return to your spot again.”

“ 11. After you have regularly made the pass, and have taken a fort, you must return to your middle spot again.”

*Note.* “ Regularly making the pass, is when you have taken down your adversary’s colours, conformable to article 8.”

“ 12. When you have taken a fort you win four points.”

“ 13. If you do not take down your adversary’s colours when you have taken his fort, you are obliged to take the same fort again, and must be set back those four points you won by the same.”

“ 14. Missings at this game reckon nothing.”

“ 15. After you have regularly made the pass, you are not obliged to go through it again during the game.”

“ 16. In each fort there is a bell, which gives notice of its being taken, which bell must be made to ring, otherwise the fort is not taken.”

“ 17. The besieged may defend his own forts, or may send his attacking ball into the assaulter's quarters to attack his.”

“ 18. The besieger must take his adversary's fort with his attacking ball.”

“ 19. If the besieger should take either of his adversary's forts with one of his defending balls, he loses two points, and returns to his spot again.”

“ 20. If the striker plays with either of his adversary's balls, he loses two points, and if he play on either of his own balls, it must be put on its proper spot again, if his adversary requires it.”

“ 21. Either party may send his defending ball or balls into his enemy's quarter if he pleaseth.”

“ 22. After having taken the two *advanced forts*, the striker must then take the two other forts in the next angle, which are called the *reserved forts*, and lastly the *grand fort*.”

“ 23. He who does not take the forts according to the above direction, but takes either of the last

for the first, loses two points, and must return to the proper spot again."

" 24. After a fort has been taken, or a ball holed or forced over the table, the striker is bound to place, or to see the ball placed on its proper spot; and if he doth not, he shall reckon nothing for any forts, &c. he shall take during the time the ball is out of place."

" 25. After having taken a fort either by storm or otherwise, and his adversary takes the said ball out of the fort to place it, or otherwise, and although he doth not take down his colours, nevertheless the said fort is deemed as taken, and the colours are to be taken down."

N. B. " Taking a fort by storm, is when the party having made his utmost effort, finds it so well defended and guarded by his adversary, that he is obliged to have recourse to stratagem, that is by laying his ball in a proper angle, and striking the ball against the end cushion and bringing the ball back again into his adversary's fort."

" 26. If the striker forceth either of his adversary's balls into his own fort which hath not been taken, he makes him a prisoner of war, and wins six points."

" 27. If the striker forces either of his adver-

sary's balls into his own fort, which hath been taken, it is no prisoner of war, but the said striker wins two points."

" 28. If the striker forces either of his adversary's balls into his adversary's fort, he wins two points."

" 29. If the striker holes either of his adversary's balls, or two, &c., for each ball so holed, he wins two points."

" 30. If the striker holes his own ball or balls, for each ball so holed, he loses two points."

" 31. If the striker forceth his adversary's ball or balls over the table, or on a fort or cushion, for each ball he wins two points."

" 32. If the striker forces his own ball or balls over the table, or &c., for each ball he loses two points."

" 33. If the striker forces his adversary's ball over the table, or on a fort or cushion, or into a hole, and regularly takes his adversary's fort by the same stroke, he wins six points; but, if by the same stroke, the striker's ball should go into a fort, which hath been taken, or is out of the angle, he loses two points."

" 34. If the striker holes his own or his adversary's ball, or forces them over the table, or on a fort or cushion, he loses two points."

“ 35. If the striker forces his ball into any of his own or his adversary’s forts, which had been taken, or into any of his adversary’s forts out of the angle, he loses two points.”

“ 36. When a ball is holed or forced over the table, or on, &c., such ball is to be placed on its proper spot; but if it happens that the spot should be occupied by another ball, in such case the ball is to be placed behind, so as not to touch the other ball.”

“ 37. Whoever takes a fort after it has been regularly taken, and the colours are down, loses two points.”

“ 38. When the adversary’s ball is out of sight (that is lying behind a fort, so that it cannot be seen) and the striker hath a fancy to strike the cushion first, and hit the said ball backwards, by giving warning, saying, *I do not see*, if he should hit the said ball, he wins two points; but if he should not hit the ball he loses two points.”

“ 39. If by the before mentioned stroke, the striker should hit the ball and hole his own ball, or force it over the table, or on a fort or cushion, or into either of his own forts, or his adversary’s forts, which hath been taken,\* or is out of the angle, he loses two points.”

\* Out of the angle—Vide 22 and 23.

“ 40. If either of the adversary's balls should lie before either of the striker's forts which hath not been taken, and the said ball being out of sight, the striker hath a fancy to strike the cushion first, and hit the said ball backwards, to make a prisoner of war of his said adversary's ball, by saying—*I do not see*, if he hits the ball he wins two points, and if he make a prisoner of war of his adversary's ball, he wins six points more ; and his adversary's ball must return to its proper spot again.”

“ 41. When the striker gives warning, saying,—*I do not see*, the adversary, or the disinterested company have a right to be judges, or the marker, if any dispute should arise therefrom.”

“ 42. If the striker holes, or &c., either of his adversary's defending balls, it is at his adversary's option to place the said ball on either of the proper spots, if they are both vacant.”

“ 43. Whoever toucheth both balls with mace or cue, it is deemed a foul stroke, therefore he cannot reckon any points he made by the said stroke, if it is discovered and proved to be so, by the disinterested company, and the marker ; but if it is not discovered, the marker is obliged to reckon all the points made by the stroke. But, if the said stroke is proved to be foul,

then it is at his enemy's option either to break the balls, or to make him return to the proper spot again."

" 44. If the striker make a foul stroke, and hole his own ball, or force it over the table, &c. he loses two points for each of his own balls so holed or forced over the table, and it is at his adversary's option to part the balls if he pleases."

" 45. If the striker moves the ball, it must be put back to the proper place it was moved from."

" 46. Whoever blows on his enemy's or his own ball, when running, it is deemed foul."\*

" 47. If the striker by blowing on his own ball should put it out of its proper course, more especially when running near a hole, he loses two points, and it is deemed foul. See Art. 43."

" 48. Whoever stops a ball with stick or otherwise after the stroke, it is deemed foul. See Art. 43."

" 49. Whoever plays with both feet off the ground without permission from the enemy, it is deemed foul. (Vide Article 43.)"

" 50. Whoever plays upon a ball when running, it is deemed foul. (Vide Article 43.)"

\* See Article 43.

“ 51. Whoever retains his adversary’s stick, when playing, loses two points, and it is foul. Vide Article 48.”

“ 52. Whoever gets the first twenty points, each fort being regularly taken, wins the game.”

“ 53. When four parties play a double match, he who plays before his turn, loses two points.”



## CHAPTER XI.

*A Table of the Odds at Billiards.**Equal Players.*

1 Love . . . is	5 to 4	5 to 2 . . . is	9 to 5
2 . . .	3 2	6 . . .	3 1
3 . . .	7 4	7 . . .	7 2
4 . . .	2 1	8 . . .	6 1
5 . . .	5 2	9 . . .	7 1
6 . . .	4 1	10 . . .	21 1
7 . . .	9 2	11 . . .	22 1
8 . . .	10 1		
9 . . .	11 1		
10 . . .	36 1	4 to 3 . . . is	7 to 5
11 . . .	40 1	5 . . .	8 5
		6 . . .	5 2
		7 . . .	3 1
		8 . . .	5 1
		9 . . .	6 1
		10 . . .	20 1
		11 . . .	21 1
2 to 1 . . . is	4 to 3	5 to 4 . . . is	5 to 4
3 . . .	3 2	6 . . .	7 4
4 . . .	7 4	7 . . .	2 1
5 . . .	2 1	8 . . .	4 1
6 . . .	7 2	9 . . .	9 2
8 . . .	9 1	10 . . .	21 2
9 . . .	10 1	11 . . .	12 1
10 . . .	32 1		
11 . . .	36 1		
3 to 2 . . . is	5 to 4		
4 . . .	8 5		

*Equal Players.*

6 to 5 . . . is	3 to 2	9 to 7 . . . is	2 to 1
7 . . .	7 4	10 . . .	9 2
8 . . .	3 1	11 . . .	5 1
9 . . .	4 1	<hr/>	
10 . . .	9 1	9 to 8 . . . is	5 to 4
11 . . .	21 2	10 . . .	11 4
<hr/>		11 . . .	3 1
7 to 6 . . . is	4 to 3	<hr/>	
8 . . .	2 1	10 to 9 . . . is	9 to 4
9 . . .	5 2	11 . . .	5 2
10 . . .	5 1	<hr/>	
11 . . .	11 2	11 to 10, or according to	the stroke.
<hr/>			
8 to 7 . . . is	7 to 4		

*When a Person who gives one point to another, is,*

1 all . . . is	5 to 4	2 all . . . is	5 to 4
2 to 1 . . .	3 2	3 to 2 . . .	3 2
3 . . .	7 4	4 . . .	7 4
4 . . .	2 1	5 . . .	2 1
5 . . .	5 2	6 . . .	7 2
6 . . .	4 1	7 . . .	4 1
7 . . .	9 2	8 . . .	9 1
8 . . .	10 1	9 . . .	10 1
9 . . .	11 1	10 . . .	25 1
10 . . .	36 1	11 . . .	26 1
11 . . .	40 1		

*When a Person who gives one point to another, is,*

3 all . . . is	5 to 5
4 to 3 . . .	3 2
5 . . .	7 4
6 . . .	3 1
7 . . .	7 2
8 . . .	6 1
9 . . .	13 2
10 . . .	21 1
11 . . .	22 1

4 all . . . is	5 to 4
5 to 4 . . .	7 5
6 . . .	2 1
7 . . .	11 5
8 . . .	9 2
9 . . .	5 1
10 . . .	12 1
11 . . .	13 1

5 all . . . is	5 to 4
6 to 5 . . .	8 5
7 . . .	9 5
8 . . .	4 1
9 . . .	9 2
10 . . .	10 1
11 . . .	11 1

6 to 6 . . . is	6 to 5
7 . . .	7 5
8 . . .	5 2
9 . . .	11 4
10 . . .	11 2
11 . . .	6 1

7 all . . . is	6 to 5
8 to 7 . . .	9 5
9 . . .	9 4
10 . . .	5 1
11 . . .	11 2

8 all . . . is	7 to 6
9 to 8 . . .	4 3
10 . . .	3 1
11 . . .	7 2

9 all . . . is	7 to 6
10 to 8 . . .	5 2
11 . . .	11 4

10 all . . . is 8 to 7  
11 or 10, or according to  
the stroke.

