## NEW ROLES FOR PEELING IN CROQUET



A curse on this game!
How can you stick at a game when the rules keep changing? ${ }^{1}$

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## NEW ROLES FOR PEELING IN CROQUET

written by ${ }^{2}$
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with

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# Acknowledgements ${ }^{3}$ <br> To Carmen and Matthew, for supporting my passion to understand and play Croquet. Much Love. Howard <br> To Liz, who first told me what a peel was, and to $M, O$ and $M$ for their amazing support and patience. Paddy <br> To Larry, who taught me all I needed to know to learn Croquet. And to my family, for their continued love and support. Ben 

[^1]
## FOREWARD by HOWARD SOSIN

The first chapter of this book is entitled "Notes on Peeling". It reflects my belief that Peeling can (and should!) be understood in a general context. But, in some quarters, the idea of learning to Peel at any hoop and in any order is met with skepticism - why add complications where there are no applications? My answer was to invent horses to go before the cart - the games that populate the other chapters in this book ${ }^{4}$.

The most basic structure good players follow when completing a Peel involves making two hoops and then doing the Peel. I fondly refer to this as "Hoop, Hoop, Peel" or " 2 HP ". You will learn early on in this book how to run a 2 HP cycle that allows the two hoops and the Peel to be completed anywhere on the lawn.

The very first game I invented required Striker to follow 2HP but to do it not just once, but on a regular cycle, or have his turn end. This resulted in a game I called XHP. Here " $X$ " identifies the number of hoops Striker can make before a Peel must be completed, with $X=2$ being the standard, and $X=3$ or $X=4$ allowing handicapping. Thus, the game of $X H P$ makes $2 H P$ its driving force. To maintain interest, challenge and playability, Peels are allowed on all balls (Partner or Oppos) and can be "positive" or "negative" (moving clips forward or backward). But Peels must be conducted on a schedule, XHP, or faster, or your turn ends. Of necessity, these rules often result in Peels being conducted at unfamiliar hoops, in an unconventional order, or in an unusual manner. These are fun to contemplate, attempt and complete (!) and produce a lively and competitive game that engages at all levels of competency.

Fortunately for me, Stephen Mulliner took an interest in XHP. He suggested renaming it Peel Croquet ("PC") and replacing Positive Peel and Negative Peel simply with Peel and Leep (Peel spelled backwards). Most importantly, Stephen actively plays PC and is a wonderful ambassador for it. Much to our mutual delight, through our CIT tournaments, PC has entered the vernacular and is enjoyed by several good players.

Six additional games are developed in this book and brought to life with narrated videos involving expert players. Each game involves New Roles for Peeling that will expand your understanding and enjoyment of Croquet ${ }^{5}$.

[^2]
## FORWARD by PADDY CHAPMAN and BEN ROTHMAN

This book introduces new roles for Peeling, and new games to exploit them. It expands the definition of Peeling to tease the mental skills of croquet players, test their physical ones, and expand the horizons of Croquet. Unique to this book is that the textual presentations are augmented by fully-narrated videos involving world class players playing each new game.

Completing your first Triple-Peel in competition is a memorable event. Paddy did it in 2003 at the NZ Open; Ben did it in 2004 at the USCA Nationals. For Paddy success came during his fourth season of play; for Ben it was in his second. For both it came after studying the recommendations of past greats, (Cotter, Ross, and Solomon), by studying Wylie's encyclopedic examination of the three Peels, by watching the best players run Triples, and then by practicing, practicing, and practicing some more, until the deed could be done virtually at will. All in all, much time was spent memorizing Positions - which ball goes where, when, and why - and also cultivating the skills needed to put them there.

Section I of this book, Notes on Peeling, approaches peeling from a different perspective. It explores Process - the how and why of Peeling. This is done in a general context that can be applied to the specific goal of learning to Triple, but it can also be the basis for understanding and enjoying other aspects of Peeling, some of which are brought to light in the new games presented in this book.

Section II of the book is entitled Facilitating the Triple. It presents new tools to help you get there. "Wily" Peeling Drills bring familiarity and experience to virtually all of the Peeling situations from Wylie's book. Peel or Bust focuses your practice time, alone or with friends, making every turn a Peeling turn, with new twists that reward players with extra points for finishing early and punish them if Striker drags out a turn that fails.

The final two sections of the book introduce seven new Games that address two major concerns players express with AC: (i) Turns take too long, and (ii) There is not enough player interaction.

Section III, Beyond TPs: New Games with Short Turns meets the first criticism. It presents four new games with shorter turns (from 8 to 35 shots max). But don't be fooled: turn-length and difficulty/intrigue need not be related. Here are brief summaries:

1. Only-Once: What can you accomplish during in a game that allows you to roquet each non-Striker Ball only once a turn, usually involving 8 shots or less? Everything! Including Triple Peels.
2. Pick-the-Peel: $u / k$ picks the Peeling hoops for $r / y$ and vice versa. All hoops are used only once as the Peeling hoop, none are reused. Teams alternate turns - 12 in total. A single clip traces Striker's Hoop. Teams have 21 shots each turn to Peel gaining increasing points for going HHP, HPH, and PHH. No points are earned if you fail.
3. Collect-the-Clips: 4 clips on hoops define a "puzzle". Players have 21 shots to Collect them all with a turn that must involve at least 2 Peels. Again, no points are earned upon failure. How do you proceed?
4. Peel and Reverse: Each team has a single clip that starts at $h(1)$. Each turn runs no more than 4 hoops -35 shots. A team is given a Peeling hoop and then another when that one is completed. The winner needs to advance his Team-Clip to the peg while accumulating 3 Peels. However, Oppo can reverse your Peels and regress your clip.

Section IV, Substantially Beyond: New Games with Full-Length Turns deals with the second concern. Here turns can follow AC and be as long as 91 strokes - the AC max for running 12 hoops and the peg, but the rules generally result in much shorter and varied length turns, making the games substantially more interactive:

1. Peel Croquet: This is AC with the requirement to Peel or Leep (reverse Peel) at least once every two hoops or your turn ends. Each turn begins with at least a lift to baulk that can be enhanced: (i) To contact if the previous team made a hoop but no Peels/Leeps, and (ii) To position if no hoops nor Peels/Leeps were made.
2. $\underline{A C-3 B O}: ~ \mathrm{u}$ and r enter the game, then k has a choice: If k enters then y must stay out (for now), if k stays out then y must enter. k 's choice depends in part on $u / k$ 's appetite for a Double-Peel conducted with just 3 balls vs a Quad conducted with all four. Deciding when the ball-kept-out comes in is a critical component of this game.
3. Peels-Only: Each team has a single clip that can be advanced only by Peels. Any non-striker ball can be Peeled at the Current-Hoop making Striker once again live on all balls and able to run a break.

We believe that your progress from novice to expert, or to whatever level you wish to achieve, will be expedited by spending time reading this book and watching the videos. The games reinforce old and encourage new ways to think about and use peels. We hope they are played and enjoyed by all.

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## INTRODUCTION

"Peeling ${ }^{6}$ is putting a ball, other than your own, through a hoop". Lord Tollemache provided this definition in 1914 on page 110 of his classic book Croquet. Marvelously, he leaves unstated the consequences of a Peel. Rule 14 (c) of The Laws of Association Croquet (2015) fills the gap: "If a ball other than Striker's ball scores a hoop point as a consequence of a stroke, it is said to be Peeled through the hoop". This is in keeping with how Peels were viewed at the time of Tollemache and how they are mostly viewed today: During a Peeling turn, Striker works his way around the lawn making hoops in order while attempting to Peel the Peelee through one or more of his remaining hoops, also in order. This definition has served the game well, but it is also limiting. This book introduces new roles for Peeling, and new games to exploit them, expanding the definition of Peeling to tease the mental skills of croquet players, test their physical ones, and expand the horizons of the game.

Four chapters - (I) Notes on Peeling, (II) Facilitating the Triple-Peel (TP), (III) Beyond TPs: New Games with Short Turns, (IV) Substantially Beyond: New Games with Full-Length Turns - and a Conclusion follow this Introduction. Each is summarized below.

## Chapter I: Notes on Peeling

We start by establishing a conceptional framework for Peeling. It is applicable to traditional concerns, Peels in Triples, Sextuples, POPs, etc., but it is also useful more generally, in particular in the context of the new games presented in this book.

It starts by looking at situations where Striker has access to all four balls. Two fundamental patterns of play emerge: one where Peels consume two hoops (HOOP, HOOP, PEEL, or "2HP") and one where Peels take only a single hoop (HOOP, PEEL, or "HP"). These patterns lead to the familiar Transit, Back, and Straight-Peels. We then turn to a discussion of Peels executed with just 3-balls. Here 2HP (and not HP) drives the discussion and leads again to Transit, Back, and Straight-Peels but now revamped for just 3 balls.

Next, we analyze two new Peeling sequences: (i): "Linked-Peels" - situations where one Peel follows immediately upon another (HHPP). We are still looking for games that "need" linked-Peels, but for now, we offer the possibility of Double-Sextuples or TripleQuadruples as theoretical rationales, and one application associated with POPs. And (ii): "Progress-Peels" - how Peels-on-Partner work when the two balls of a team share a single team-clip. These can play a significant role in the game of Peel and Reverse. Finally, we delve into the world of Bombards with a section entitled "When you Absotively Posilutely Must Complete the Peel".

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## Chapter II: Facilitating the Triple-Peel (TP)

This chapter focuses on the Triple-Peel. The drills and games presented here are designed to augment traditional learning processes: (i) dutifully sitting as the out-player watching accomplished players run Triples, and (ii) starting practice sessions from a missed hit-in and running Standard or Delayed-Triples until, hopefully, they become routine.
(1)... "Wily" Peeling Drills. These drills are our homage to Keith Wylie for his book Expert Croquet Tactics and to the authors of the book Beyond Expert Croquet Tactics (BECT). These references detail how the $h(10), h(11)$, and $h(12)$ Peels arise and combine into Triples that begin Standard, end Straight, and follow all paths in between. Together they are tour-de-force, but sometimes difficult for the uninitiated to follow. Our drills are designed to expedite the learning process through the books and out on the lawn.

Striker starts each of the three drills with the balls set-up for an initial Peel attempt that coincides with its timing in a StandardTriple. From there Striker runs a break wherein the Peel is repeated, experienced later and later (more and more "delayed"), as would be the case in actual play if the Peel failed and was retried. The drills accomplish this by having Striker replace Peelee for the next attempt just after the previous one is completed, regardless of the outcome. The final attempt in each drill coincides with the last time the Peel (as a Straight-Peel) can be completed in an actual game and still allow for a traditional peg-out of both balls. We present and recommend that you run these drills in reverse order $-\mathrm{h}(12), \mathrm{h}(11)$, and finally $\mathrm{h}(10)$. This order ranks them from easiest to hardest. It is also useful to re-read the applicable sections of Wylie's book at the same time, also in reverse order!
(2)... Triple or Bust: Like other before it, in this game each turn is a Peeling turn - there is no "running 9" and setting a leave. Either ball of a team can be its Striker. Striker starts a turn for $h(1)$ with his Partner for $h(10)$. If a team fails to Triple and peg-out, then the next team takes over with the three non-Striker-Balls remaining as positioned on the lawn at the end of the previous turn. What is new is that Striker can be played from where it was left, or optionally, with a lift-to-baulk if Oppos failed before h(7), with a lift-tocontact if Oppos made $h(7)$ but failed before $h(10)$, and with a lift-to-position if they made $h(10)$ but failed to finish. This way of starting rewards the out-player for time spent on the bench!

There are two versions of this game: For newcomers to Triples: A match involves a single game that continues until someone finally (!) Triples and pegs-out. For Experienced Hands: A new game is started after a team Triples and pegs-out. This process continues, new games are played, until one team accumulates 9 points where 3 points are earned for a Triple and a successful peg-out of both balls, nothing otherwise. Once the 3 Peels are complete, the peg-out can occur at any time, with a team earning one additional bonus point for each hoop that is left unmade.

## Chapter III: Beyond TPs: New Games with Short Turns

This chapter introduces four games each having relatively short turns, from 8 to 35 shots, and each with a different Peeling urgency. Short is a code word for interactive!

The discussion of each game in this book has three components: (i) It starts with a section on rules. (ii) This is followed by notes and diagrams to explain goals and strategies. (iii) Finally, there are references to, and discussion of, available narrated videos of the games. We thank all of the players who kindly participated in making these videos.
(1).. Only-Once (usually only 8 shots a turn): This game uses the structure of $G C$, the rules of AC, and some strategies from American 6-Wicket (A6W). Turns are limited to roqueting the three other balls "Only-Once". Teams compete to score points by taking turns in GC order. Striker scores a point by making the Current-Hoop or by Peeling any of the three other balls at it. Once the Current-Hoop is made, attention of all balls turns immediately to the next hoop in order. The first team to score 8 points wins. The first 6 points are scored by making or Peeling at Current-Hoops. A team with 6 points is then for the peg. The final two points are earned with pegouts - one for each ball.

There are three versions of the game. (i) Basic: Balls are marked in 1 or 4 yards. Peels are not required, but they can provide an important benefit over just making a hoop - If a turn fails or only makes hoops, then the next Striker can play his ball from where it lies or with an optional lift to an "opportunity spot" - the penalty spots in GC. But, if Striker completes a Peel during his turn, then the lift is not an option. (ii) Advanced: Each Team has a Peeling Requirement which specifies the number of Peels it must complete within the six points it scores at Current-Hoops before it is eligible to peg-out. A Peeling Requirement of three is often used - this game's version of the Triple-Peel. (iii) Super-Advanced: The option to mark-in 1 or 4 yards is eliminated.
(2).. Pick the Peel (Precisely 2 hoops and 1 Peel - $\mathbf{2 1}$ shots maximum): The objective of a turn in this game is to score points under AC rules by running a break which begins with a lift-to-position, can last no more than 21 shots, and must include making two hoops (in traditional order) and completing a Peel at the designated Peeling-Hoop (PH). Balls can be marked in 1 or 4-yards at Striker's option during a turn, where this option can be eliminated in advanced play. The initial Striker-Hoop is chosen before play begins, advances until the game ends, and "Wraps-Around" from $h(12)$ to $h(1)$ if necessary, as hoops are made. Each hoop (of the 12) is used as the PH, but only once and only for one single Regular Turn, whether a Peel is tried (succeeds or fails) or not. The first PH is picked by the r /y team before k plays its Opening Turn. Succeeding PHs are picked at the end of each Regular Turn by the team leaving the lawn. As in GC, regular turns proceed in color order ( $u, r, k, y$ ) with each ball having 3 turns during a complete game.

Letting " H " stand for Hoop and " P " for Peel, a Point-Scoring Turn will involve one of three Patterns of Play: Making two hoops before the Peel, HHP (2HP); Making one hoop before and one after the Peel, HPH; Or making two hoops after the Peel, PHH. Points earned for a turn are a function of the Pattern used -1 point for HHP, 2 for HPH, and 4 for PHH. No points are earned if Striker fails to complete a Pattern. After a failed turn, the next Striker can, at his option, play his turn at double value (i.e., 2 points with HHP, 4 with HPH, and 8 with PHH). However, if a double is invoked, then failure to complete a pattern during that turn has consequences Oppos earn 3 points. The winner is the team with the highest score at the end of 12 Regular Turns.
(3).. Collect the Clips (At least 2 Peels and no more than $\mathbf{2}$ hoops $\mathbf{-} \mathbf{2 1}$ Shots Maximum): Four randomly Chosen-Hoops are available at the start of each turn with balls at specified starting locations. Striker can be any ball on the lawn and begins a turn with a lift-toposition. This game limits a turn to running a break of just two hoops during which Striker must complete at least two Peels. Striker chooses which of the Chosen-Hoops he will make to perpetuate his break, and which of the Chosen-Hoops he will use for Peels. The rules also let Striker determine how (in what order) he wants to progress with hoops and Peels during a turn.

The goal is to "collect the clips" while running a break. Striker earns "basic points" - one for each Peel, but only if all of the clips are collected. If Striker collects the clips, then any excess strokes, continuation shots, that are available under AC rules may be used to complete other Peels (at any hoop on any ball!) and/or to peg out one or more balls including Striker, with bonus points added to his score - one point for each of the $1^{\text {st }}$ and second bonus events and three each for any other. The winner is the team with the most points (basic + bonus) after a set number of turns for each team.
(4).. Peel and Reverse (Maximum of 4 hoops per turn $\mathbf{- 3 5}$ Shots): This game follows AC rules. Each team has a single "Team-Clip" that starts on $h(1)$. Each turn starts with a lift-to-position and the ability to reset balls ending outside the "augmented" box (inner rectangle formed by the line of hoops $1,2,3 \& 4$, and expanded by one yard on all sides) to their game-starting positions. The goal is to be the first team to progress to the peg and peg out both balls, reaching a total of 14 points. However, before the peg-outs can occur, a team must complete a specified number of Peels (on Partner) for the Team ("PTs"), usually three, to satisfy its PT Requirement. Each team is initially assigned a Current PT (CPT) that is drawn randomly from a bag of 12, one for each hoop, to start the game. When accomplished, a CPT becomes a "Done" PT (DPT) and the team draws another Current PT Hoop. The process continues until the PT requirement is satisfied.

A team can Reverse - wipe out - up to three DPTs accumulated by the other team by Peeling either Oppo-Balls back through (in the reverse direction of) one of its DPT. This forces Oppos to engage in additional Peels to meet their PT requirement. A team can also Regress Oppo's Team-Clip one hoop with a Leep, or advance either Team-clip one hoop with a Peel at the appropriate hoop.

## Chapter IV: Substantially Beyond: New Games with Full-length Turns

This chapter describes three new games. Each specifies new roles for Peeling that are required to perpetuate full-length turns.
(1).. PEEL CROQUET: PC adds a Peeling requirement that must be met if a break is to continue. In the standard game, a Peel must take place every 2 hoops (in the handicapped version it can be every 3 or even every 4 hoops). An optional lift-to-baulk starts each turn. In addition, various failures during the previous turn further enhance lift opportunities: Failure to Peel or make a hoop during a turn gives Oppos a lift-to-position. Making one or more hoops but failing to Peel gives them a lift-to-contact. The Peeling requirement is satisfied in two ways: (i) with a "Peel" - of Partner or Oppo - by Peeling a ball through its next hoop thereby advancing its clip, or (ii) with a "Leep" - of Partner or Oppo - by Peeling a ball back through its last hoop, thereby moving its clip backwards.
(2).. AC-3BO: This game follows AC rules and asks the question would you prefer to finish a game using only 3 balls seeking to complete an $h(11), h(12)$ Double-Peel, or to finish with 4 balls seeking to complete a quadruple Peel? The first two balls start an AC-3BO game by playing in as normal. Then the $3^{\text {rd }}$ ball has a choice -it can enter the game or stay out. If the $3^{\text {rd }}$ ball stays out, then the $4^{\text {th }}$ ball must enter. If the $3^{\text {rd }}$ ball enters then the $4^{\text {th }}$ ball must stay out. This opening creates a one-ball team (" 1 BT "), a two-ball team ("2BT"), and a ball-kept-out ("BKO"). The 2BT has a single lift-hoop - $\mathrm{h}(11$ ). The 1BT has two lift hoops - $\mathrm{h}(9)$ and $\mathrm{h}(11)$.

A period of 3-ball play ensues. The BKO must stay out until one of the balls in the game as Striker (Peels do not count!) makes the "Trigger-Hoop" which is $h(8)$. Then, on any subsequent turn of the 1BT, the BKO may enter the game, but it is not required to do so. During the period of 3-ball play, running a lift-hoop by the Striker of either team (Peels do not count!) gives Oppos a lift-to-position. Only the 2BT can finish the game during the period of 3-ball play. This requires completion of a Double-Peel conducted with just three balls. The 1BT can run an initial break with 3-balls making the Trigger-Hoop. On any subsequent turn, the 1BT can bring in the BKO. Play returns to AC rules except that the lift hoops remain as specified, but the consequences of running them return to normal AC. With all four balls on the lawn, the 1BT can finish by completing a Quadruple-Peel.
(3).. Peels-Only: This game follows AC rules but does away with making hoops! Each team has a single team-clip that both balls can advance from $h(1)$ to the peg, but the only way to do this is with Peels. A Peel, including a Scatter-Peel, clears all deadness and grants Striker a continuation shot, and thus the ability to continue a break. In particular, Striker can Peel a ball and then immediately hit it again. This feature, together with sending pioneers ahead, facilitates multiple-hoop breaks. The winner is the first team to reach 13 points, with a single point being scored with each Peel at the Team's hoop followed by a peg-out of any non-Striker-Ball.

The task at hand is made easier by allowing Peels on any ball at Striker's hoop (Partner or Oppos) and by allowing each turn to start with a new type of lift - a Lift-to-Boundary. With it, Striker has the option to start his turn by placing his ball anywhere on the lawn that is less than or equal to $36^{\prime \prime}$ from the entire rectangular boundary. Thus, at Striker's option, and depending upon the location of the other balls, a Lift-to-Boundary can become a lift-to-position, contact, or baulk.

## CONCLUSION

Here is one final game. It is our version of basketball's "HORSE" involving the seven letters "PEELING" (shorter versions, PEELS, PEEL, SXP, TP, etc., are possible). It is a good conclusion to any day of croquet, especially with the addition of appropriate libations.

Players take turns defining a "puzzle". It must involve at least one Peel, no more than two hoops, and follow AC Rules. The puzzle maker lays out four ball markers on the lawn so that the puzzle can be replayed by others and then attempts it himself. If he fails, then he gets a "letter", and the next player defines a new puzzle. However, if he succeeds, then the other players each take a turn attempting the puzzle. If they all succeed, then the puzzle maker gets a letter. If one or more of the others fail, then each player that fails gets a letter. A player accumulating his $7^{\text {th }}$ letter is out of the game. The game continues until only one player is left standing.

These rules "punish" when a puzzle is too difficult or too easy, forcing a balance between risk and reward, the essence of Peeling.

## II.. Notes on Peeling

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## INTRODUCTION

Discussions of Peeling can be confusing. This is partly because the topic appears complicated, at least at first blush, and partly because terms are often used colloquially, without precise definitions. What exactly is a Back-Peel? What is a Load-and-Hold? Can a Straight-Peel also be a Transit-Peel? What does it mean to complete a Peel "after" a particular hoop? Is that the same as "on-theway" to the next one? When does a Straight-Peel at $h(10)$ actually begin - at $h(8), h(9)$, or $h(10)$ ? Expert players have surmounted these ambiguities without losing much sleep. But, even here, the lack of precision makes it difficult to discuss new games if an underlying premise can be misunderstood. We wrote this chapter to answer questions on Peeling that cause confusion. We hope you find it constructive, but if not, skip it and let the games begin?

## NOTATION

## Hoops and Peels

We let " h " stand for hoop and i be an index to an array of Striker's Current-Hoop - h(i); (i+1) to Striker's Next-Hoop - h(i+1). In most, but not all of the games in this book $\mathrm{h}(\mathrm{i})=\mathrm{i}$. That is, usually the requirement is to make hoops proceeds in standard hoop order, but this need not be the case. We let "p" stand for Peel and $j$ be an index to an array of Peeling-Hoops, $\mathrm{p}(\mathrm{j})$. This allows the most general statement of the order of Peels. That said, for the most part, we simply identify a Peeling-Hoop by its number.

## Functions

Explicitly or implicitly, Striker assigns and then reassigns "Functions" to each of the three non-Striker-Balls as he plays each hoop in a break. Each ball always has only one of three possible Functions: $\mathrm{R}(\mathrm{i})^{8}-$ Reception-Ball, $\mathrm{V}(\mathrm{i})$ - Pivot-Ball, and $\mathrm{P}(\mathrm{i}+1)$ - Pioneer-Ball.

Striker Ball: As a convention, we use $u$ as Striker for initial breaks, and his Partner $k$ as Striker for Peeling turns.
Reception-Ball: $R(i)$ is the $1^{\text {st }}$ ball used after $h(i)$ is made. It is typically found on the non-playing side of the hoop.

[^4]Pivot-Ball: $\mathrm{V}(\mathrm{i})$ is the $2^{\text {nd }}$ ball, used. It can be anywhere on the lawn but traditionally it is positioned to limit the need for big roll-shots during break play, to facilitate setting a leave, to set-up for Peels, or to continue a break after a Peel.

Pioneer-Ball: $\mathrm{P}(\mathrm{i}+1)$ is the third ball used in a 4-ball break. It is most often placed on the playing side close to Striker's next hoop, $\mathrm{h}(\mathrm{i}+1)$. The Pioneer-Ball can be moved to an Escape-Ball position to facilitate travel to the Pioneer-Hoop after a Peel attempt. Here it is identified as $E(i+1, j)$ - where " $E$ " stands for Escape, ( $i+1$ ) identifies the Pioneer-Hoop, the "to" hoop, and jidentifies the PeelingHoop, the "from" hoop in the escape.

## Identifying the Peelee

Depending upon the circumstances, the ball to be Peeled after Striker makes $h(i)$ and before Striker makes $h(i+1)$ can be the $1^{\text {st }}$ ball used $-R(i)$, as in a Back-Peel - in this case the Peel is described as occurring "After" $h(i)$ or simply $A-h(i)$. It can the $2^{\text {nd }}$ ball used $-V(i)$, as in a Transit-Peel - in this case the Peel is made "On-the-Way-To" $h(i+1)$ or $W-h(i+1)$. Finally, it can be the $3^{\text {rd }}$ ball used - P(i+1), as in a Straight-Peel - in this case the Peel is completed just before Striker makes h(i+1), "Straight" at or S-h(i+1). We write these as $R(i, j), V(i, j), P(i+1, j)$ where $i$ identifies Striker's Current-Hoop, and $j$ identifies the Peeling-Hoop ${ }^{9}$.

## Load \& Hold (L\&H)

A L\&H occurs whenever the last ball Striker uses before making a hoop is intentionally made into the Pivot-Ball or Pioneer-Ball and not the Reception-Ball. That is, the last ball used before making a hoop is different than the first ball used after the hoop. For us, a L\&H is a L\&H no matter how long it is! And it can be long or short (and is identified as such in this book).

## Figures

Most croquet books have figures showing Striker-Ball-in-hand with the Pioneer-Ball at the Current-Hoop, about to croquet it to Reception while Striker goes to position. We have adopted a different approach. Most figures in this book show Striker in position to make his current hoop, $\mathrm{h}(\mathrm{i})$. This allows the balls at $\mathrm{R}(\mathrm{i}), \mathrm{V}(\mathrm{i})$, and $\mathrm{P}(\mathrm{i}+1)$ to have reached their positions in any order facilitated by a $L \& H$ during play from the previous hoop, $h(i-1)$ or from the start of a turn. We do this because L\&Hs are part and parcel to these new games.

[^5]
## HOOP, HOOP, PEEL ("2HP")

Involved in a 4-ball break? Have two hoops to spare? Want to complete a Peel of any kind, Transit, Back, or Straight? Then, know it or not, invariably you will proceed HOOP, HOOP, PEEL or what we call, 2HP. Striker:
(i) Makes the Current-HOOP, $\mathrm{h}(\mathrm{i})$. Then, Striker deviates from his break to send one or two balls to the Peeling-Hoop while Striker proceeds to his Next-HOOP.
(ii) Makes the Next-HOOP, $\mathrm{h}(\mathrm{i}+1)$. Then Striker establishes a future pioneer at $\mathrm{h}(\mathrm{i}+3)$, unless this is a Back-Peel, while going back to the Peeling-Hoop. There, if appropriate, he adjusts balls: none are adjusted for Back-Peels, one (the Peelee) is adjusted for Transit-Peels, and two (an Opponent-Ball and then Peelee) are adjusted for Straight-Peels.
(iii) Finally, Striker attempts the PEEL, and returns to his break at $h(i+2)$ with an Escape or a Roll-Peel to a Pioneer-Ball. In the case of a Back-Peel, he establishes a future pioneer at $h(i+3)$ while returning to the break at $h(i+2)$.

There are three variations of 2HP. They are distinguished by the role Peelee plays just after the Next-HOOP has been made. If Peelee is Pivot then it is a Transit-Peel; if Peelee is Reception then it is a Back-Peel, and if Peelee is Pioneer then it is a Straight-Peel.

While not standard or recommended practice, it turns out that all Peels can be accomplished as Transit-Peels, which makes it the Universal Peeling Procedure. We start by describing the procedure used for Transit-Peels and then alter it:
(i) For Back-Peels: To increase the safety of the break, while decreasing the likelihood of a successful Peel.
(ii) For Straight-Peels: To increase the likelihood of a success of the Peel, while decreasing the safety of the break.