*When a Person who gives two points to another, is,*

1 to 2 . . .	is	5 to 4
2 all . . .		3 2
3 to 2 . . .		7 4
4 . . .		2 1
5 . . .		5 2
6 . . .		4 1
7 . . .		9 2
8 . . .		10 1
9 . . .		11 1
10 . . .		31 1
11 . . .		32 1

3 to 2 . . .	is	7 to 4
4 . . .		2 1
5 . . .		5 2
6 . . .		4 1
7 . . .		9 2
8 . . .		10 1
9 . . .		21 1
10 . . .		30 1
11 . . .		31 1

3 all . . .	is	3 to 2
4 to 3 . . .		7 4
5 . . .		2 1
6 . . .		7 2
7 . . .		4 1
8 . . .		9 1
9 . . .		10 1
10 . . .		26 1
11 . . .		27 1

4 all . . .	is	7 to 5
5 to 4 . . .		8 5
6 . . .		5 2
7 . . .		11 4
8 . . .		5 1
9 . . .		11 1
10 . . .		20 1
11 . . .		21 1

5 all . . .	is	7 to 5
6 to 5 . . .		7 4
7 . . .		2 1
8 . . .		9 2
9 . . .		5 1
10 . . .		15 1
11 . . .		16 1

6 all . . .	is	4 to 3
7 to 6 . . .		3 2
8 . . .		5 2
9 . . .		3 1
10 . . .		11 2
11 . . .		6 1

7 all . . .	is	4 to 3
8 to 7 . . .		2 1
9 . . .		5 2
10 . . .		5 1
11 . . .		11 2

*When a Person who gives two points to another, is,*

8 all . . . is	5 to 4	10 to 9 . . . is	11 to 4
9 to 8 . . .	7 5	11 . . .	3 1
10 . . .	3 1	<hr/>	
11 . . .	7 2	10 all . . . is	6 to 5
<hr/>		11 to 10 or according to	the stroke.
9 all . . . is	5 to 4		

*When a Person who gives three points to another, is,*

1 to 3 . . . is	5 to 4	5 all . . . is	8 to 5
2 . . .	3 2	6 to 5 . . .	5 2
3 all . . .	7 4	7 . . .	3 1
4 to 3 . . .	2 1	8 . . .	6 1
5 . . .	5 2	9 . . .	13 2
6 . . .	4 1	10 . . .	19 1
7 . . .	9 2	11 . . .	20 1
8 . . .	10 1	<hr/>	
9 . . .	11 1	6 all . . . is	3 to 2
10 . . .	21 1	7 to 6 . . .	7 4
11 . . .	22 1	8 . . .	7 2
<hr/>		9 . . .	4 1
4 all . . . is	8 to 5	10 . . .	6 1
5 to 4 . . .	9 5	11 . . .	13 2
6 . . .	3 1	<hr/>	
7 . . .	7 2	7 all . . . is	3 to 2
8 . . .	7 1	8 to 7 . . .	5 2
9 . . .	8 1	9 . . .	3 1
10 . . .	20 1	10 . . .	11 2
11 . . .	21 1	11 . . .	6 1



*When a Person who gives four points to another, is,*

9 all . . . is	8 to 5		10 all . . .	3 to 2
10 to 9 . . .	7 2		11 to 10, according to the	
11 . . .	4 1		stroke.	

*When a Person who gives five points to another, is,*

1 to 5 . . . is	5 to 4		7 all . . . is	5 to 2
2 . . .	3 2		8 to 7 . . .	4 1
3 . . .	7 4		9 . . .	11 4
4 . . .	2 1		10 . . .	13 1
5 . . .	5 2		11 . . .	14 1
6 . . .	4 1			
7 . . .	9 2		8 all . . . is	2 4
8 . . .	8 1		9 to 8 . . .	5 2
9 . . .	9 1		11 . . .	11 4
10 . . .	24 1		11 . . .	6 1
11 . . .	25 1			

6 all . . . is	5 to 2		9 all . . . is	2 to 1
7 to 6 . . .	3 1		10 to 9 . . .	4 1
8 . . .	11 1		11 . . .	11 2
9 . . .	6 1			
10 . . .	14 1		10 all . . . is	8 to 5
11 . . .	15 1		11 to 10, or according to	
			the stroke.	

*When a Person who gives six points to another, is,*

6 all . . . is	3 to 1		9 to 6 . . . is	7 to 1
7 to 6 . . .	7 2		10 . . .	15 1
8 . . .	6 1		11 . . .	16 1

*When a Person who gives six points to another, is,*

7 all . . . is 3 to 1	9 all . . . is 5 to 2
8 to 7 . . . 11 2	10 to 9 . . . 5 1
9 . . . 6 1	11 . . . 6 1
10 . . . 14 1	
11 . . . 15 1	
<hr/>	
8 all . . . is 5 to 2	10 all . . . is 2 to 1
9 to 8 . . . 11 4	11 to 10, according to the stroke.
10 . . . 6 1	
11 . . . 7 1	

*When a Person who receives one point from another, is,*

2 Love. . . is 4 to 3	7 Love. . . is 4 to 1
3 . . . 3 2	8 . . . 9 1
4 . . . 7 4	9 . . . 10 1
5 . . . 2 1	10 . . . 35 1
6 . . . 7 2	11 . . . 36 1

*When a person who receives two points from another, is,*

3 Love. . . is 5 to 4	8 Love. . . is 8 1
4 . . . 8 5	9 . . . 9 1
5 . . . 9 5	10 . . . 26 1
6 . . . 3 1	11 . . . 27 1
7 . . . 7 2	

*When a Person who receives three points from another, is,*

4 Love. . . is 7 to 5	8 Love. . . is 7 to 1
5 . . . 8 5	9 . . . 8 1
6 . . . 11 4	10 . . . 25 1
7 . . . 3 1	11 . . . 26 1



*When a Person who receives four points from another, is,*

5 Love. . . is	7 to 5		9 Love. . . is	7 to 1
6 . . . .	2 1		10 . . . .	15 1
7 . . . .	5 2		11 . . . .	16 1
8 . . . .	6 1			

*When a Person who receives five points from another, is,*

6 Love. . . is	7 to 4		9 Love. . . is	6 to 1
7 . . . .	2 1		10 . . . .	14 1
8 . . . .	5 1		11 . . . .	15 1

*When a Person who receives six points from another, is,*

7 Love. . . is	3 to 2		10 Love. . . is	11 1
8 . . . .	4 1		11 . . . .	12 1
9 . . . .	5 7			

*When a Person who receives two points from another, is,*

4 to 2 . . . is	6 to 5		8 to 2 . . . is	5 1
5 . . . .	4 3		9 . . . .	11 2
6 . . . .	5 2		10 . . . .	18 1
7 . . . .	3 1		11 . . . .	19 1

*When a Person who receives two points from another, is,*

6 to 4 . . . is	4 to 3		9 to 4 . . . is	7 to 2
7 . . . .	3 2		10 . . . .	9 1
8 . . . .	3 1		11 . . . .	10 1

*When a Person who receives two points from another, is,*

8 to 6 . . . is	3 to 2		10 to 6 . . . is	4 to 1
9 . . .	7 4		11 . . .	9 2

*When a Person who receives two points from another, is,*

10 to 8 . . . is	3 to 1		11 to 8 . . . is	5 2
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*When a Person who receives four points from another, is,*

7 to 4 . . . is	equal		10 to 4 . . . is	7 to 1
8 . . .	2 to 1		11 . . .	8 1
9 . . .	5 2			

*When a Person who receives four points from another, is,*

8 to 6 . . . is	equal		10 to 6 . . . is	3 to 1
9 . . .	5 to 4		11 . . .	7 2

*When a Person who receives four points from another, is,*

10 to 8 . . . is	3 to 2		11 to 8 . . . is	7 to 4
------------------	--------	--	------------------	--------

*When a Person who receives four points from another, is,*

10 to 9 . . . is	5 to 4		11 to 9 . . . is	3 to 2
------------------	--------	--	------------------	--------

*When a Person who receives six points from another, is,*

10 to 7 . . . is 7 to 4 | 11 to 7 . . . is 2 to 1

*When a Person who receives six points from another, is,*

11 to 8 . . . is 4 to 3

*The odds of a hazard when one point is given, is according to the stroke.*

When 2 are given,	6 to 5.
———— 3 . . . .	5 4.
———— 4 . . . .	3 2.
———— 5 . . . .	8 5.
———— 6 . . . .	2 1.

*Table, exhibiting the odds against winning any number of games or hazards, successively.*

THAT the striker wins or loses the first time, is an even bet ;—that he does not win twice together, is 3 to 1 ;—three successive times, 7 to 1 ;—four successive times, 15 to 1 ;—five successive times, 31 to 1 ;—six successive times, 63 to 1 ;—seven successive times, 127 to 1 ;—eight successive times, 255 to 1 ;—nine successive times, 511 to 1 ;—ten successive times, 1023 to 1 ;—and so on to any number, doubling every time the last odds, and adding one for the stake.

*General Observations.*

The above is the table of the odds at billiards in common use, in the several billiard rooms of Great Britain; but were a person to depend for the success of his bets solely upon the calculations it exhibits, he would in the majority of cases, perhaps in three out of four, find his expectations disappointed.

In all games in which skill and science have no share, the chances of winning may invariably be calculated with the greatest degree of precision; not so, however, in those games where skill and chance are combined;\* and more especially where the former predominates, as in the game of billiards. Here a variety of additional circumstances

\* “ Lorsque le hazard règne absolument dans un jeu, on peut toujours déterminer l'avantage ou le désavantage des joueurs. Il n'en est pas de même des jeux où la science du joueur a part à l'événement, aussi-bien que le sort. Car cette science, qui n'en merite pas le nom, n'étant fondée que sur des règles trompeuses de vraisemblance, et le plus souvent sur le caprice, et la fantasia des joueurs, il est impossible que les conjectures qu'on forme sur ces règles, ne participent à leur incertitude. Ainsi la méthode qui conduit dans les jeux de pur hazard, doit manquer dans la plupart des questions, qu'on peut faire sur les jeux, dont les événemens, bons ou mauvais pour les joueurs, ne dependent pas de la fortune.” *Encl. method. Dict. des Jeux mathémat.*

are necessary to be taken into the account; as the disposition the player may happen to be in at the time, the positive degree of his skill, and the possibility of his concealing or diminishing it on the one hand, for sinister purposes, and on the other, of his being restrained by certain adventitious circumstances, from properly exercising it;\* the accuracy or inaccuracy of the table on which the game is played; and lastly, the effects of chance. † A player may be able to play a much

\* “ Il n’y a point de jeu d’adresse, où il n’entre un peu de hazard, un des joueurs a la tête plus saine et plus libre ce jour là que son adversaire, il se possède d’avantage, et gagne par cette seule supériorité accidentelle, celui contre lequel, il auroit perdu en tout autre tems.—Le gain ou la perte dépend quelquefois sur une disposition qu’aucun des deux n’a prévue, et ne s’est proposée. Entre deux joueurs dont l’un ne risque qu’un argent qu’il peut perdre sans s’incommoder; et l’autre un argent, dont il ne sauroit manquer sans être privé des besoins essentiels de la vie, à proprement parler, le jeu n’est pas égal.”

† Although perhaps there is no game that may more strictly speaking, be called a game of skill, than billiards; yet like all others, it is very materially and constantly influenced by chance; but this, in general, operates in a way, different from what is usual with regard to other games. In games of address, a player is almost uniformly more *lucky*, in proportion as he is more *skillful*; and what is commonly called chance, usually follows, as a consequence of superior address. “ Je soutiens,” observes the writer in the *Jeux Mathemat.* “ que pour

better game than he is willing, in the first place, to make appear; or a player of well known excellence,

gagner le plus souvent, ou pour être *heureux*, il faut savoir bien jouer, sans quoi, il n'y a point de *bonheur* qui dure. On ne peut souvent comprendre la raison de la conduite des bons joueurs; c'est ce qui fait qu'il semble qu'ils sont *heureux*, quoiqu'ils aient plus d'adresse que de *bonheur*. Le gain est clair sur-tout, lorsqu'il est fréquent, et l'adresse n'est pas connue de tout le monde, de sorte qu'on ne s'en apperçoit pas si facilement. Comme on parle plus de ce qu'on sait, de ce qu'on ne sait pas, on ne s'entretient presque que de leur *bonheur*. Ainsi l'on appelle très-souvent *heureux* joueurs, des gens qui doivent leur gains principalement à leur adresse. C'est le contraire de ceux qui jouent mal, et dont les fautes ne sont quelquefois pas si grossières, que tout le monde puisse les connaître; on les nomme ensuite *malheureux*, au lieu de les nommer mauvais joueurs; et ils contribuent autant qu'ils peuvent à entretenir les autres dans cette opinion. Ils ne veulent pas passer pour des joueurs mal adroits, parce qu'il y a quelque honte à se mêler d'une chose qu'on ne sait pas bien, contre des gens qui l'entendent mieux; et à se laisser ainsi gagner son argent. Pour s'excuser, ils rejettent avec soin leurs fautes sur leur *malheur*, comme s'ils n'avoient rien oublié de ce qu'on doit faire pour gagner; et pour diminuer les plaisirs des autres, et quelquefois même l'honneur chimérique, qu'ils se font de gagner, ils attribuent leur gain à leur *bonheur*." With regard to billiards, however, the case is nearly reversed, and the more a player is skilful, the less he is usually a gainer by the effects of accident; for the very circumstance of his judgment and dexterity precludes, in great measure, the intervention of chance: on the contrary, an inexperienced and adventurous player, is more generally a lucky one, or a gainer by an

may, in consequence of mental agitation, or some other accidental cause, happen in one particular match to play infinitely worse than his usual address had led the better to expect: he may be unacquainted with the table, every particular defect in the accuracy of which his adversary may, from experience, know well how to take advantage of; or lastly, he may have the run of luck against him.\* The *odds* therefore, which under other

accidental combination of circumstances; and fortune often affords him the advantage, which from his want of knowledge of the game, he is incapable of gaining by his own endeavours. Out of twenty-four points, the chances of the tables among bad players are estimated at eight points; among able and experienced players, at four only.

\* Perhaps there is no subject which has more engaged the attention both of mankind in general, and of metaphysicians in particular, than the precise nature of what is understood by the familiar terms *good* and *ill fortune*. Diversity of fortune among the ancients, was commonly ascribed either to the operation of a fixed and immutable destiny, or to the intervention of the good or evil genius of the individual; and still in modern times a kind of superstitious notion prevails, among those who are influenced in their judgment more by appearances than reason, that there is inherent in every one a certain "*inscrutable principle*," or, that there presides over every one a certain power or agent, whereby they are rendered either lucky or unfortunate, as well in the less consequential events of play, as in the more important occurrences of life. It has been the object of philosophers

circumstances would be 2 or 3 to 1, will often, in consequence of these considerations, be reduced to 3 to 2, or still lower, according to circumstances.

to refute this received opinion of the vulgar, by endeavouring to prove that the occurrence of events is purely fortuitous, and consequently that, in play, there exists no such thing as *luck* good or bad. "The asserters of luck," observes de Moivre, "are very sure, from their own experience, that at some times they have been very *lucky*, and that at other times they have had a prodigious run of *ill luck* against them; which, whilst it continued, obliged them to be very cautious in engaging with the fortunate; but how chance should produce these extraordinary events, is what they cannot conceive. They would be glad, for instance, to be satisfied how they could lose fifteen games together at *piquet*, unless *ill luck* had strangely prevailed against them, but by "the rules of chance," they will see, that though the odds against their losing so many times together, be very great, viz. 32767 to 1, yet that the possibility of it is not destroyed by the greatness of the odds; there being one chance in 32768, that it may so happen; from whence it follows that it was still possible to come to pass, without the intervention of what they call *luck*."—"Those who contend for luck, may also, if they please, allege other cases much more unlikely to happen than the winning or losing fifteen games together; yet still their opinion will never receive any addition of strength from such suppositions, for by the rules of chance, a time may be computed, in which those cases may as probably happen as not; nay, not only so, but a time may be computed, in which there may be any proportion of odds for their so happening."—"Wherefore chance alone by its nature constitutes the inequalities of play, and there is no need to have recourse to luck to explain them."