## Transit-Peels: Where Peelee is the Pivot-Ball: "Escape-To" and "Roll-To Peels"

Suppose Striker ( $k$ ) is in position at his Current-HOOP. His mission is to Peel a ball at the Peeling-Hoop as quickly as possible while responsibly maintaining the break. The Current-HOOP can be any on the lawn as long as it is early enough in the break to allow two hoops to be made before the Peel. Peelee can be any one of the other three balls, and the Peeling-Hoop can be any hoop on the lawn. In the example below, we chose the Current-HOOP to be $h(1)$, Peelee is Partner ( $u$ ) and that the Peeling-Hoop is $h(12)$. We
then switch to $h(5)$ as the Peeling-Hoop. The $h(12)$ and $h(5)$ Peels flow in opposite directions through the same physical hoop. Both are studied to show just how consequential the direction of the Peel can be.

There are six possible starting positions that account for any ordering of the non-Striker-Balls, in their three functions $R(1), V(1)$, and P(2). These are shown in Figures NP. 1 - NP.6. These collapse into three, either (Figures NP.1, NP. 2 and NP.3) or (Figures NP.4, NP. 5 and NP.6) except for games where ball color matters (see our separate book Color Order Association Croquet), where all six are relevant. Striker can follow 2HP from each of these starting points.


Details of a 2HP Transit-Peel Using an Escape-Ball - When the Peeling Hoop is $h(12)$ and the Current Hoop is $h(1)$
The First HOOP - Striker makes his Current-HOOP, $h(1)$, and then sends Peelee ( $u$ ) to the Peeling-Hoop, $h(12)$. Striker also sends an Oppo-Ball to be the Escape-Ball to $h(3)$ from $h(12), E(3,12)$. The Peelee and the Escape-Ball can be sent in either order for this, an initial/single Peel, but the Escape-Ball is always sent first in the context of a continuous series of 2HP Peels because Peelee will be at the last Peeling-Hoop and not available at the Current-HOOP.

Just before making the Next-HOOP, $\mathrm{h}(2)$ here, Striker will be in position at the hoop with the other Oppo-Ball as R(i+1), which can be ror y . It is shown as y in Figure NP.7.

It is relatively easy to send two balls to any Peeling-Hoop if the Peelee is the Reception-Ball, $\mathrm{R}(1)$, or the Pivot-Ball, $\mathrm{V}(1)$, as shown in Figures NP.1, NP.2, NP.4, or NP.5. It is also possible to send Peelee to the Peeling-Hoop when Peelee starts as the Pioneer-Ball at the Next-HOOP. Consider Figures NP. 3 and NP. 6 where $u$ is P(2). Figure NP. 7 can be reached in one of two ways:
(i) Ball-to-Ball: $k$ makes $h(1)$ and goes to the Reception-Ball, $R(1) . k$ sends it to be the Escape-Ball to $h(3)$ from $h(12)$, the Peeling-Hoop, $\mathrm{E}(3,12)$, as k goes to the Pioneer-Ball $\mathrm{P}(2)$, $u$. $k$ sends $u$ to Peel position at the Peeling-Hoop going to PivotBall, $\mathrm{V}(1)$. $k$ rushes the ball at $\mathrm{V}(1)$ to $\mathrm{P}(2)$, and then croquets it to $R(2)$ as $k$ goes to position at $h(2)$. Or,
(ii) Load-and-Hold (L\&H): $k$ makes $h(1)$ and goes to $R(1)$. $k$ sends $R(1)$ to either $R(2)$ or $E(3,12)$ going to $V(1)$. $k$ sends $V(1)$ to the other spot not taken by the first ball and goes to Peelee at $P(2)$. Then, with a $L \& H, k$ sends $P(2)$ to $V(3,12)$, that is, to Peel postion at the Peeling-Hoop, where it will be used as the second ball ( V ) to be played after the Next-HOOP is made.

These ways of progressing have risk and should be avoided if the Peel can be delayed one or more hoops. But there are games where they are useful or necessary ...


The Second HOOP - Striker Makes the Next-HOOP: From Figure NP.7: $k$ makes $h(2)$, sends $y$ from $R(2)$ to $P(4)$ as k goes to $u$. At this point, u is the Pivot-Ball for $\mathrm{h}(2)$ and simultaneously the Peelee at $\mathrm{h}(12)-\mathrm{V}(2,12)$.

The PEEL - Striker adjusts Peelee (u), attempts the Peel, and escapes with $r$ to $h(3)$, Figure NP.8. The direction of the $h(12)$-Peel was "away" from the break, away from $h(i+2), h(3)$ in this case, which created the need for an Escape-Ball.

How difficult is using an Escape-Ball? There is a croquet saying - "Two balls together equal a Pioneer". Competent players will use one ball of the pair (of misplaced balls) to generate a good ("Dolly") rush on the other to the Pioneer-Hoop. Notably, in normal break play, the balls can be used in either order. However, in the Transit-Peel at $h(12)$ just outlined, where $u$ and $r$ define the pair, the balls are used in a particular order, $u$ before $r$, if the Peel is to be attempted ${ }^{10}$. From this perspective, Peeling is more difficult than traditional break play when there is a misplaced pioneer.

Details of a Transit-Peel using a Roll-Peel - When the Peeling Hoop is h(5), and the Current Hoop is $h(1)$
Starting again from any of Figures NP. 1 - NP.6, the goal now is to Peel $u$ at $h(5)$, where the direction of this Peel is "toward" $h(3)$. $k$ can proceed in one of two ways - (i) with an Escape-Ball, or (ii) with a Roll-Peel.
(i) Escape-Ball: From Figures NP. 1 - NP-6 to Figure NP.9. Here $u$ is sent to Peel position, now at $h(5)$, and $r$ is sent to EscapeBall position to $h(3)$ from $h(5)-E(3,5)$. Then, progressing to Figure NP.11, is the same as it was for the $h(12)$-Peel $k$ makes $h(2)$, sends y from $R(2)$ to $P(4)$, going to $u$. k Peels $u$ and escapes with $r$ to $h(3)$. Or,
(ii) Normal Pioneer: From Figures NP.1 - NP-6 to Figure NP.10. Here $u$ is sent to Peel position and $r$ is sent to P(3). Now to get to Figure NP.11, $k$ makes $h(2)$, sends y from $R(2)$ to $P(4)$ going to $u$. $k$ adjusts $u$, and Roll-Peels $u$ going to $r$ at $h(3)$.

How difficult is this Roll-Peel ${ }^{11}$ ? There is another croquet saying - "Peeling is running a 3-ball break while putting a misplaced pivotball through its hoops along the way". The 3-ball break aspect of a Roll-Peel can be seen by mentally stringing together Figures NP.4, NP. 10 and NP.11. $k$ is alternating $y$ and $r$ as the pioneer at odd and even hoops while $u$, the Pivot-Ball, is being Peeled along the way.

[^6]
## Characteristics of Transit-Peels

(i) Operate in 2-hoop cycles (2HP), each independent of the next. This means that Striker will know the result of the Peel before starting the next cycle, allowing Striker to progress to the next Peel or repeat the last one if it failed.
(ii) Can start from any hoop and be used to complete a Peel at any hoop.
(iii) Allow an adjustment on the Peelee just before the Peel
(iv) Require no more than one additional rush - the escape - to rejoin the break.

If Partner is the Peelee, then during a series of Transit-Peels, the Oppo-Ball at each Current-HOOP (call it $r$ ) will be the Escape-Ball or Pioneer-Ball as the break is rejoined, while the other Opponent (call it y) will be a traditional Pioneer-Ball at each Next-HOOP.

2HP Transit-Peels can be used for multiple Peels on one ball, often Partner. But, in addition, they can be used: (i) To Peel an Oppo-Ball, and (ii) To Peel different balls.

From Transit to Back-Peels: In Figure NP.12, k is for $\mathrm{h}(2)$ and u is for $\mathrm{h}(10)$. These ball positions can arise in various ways. For our purposes, what is important is that both Oppo-Balls are at $\mathrm{h}(3)^{12}$.

Figure NP.12: Non-Standard Play: Striker could proceed by having k make his Current-HOOP, h(2), going to u. Then k can rush and croquet u from $\mathrm{R}(2)$ to Pivot-Ball position in its role as Peelee, $\mathrm{V}(3,10)$ as k goes to r or y . k sends one of them ( y ) to be the EscapeBall, $\mathrm{E}(4,10)$ while using the other $(r)$ as $\mathrm{P}(3)$. $k$ croquets $r$ to $R(3)$ and goes to position at $h(3)$, Figure NP. 13 .

This way of proceeding has all four balls around h(3). $k$ has started a 2HP Transit-Peel.

Figure NP.13: $k$ makes his Next-HOOP, $h(3)$, going to $r$. $k$ sends $r$ to from $R(3)$ to $P(5)$ going to $u$. $k$ adjusts $u$, Peels $W$-h(4), going to $y$, followed by rushing (escaping with) y to $\mathrm{P}(4)$. k sends y to $\mathrm{R}(4)$ as k goes to position at $\mathrm{h}(4)$, Figure NP.14. The Transit-Peel is finished.

[^7]

Figure NP.15: Standard Practice: Traditionally, $k$ makes $h(2)$ and sends $u$ from $R(2)$ to $R(3,10)$ going to $y$. With a short $L \& H$, $k$ sends $y$ to $V(3)$ as k goes to position at $h(3)$, Figure NP. 16.

Figure NP.16: $k$ makes $h(3)$ and roquets $u$. Then $k$ Peels $u, A-h(3)$ going to $y . k$ rushes and croquets $y$ to $h(5)$, as $k$ goes to $r$. $k$ croquets $r$ to $R(4)$ going to position at $h(4)$, Figure NP. 17 .

When Striker, $k$, Peels $u$ at $h(10)$ A-h(3), he gives up the ability to adjust $u$ before attempting the Peel but gets a true pioneer at $h(4)$ in return, rather than an Escape-Ball that must be rushed to $h(4)$. If the Peel fails or cannot be done, then $u$ is left near h(10) to be Peeled later, often W-h(6). We agree that getting the h(10) Peel done "on-time", A-h(3), is beneficial but not necessary in traditional play, while maintaining the break is essential. But in other games discussed in this book, this logic may no longer hold true. For example, in Peel Croquet it may be necessary for $k$ to complete a Peel before making h(4) or have his turn end. In this case the Transit-Peel approach will have a higher success rate, at least for the Peel, and should be part of your repertoire.

So, just what is a Back-Peel? A Back-Peel is a 2HP Peel attempt where:
(i) The Peeling-Hoop and the Next-HOOP are physically the same but run in opposite directions, and
(ii) The Peelee is the Reception-Ball at the Next-HOOP.

Striker makes his Current-HOOP and then sends Peelee to be the Reception-Ball at his Next-HOOP, which, depending on the quality of the shot, may or may not also be Peel-position. Striker makes the Next-HOOP and roquets Peelee, rarely having an opportunity to meaningfully adjust Peelee's position. If Peelee's position allows it, then Striker attempts/completes the Peel.

The eleven possible Back-Peel clip positions are listed below. The first number of each pair is Striker's Current-HOOP and the second is the Peeling-Hoop. Some of these pairings are well known: $[2,10]$ and $[5,11]$ are the $h(10)$ and $h(11)$ Back-Peels of a StandardTriple. [1,7] is the $h(7)$ Peel of a Sextuple and $[3,9]$ is the $h(9)$ Peel of a Quad. The rest can occur in various of our new games.

$$
[1,7],[2,10],[3,9],[4,12],[5,11][6,2],[7,1],[8,4],[9,3],[10,6] \text {, and }[11,5] .
$$

Generically, these Peels are done immediately after-Striker's hoop". Specifically, Striker makes his hoop, roquets the Reception-Ball on the non-playing side and then Peels it back-thru, in the reverse direction of, Striker's last hoop, hence the name Back-Peel.

However, there are two other classes of "A-Striker's Hoop" Peels:
(i) Peeling the Reception-Ball at Striker's last hoop. Here the Reception-Ball needs to be near one upright or the other just before Striker makes his hoop. Immediately after Striker rushes the Reception-Ball, Peelee, to Peel position on the playing side of the hoop and completes the Peel. This is sometimes called a posthumous Peel.
(ii) Peeling the Reception-Ball at a hoop other than at Striker's or the reverse of Striker's hoop. In a Delayed-Triple, Peelee can be sent as the $h(8)$ Pioneer. Coming out of $h(8)$, Striker will use Peelee as $R(8)$ which can be rushed to $h(11)$ for an immediate Peel attempt. This is another type " A - $\mathrm{h}(\mathrm{i})$ " Peel. It requires a fantastic rush on Peelee to the Peeling-hoop to be successful, whereas Peelee in a true Back-Peel is not often in a position to be rushed to anywhere that is useful.

## Risky Transit-Peels

With the exception of the first pairing [1,7] of hoops for Back-Peels listed above, if your break development permits, each Back-Peel can be attempted one hoop earlier as a Transit-Peel. In this case, following 2HP, Striker makes his Current-Hoop h(i), sends two balls to the Peeling-Hoop, as he continues his break by going to the Next-HOOP. After that hoop [h(i+1)] is made, Striker ventures to the Peeling-Hoop, attempts the Peel, and escapes to $\mathrm{h}(\mathrm{i}+2)$. The trouble is that $\mathrm{h}(\mathrm{i}+2)$ is the Peeling-Hoop and there is the ever-present danger that Peelee can block Striker's access to it forcing a jump shop or cannon or end of turn.


It is with this concern in mind that Wylie writes, "Peeling in this position is a notorious bêtise which often leads to disasters and rarely pays dividends". Of course, he is right, but he also provides a caveat, "An exception arises when you are Peeling an Opponent ball, because an early Peel of $4 b$ may enable you to do more Peels on your Partner ball", Wylie, Page 12.

We would like to offer an additional caveat, one based upon the Peel being inward or outward. Figures NP.18, NP.19, and NP. 20 illustrate the h(10) Peel W-h(3), while Figures NP.21, NP. 22 and NP. 23 illustrate the h(9) Peel W-h(4). Both can fail if Peelee blocks $\mathrm{h}(\mathrm{i}+2)$, but geography suggests that failure at $\mathrm{h}(10)$ is more likely because this an "outward Peel" that cannot be Peeled hard, while Striker can proceed full bore at $\mathrm{h}(9)$ because this is an "inward Peel" ${ }^{13}$.

## Straight-Peels

The final 2HP offering is the Straight-Peel. Here Striker's "return-to-the-break" after the Peel is a short distance because Striker is returning to the hoop he is "at", the Peeling-Hoop! Striker Peels first and then makes this hoop, but, in this process, Striker has a choice: he can have Peelee be the Pivot-Ball - making this a Transit-Peel where striker plays the Peel and then immediately roquets the Pioneer-Ball before approaching the hoop, or a Straight-Peel where striker plays the Peel and then immediately makes the hoop ${ }^{14}$.