In a game therefore, in which design and chance are so combined, it is obvious that mature delibe-

But setting aside all reasoning upon the subject, it is a fact which must daily fall within the observation of thousands, that both in games of chance and in games of address, among players, in every respect equal, where superior success cannot be attributed either to an excess or defect of skill, some are (to speak metaphorically) more particularly the favourites of fortune; that they more frequently play with what is called *luck*, or in other words that they more frequently win in consequence of a happy concurrence of certain circumstances (whether fortuitous or not), which custom has denominated chances. (*Vide the Observations on good and ill fortune in play, in the Dict. des Jeux; Art. Bonheur*). This in some, is so remarkable, that they may properly be said to be habitually fortunate. In games of simple chance, the cards or dice will favour their success; in games where skill and chance are combined, if address and judgment be equal on both sides, they will most frequently prove victorious. Others are as uniformly *unlucky*. There are many indisputable instances of people, who have continued to lose successively with little or no intervening good luck for a long course of years, until their fortunes and peace have suffered a total wreck; on the contrary, I know a gentleman who is extremely fond of the game called *quinze*, in which chance is perfectly absolute, and who has often declared to me, that during the course of five years, in which he had usually dedicated a part of each day to his favourite amusement, he had the worst of only twelve matches. This habitude to win or lose, is a circumstance extremely curious in itself, but it is equally indisputable. It is however of rare occurrence; but with regard to players in general, it is observable that in their play, there occurs more or less frequently a

ration is required, before the proposition of any consequential bet; and that in addition to the result of arithmetical calculation, a number of other circumstances, more immediately relative to the player himself, are essential to be regarded by the judicious observer.

Various celebrated mathematicians of the two preceding centuries, have industriously employed their researches for the purpose of ascertaining the probabilities of events in play, as well with regard to games of simple chance, as to certain accidental concurrences in games of address; and the labours of *Pascal*, *Fermat*, *Montmort*, *Moiivre*, *Bernouilli*, *d'Alembert*, *Euler* and others, have brought the doctrine of chances to a very high degree of perfection. To follow these through their various analyses and calculations, would be equally unimportant to the purpose, and inconsistent with the plan of the present work; the following concise

certain *term*, as a day, an hour, a week, in which they prove remarkably fortunate, and gain in spite of every obstacle to their success. This happy period is seldom however of long duration, and is followed by a reverse, during the continuance of which their utmost endeavours are inadequate to prevent a rapid succession of losses. This in common language is termed *a run of good or ill luck*, a term which, in compliance with custom, I have employed above, and in various other parts of the preceding pages.

explanation however, from de Moivre, of the chief rules on which the doctrines of chance depend, cannot be unacceptable to the reader, who may either want time or opportunity to consult more voluminous works.

### *The Doctrine of Chances.*

1. The probability of an event is greater or less, according to the number of chances by which it may happen, compared with the whole number of chances by which it may either happen or fail.

2. Wherefore, if we constitute a fraction, whereof the *numerator* be the number of chances whereby an event may happen, and the *denominator* the number of all the chances, whereby it may either happen or fail, this fraction will be a proper designation of the probability of its happening. Thus if an event has three chances to happen, and two to fail, the fraction  $\frac{3}{5}$  will fitly represent the probability of its happening, and may be taken to be the measure of it.—The same thing may be said of the probability of failing, which will likewise be measured by a fraction, whose *numerator* is the number of chances by which it may fail, and the *denominator*, the whole number of chances both for its happening and failing; thus the probability

of the failing of that event, which has two chances to fail, and three to happen, will be measured by the fraction  $\frac{2}{5}$ .\*

3. The fractions which represent the probabilities of happening and failing being added together, their sum will always be equal to *unity*; since the sum of their *numerators* will be equal to their common *denominator*: now it being a certainty that an event will either happen or fail, it follows that *certainty* which may be conceived under the notion of an infinitely great degree of probability, is fitly represented by unity.

4. If upon the happening of an event, a person be entitled to a sum of money, his expectation of obtaining that sum, has a determinate value, before the happening of the event.—Thus if he is to have £10. in case of the happening of an event, which has an equal probability of happening and failing, his expectation before the happening of the event, is worth £5.; for he is precisely in the same circumstances as he, who, at an equal play, ventures £5., either to have £10. or lose his £5. Now he who ventures £5. at an equal play, is possessor of

\* The word probability is here meant to include a double idea: first, of the number of chances, whereby an event *may happen*; secondly, of the number of chances whereby it may *happen or fail*.

£5. before the decision of the play ; therefore the expectation in the before-mentioned case, must also be worth £5.

5. In all cases the expectation of obtaining any sum is estimated by multiplying the value of the sum expected by the fraction, which represents the probability of obtaining it.—Thus if I have 3 chances in 5 to obtain £100, I say that the present value of my expectation is the product of 100, by the fraction  $\frac{3}{5}$ ; and consequently that my expectation is worth £60.

COROL. Hence it necessarily follows, that if the value of an expectation be given, as also the value of the thing expected, then dividing the first value by the second, the quotient, will express the probability of obtaining the sum expected. Thus, if I have an expectation worth £60., and that the sum which I may obtain be worth £100., the probability of obtaining it will be expressed by the quotient of 60, divided by 100, that is, by the fraction  $\frac{60}{100}$  or  $\frac{3}{5}$ .

6. The risk of losing any sum, is the reverse of expectation, and the true measure of it is, the product of the sum adventured, multiplied by the probability of the loss.

7. *Advantage and disadvantage* in play, results from the combination of the several expectations

of the gamesters, and of their several risks.—Thus supposing that A and B play together, that A has deposited £5. and B £3.; that the number of chances which A has to win is 4, and the number of chances which B has to win, is 2; and it were required in this circumstance, to determine the advantage or disadvantage of the adventurers; we may reason in this manner: since the whole sum deposited is 8, and that the probability which A has of getting it, is  $\frac{4}{6}$ , it follows that the expectation of A upon the whole sum deposited, is,  $8 \times \frac{4}{6} = 5\frac{1}{3}$ , and for the same reason, the expectation of B upon the whole sum deposited, is  $8 \times \frac{2}{6} = 2\frac{2}{3}$ . Now, if from the respective expectations, which the adventurers have upon the whole sum deposited, be subtracted the particular sums which they deposit, that is, their own stakes, there will remain the advantage or disadvantage of either, according as the difference is positive or negative. And therefore if from  $5\frac{1}{3}$ , which is the expectation of A, upon the whole sum deposited, 5, which is his own stake be subtracted, there will remain  $\frac{1}{3}$  for his advantage; likewise if from  $2\frac{2}{3}$ , which is the expectation of B, 3 which is his own stake be subtracted, there will remain  $-\frac{1}{3}$ , which being negative, shews that his disadvantage is  $\frac{1}{3}$ .—It is to be observed, that what is here called *advantage* or *disadvantage*, and

which may properly be called *gain* or *loss*, is always estimated before the event is come to pass, and although it be not customary to call that gain or loss, which is to be derived from an event not yet determined, nevertheless, in the doctrine of chances, that appellation is equivalent to what in common discourse is called gain or loss.

8. If the obtaining of any sum requires the happening of several events that are independent of each other, then the value of the expectation of that sum, is found by multiplying together, the several probabilities of happening, and again multiplying the product by the value of the sum expected.—Thus, supposing that in order to gain £90., two events must happen, the first of which has 3 chances to happen and 2 to fail, the second has 4 chances to happen and 5 to fail, and I would know the value of that expectation; I say, —the probability of the first's happening, is  $\frac{3}{5}$ , the probability of the second's happening, is  $\frac{4}{9}$ ; now multiplying these two probabilities together, the product will be  $\frac{12}{45}$  or  $\frac{4}{15}$ ; and this product being again multiplied by 90, the new product will be  $\frac{360}{15}$ , or 24: therefore that expectation is worth £24.

Likewise if an expectation depends on the happening of one event, and the failing of another,

then its value will be the product of the probability of the first's happening, by the probability of the second's failing; and of that again by the value of the sum expected.

And if an expectation depends on the failing of two events, the rule will be the same; for that expectation will be found by multiplying together the two probabilities of failing, and multiplying that again by the value of the sum expected.

The same rule also is applicable to the happening or failing of as many events as may be assigned.

**COROL.** If we make abstraction of the value of the sum to be obtained, the bare probability of obtaining it, will be the product of the several probabilities of happening.

9. The probability of the happening of two events dependant,\* is the product of the probability of the happening of one of them, by the probability which the other will have of happening, when the first is considered as having happened; and the same rule will extend to the

\* Two events are independant where they have no connexion one with another, and the happening of one neither forwards nor obstructs the happening of the other. —Two events are dependant where they are so connected together, as that the probability of either's happening is altered by the happening of the other.



probability of the happening of as many events as may be assigned.—Suppose there is a heap of 13 cards of one colour, and another heap of 13 cards of another colour, what is the probability, that taking a card at a venture out of each heap, I shall take the two aces? The probability of taking the ace out of the first heap, is  $\frac{1}{13}$ : now it being very plain, that the taking or not taking the ace out of the first heap, has no influence in the taking or not taking the ace out of the second, it follows, that supposing that ace taken out, the probability of taking the ace out of the second, will also be  $\frac{1}{13}$ , and therefore, these two events being independant, the probability of their both happening, will be  $\frac{1}{13} \times \frac{1}{13} = \frac{1}{169}$ . But suppose, that out of one single heap of 13 cards of one colour, it should be undertaken to take out the ace in the first place, and then the deux; and that it were required to assign the probability of doing it, we are to consider, that although the probability of the ace's being taken in the first place, is  $\frac{1}{13}$ , and that the probability of the deux's being taken in the second place, would also be  $\frac{1}{13}$ , if that second event were considered in itself, without any relation to the first, yet that the ace being supposed as taken out first, there will remain but 12 cards in the heap, and therefore that upon the supposition of

the ace being taken out at first, the probability of the deux's being taken out the next time, will be altered and become  $\frac{1}{12}$ : and therefore, these two events being dependant, the probability of their both happening, will be  $\frac{1}{13} \times \frac{1}{12} = \frac{1}{156}$ .