[^8]In Figure NP.24, $k$ is for $h(4)$ and seeks to Peel $u$ at $h(6)$. As described above, $k$ has two ways to proceed:
(i) As a Transit-Peel: $k$ makes $h(4)$, the Current-HOOP. $k$ sends $u$ from $R(4)$ to $V(5,6)$, toward Peeling position at $h(6)$. $k$ sends $r$ from $V(4)$ to $h(6)$ as an Escape-Ball, $E(6,6)$, as $k$ goes to $y$. $k$ sends y from $P(5)$ to $R(5)$ as $k$ goes to position at $h(5)$, Figure NP.25. $k$ makes $h(5)$, the Next-HOOP and sends $y$ to $P(7)$ as $k$ goes to $u$ in his role as $V(5,6)$. $k$ adjusts $u$ and then Peels $u$ going to $r$. $k$ rushes $r$ back to $P(6)$ and sets up to make $h(6)$, Figure NP. 26 .

This method is rarely used. Its possible benefit is that if the Peel fails and $u$ blocks k's path to the hoop, then $r$ can be used to bombard $u$ out of the way or into the jaws, clearing the way for $k$ or allowing $k$ to attempt a jump or half-jump.

(ii) As a Straight-Peel: $k$ makes $h(4)$, the Current-HOOP. This time $k$ sends $u$ from $R(4)$ to $P(6,6)$, ideally in Peel position at $h(6)$. Then $k$ sends $r$ from $V(4)$ to $V(5)$ as $k$ goes to $y$. $k$ sends $y$ from $P(5)$ to $R(5)$ as $k$ goes to position at $h(5)$, Figure NP. 27 . $k$ makes $h(5)$, the Next-HOOP. $k$ sends $y$ to $P(7)$ as $k$ goes to $r$ in his role as $V(5)$. $k$ uses $r$ to obtain a rush on $u$. $k$ rushes $u$ to Peel position and then Peels $u$, having $k$ follow in the same stroke - an "Irish Peel" or having $k$ set up to make $h(6)$ on his continuation shot, Figure NP. 28.

This is the standard way to proceed. k has the benefit of using both Oppo-Balls to gain a rush on Peelee to Peeling-Hoop.

## Jawsing

There is another Croquet saying, "Jawsing a Peel is often as good as completing it, and sometimes better." ${ }^{15}$
In general, a new Transit-Peel can follow a previously jawsed Transit-Peel, or a jawsed Back-Peel, without slowing down the 2HP process. That said, it is important to remember that having Peelee in the jaws is always a constraint because it restricts/determines the direction Peelee will travel following a Rush-Peel.


Consider Figure NP.29. Without further information, this could be the result of a jawsed Peel after an $h(12)$ attempt or after an $h(5)$ attempt. In either case, let's suppose that the next Peeling-Hoop is $h(2)$. Following 2HP, k would like to make $h(3)$ with $r$, send $r$ and $u$ to $h(2)$, going to $y$ at $h(4)$, Figure NP. 30. Then $k$ makes $h(4)$ with $y$, sends $y$ to $h(6)$, going to $u$. $k$ adjusts and Peels $u$ and escapes to $h(5)$ with $r$, Figure NP.31. Can this get done? The answer depends on the direction of the Peel!
$k$ can complete the $h(12)$-Peel with a rush ending with $k$ ball-in-hand on $u$ in a position like that shown in Figure NP.32. Then a good croquet shot will send $u$ toward Peel position at $h(2)$, with $k$ going to $y$ at $h(4)$. But the completion of the $h(5)$ Rush-Peel often does not offer as auspicious an ending. Unless $u$ is rushed far north allowing a pass-roll that sends $u$ to $h(2)$ and $k$ to $h(4)$, $k$ will be forced

[^9]to leave $u$ where he is at the end of the rush and take-off back to $y$ at $h(4)$, Figure NP.33. The point is, jawsing does not always lead to a good or even a neutral outcome.

Generally, a jawsed Back-Peel is easy to deal with. Peelee was the Reception-Ball at the time of the Peel attempt. After the jawsing, Striker goes off and makes his next Hoop and can then go back to the jawsed ball, now the Pivot, leaving another ball available as Pioneer to facilitate the break. What started as a Back-Peel morphs into a Transit-Peel.

A jawsed Straight-Peel presents more of a challenge. After all, Striker needs to make the hoop that is jawsed in order to continue his break. Here are three solutions: (i) A successful half-jump can save the day in T-AC but not in American Six Wicket; (ii) A traditional full jump can save the break in both games. (iii) And, in particular with a jawsed Straight-h(12)-Peel, it may be possible to have Striker jump and score $\mathrm{h}(12)$ and then use one of the Oppo balls to bombard Peelee through h(12). After that, Striker can rush Peelee around the hoop and peg-out for the win ${ }^{16}$.

In some of the new games, when faced with a jawsed Straight-Peel [often not at h(12)] it may be sufficient to jump to make the hoop to continue the break, and then come back and to do the Rush-Peel later, "posthumously."

## Repeating a Failed Peel

A completed 2HP cycle leaves Striker ready to start another one that can be for a new Peel or for a redo of a failed Peel. In the abstract, it will take a full 2HP cycle, two hoops, to arrange and attempt the next Peel. But approximately $50 \%$ of the time a failed Peel can be redone in just one hoop. For this to happen, the redo must be possible as a Roll-Peel ${ }^{17}$.

Consider Figure NP. 34. It shows the result of a failed Peel attempt at $h(11)$ with $k$ escaping to $h(3)$ with r. Fortuitously, k's next hoop is $h(4)$ which can accommodate a Roll-Peel redo: $k$ makes $h(3)$, sends $r$ to $P(5)$ going to $u$, adjusts $u$ to Peel position, and Roll-Peels $u$ going to $y$ at $P(4)$ and then $k$ sets-up to make $h(4)$, Figure NP. $35^{18}$. This redo consumed only one hoop.

[^10]Now consider Figure NP.36. It shows the result of a failed Peel attempt at $h(10)$ on $u$ with $k$ escaping to $h(7)$ with $r$. $k$ 's next hoop is still $h(8)$ but the direction of the redo at $h(10)$ does not allow a Roll-Peel, an Escape-Ball is required. $k$ makes $h(7)$, sends $r$ to $E(9,10)$ going to $u$. $k$ adjust $u$, takes off to $y$ and ends in position to make $h(8)$, Figure NP.37. $k$ makes $h(8)$, sends y toward $h(10)$ going to $u . k$ adjusts and Peels $u$, and then $k$ escapes with $r$ to get to $h(9)$, Figure NP. 38 . This redo took 2 hoops - a full 2HP cycle.


Figure NP. 39 is drawn from Sextuple play. $k$ is for $h(6)$ having just completed the $h(9)$ Peel, $W-h(6) . k$ makes $h(6)$ his Current-HOOP, to start a 2HP, $\mathrm{h}(10)$, Transit-Peel attempt, W-h(8). $k$ sends $r$ and $u$ to $h(10)$ as he goes to $y$ and then position at $h(7)$ in Figure NP. 40. Striker stops and considers his options. k would like to make h(7), the Next-HOOP, send y to h(9) as k goes to h(10), attempt the Peel, and then escape to $h(8)$ with $r$, Figure NP.41. Success here could be followed by a Delayed-Double finish.

However, the positions of $u$ and $r$ in Figure NP. 40 may not be optimal and could raise doubts about the $h(10)$-Peel getting done on the desired schedule. If the strategy outlined above fails, then k would be set-back two hoops and would be forced to finish with a Straight-Triple. $k$ seeks a way to limit the potential damage to just one hoop. He decides to send $y$ as a second Escape-Ball to $\mathrm{h}(10)$, as an "Insurance-Ball". He can still try the Peel, $\mathrm{W}-\mathrm{h}(8)$, or he can also simply re-position $u$, which would facilitate the coming Peel attempt $W$-h(9), and also aid the immediate rush on $r$ to $h(8)$.

The result of this Insurance-Ball strategy is shown in Figure NP.42. From here $k$ makes $h(8)$, sends $r$ toward $h(10)$, as he goes to $u$. k adjusts and Peels $u$, $\mathrm{W}-\mathrm{h}(9)$, as k escapes to $\mathrm{h}(9)$ with y , Figure NP.43. Not shown, but from here k has one more shot at a DelayedDouble, or he will be into a Straight-Double.


Insurance is never free! Here the cost is the need to rush y to $\mathrm{h}(9)$ when it might not have been needed as per Figure NP. $41^{19}$.
Starting a $\mathbf{2}^{\text {nd }} \mathbf{2 H P}$ Cycle in the Midst of the 1st: In the middle of a 2HP Transit-Peel attempt, that is, as Striker is about to make his Next-HOOP, he may conclude that the positions of Peelee and the Escape-Ball are such that the Peel is unlikely to succeed. As described above, Striker can try to limit a potential 2-hoop damage to a single hoop by sending an Insurance-Ball. Another way to think of this is that, in the middle of one ongoing HHP cycle, Striker starts another where his Next-HOOP in the first cycle is treated as his Current-HOOP in the second. Again, two balls are sent to the Peeling-Hoop and Striker makes his now Next-HOOP with the Escape-Ball already at the Peeling-Hoop. This is 2HP operating with a misplaced Next-HOOP Pioneer.

[^11]
## Wylie Peels

Wylie (page 45) suggests using a L\&H to attempt to limit the cost of a failed Peel to only one hoop. We will show how this strategy works in the context of a Transit-Peel of $\mathrm{h}(12) \mathrm{W}$ - $\mathrm{h}(9)$. Other relevant Opportunities for a Wylie Peel include $\mathrm{h}(10)$, if it will fail $W-h(6)$, and $h(12)$, if it will fail $W-h(8)$.


NP. 44 - h(7)


NP. 45 - h(8)


NP. 46 - h(8)+


NP. 47 - h(9)


NP. 48 - h(9)

In Figure NP.44, $k$ has just Peeled $u$ at $h(11)$, sent $y$ to $P(8)$, and is set to make $h(7)$, with $r$ as $R(7)$. $k$ 's goal is to Peel $u$ at $h(12) W$ - $h(9)$. So, $k$ sends $r$ to $E(9,12)$, or to $P(9)$ if he prefers a Roll-Peel, and $u$ to Peel position at $h(12)$, as $V(8,12)$, as $k$ goes to $y$ as $P(8)$. Then $k$ sets-up to make h(8), Figure NP.45. In doing this, suppose u ends up out of Peel position, a little too far to the east. k makes h(8) and sends y to be $\mathrm{P}(10)$ going to $u$. k 's intent was to end to the east of $u$ so that $u$ could be rushed back to Peel position. Unfortunately, $k$ ends up on the wrong side of $u$-to its west, Figure NP.46. How should $k$ proceed?

The traditional response is shown in Figure NP.47. k gives up on the Peel attempt and escapes to $\mathrm{h}(9)$ with r . The next $\mathrm{h}(12)$-Peel opportunity will be W -h(11), after k makes two extra hoops, but in T-AC, players usually choose to do the Peel as a Straight-Peel, $S$-h(12). Wylie's suggestion for proceeding from Figure NP. 46 is to have $k$ rush and croquet $u$ to $R(9,12)$ going to $r$. Then, with a short $\mathrm{L} \& \mathrm{H}, \mathrm{k}$ sends r to $\mathrm{V}(9)$ as k goes to position at $\mathrm{h}(9)$, Figure NP.48. From here (not shown) k can make $\mathrm{h}(9)$ and go to $\mathrm{u} . \mathrm{k}$ can rush u to $h(12)$, and attempt the Peel as $k$ goes to $r$. This play is similar to the $h(11)$-Peel A-h(8) from the section on Back-Peels. If it succeeds, then one hoop is saved. If it fails, then the loss is limited to two hoops.


In Figure NP. 49 k has started a Transit-Peel at $\mathrm{h}(10)$ by sending u and r to $\mathrm{h}(10)$ with k now ready to make his Next-HOOP, $\mathrm{h}(5)$, and then to proceed with the Peel attempt. In viewing his situation, $k$ may be concerned that the positions of $u$ and $r$ are such that the Peel is likely to fail. In this case, $k$ could send $y$ as an Insurance-Ball, an extra Escape-Ball, now directed to $h(7)$, as shown in Figure NP.50. On the other hand, $k$ may be optimistic, so much so that he wants to set up to try the $h(11)$-Peel one hoop later, W - $\mathrm{h}(7)$. In this case, k could position y as an Escape-Ball from $\mathrm{h}(11)$ to $\mathrm{h}(7)$, Figure NP. 51.

In either case, k risks being wrong and will need to attempt the Peel without knowing if his choice for y was correct.
Here is another way to proceed. It involves a L\&H after the result of the Peel is known. From Figure NP.49, y is sent from $R(5)$ to $R(6)$ as k goes to u which is $\mathrm{V}(5,10)$. k attempts the Peel and knows its result as he goes to r which is $\mathrm{E}(6,10)$. If the Peel fails then, with the $L \& H$, $k$ will send $r$ to be the Escape-Ball to $h(7)$ from $h(10), E(7,10)$, as $k$ holds for position at $h(6)$, as shown in Figure NP.52. Here $u$ is $V(6,10)$, the Pivot-Ball waiting to be Peeled at $h(10)$. If the Peel succeeds then, with the L\&H, $k$ sends $r$ to be the Escape-Ball to $h(7)$ from $h(11), E(7,11)$, as $k$ again holds for position at $h(6)$, Figure NP. 53 . Here $u$ is $V(6,11)$, the Pivot-Ball/Peelee at $h(11)$.

Following the Either-Or strategy k can have his cake and eat it too.

[^12]
## HOOP, PEEL (HP)

## Mechanics

Making two hoops in the process of completing a Peel, 2HP, is the Peeling norm. But sometimes 2 HP is not fast enough. Here, players turn to a faster process, making only one hoop between Peels - HOOP, PEEL ("HP") ${ }^{21}$. We show the mechanics of HP in the next three panels. In each case, $k$ runs a break from $h(1)$ to $h(4)$ and Peels Partner ( $u$ ) three times along the way. The panels have different Peeling-Hoops forcing Striker to involve Roll-Peels, Escape-Balls, or the option of either.

Roll-Peels: In the panel below, the Peeling-Hoops are $h(5), h(6)$, and $h(7)$. They were chosen to allow, but not require Roll-Peels.
Optional Roll-Peels: Peeling-Hoops at $h(5), h(6)$, and $h(7)$


Figure NP.54: k makes $\mathrm{h}(1)$ and goes to y . k sends y from $\mathrm{R}(1)$ to $\mathrm{P}(3)$ going to u . k rushes u to the Peeling-Hoop, $\mathrm{h}(5)$, k Roll-Peels $u$ going to $r$ at $h(2)$. $k$ sends $r$ from $P(2)$ to $R(2)$ as $k$ goes to position at $h(2)$, Figure NP. 55 .