10. But to determine in the easiest manner possible, the probability of the happening of several dependant events, it will be convenient to distinguish by thought the order of those events, and to suppose one of them to be the first, another to be the second, and so on; which being done, the probability of the first's happening, may be looked upon as independant, the probability of the happening of the second, is to be determined from the supposition of the first's having happened; the probability of the third's happening, is to be determined from the supposition of the first's and second's having happened, and so on; then the probability of the happening of them all, will be the product of the multiplication of the several probabilities, which have been determined in the manner prescribed.

11. Supposing a person to have several expectations upon several sums, it is very evident that his expectation, upon the whole, is the sum of the expectations he has upon the particulars.—Thus, suppose two events such, that the first may have

3 chances to happen and 2 to fail, and the second, 4 chances to happen, and 5 to fail; and that he is entitled to £90. in case the first happens, and to another like sum of £90. in case the second happens also; and that he would know the value of his expectation upon the whole.—The sum expected in the first case being £90. and the probability of obtaining it being  $\frac{3}{7}$ , it follows that his expectation on that account is worth  $90 \times \frac{3}{7} = 54$ ; and again the sum expected in the second case being 90, and the probability of obtaining it being  $\frac{4}{7}$ , it follows that his expectation of that second sum is worth  $90 \times \frac{4}{7} = 40$ ; and therefore the expectation upon the whole is worth £54. + £40. = £94. But if he is to have £90., once for all, for the happening of one or the other of the two afore mentioned events, the method of process in determining the value of his expectation, will be somewhat different: for although the expectation of the first event be worth £54., as it was in the preceding example, yet he is to consider that his expectation of the second, will cease upon the happening of the first, and that therefore this expectation takes place only in case the first happens to fail. Now the probability of the first's failing, is  $\frac{2}{7}$ , and supposing it has failed, then his expectation will be £40.; wherefore  $\frac{2}{7}$  being the

measure of the probability of his obtaining an expectation worth £40., it follows that this expectation (to estimate it before the time of the first's being determined) will be worth  $40 \times \frac{2}{3} = 16$ : and therefore his expectation upon the whole, is worth £54. + 16 = 70.

In order to make these rules familiar, it will be expedient to apply them to the solution of a few simple cases.

*Case 1. To find the probability of throwing an ace in two throws of one die.*

The probability of throwing an ace the first time is  $\frac{1}{6}$ ; wherefore  $\frac{1}{6}$  is the first part of the probability required. If the ace be missed the first time, still it may be thrown on the second, but the probability of missing it the first time is  $\frac{5}{6}$ , and the probability of throwing it the second, is  $\frac{1}{6}$ ; wherefore the probability of missing it the first time, and throwing it the second, is  $\frac{5}{6} \times \frac{1}{6} = \frac{5}{36}$ : and this is the second part of the probability required, and therefore the probability required in all is  $\frac{1}{6} + \frac{5}{36} = \frac{11}{36}$ .

*Case 2. To find the probability of throwing an ace in three throws.*

The probability of throwing an ace the first time, is  $\frac{1}{6}$ , which is the first part of the probability required. If the ace be missed the first time, it may be thrown in the two remaining throws; but the probability of missing it the first time is  $\frac{5}{6}$ , and the probability of throwing it in the two remaining times, is (by Case 1),  $= \frac{1}{3} \times \frac{1}{6}$ : and therefore the probability of missing it the first time, and of throwing it in the two remaining times is  $\frac{5}{6} \times \frac{1}{3} = \frac{5}{18}$ , which is the second part of the probability required, wherefore the whole of the probability will be  $\frac{1}{6} + \frac{5}{18} = \frac{9}{18}$ .

*Case 3. To find the probability of throwing an ace in four throws.*

The probability of throwing the ace the first time is  $\frac{1}{6}$ ; if it be missed the first time, of which the probability is  $\frac{5}{6}$ , the probability of throwing it in the three succeeding is, by Case 2,  $\frac{9}{18}$ , wherefore the probability of missing the ace the first time, and throwing it in the three remaining times, is  $= \frac{5}{6} \times \frac{9}{18} = \frac{45}{108}$ ; which is the second part of

the probability required; and therefore the probability of throwing it once in four times, is  $\frac{1}{8} + \frac{445}{1296} = \frac{671}{1296}$ ; and the probability of the contrary  $\frac{625}{1296}$ .

*Case 4. To find the probability of throwing two aces in two throws.*

By the 8th article, the probability required must be  $\frac{1}{8} \times \frac{1}{8} = \frac{1}{64}$ .

*Case 5. To find the probability of throwing two aces in three throws.*

If an ace be thrown the first time, then it will only be required to throw it once in two throws; but the probability of throwing it the first time is  $\frac{1}{8}$ , and the probability of throwing it once in two throws is (by the 1st Case)  $\frac{11}{36}$ , wherefore the probability of throwing the first time and then throwing it once in the two remaining times, is  $\frac{1}{8} \times \frac{11}{36} = \frac{11}{288}$ ; and this is equal to the first part of the probability required. If the ace be missed the first time, still there remains the probability of throwing it twice together; but the probability of missing it the first time, is  $\frac{7}{8}$ , and the probability of throwing it twice together, is (by the 4th Case,)  $= \frac{1}{36}$ , therefore, the probability of

both events is  $\frac{5}{6} \times \frac{1}{36} = \frac{5}{216}$ , which is the second part of the probability required: therefore the whole probability required, is  $\frac{11}{216} + \frac{5}{216} = \frac{16}{216}$ .

*Case 6. To find the probability of throwing two aces in four throws.*

If an ace be thrown the first time, no more will be required than throwing it again in three throws; but the probability of throwing an ace the first time, is  $\frac{1}{6}$ , and the probability of throwing an ace in three times, is  $\frac{9}{216}$  (by the 2d Case); wherefore the probability of both happening  $\frac{1}{6} \times \frac{9}{216} = \frac{9}{1296} =$  1st part of the probability required.—If the ace be missed the first time, still there will remain the probability of throwing two aces in three throws; but the probability of missing the ace the first time, is  $\frac{5}{6}$ , and the probability of throwing it twice in three throws, is  $\frac{16}{216}$  (by the 5th Case), wherefore the probability of both together, is  $\frac{5}{6} \times \frac{16}{216} = \frac{80}{1296} =$  to the second part of the probability required: and therefore the probability required, is  $= \frac{9}{1296} + \frac{80}{1296} = \frac{171}{1296}$ .

12. Cases of this kind may be reduced to a more regular order by employing algebraic characters instead of figures.

Let  $a$  be the number of chances for the happening of an event, and  $b$  the number of chances for its failing, then the probability of its happening once in any given number of trials, will be expressed by the series  $\frac{a}{a+b} + \frac{ab}{(a+b)^2} + \frac{abb}{(a+b)^3} + \frac{ab^3}{(a+b)^4} + \frac{ab^4}{(a+b)^5} + \frac{ab^5}{(a+b)^6}$  &c, which series is to be continued to so many terms as are equal to the number of trials given. Thus if  $a = 1$ ,  $b = 5$ , and the number of trials given = 4; then the probability required will be expressed by  $\frac{1}{6} + \frac{5}{36} + \frac{25}{216} + \frac{125}{1296} = \frac{671}{1296}$ .

The same things being supposed as before, the probability of the events happening twice in any given number of trials, will be expressed by the series  $\frac{aa}{(a+b)^2} + \frac{2aab}{(a+b)^3} + \frac{3aabb}{(a+b)^4} + \frac{4aab^3}{(a+b)^5} + \frac{5aab^4}{(a+b)^6}$  &c., which is to be continued to so many terms, wanting one, as is the number of trials given; thus let us suppose  $a = 1$   $b = 5$ , and the number of trials = 8, then the probability required will be expressed by  $\frac{1}{36} + \frac{10}{216} + \frac{75}{1296} + \frac{500}{7776} + \frac{3125}{46656} + \frac{18750}{279936} + \frac{109375}{1679616} = \frac{663991}{1679616}$ .

And again, the probability of the events happening three times in any given number of trials will be expressed by the series  $\frac{a^3}{(a+b)^3}$



$$+ \frac{3 a^3 b}{a + b)^4} + \frac{6 a^3 b b}{a + b)^5} + \frac{10 a^3 b^3}{a + b)^6} + \frac{15 a^3 b^4}{a + b)^7} \&c.,$$

which is to be continued to so many terms wanting two, as is the number of terms given.

But all these particular series may be comprehended under a general one, which is as follows.

Let  $a$  be the number of chances whereby an event may happen,  $b$  the number of chances whereby it may fail;  $l$  the number of times that the event is required to be produced in any given number of trials; and let  $n$  be the number of those trials: make  $a + b = s$ , then the probability of the event's happening  $l$  times in  $n$  trials, will be expressed by the series  $\frac{a^l}{s^l} \times \left[ 1 + \frac{lb}{s} + \frac{l(l+1)bb}{1 \cdot 2 \cdot ss} + \frac{l(l+1)(l+2)b^3}{1 \cdot 2 \cdot 3 \cdot s^3} + \frac{l(l+1)(l+2)(l+3)b^4}{1 \cdot 2 \cdot 3 \cdot 4 \cdot s^4} \right]$  &c.\* which series is to be continued to so many terms exclusive of the common multiplicator  $\frac{a^l}{s^l}$ , as are denoted by the number  $n - l + 1$ .