Figure NP.55: $k$ makes $h(2)$ and goes to $r$. $k$ sends $r$ from $R(2)$ to $P(4)$ going to $u$. $k$ rushes $u$ to the Peeling-Hoop, $h(6)$, $k$ Roll-Peels $u$ going to $y$ at $h(3)$. $k$ sends $y$ from $P(3)$ to $R(3)$ as $k$ goes to position at $h(3)$, Figure NP. 56 .

[^13]Figure NP.56: $k$ makes $h(3)$ and goes to $y$. $k$ sends y from $R(3)$ to $P(5)$ going to $u$. $k$ rushes $u$ to the Peeling-Hoop, $h(7)$, $k$ Roll-Peels $u$ going to $r$ at $h(4)$. $k$ sends $r$ from $P(4)$ to $R(4)$ as $k$ goes to position at $h(4)$, Figure NP. 57 .

Optional Escape-Peels: In the panel below, We show, without full details, the obvious: it is always possible to use Escape-Balls in lieu of Roll-Peels. Compare the results, Figure NP. 57 - based on Roll-Peels, and Figure NP. 61 - based on Escape-Balls. They are the same.


Mandatory Escape-Peels: In the next panel of figures shown below, $k$ again runs a break from $h(1)$ to $h(4)$ and complete three Peels. This time the Peels are at $h(12), h(11)$ and $h(10)$. Each Peel requires an Escape-Ball ${ }^{22}$.

Figure NP.62: $k$ makes $h(1)$ and goes to $y$. $k$ sends $y$ from $R(1)$ to $E(3,6)$ as $k$ goes to $u . k$ rushes $u$ to the Peeling-Hoop, $h(12)$. $k$ Peels $u$ going to $r$ and escapes with $r$ to $h(2)$. $k$ sends $r$ from $P(2)$ to $R(2)$ as $k$ goes to position at $h(2)$, Figure NP. 63 .

Figure NP.63: $k$ makes $h(2)$ and goes to $r$. $k$ sends $r$ from $R(2)$ to $E(4,10)$ as $k$ goes to $u$. $k$ rushes $u$ to the Peeling-Hoop, $h(11)$. $k$ Peels $u$ going to $y$ and escapes with $y$ to $h(3)$. $k$ sends $y$ from $P(3)$ to $R(3)$ as $k$ goes to position at $h(3)$, Figure NP. 64 .

Figure NP.64: $k$ makes $h(3)$ and goes to $y$. $k$ sends $y$ from $R(3)$ to $P(5)$ as $k$ goes to $u$. $k$ rushes $u$ to the Peeling-Hoop, $h(10)$. $k$ Peels $u$ going to $r$ and escapes with $r$ to $h(4)$. $k$ sends $r$ from $P(4)$ to $R(4)$ as $k$ goes to position at $h(4)$, Figure NP. 65 .

[^14]Escape-Peels: Peeling-Hoops at $h(12), \mathrm{h}(11)$, and $\mathrm{h}(10)$


The execution of Peels in the three previous panels of figures followed the same pattern: Striker made $h(i)$ and went to an Oppo-Ball at Reception. Oppo was sent to be the Escape-Ball at the next-plus-one Peeling-Hoop (or to Pioneer) as Striker went to Peelee (the $2^{\text {nd }}$ ball used, the Pivot-Ball). Peelee was sent to the Peeling-Hoop, the Peel attempted, and Striker escaped to h(i+1).

While this pattern is the HP norm, one interesting variation comes when a 2 HP Peel is completed as a Back-Peel [A()]. Here Peelee is the Reception-Ball and not the Pivot-Ball. Immediately after the Peel, Striker can send the Pivot-Ball to the Next-Peeling-Hoop to start an HP cycle as Striker goes to his Next-Hoop. That hoop is made, and Striker can now follow HP. This structure is seen in the SxP when the $h(7)$ Peel is completed A-h(2). Striker can send an Escape-Ball to $h(8)$ as he goes to $h(3)$. It also has use in Triple or Bust. If Striker can Peel Partner h(10) A-h(3), then the Escape-Ball can be sent to E(11,5) for an HP attempt after $\mathrm{h}(4)$ and an early finish.

## When HP Fails

Things go awry in HP in the same way they do in 2HP - a Peel can jaws or fail - but the consequences are more complicated with HP because HP cycles are linked whereas they are independent with 2HP. In HP, Striker must decide how he wants to proceed with the next Peel, before completing his current one. In 2HP Striker knows the result before needing to make any decisions.

Jawsing in HP: There are six special cases where a jawsed Peelee can be Rush-Peeled toward the next Peeling-Hoop and then that Peel immediately attempted. We list these possibilities as pairs of numbers where the first identifies the Jawsed-Hoop and the second the next Peeling-Hoop. [1,2], $[3,4],[5,6],[7,8],[9,10]$, and $[11,12]$. Aside from these special cases, jawsing an HP Peel attempt will almost always delay the process at least one hoop. This result is shown in the next panel of figures.

Figure NP.62: The initial figure is repeated from above. Once again, $k$ is for $h(1)$. $u$ is Peelee and is $V(1,12)$. $y$ is $R(1)$, and $r$ is $E(12,2)$. k makes $\mathrm{h}(1)$. Then, as before, k must decide what to do with the Reception-Ball, y , before knowing the result of the Peel. In HP, $k$ will usually anticipate success with the first Peel at $h(12)$ and set-up for the second Peel at $h(11)$. That is, $k$ will send $y$ to be $E(3,11)$, as $k$ goes to $u$. Next, $k$ rushes $u$ to $h(12)$ and attempts the Peel - it jawses. $k$ still escapes to $h(2)$ with $r$, Figure NP. 66 .

Figure NP.66: Now what? The best $k$ can do is to make $h(2)$ with $r$, send $r$ to be the Escape-Ball to $h(4)$ from $h(11), E(4,11)$, and go to $u$. Then $k$ Rush-Peels $u$. Next $k$ takes croquet from $u$ (shown here as a takes-off) as $k$ goes to $y$. Finally, if all of this works, $k$ escapes to $h(3)$ using $y$ and $k$ is delayed one hoop, Figure NP. 67.


It is important to parse what happened here. $k$ 's original plan was: $k$ makes $h(2)$ and goes to $r$. $k$ sends the Reception-Ball (r) to $E(4,10)$, as an Escape-Ball that would be used to rejoin his break after the $h(10)$ Peel was done. Then $k$ goes to $u$, rushes it to $h(11)$, attempts the Peel and escapes with y to $h(3)$.

But the Peel at $h(12)$ jawsed. So, $k$ revises his plan: $k$ still makes $h(2)$ and goes to $r$. Now the plan is to complete the Peel at $h(12)$ as a Rush-Peel but still escape to $h(3)$ with $y$. $y$ was positioned as $E(3,11)$. It is still used to get to $h(3)$ but, without the benefit of having rushed $u$ to $h(11), k$ needs to get to $y$ from where he ends up after the Rush-Peel.

If $k$ does not fancy the take-off from $u$ to $y$, then he could do the rush in the other direction moving Peelee closer to the Escape-Ball he needs. But this choice has a cost - it converts the jawsed Peel into a failed Peel. On the other hand, if $k$ is feeling particularly aggressive then he could roll $u$ back toward $h(11)$ as he goes to $y$, preparing for the next Peel attempt at $h(11)$.

Failing a Peel in HP: The next panel of figures shows a failed Peel at $\mathrm{h}(12)$. It will cost two hoops because of the orientation of the $h(12)$ Peel which is away from $h(11)$, the home of $k$ 's Escape-Ball to $h(3)$.

Figure NP. 62: $k$ is for $h(1)$, $y$ is $R(1)$, $u$ is $V(1,12)$, and $r E(2,12)$. $k$ makes $h(1)$ and sends $y$ from $R(1)$ to $E(3,11)$ as $k$ goes to $u$. $k$ sends $u$ to $h(12)$, attempts the Peel, and fails. $k$ escapes to $h(2)$ with $r$, Figure NP. 68.


Figure NP.68: $k$ needs to change plans. The Peel at $h(12)$ still needs to be done, but there is no longer a true Escape-Ball from $h(12)$ to $h(3)$. Once again, $y$ can be pressed into service. But, given the direction of the redo-Peel at $h(12)$ - south - in normal play, $k$ should forgo a Peel attempt that will only cost one hoop ${ }^{23}$. Instead, if $k$ has the time (sufficient remaining hoops), $k$ should reset - accept a

[^15]2-hoop delay: $k$ makes $h(2)$ and goes to $r$. $k$ sends $r$ to $P(4)$ - setting up for a later Roll-Peel attempt at $h(12), W-h(4)$. Here, $k$ sends $r$ from $R(2)$ to $P(4)$, and goes to $u$. $k$ adjusts $u$, without trying the Peel, converting $u$ from $V(2,12)$ to $V(3,12)$ as $k$ goes to $y$. $k$ then escapes with y to h(3), Figure NP. 69.
$k$ wanted to use $y$ as transportation to $h(3)$, after going to $u$ and rushing it to $h(11)$ for the $h(11)$ Peel. With the failure of the initial Peel attempt at $h(12), k$ can decide if he still wants to go to $u$ before $y$, or just skip $u$, which, given the geography, might be easier.

Figure NP.69: $k$ is now for $h(3)$, two hoops further along in his break than when he started. $k$ is ready to try the $h(12)$ Peel once again. $k$ sends $y$ to $P(5)$, goes to $u$, Roll-Peels $u$, going to $r$ at $h(4)$, croquets $r$ to $R(4)$ and goes to position at $h(4)$, Figure NP. 70 .

As contrast, the panel below shows a failed Peel attempt at $h(5)$. With good play, it will cost only one hoop because the orientation of the $h(5)$ Peel is toward the Escape-Ball ( $y$ ) which is positioned near $h(11)$. Figure NP.71, $k$ makes $h(1)$ and once again sends $y$ to $\mathrm{E}(3,11)$ before knowing the outcome of the Peel at $\mathrm{h}(5)$. It fails, as $k$ makes its way to $\mathrm{h}(2)$ with r , Figure NP. 72.

Figure NP.72: $k$ makes $h(2)$. $k$ sends $r$ to $P(4)$ as $k$ goes to $u$. $k$ rushes $u$ to $h(5)$, Roll-Peels it (shown successful) going to $y$ and then rushes $y$ to $h(3)$, croquets $y$ to $R(3)$ and goes to position at $h(3)$, Figure NP. 73 .

This escape is much more challenging than it would have been if the Peel were successful, and $k$ could have rushed $u$ to $h(11)$.


HP in New Games: Let's consider Figure NP. 68 once more, this time from the perspective of a game that does not require any particular order for the completion of Peels, just that they get done. In our "game" k must Peel at $\mathrm{h}(12)$ and $\mathrm{h}(11)$ but k can choose the order and timing of their execution. In particular, if the $h(12)$ Peel fails, $k$ can leave it undone and direct his attention to the other possibility - the Peel at $h(11)$. $k$ 's Peeling progress will be delayed one hoop, but not two. The same analysis would apply if $k$ needed a single Peel, but the rules of our "game" allowed either hoop to apply. As long as $k$ can afford to be delayed one hoop, he should be able to proceed, but at an alternative Peeling-Hoop. A more involved application of this "game" is the game, Collect the Clips.

HP with Changing Peelees, Random Striker Hoops, and Random Peel Order: It is possible, at least theoretically, to follow HP while Peeling one, two, or three of the non-Striker-Balls in any desired order at any Peeling-Hoop while Striker runs his break in any hoop order! Suppose Striker (k) knows his Current-Hoop and the next two hoops in his break, the Current and Next-Peeling-Hoop, and knows the locations and identities (colors) of the Current and Next Peelee. The objective is to use HP to make the Current-Hoop and then complete the Current Peel with the Current Peelee and, at the same time, set-up to make the Next-Hoop while also setting up to complete the Next Peel at the Next-Peeling-Hoop with the Next Peelee.

Starting the HP Process: Consider Figure NP.74. k is Striker and is in position at the Current-Hoop. For simplicity is assumed to be $h(1)$. Also, for simplicity we assume that Striker will run his break in numerical order, thus the Next two Hoops are $h(2)$ and is $h(3)$. The Current-Peeling-Hoop is $\mathrm{h}(10)$ and again for simplicity, the Next-Peeling-Hoop is $\mathrm{h}(11)$. How Striker proceeds will depend upon which ball, $u$ or $r$, is Current-Peelee and which ball ( $r$, y or $u$ ) is designated as the Next-Peelee.


The only ball that is immediately recognizable in Figure NP. 74 is the Reception-ball, the ball shown as u. Once the HP process is running, the ball shown as $r$ will be the last Peelee and be located at the Last-Peeling-Hoop where it was left after the last Peel. Either u or r can be the Current-Peelee. The ball shown as y is the Escape-Ball from the Current-Peeling-Hoop h(10) to the Next-Striker-Hoop, $h(2)$. It is not available as the Current-Peelee. Each of $u, r$, and $y$ can be the Next Peelee.

When the Current-Peelee is u: In each case, the HP process has Striker make the Current-Hoop and go to the Reception-Ball. If it is the Current-Peelee, then it is sent to the Current-Peeling-Hoop and Peeled as Striker goes to the Escape-Ball. What happens next depends upon which ball is the Next-Peelee. One of the two remaining balls ( y or r ) needs to be sent to be the Escape-Ball from the Next-Peeling-Hoop back to the break while the other is used by Striker as the Reception-Ball at the Next-Striker-Hoop.

If $r$ is the Next-Peelee - Figure NP.74: $k$ makes $h(1)$ and goes to $u$. $k$ rushes $u$ from $R(1)$ to $h(10)$ and then Peels $u$ at $h(10)$ as $k$ goes to $y$. $k$ sends $y$ to be the Escape Ball at the Next-Peeling-Hoop as $k$ goes to $r$. Finally, $k$ rushes $r$ to the Current-Hoop and sends it to Reception as R(2) as k goes to position at h(2), Figure NP. 75.

If y is the Next-Peelee - Figure NP.74: Again, k makes $\mathrm{h}(1)$ and goes to u . k rushes u from $\mathrm{R}(1)$ to $\mathrm{h}(10)$ and Peels it as $k$ goes to $y$. This time $k$ sends $y$ to be $R(2)$ as $k$ goes to $r$. Then with a L\&H, $k$ sends $r$ to be the Escape-Ball at the Next-Peeling-Hoop, $h(11)$, as $k$ goes to position at $h(2)$ Figure NP. 76 .