And for the same reason the probability of the contrary, that is of the events not happening so often as  $l$  times, making  $n - l + 1 = p$ , will be expressed by the series  $\frac{b^p}{s^p} \times \left[ 1 + \frac{pa}{s} + \frac{p(p+1)aa}{1 \cdot 2 \cdot ss} \right]$

\* The points here made use of, stand instead of the mark of multiplication  $\times$ .

+  $\frac{p(p+1)(p+2)a^3}{1 \cdot 2 \cdot 3 \cdot s^3}$  +  $\frac{p(p+1)(p+2)(p+3)a^4}{1 \cdot 2 \cdot 3 \cdot 4 \cdot s^4}$  which series is to be continued to so many term, exclusive of the common multiplicator, as is denoted by the number  $l$ .

Now the probability of an event's not happening being known, the probability of its happening will likewise be known, since the sum of those two probabilities is always equal to unity, and therefore the second series as well as the first, may be employed in determining the probability of an event's happening; but as the number of terms to be taken in the first, is expressed by  $n - l + 1$ , and the number of terms to be taken in the second, is expressed by  $l$ , it will be convenient to use the first series if  $n - l + 1$  be less than  $l$ , and to use the second if  $l$  be less than  $n - l + 1$ ; or in other terms to use the first or second, according as  $l$  is less or greater than  $\frac{n + 1}{2}$ .

Thus suppose an event has 1 chance, to happen, and 35 to fail, and that it were required to assign the probability of its happening in 24 trials, then because in this case  $n = 24$  and  $l = 1$ , it is plain that 24 terms of the first series would be requisite to answer the question, and that one single one of the second will be sufficient; and therefore if in

the second series we make  $b = 35$   $a = 1$  and  $l = 1$ , the probability of the event's not happening once in 24 trials, will be expressed by  $\frac{35^{24}}{36^{24}} \times 1$ , which, by the help of logarithms, we shall find nearly equivalent to the decimal fraction 0,50871; now this being subtracted from unity, the remainder 0,49129 will express the probability required; and, therefore the odds against the happening of the event will be 50 to 49 nearly.

Again, suppose it be required to assign the probability of the preceding event's happening twice in 60 trials, then because  $l = 2$  and  $n = 60$ ,  $n - l + 1$  will be 59, which shews that 59 terms of the first series would be required, but if we use the second, then, by reason of  $l$  being  $= 2$  two of its terms will be sufficient; wherefore the two terms  $\frac{35^{59}}{36^{59}} \times \left[1 + \frac{59}{36}\right]$ , will denote the probability of the event's not happening twice in 60 trials; now, reducing this to a decimal fraction, it will be found equal to 0,5007, which being subtracted from unity the remainder 0,4993 will express the probability required; and therefore, the odds against the events happening twice in 60 times will be very little more than 500 to 499.

It is to be observed that both series are derived

from the same principle; for supposing two adversaries A and B contending about the happening of that event, which has every time  $a$  chance to happen and  $b$  chances to fail; that the chances  $a$  are favourable to A, and  $b$  to B; and that A should lay a wager with B that his chances should happen  $l$  times in  $n$  trials; then by reason B lays a wager to the contrary, he himself undertakes that his own chances shall in the same number of trials happen  $n - l + 1$  times, and therefore if in the first series we change  $l$  into  $n - l + 1$  times, and vice versâ, and also substitute  $b$  for  $a$  and  $a$  for  $b$  the second series will be formed.

It will be easily conceived how it comes to pass that if A undertakes to win  $l$  times in  $n$  trials, his adversary B necessarily undertakes in the same number of trials to win  $n - l + 1$  times, if it be considered that A loses his wager if he wins but  $l - 1$  times; now if he wins but  $l - 1$  times, subtracting  $l - 1$  from  $n$ , the remainder shews the number of times that B is to win, which therefore will be  $n - l + 1$ .

*Case 7. If A and B play together, and A wants but 1 game to complete the match, and B wants 2, what are their respective chances of winning?*

It is to be considered that the match will necessarily be concluded in two games at most, for if A wins the first game, there is no need of any further trial, but if B wins it, then they will want each one game of being up; and therefore the match will be determined by the second game; from which it is plain that A wants only to win once in two games, and that B wants to win twice together. Now, supposing that A and B have an equal chance to win a game, then the probability which B has of winning the first game, will be  $\frac{1}{2}$ , and consequently the probability of his winning twice together, will be  $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ ; and therefore the probability which A has of winning once in two games will be  $1 - \frac{1}{4} = \frac{3}{4}$ ; from whence it follows that the odds of A's winning, are 3 to 1.

*Case 8. A and B play together—A wants 1 game of being up, and B wants 2, but the chances whereby B may win a game, are double to the number of chances whereby A may win a game; what are the respective probabilities of winning?*

It is plain in this case, as well as in the preceding, that B ought to win twice together; now since B has two chances to win a game, and A one chance only, the probability which B has of winning a game, is  $\frac{2}{3}$ , and therefore the probability of his winning twice together is  $\frac{2}{3} \times \frac{2}{3} = \frac{4}{9}$ ; and consequently the probability of A's winning the match is,  $1 - \frac{4}{9} = \frac{5}{9}$ ; from whence it follows that the odds of A's winning once before B twice, are as 5 to 4.\*

\* Although the determining the precise odds in questions of this kind usually requires calculation, yet sometimes a superficial view of the question will be sufficient to find that there will be an inequality in the play. Thus in the present case, where B has in every game twice the number of chances of A, if it be demanded whether A and B play upon the square, it is natural to consider that he who has a double number of chances, will, upon the long run, win twice as often as his adversary; but that the case is here otherwise; for B undertaking to win twice before A once, he thereby undertakes to win oftener than according to his proportion of chances, since A has a right

*Case 9. Supposing A wants 3 games of being up, and B wants 7, but that the chances which A and B respectively have for winning a game are as 3 to 5, to find the respective probabilities of winning the match.*

By reason that the sum of the games wanted by A and B is ten, it is plain (*Vide note to the last Case*), that the set will be concluded in 9 games at most, and that out of 9 games A undertakes to win 3, and B out of the same number to win 7; now supposing that the first general theorem laid

to expect to win once, so that B has the disadvantage: however this way of arguing in general ought to be used with the utmost caution.

Whatever be the number of games which A and B respectively want of being up, the match will be concluded, at the most, in as many games, wanting one, as is the sum of the games wanting between them.

Thus suppose that A wants 3 games of being up, and B 5, it is plain that the greatest number of games that A can win of B, before the determination of the play, will be 4; and therefore the greatest number of games that can be played between them, before the determination of the match, will be 6: but supposing they have played 6 games, the next will be the deciding one: and therefore the utmost number of games that can be played between them, will be 7; that is, one game less than the sum of the games wanted between them.

down in Art. 12, to be particularly calculated to represent the probability of A's winning, then  $l = 3$ ; and because  $n$  represents the number of games in which the match will be concluded,  $n = 9$ ; but the number of terms to be used in the first theorem being  $= n - l + 1 = 7$ , and the number of terms to be used in the second theorem being  $= l = 3$ , it will be more convenient to use the second, which will represent the probability of B's winning. Now this being applied to the case of  $n$  being  $= 9$ ,  $l = 3$ ,  $a = 3$ ,  $b = 5$ , the probability of B's winning the match will be expressed

$$\text{by } \frac{5^7}{8^7} \times 1 + \frac{21}{8} + \frac{252}{64} = \frac{5^7}{8^7} \times 484 = 0,28172$$

nearly; and therefore subtracting this from unity, there will remain the probability which A has of winning the same, which will be  $= 0,71828$ ; and consequently the odds of A's winning the match will be 71828 to 28172, or very near as 23 to 9.

And thus with regard to all other questions in games where chance has its due operation.



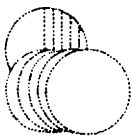
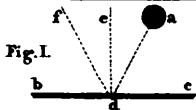


Fig. 2.



Fig. 3.



Fig. 4.

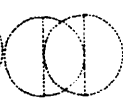


Fig. 5.



Fig. 6.



Fig. 7.



Fig. 8.