If $u$ is both the Current and the Next-Peelee - Then $k$ can proceed from Figure NP. 74 to either Figure NP. 75 or NP. 76 .
When the Current-Peelee is r: A slightly different process is followed when the last Peelee repeats as the Current-Peelee.
If $\boldsymbol{y}$ is the Next-Peelee - Figure NP.74: $k$ makes $h(1)$ and goes to $u . k$ sends $u$ to Escape-Ball position at the Next-PeelingHoop, $h(11)$, as $k$ goes to $r$. $k$ rushes $r$ to $h(10)$ and then Peels it as $k$ goes to $y . k$ rushes y from $E(2,10)$ to $P(2)$ and croquets it to $R(2)$ as $k$ goes to position at $h(2)$, Figure NP. 77 .

If $u$ is the Next-Peelee - Figure NP.74: $k$ makes $h(1)$ and goes to $u$. This time $k$ sends $u$ from $R(1)$ to $R(2)$ as $k$ goes to $r$. $k$ rushes $r$ to $h(10)$ and then Peels $r$ at $h(10)$, as $k$ goes to $y$. Then, with a L\&H, $k$ sends $y$ to be the escape-ball at $h(11)$ as $k$ goes to position at $h(2)$, Figure NP. 78.

If $r$ is both the Current and the Next-Peelee - Then $k$ can proceed from Figure NP. 74 to either Figure NP. 77 or NP. 78.

Continuing the HP Process: In each of Figures NP. 75 - NP. 78, Striker is in position to make what was the Next-Hoop, h(2). He has a waiting Escape-Ball at the now Current-Peeling-Hoop and he knows the location and identity of the Current-Peelee. At this point Striker is given three new pieces of information: (i) The location of another Striker-Hoop, (ii) the location of the new Next PeelingHoop, and (iii) the color of the new Next-Peelee. Armed with this, Striker can continue HP.

## 3-BALL PEELS

"When [Opponents have] declined to shoot after your first turn ... you can reasonably easily pick up a delayed triple ... So we may as well face the fact that the three-ball triple ... is not an exercise in pragmatism. The three-ball triple is 'fancy'. It would be unfair to call it pure exhibitionism, as it represents the nearest that croquet will ever get to artistry ...(K. F. Wylie - section 1.V.3).

AC-3BO stands for Association Croquet with a 3-Ball Opening. It is the name of one of the games in this book. Not surprisingly, the game opens with play by just 3 balls. During its pendency, the team with two balls can win even before the $4^{\text {th }}$ ball is able to enter. Depending upon which rules the participants choose, this is done by completing either two ( $\mathrm{h}(11$ ) and $\mathrm{h}(12)$ ) or three (add $\mathrm{h}(10)$ ) 3-ball Peels. Here, 3-ball Double-Peels and 3-ball Triple-Peels are more than just fancy - they are important elements of this game.

In this section we show how 3-ball Peels are run. We will see our old friends, Transit, Back and Straight-Peels from 4-ball play are back, but, in each case, progress in a Peeling break is significantly more difficult.

## Comparing 3 and 4-ball Peels (Transit, Back, and Straight)

The 3-ball Universal Peeling Procedure is the 2HP Transit-Peel. It works for all Peels at all hoops. It can be modified to be safer for Back-Peels and more efficient for Straight-Peels, just as we saw for 4-ball Peels. It can be summarized as follows:
(i) Make the Current-HOOP, $\mathrm{h}(\mathrm{i})$, with the Opponent-Ball (r). Then deviate from the normal 3-ball break routine to send r to the Peeling-Hoop as the Escape-Ball to h(i+3) [or follow the normal break and send it as a Pioneer to $\mathrm{h}(\mathrm{i}+3$ ) if a Roll-Peel is possible/desired] as Striker proceeds to his Next-HOOP.
(ii) Make the Next-HOOP, $\mathrm{h}(1+1)$ with Partner ( u$)$. u is $\mathrm{P}(\mathrm{i}+1)$ at the Next-HOOP, $\mathrm{h}(\mathrm{i}+1)$. Make the hoop and then rush u to the Peeling-Hoop.
(iii) Finally, attempt the PEEL and return (escape or roll) back to the break at $\mathrm{h}(\mathrm{i}+2)$.

The strategy for a 3-ball Transit-Peel follows that outlined for 4-balls. However, with just three balls, Peelee will be the Pioneer (albeit misplaced) for the Next-HOOP. This precludes pre-sending it to the Peeling-Hoop. Instead, it must be rushed to the PeelingHOOP and immediately Peeled. In this regard, executing 3-ball 2HP Peels has similar difficulty as executing 4-ball HP Peels.
The next two panels compare and contrast 3 and 4 -ball finishing turns, each starting at $\mathrm{h}(8)$, needing to complete two Peels, $\mathrm{h}(11)$ and $h(12)$, the ones needed in the basic version of $\mathrm{AC}-3 \mathrm{BO}$.

Figures NP.79: With 3-balls: $k$ is in position at $h(8)$ with $r$ as $R(8)$ and $u$ as $P(9,11)$. $k$ makes $h(8)$ and sends $r$ to $E(10,11)$, the EscapeBall to $h(10)$ from $h(11)$ as $k$ goes to $u$. $k$ sends $u$ to $R(9,11)$ as $k$ goes to position at $h(9)$, Figure NP. 80 .

Figure NP.84: With 4-balls: $k$ sends Peelee and the Escape-Ball $(r)$ to $h(11)$ before going to the $4^{\text {th }}$ ball $(y)$ at P(9), Figure NP. 85.
Figures NP.80: With 3-balls: $k$ makes $h(9)$. Then $k$ rushes $u$ from $h(9)$ to $h(11)$ and immediately attempts the Peel. $k$ escapes to $h(10)$ with $r$, sends $r$ to $R(10)$ as $k$ goes to position at $h(10)$, Figure NP. 81.

Figure NP.85: With 4-balls: $k$ makes $h(9)$ and sends $y$ to $P(11)$ as $k$ goes to $u$. $k$ adjusts $u$ and then Peels $u$ going to $r$. $k$ escapes with $r$ to h(10), Figure NP. 91.

Figure NP.86: With 3-balls: Not Shown, but k could treat this as a Transit-Peel. In this case, he would make $h(10)$ with $r$, send it to $h(12)$ as $E(12,12)$. Then he would make $h(11)$ with $u$, rush it to $h(12)$ and try the Peel and "escape" with $r$ to $h(12)$.

There could be a better way: $k$ makes $h(10)$ and sends $r$ to $R(11)$ as $k$ goes to $u$. Then, with a $\mathrm{L} \& H, k$ sends $u$ to $P(12,12)$ as $k$ holds for position at $h(11)$, Figure NP.82. Proceeding this way follows the pattern for a Straight-Peel.

Figure NP.86: With 4-balls, $k$ follows the course for a Straight-h(12)-Peel, sending r toward and then $u$ to $h(12)$, with $r$ ending north of $u$, as $k$ goes to $y$ at $h(11)$, Figure NP. 87.

Figures NP.82: With 3-balls: $k$ makes $h(11)$ and goes to $r$. $k$ sends $r$ from $R(11)$ to $R(12)$ as $k$ goes to $u$. $k$ adjusts $u$ and then attempts the Peel either Irish or making sure to remain in position after the Peel attempt, Figure NP. 83.

Figure NP.87: With 4-balls, $k$ makes $h(11)$ with $y$, sends $y$ as the "deep" ball going to $r$. Then $k$ sends $r$ to be the "short" ball while gaining a rush on $u$ to $h(12)$. $k$ rushes $u$ to Peel position and attempts the Peel, preparing to follow $u$ through the hoop, Figure NP.88.

Peg-outs can follow using either three or four balls, with the 3-ball route being slightly more difficult.


Comparing Peels at $\mathbf{h ( 1 0 )}$ and $\mathbf{h ( 1 1 )}$ when Playing with Just three Balls: In the next panel we show the $h(10)$ Peel beginning in Figure NP.89. $k$ is for $h(2)$, $u$ is the Peelee and is $R(2)$, and $r$ is $P(3)$. For contrast, we also show the Peel at $h(11)$ beginning in Figure NP. 92 with $k$ for $h(5)$. This time $r$ is $R(5)$ and $u$ is $P(6)$ - a misplaced pioneer for $h(6)$ that was left near $h(10)$ after that Peel was completed.

For both Peels, k makes his Current-Hoop, sends the Reception-Ball [ $u$ in Figure NP. 89 and $r$ in Figure NP.92] to the Peeling-Hoop [to $R(3,10)$ in Figure NP. 90 and to $E(7,11)$ in Figure NP.91], as k goes to the Pioneer-Ball [r in Figure NP. 89 and $u$ in Figure NP.92] . It is massaged around the Next/Peeling-HOOP to set-up for the Peel and the escape to the hoop at ( $\mathrm{i}+2$ ), [with a short L\&H to reach Figure NP.90, and with a rush and croquet shot to reach Figure NP.93].

Finally, the hoop is made, the Peel is completed, and the escape occurs, to $h(4)$ in Figure NP. 91 and to $h(7)$ in Figure NP. 94.


The reason that two different ordering of the balls arose is the unstated magic - how Striker made his way from Figure NP. 91 to Figure NP.92: In his uniquely understated way, Wylie writes:

As for the break itself, you do the $4 b$ Peel after 3 and make 4 and 5 off $R$ with a short two ball break. Then you rush $R$ near III and make 6 off $U$, which you then Peel through $h(11)$ getting a rush on $R$ to $1 b$. You want to do the Peel quite firmly because $U$ is to be your $2 b$ pioneer. Now a three-ball break brings $U$ to $h(12)$ for the last Peel. (K. F. Wylie -1.V.3, with the colors of the balls changed to be consistent with our text.)

That is, Wylie reaches his equivalent of Figure NP. 91 and realizes there is a practical problem: Following 2HP, Striker should send $r$ to $h(6)$ and make $h(5)$ with $u$. But, to make $h(5)$ with $u$ requires rushing $u$ from its position after the $h(10)$ Peel to pioneer position at $h(5)$. This is a very risky proposition and likely to fail. Wylie sweeps this problem under the rug by having Striker 2-ball between $h(4)$ and $\mathrm{h}(5)$ ! Obfuscation aside, there is no good alternative, so we do the same between Figures NP. 91 and NP. 92 !

Is There HP with Just 3 Balls?
Continuous HP Straight-Peels with just 3 Balls are theoretically possible as illustrated by what we call "The Grievous Rush Puzzle". It starts in Figure NP. 95 which was assumed to be reached as follows: $r$ was in the process of pegging out for the win when his rush on y had y hit the peg, ending r 's turn - the Grievous Rush! $\mathrm{u} / \mathrm{k}$ take over. Assuming that u and k are both for $\mathrm{h}(1)$, what is the best outcome they can have on their next turn? The answer is that $u / k$ can win the game 26 to 25 ! They do this with twelve consecutive Straight-Peels followed by a peg-out of both $u$ and $k$.


Figures NP. 96 - NP. 98 illustrate the first three hoops in this process. Assuming $k$ chooses to play: $k$ roquets $r$ and then croquets it near to $h(1)$ while gaining a rush on $u$. $k$ rushes $u$ to $h(1)$, Peels $u$ at $h(1)$ and goes through $h(1)$ himself, perhaps (but not necessarily) in the same "Irish" stroke. Continuing after $h(1)$ (and then after all subsequent hoops), $k$ rushes $r$ away from the hoop and then croquets it to the next hoop while $k$ gains a rush on $u$ to $h(2)$. $k$ rushes $u$ to $h(2)$ and then Irish-Peels $u$. This process continues for all twelve hoops and the peg out, with rallowing "corners to be turned" as $k$ and $u$ proceed around the lawn. Assuming all Peels and the peg-out are accomplished Irish (i.e., in one stroke rather than two), this turn will take only 52 strokes.

Continuous Transit Peels with just 3 Balls are not generally possible. However, with fortuitous geography some are possible but require an as yet nonstandard skill - the Peel-and-Hold!


In Figure NP. 99 u was just Peeled at $h(11)$ and $k$ escaped to his Current-Hoop, $h(3)$, with $r$. The goal now is to Peel $u$ again, but to do so HP. The theoretical feasibility of this maneuver depends on the placement of the Peeling-Hoop relative to Striker's Next-Hoop, $h(4)$. HP is possible for all Peeling-Hoops other than $h(2), h(6)$, and $h(10)$. For example, suppose next Peel is to be conducted at $h(12)$. $k$ makes $h(3)$, rushes/croquets $r$ from $R(3)$ to $R(4)$ gaining a rush on $u$ to the Peeling-Hoop, $h(12)$, Figure NP.100. Then $k$ rushes $u$ to $\mathrm{h}(12)$ and Peels $u$ while simultaneously progressing to position at $\mathrm{h}(4)$, Figure NP. 101 - a Peel-and-Hold. A successful Peel-and-Hold will give $k$ a "reasonable" hoop shot at $h(4)$.

Now consider Figure NP. 99 once again this time knowing that the next Peel is to be completed at $\mathrm{h}(10)$. Once again k makes $\mathrm{h}(3)$, and then rushes/croquets $r$ from $R(3)$ to $R(4)$, this time gaining a rush on $u$, to $h(10)$, Figure NP.102. k Peels $u$ at $h(10)$ but the best he can do as part of that croquet shot is to leave himself a very long hoop shot, Figure NP.103, one that is unlikely to succeed.

Needless to say, a Peel-and-Hold is a challenging maneuver, but one that, in the context of HP, has relevance at selected hoops. it is something to remember for desperate situations!

## Changing Peelees when Playing with Just Three Balls

We start again from Figure NP.99. Now the goal is to switch from Peeling $u$ to Peeling r. It turns out that this can always be accomplished in two, or three hoops, and, depending upon the placement - the geography of four hoops (the last and next PeelingHoops, and the last and next Current-Hoops) - it sometimes can be done in only one hoop!
(i) One Hoop: Suppose the next Peeling-Hoop is for $r$ and is at $h(7)$. We chose $h(7)$ because it is possible to rush $r$ from the Current-Hoop, $h(3)$, Figure NP.99, to the next Peeling-Hoop (7), Figure NP.104, and then Roll-Peel $r$ at $h(7)$ gaining a rush on $u$ at the old Peeling-Hoop, $h(11)$, to the Current-Hoop, h(4), Figure NP.105. This can work because of how the balls are situated geographically. It would not work if the Peeling-Hoop for $r$ was at $h(2)$.
(ii) Two Hoops: This strategy is not dependent on geography but relies on a L\&H. From Figure NP.99, $k$ sends $r$ from $R(3)$ to $R(4)$ and then with a L\&H, $k$ sends $u$ to P(5), Figure NP.106. $k$ makes $h(4)$ and the rushes $r$ to $h(7)$ and Roll-Peels to $u$ at $h(5)$, Figure NP.107. This same result was also available sending $u$ to $E(7,5)$, using an escape-ball instead of a Roll-Peel.
(iii) Three Hoops: This is an easy way to proceed and the one that should be adopted if there are sufficient remaining hoops. $k$ continues his break one hoop sending $r$ to $P(5)$ and $u$ to R(4), Figure NP.108, to be followed by a standard HP Peel.


## Failing and Jawsing with Just Three Balls

If Striker has unlimited rushing skills, then, as long as he can gain access to a ball it can be rushed to a desired location. But jawsing is a different story. Jawsing determines the direction of the Rush-Peel which can leave Striker with an untenable croquet shot, suggesting a new saying: "With just three balls, jawsing can be worse than failing."

We will let Wylie have the last word on 3-ball Peeling breaks: "... This break calls for some accurate rushing, but it is manageable so long as the rushes work. If they fail, or if a Peel sticks in the jaws, only raw skill and impudence will see you through." Wylie - 1.V.3.

## LINKED-PEELS

We start with the structure HHPP - it calls for Peeling two balls, one immediately after the other, at the same Peeling-Hoop. An elegant way to transition between Peelees emerges, a "Linked-Peel". HHPP is a self-contained 2 -hoop structure. The $1^{\text {st }}$ Peelee is the Reception-Ball at the Next-HOOP. It is rushed to the Peeling-Hoop and Peeled. This is followed by a Linked-Peel of the Pivot-Ball that is waiting at the Peeling-Hoop. HHPP can be repeated multiple times, each at a new Hoop.

We then turn to Peeling all three balls at the same hoop. Our old friend HP can be tacked on to HHPP to Peel the $3^{\text {rd }}$ ball. This 3 -hoop cycle - HHPP-HP - is also self-contained and can be repeated multiple times.

Next, we revisit Peeling two balls this time requiring that the Pivot-Ball at the Next-HOOP be the $1^{\text {st }}$ Peelee. It is Peeled HHP. Then a $3^{\text {rd }}$ hoop is made followed by Peeling the Reception-Ball at the $1^{\text {st }}$ Peeling-Hoop, immediately followed by a Linked-Peel of the $1^{\text {st }}$ ball at the $2^{\text {nd }}$ Peeling-Hoop, HPP. Here the Linked-Peel is spread across two Peeling-Hoops instead of playing out at just one. Finally, the $2^{\text {nd }}$ ball is Peeled at the $2^{\text {nd }}$ Peeling-Hoop HP. The structure becomes HHP-HPP-HP.

Then we turn again to Peeling all three balls now HHP-HPP-HPP-HPH. It encompasses six hoops completing two Peels on each of these balls. There are two Linked-Peels. Notably, the $1^{\text {st }}$ Peelee completes both of its hoops before the $3^{\text {rd }}$ Peelee completes his first.

Finally, we look at one "practical" application of Linked-Peels - POP two balls at $h(1)$ and $h(2)$. Another example can be found in the notes on the game Peel and Reverse.

HHPP: Showing HHP(u@11)P(r@11) followed by HHP(u@8)P(r@8): $k$ starts for $h(1)$ with $r$ as $R(1), y$ as $V(1)$ and $u$ as $P(2)$, Figure NP.109. We show HHPP run twice. While the Peels could be at any specified hoops, we have chosen to Peel first at h(11) and then at $\mathrm{h}(8)$, which keeps the Peeling-Hoops away from the break making it visually simpler to follow.

Figure NP.109: HOOP: $k$ makes $h(1)$ and sends $r$ to $h(11)$ (the $1^{\text {st }}$ Peeling-Hoop), as the $2^{\text {nd }}$ Peelee, as $k$ goes to $y$. $k$ sends $y$ to $h(11)$ to be the $\mathrm{E}(3,11)$ as $k$ goes to $u$. $k$ croquets $u$ to $R(2)$ and takes position at $h(2)$, Figure NP. 110 .

Figure NP.110: HOOP, PEEL, PEEL: $k$ makes $h(2)$ and goes to $u$. $k$ rushes $u$ to $h(11)$ and Peels $u$, the $1^{\text {st }}$ Peelee, going to $r$. Then, $k$ rushes $r$ to Peel position, Link-Peels $r$, and escape to $h(3)$ with $y$. $k$ send $y$ to $R(3)$ as $k$ goes to position at $h(3)$, Figure NP. 111.

Figure NP.111: HOOP: $k$ makes $h(3)$ and goes to $y$. $k$ sends $y$ to the $2^{\text {nd }}$ Peeling-Hoop, $h(8)$ as $E(5,8)$. $k$ goes to $u$ and $r$, sending $r$ to $h(8)$ as the $2^{\text {nd }}$ Peelee going to $u$. $k$ rushes $u$ to $h(4)$, croquets it to $R(4)$ and goes to Position at $h(4)$, Figure NP. 112.


Figure NP.112: HOOP: $k$ makes $h(4)$ and goes to $u$. $k$ rushes $u$ to $h(8)$ and Peels $u$ going to $r$. Then $k$ rushes $r$ to Peel position, LinkPeels $r$ at $h(8)$ going to $y$, escapes with $y$ to $h(5)$ and sends $y$ to $R(5)$ as $k$ goes to position at $h(5)$, Figure NP. 113 .

Double Sextuple: HHPP can be repeated. If a Peeling-turn is started with $r$ and $y$ already at the Peeling-Hoop, and $k$ about to make $h(1)$ with $u$, then it is possible to have the first cycle be HPP and to follow it with five cycles of HHPP, leading to a double sextuple.

HHPP-HP: Showing HHP(u@11)P(r@11)-HP(y@11): HHPP can be combined with HP to Peel three balls at the same hoop generating the pattern HHPP-HP. We start from Figure NP. 111 with HHPP (Peels by $k$ on $u$ and $r$ ) completed at $h(11)$. Then $k$ escaped from $h(11)$ to $h(3)$ with $y . k$ is in position to make $h(3)$. Now, instead of repeating HHPP, We choose to Peel $y$, the $3^{\text {rd }}$ ball, which is $R(3)$. $y$ will be Peeled at $h(11)$ with a cycle of HP.


Figure NP.11: $k$ makes $h(3)$, HOOP, and goes to $y$. $k$ rushes $y$ to $h(11)$ and Peels, PEEL, $y$ going to $u$. $u$ is sent to be $P(5)$ as $k$ goes to $r$. $r$ is rushed to $P(4)$ and then croqueted to $R(4)$, as k goes to position at $h(4)$, Figure NP.114. The HP cycle is done. Now it is time to setup to repeat the entire three hoop HHPP-HP cycle.
$k$ makes $h(4)$, the $1^{\text {st }}$ HOOP, and goes to $r$. $k$ sends $r$ and then $y$ to the next Peeling-Hoop, $h(8)$ as $k$ goes to $u$ at $h(5)$. $k$ sends $u$ to $R(5)$ as $k$ goes to position at $h(5)$, Figure NP.115. k makes $h(5)$, the $2^{\text {nd }}$ HOOP, and goes to $u$. $k$ rushes $u$ to $h(8), k$ Peels $u$, the $1^{\text {st PEEL, }}$ going to $r$, escapes with $r$ to Peel position, Link-Peels $r$, the $2^{\text {nd }}$ PEEL, escapes to $h(6)$ with $y$, croquets $y$ to $R(6)$ and goes to position at $h(6)$, Figure NP.116. $k$ makes $h(6)$, the $3^{\text {rd }}$ HOOP, and goes to $y$. $k$ rushes $y$ to $h(8)$, Peels $y$, the $3^{\text {rd }}$ PEEL, going to $u$. $k$ sends $u$ to $P(8)$ going to $r$. $r$ is rushed to $P(7)$ [depending on $r$ 's proximity to $h(8)$, $k$ may first need to use $u$ to bombard $r$ onto a path that is clear of furniture]. $k$ croquets $r$ to $R(7)$ as $k$ goes to position at $h(7)$, Figure NP. 117 .

HHP-HPP-HP: Showing HHP(r@11)-HP(y@11)P(r@8)-HP(y@8): We start from the same initial position, Figure NP.109, this time planning to Peel $r$, the Reception-Ball, and $y$ the Pivot-Ball, but not $u$, the Pioneer-Ball. $k$ makes $h(1)$, the $1^{\text {st }}$ HOOP and goes to $r$, $R(1)$. $k$ sends $r$ to Peel position at $h(11)$ going to $y, V(1)$. $k$ sends $y$ to $E(3,11)$ going to $u$. $k$ sends $u$ to $R(2)$ as $k$ goes to position at $h(2)$, Figure NP. 118.


Figure NP.118: $k$ makes $h(2)$, the $2^{\text {nd }}$ HOOP and goes to $u$. $k$ sends $u$ to be $E(4,8)$, to the $2^{\text {nd }}$ Peeling-Hoop, as $k$ goes to $r$. $k$ Peels $r$ and escapes to $h(3)$ with $y$, $k$ sends $y$ to $R(3)$ as $k$ goes to position at $h(3)$, Figure NP. 119.

Figure NP.119: $k$ makes $h(3)$, the $3^{\text {rd }} \mathrm{HOOP}$, and goes to y . k rushes y to $\mathrm{h}(11)$, Peels y , the $2^{\text {nd }}$ Peel and escapes with $r$ to the next Peeling-Hoop, $h(8)$. $k$ Link-Peels $r$ at $h(8)$ and escapes with $u$ to $h(4)$. $k$ sends $u$ to $R(4)$ as $k$ goes to position at $h(4)$, Figure NP. 120.

Figure NP.120: $k$ makes $h(4)$ with $u$ and sends $u$ to $P(6)$ going to $y$. $k$ rushes $y$ from $h(11)$ - the old Peeling-Hoop - to $h(8)$, the new Peeling-Hoop, Peels y and escapes with $r$ to $h(5)$. $k$ sends $r$ to $R(5)$ and goes to position, as shown in Figure NP.121.

HHP-HPP-HPP-HPH: Showing HHP(r@11)-HP(y@11)P(r@8)-HP(u@11)P(y@8)-HP(u@8)H: Finally, We add in Peeling the $3^{\text {rd }}$ ball u. The process is the same from Figures NP. 109 to NP. 120 as presented above, but we add a Peel in Figure NP. 122.


Figure NP.120: $k$ makes $h(4)$, HOOP, and goes to $u$. But this time $k$ rushes $u$ to $h(11)$, Figure NP.122, and Peels $u$, PEEL. Then $k$ rushes $y$ to $h(8)$ and Link-Peels $y$, PEEL. $k$ escapes with $r$ to $h(5)$, croquets $r$ to $R(5)$ as $k$ goes to position at $h(5)$, Figure NP. 121.

Figure NP.121: $k$ makes $h(5)$, HOOP, and goes to $r$. $k$ sends $r$ to $P(7)$ as $k$ goes to $u$. $k$ rushes $u$ to $h(8)$ and Peels $u$, PEEL. $k$ escapes with $y$ to $h(6)$, croquets $y$ to $R(6)$ as $k$ goes to position at $h(6)$, Figure NP.123.

Figure NP.123: $k$ makes $h(6)$, HOOP, and goes to $y$. $k$ sends y from $R(6)$ to $P(8)$ as $k$ goes to $u$. $k$ sends $u$ from $V(6)$ to $V(8)$ as $k$ goes to $r$. $k$ croquets $r$ from $P(7)$ to $R(7)$ as $k$ goes to position at $h(7)$, Figure NP.124. This final hoop allows the balls to be reset for another iteration, if desired.

Triple Quadruple: HHP-HPP-HPP-HPH can be run multiple times. If a Peeling-turn is started with rand y already at the Peeling-Hoop, and $k$ about to make $h(1)$ with $u$, then it is possible to have the first cycle be HPP... leading to a triple quadruple.

HHPP: Peeling Both Opponents to $\mathbf{h ( 3 )}$ in AC: When Robert Fulford is playing aggressively defensive, he will POP both OppoBalls to $h(3)$ while making his first 9 in order to deny his Opponent any attempt at a Standard-Triple. This can realistically ${ }^{24}$ involve linked Peels if one POP (on $u$ ) has been completed before $h(4)$ as shown in Figure NP. 125.


Figure NP.125: $r$ makes $h(4)$, HOOP, and rushes $y$ to the West. $r$ sends $y$ to $h(2)$ as $E(6,2)$ and $u$ to position at $h(2)$ going to $k$ at $P(5)$. $r$ sends $k$ West of $h(5)$ as $R(5)$ while going to position at $h(5)$, Figure NP. 126 .

Figure NP.126: $r$ makes $h(5)$, HOOP, and fortunately gets a good rush to Peeling position at $h(1)$. $r$ Roll-Peels $k$, PEEL, going to $u$ at $h(2)$ and Peels $u$, PEEL, while getting a rush on $y$ to $h(6)$. r rushes y to $P(6)$ and croquets it to $R(6)$ while going to position at $h(6)$, Figure NP.127. In this scenario, $r$ has completed 2 Linked-Peels and will probably attempt to continue with an HP POP as a back-Peel at $h(7)$ leaving 2 hoops to organize a tidy leave.

Last Thoughts on Linked-Peels: If nothing more, Linked-Peels provide entertaining mental and physical gymnastics for those so inclined. In the long run, we hope that Linked-Peels enter the vernacular and repertoire of competent players and lead to new games that "need" them.

[^16]
## PROGRESS-PEELS

In AC each ball has its own clip. Striker making a hoop has three implications: It (i) Advances Striker's clip, (ii) Clears Striker of deadness, and (iii) Grants Striker a continuation shot. Striker Peeling a ball, Partner or Oppo, at Peelee's hoop advances Peelee's clip, but does not grant Striker a continuation shot. There is no notion of Peeling a ball at Striker's hoop to advance Striker's clip.

In three of the games in this book, Only-Once, Peels Only, and Peel and Reverse, we have chosen to have the two balls of a team share a single Team-Clip. This common-clip raises the question - what should be the implications of making or Peeling at hoops that hold the Team-Clip? We have adopted three different sets of rules, each specially designed for the game at hand.

Only-Once: If Striker makes a hoop, then the Team-Clip is advanced, and Striker earns a continuation shot. But, given the basic premise of the game, Striker can only use the other balls once a turn, making a hoop does not grant a clearing of deadness. Peeling a ball (any ball, Partner or Oppo) at the Current-Hoop moves the Team-Clip, but that is it, no added continuation shots, and no clearing of deadness occurs.