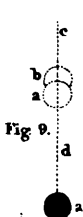


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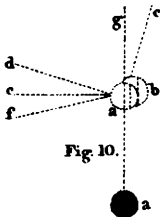


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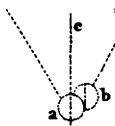


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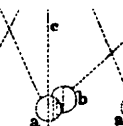


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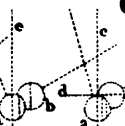


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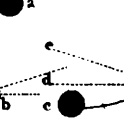


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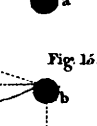


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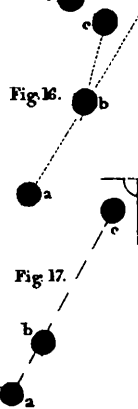


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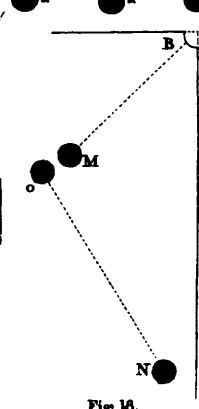


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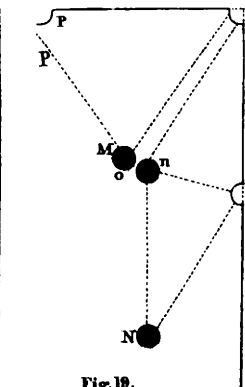


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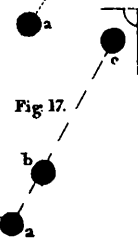


Fig. 17.

Fig 20.

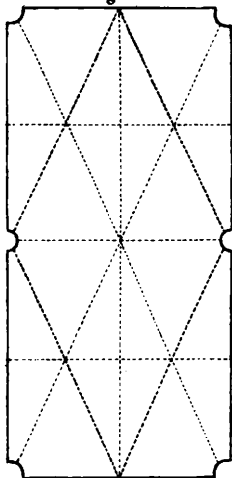


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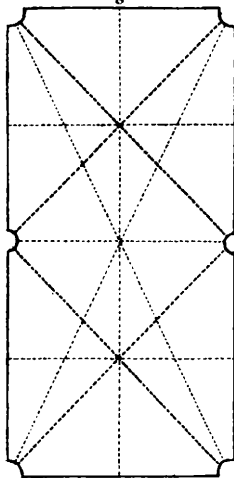


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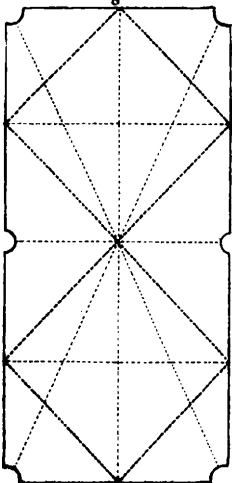


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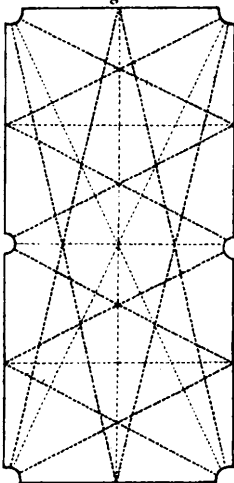


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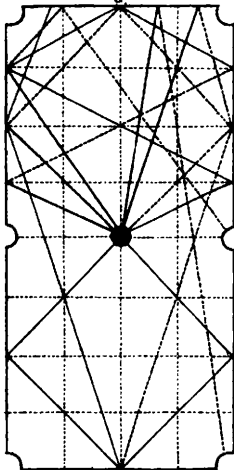


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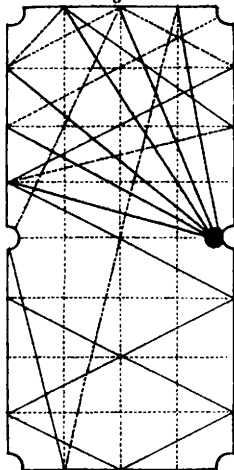


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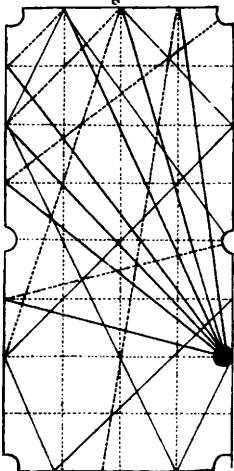


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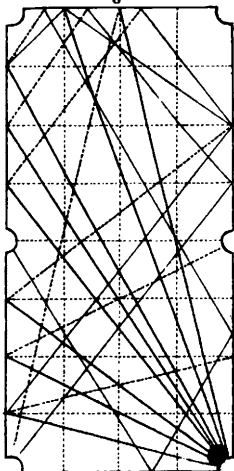


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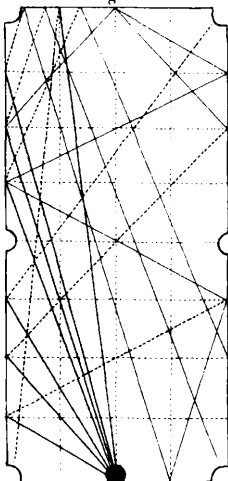


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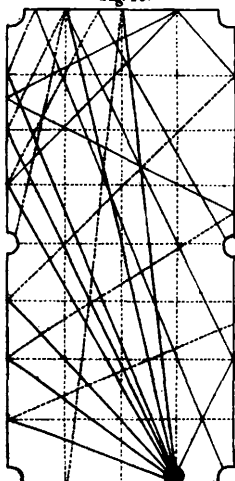


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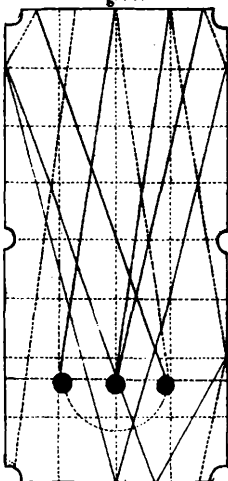


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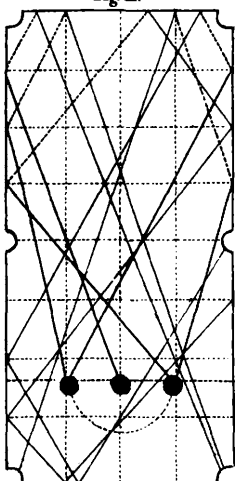


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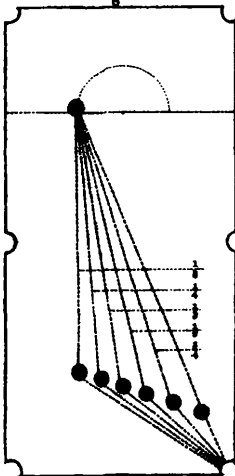


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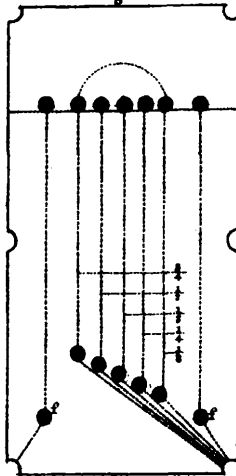


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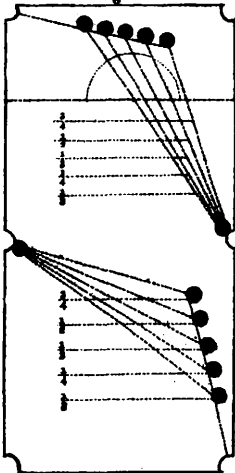


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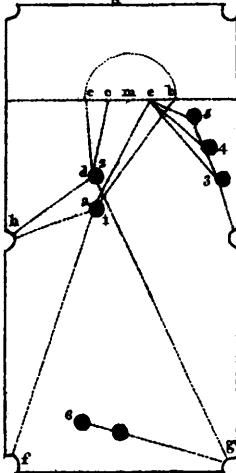


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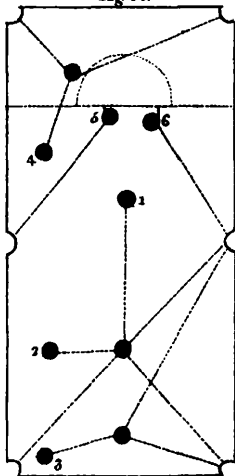


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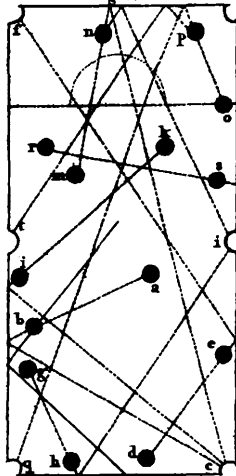


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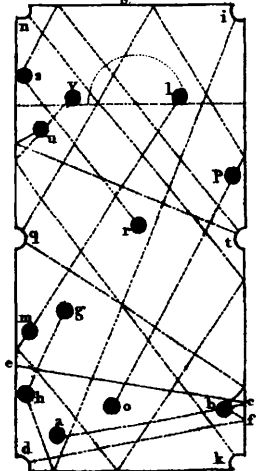


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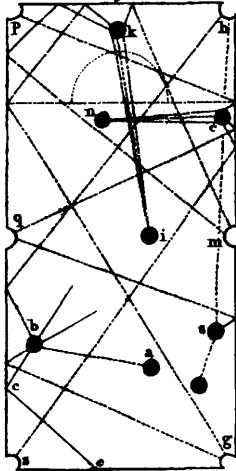


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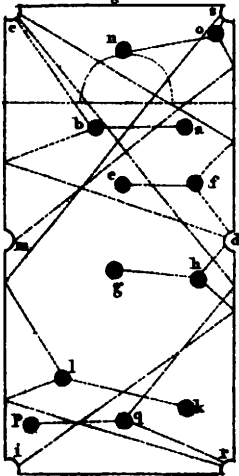


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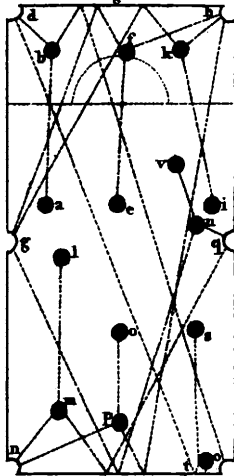


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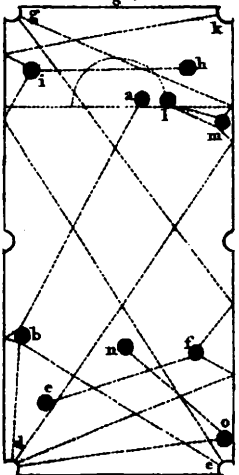


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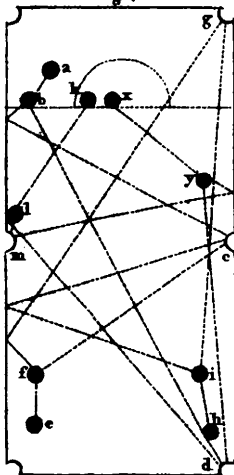


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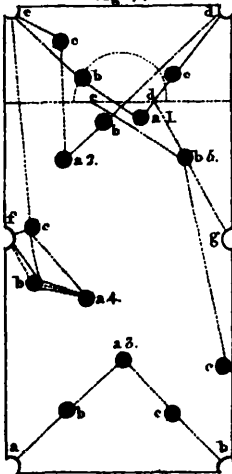


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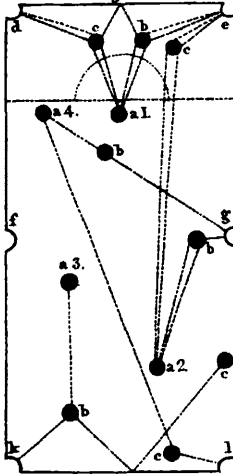


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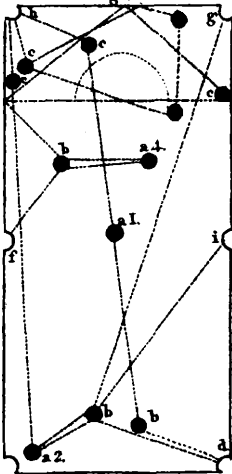


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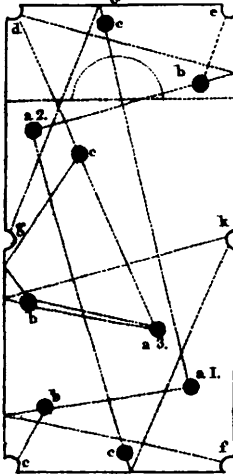




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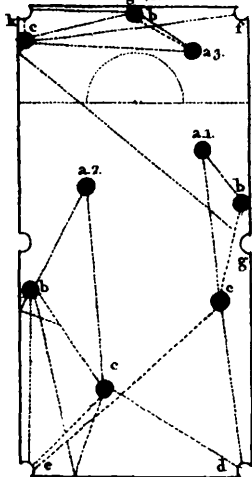


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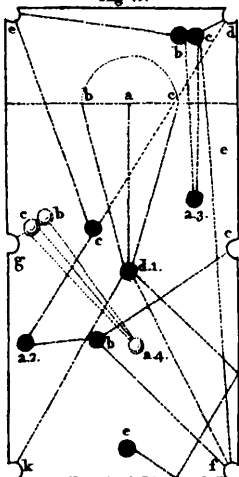


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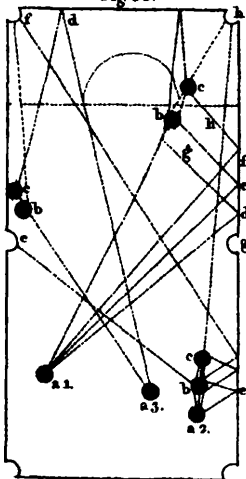


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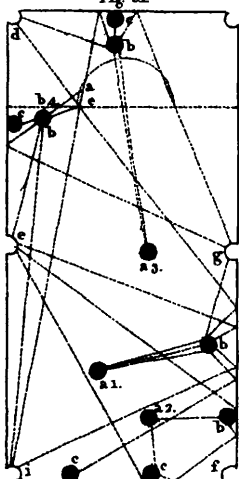


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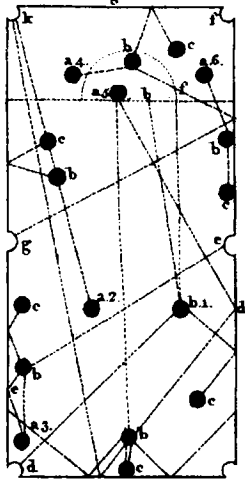


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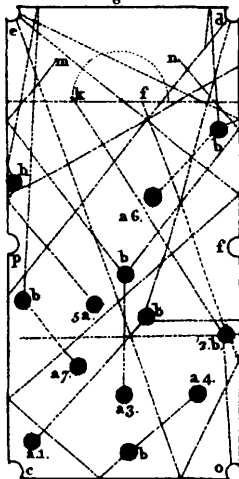


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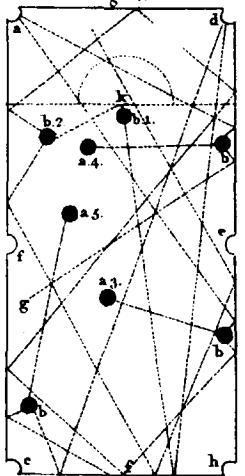


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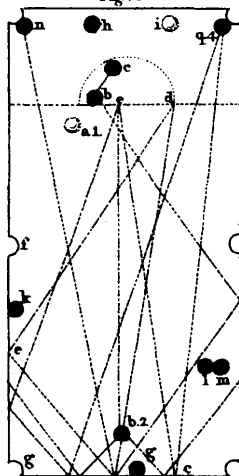


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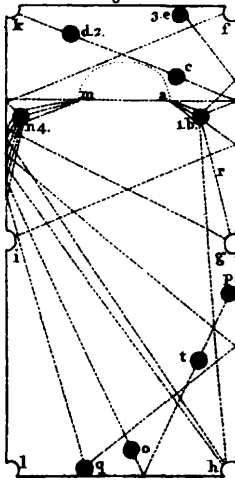


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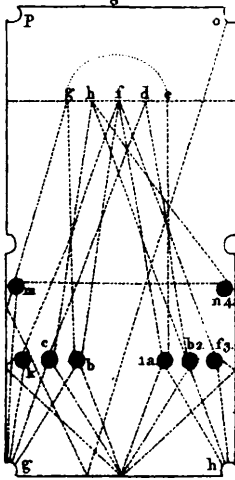


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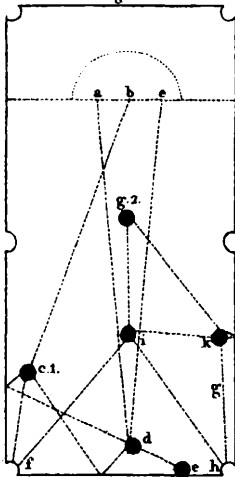


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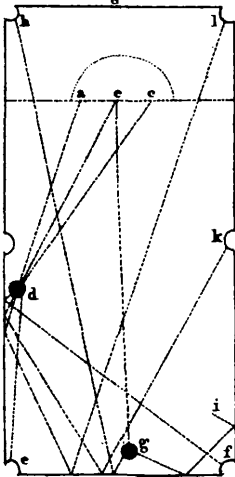








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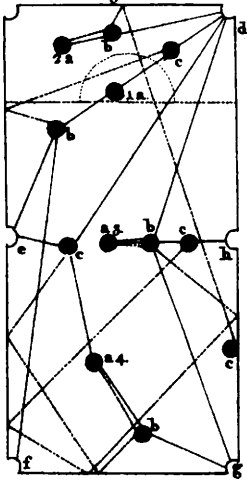


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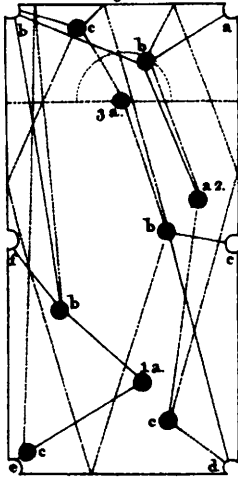


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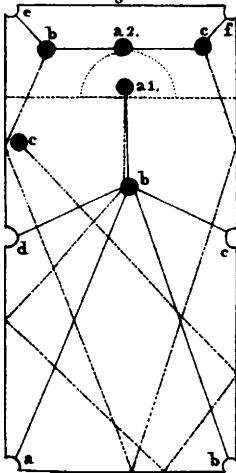


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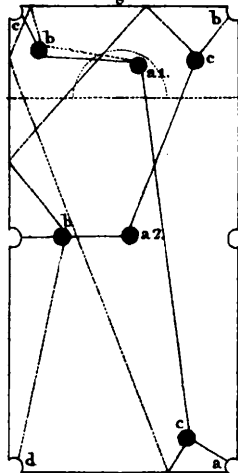


Fig 70.