Peels Only: Striker making hoops has no importance in this game. Peeling a ball (any ball, Partner or Oppo) at the team's CurrentHoop is the only way to advance a Team-Clip. Peels also clear Striker of deadness and grants Striker a continuation shot. Together these rules allow Striker to run breaks.

Peel and Reverse: This game is made interactive by limiting the number of hoops Striker can make each turn to four. Each hoop made by a team advances its Team-Clip. While Peeling has other important roles in this game, the question we grappled with was what should happen if Striker Peels Partner at the team's Current-Hoop. We have chosen to have this action advance the Team-Clip but not give Striker a cleaning of deadness nor grant a continuation shot.

We call these Progress-Peels. It turns out that they follow familiar patterns, 2HP and HP, as outlined below.

## 2HP Progress-Peels

In T-AC, the break can continue after a failed 2HP attempt. With Progress-Peels continuation is still possible but much less likely. The key to 2HP Progress-Peels is after making each hoop to send the Reception-Ball three hoops ahead, instead of the usual two. The figures in the example below shows two successful 2HP Progress-Peels.


Figure NP.128: $k$ makes $h(1)$ and goes to $r$. $k$ sends $r$ to $P(4)$, 3-hoops ahead, going to $u$. $k$ sends his Partner ( $u$ ) to the Peeling-Hoop, $h(3)$, as $k$ goes to $y$. $k$ sets-up to make $h(2)$, Figure NP. 129.

Figure NP.129: k makes $\mathrm{h}(2)$ and sends y to $\mathrm{P}(5)$, 3 -hoops ahead, as k goes to u . k Roll-Peels u going to r and then k sets-up to make $h(4)$, Figure NP.130. $k$ could have sent $r$ to $E(4,3)$ if he preferred an Escape-Ball to a Roll-Peel. This choice will also depend upon k's confidence of completing the Peel! If the Peel fails, then k's turn would end unless he could use r to make h(3)! Having an Escape-Ball at $h(3)$ instead of the roll-to ball at $h(4)$ would make the prospects of continuing greater.

Figure NP.130: $k$ makes $h(4)$ and goes to $r$. $k$ sends $r$ to $E(7,6)$ three hoops ahead, as $k$ goes to $u$. $k$ sends $u$ to Peel position at $h(6)$ and goes to y . k sets up to make h(5), Figure NP. 131.

Figure NP.131: k makes $\mathrm{h}(5)$, sends y to $\mathrm{P}(8)$, 3-hoops ahead, goes to $u$. k Peels u at $\mathrm{h}(6)$ and escapes with r to $\mathrm{h}(7)$, Figure NP. 132.

## HP Progress-Peels

As with 2HP, the distinction for these Peels from standard HP is the ever-present danger that the Peel fails and the turn ends.


Figure NP.128: $k$ starts for $h(1)$ with $r$ as $R(1)$, $u$ as $V(1)$, and $y$ as $P(2)$. $k$ makes $h(1)$ and sends $r$ to $P(4)$, three hoops ahead, $u$ as Peelee to $P(3)$ two hoops ahead, goes to $y$, sends $y$ to $R(2)$ as $k$ goes to position at $h(2)$, Figure NP. 133 .
k can now start to run the HP Progress-Peels Peeling Partner u at every other hoop. We show an example that includes making three hoops and three Peels that advances the Team-Clip to h(9). The key is sending the Reception-Ball four hoops ahead.

Figure NP.133: $k$ makes $h(2)$, sends y to $P(6)$, goes to $u$. $k$ rushes $u$, Roll-Peels $u$ at $h(3)$, going to $r$, sets $u p$ at $h(4)$, Figure NP. 134 .

Figure NP.134: $k$ makes $h(4)$, sends $r$ to $P(8)$, goes to $u$. $k$ rushes $u$, Roll-Peels $u$ at $h(5)$, going to $y$, sets $u p$ at $h(6)$, Figure NP. 135 .

Figure NP.135: $k$ makes $h(6)$, sends y to $P(10)$, goes to $u$. $k$ rushes $u$, Roll-Peels $u$ at $h(7)$, going to $r$, sets up at $h(8)$, Figure NP. 136 .

## WHEN YOU ABSOTIVELY POSILUTELY MUST COMPLETE THE PEEL

"Do this if you must. Don't say I told you to."
Keith Wylie - Expert Croquet Tactics, page 47.
For some games in this book, Peeling is perhaps even more important than the break itself (or is the break itself!). So, what should you do if you absolutely need to get a Peel? The following suggestions and examples should never be your plan A, but it is an important trait in croquet to continually re-assess your options. With this in mind, let's have a look at a few of the ways to coax a reluctant ball through its hoop...

We begin with a review of basic information on Peeling and then turn to specific examples that may be new.

## Reviewing Basic Information on Peeling

Types of Peels: Earlier in this chapter we organized Peels into three categories naming them "Back", "Transit" and "Straight" depending on Peelee's order of use after the hoop - $1^{\text {st }}, 2^{\text {nd }}$, or $3^{\text {rd }}$. Obviously, due to the geography of a croquet court, not every type of Peel is available at every opportunity, but it is still important to understand the various pros and cons of each, so that the Striker is able to make the best judgement depending on the situation.

We identified Peels of the Reception-Ball, the $1^{\text {st }}$ ball used "A"fter making a hoop, as Back-Peels - using the notation A-h(\#).

Back-Peels: Strategic placement of the Escape-Ball can be used to determine how the Striker wants to play the Peel - the Striker can plan to play the Peel firmly with pull, or gently with no pull. Usually, a dolly rush is not required on the Escape-Ball in order to continue the break - sometimes no rush whatsoever! This gives the Striker a lot of flexibility. With Striker alive on both other balls after the Peel attempt, aggressive recoveries are available if the Peel finishes in the jaws, such as bombarding the Peelee through the hoop with the Escape-Ball while Striker goes to the Pioneer. On the downside, a Back-Peel usually doesn't allow much fine adjustment of the Peelee before the Peel attempt, as any rush is dependent on controlling the hoop shot.

We identified Peels of the Pivot-Ball, the $2^{\text {nd }}$ ball used after making a hoop, as Transit-Peels. These are done "on-the-Way" to the next hoop - using the notation $W$-h(\#).

Transit-Peels: With the Pivot-Ball as Peelee, there is the opportunity to adjust Peelee with a rush before the Peel is attempted. This means that Transit-Peels can often be played from a closer position than Back-Peels. There is a cost for this adjustment; it usually means playing the Peel with some split, which imparts pull onto the Peelee and somewhat randomizes the Peeling line. There are occasions where careful placement of an Escape-Ball means a Transit-Peel can be played without pull [e.g. in a Standard-Triple, Peeling $h(10)$ and escaping to $h(6)$ ] if Striker has good control of the court. Unlike with a traditional Straight-Peel or Back-Peel, there is no immediate plan B if Peelee jawses. Although of course this is often not an issue in AC as a jawsed Peel can be Rush-Peeled after the next hoop is scored.

Finally, we identified Peels of the Pioneer-Ball, the $3^{r d}$ ball used after making a hoop, as " $S$ "traight-Peels - using the notation $S$ - $h(\#)$.
These are completed in one of two ways:
"Irish" Straight-Peel: Striker intentionally makes the hoop at the same time he completes the Peel. This technique is the most likely to lead to a successful Peel as it is played firmly, with no pull. Even if the Peel is lined up poorly and the front ball jawses, the Striker-Ball's momentum is likely to carry the Peelee through. The risk here is that the position of the Striker's ball is left somewhat to chance, as the hoop is attempted to be scored in the croquet stroke. It requires well placed Escape-Balls to ensure safety.
"Traditional" Straight-Peel: Striker Peels Peelee with a croquet shot and then makes the hoop with the continuation stroke. Like the Irish-Peel, this technique is very likely to be successful because it is played without pull. However, because it is played more gently, it is more in danger of jawsing than the Irish, which may require a half or full jump for the Striker's ball to score the hoop.

## Thoughts on Placing the Escape-Ball

It may be true (up to a point) that placement of the Escape-Ball is more important than placement of the Peelee itself. Certainly, it can dictate the method in which the Peel is played, particularly in the case of Back-Peels. Taking the well-known h(10) Peel A-h(3) as an example, an Escape-Ball placed 2 yards south of $\mathrm{h}(10)$ may enable any attempt to be played without any pull whatsoever, maximizing the chances of at least jawsing the Peel. Conversely an Escape-Ball placed strategically level with $h(3)$ allows the Peel to
be played more firmly, perhaps important if the hoops are tough - the key takeaway here is that the Striker has control over where he puts the Escape-Ball and therefore it is up to him how he plays the Peel.

Another example of Escape-Ball placement may be seen with the Back-Peel - h(11) A-h(6). The same options apply as with the $h(10)$ Peel, but probably even more-so. A northerly Escape-Ball enables the Peel to be played gently, maximizing the jawsing opportunity this is perhaps very important if the Peel is played from an acute angle. Striker naturally obtains a northwards rush on the EscapeBall. More commonly, if the Escape-Ball is placed level with or slightly south of $h(11)$ and to the west, the Peel can be played more firmly, allowing enough room to send it all the way to $h(12)$, where it will be useful later. However, in this scenario, a third option becomes apparent with Escape-Ball placement - the opportunity for bombards - the driving force of the examples that follow.

## Examples

Applications for the lines of play we are about to discuss may be scarce in T-AC, but the options exist. And, in some of the games following in this book, these options can really prove their worth. Let's look at some options which could make some T-AC players wince...

Bombarding as Part of a Back-Peel: When getting the Peel successfully done before making $\mathrm{h}(7)$ is extremely important [perhaps in Peel Croquet, where continuation of the break depends on a successful Peel if a break started two hoops earlier at $h(5)$ ], the Back-Peel provides facility - again it is all in the placement of the Escape-Ball. Take an example where Peelee is at an acute angle in front of $h(11)$ and Striker is approaching $h(6)$ off of one Oppo ball, and the other is a good Pioneer at $h(7)$, Figure NP. 137.

The first and most obvious option might be to use the croquet ball from the hoop approach to bombard Peelee to a friendlier angle in front of $h(11)$ before running $h(6)$. However, this may not be possible if Peelee is west and the croquet stroke is played from the east. Here, consider instead croqueting the Escape-Ball (y) to a position northeast of h(6), Figure NP.138. k makes h(6), Figure NP.139, and then roquets u, Figure NP.140. This way the attempted Back-Peel may be played gently to jaws Peelee, Figure NP. 141 , then the Escape-Ball may be roqueted gently, and a bombard can then be played, Figure NP.142, scoring the Peel at $\mathrm{h}(11$ ) while Striker goes to the Pioneer, $r$, at $h(7)$, Figure NP. 143.


The Aspinall Peel: This technique is named for the great English player Nigel Aspinall who made it popular. It carries with it a certain amount of risk and should only be attempted on a Peel which is too angled to succeed naturally, and from where it can only be jawsed. The stroke is played essentially the same way as an Irish-Peel, whereby the front ball jawses in the hoop and in the same shot the Striker-Ball catches up with it, knocks Peelee through, and cannons itself out to the side. These are best played from relatively close range. With this shot there is always danger: the Peelee could catch the near upright of the hoop and flick out of the way, bounce back in front of the hoop, or even go through the hoop. Any of these outcomes could lead to Striker Ball getting hampered or jawsing itself - normally a disaster.


Our example I begins as $k$ approaches $h(3)$ with $y$, $u$ is Peelee and southeast of $h(10)$, Figure NP.144. The Escape-Ball, $y$, is sent deliberately well south of the hoop, Figure NP.145. k makes the hoop, Figure NP.146. k hits u to a very angled position and the Peel is lined up with as little pull as possible, Figure NP.147. u has jawsed with $k$ still in motion at this point, Figure NP.148. The outcome of the croquet stroke: k has ricocheted out to the side after hitting u a second time causing u to score the hoop, Figure NP. 149.

Completing the Peel using the Ball-In-Hand: Let's have a look at another situation taken from Peel Croquet. k is approaching $h(8)$ with partner, $u$, also for $h(8)$, Figure NP.150. Striker must complete a Peel before making $h(9)$. The Transit-Peel option [Peeling $u$ going to a Pioneer, $r$, at $h(9)]$ is really not attractive. Instead, $k$ sends $u$ to Reception $R(8)$ going to $y$, Figure NP.151. The key ball here is $y . k$ approaches $h(8)$ off of $y$, Figure NP.152, leaving it close to $h(8)$ in a northeast position, Figure NP.153. $k$ then runs $h(8)$, Figure NP.154, and goes to $u$, roqueting $u$ back in front on $h(8)$, Figure NP. 155 .

As we can see, $u$ is still not in a perfect spot for Peeling. Because $k$ identified this possibility in advance and placed y in a useful spot, k can now play the Peel with no pull with the maximum opportunity to at least jaws $u$, while leaving $k$ northwest of $y$, Figure NP.155. $k$ then roquets $y$ in the direction of its break, aiming $k$ to ricochet off $y$ and bombard $u$ through $h(8)$ in the process, Figure NP.156. Peel complete and k's break can continue!


Let's go back to the same example, with Striker and partner both for $h(8)$ and Striker requiring a Peel before it can score $h(9)$. Figure NP.157. Once again the croquet stroke placing $u$ beside $h(8)$ went a bit long and $k$ cannot be sure of getting a good rush back to Peeling position, Figure NP.158. Again, the Transit-Peel is an option, but considering the requirement for a mandatory Peel, $k$ does not want to play the shot with an 80-degree split.


Another option open to Striker is to jaws the Peel and then complete it using a scatter shot directly, and roqueting y after! Toward this end, k rushes y , Figure NP.159, and then croquets y to a specific spot very close to $\mathrm{h}(8)$, just northeast of the hoop as k goes to position at $h(8)$ Figure NP.160. Then $k$ runs $h(8)$, Figure NP.161, and goes to $u$, rushing it back, as close as it can, to in front of $h(8)$, Figure NP.162. $k$ then plays the Peel without draw, giving every opportunity for $u$ to enter the jaws, Figure NP.163. Now with the 3 balls in close proximity and $k$ still live on $y, k$ scatters $u$ through $h(8)$ completing the Peel and ricocheting off of $u$ and onto $y$, making a roquet to continue its break!

## Conclusion

As previously mentioned, opportunities for Peels of this nature are generally quite rare and the appropriate caution should be used before deciding this is the best line of play. However, being aware of them may very well be the difference between your break continuing or not.

## II.. Facilitating the Triple-Peel

## 1.. "WILY" PEELING DRILLS: AN HOMAGE TO KEITH WYLIE

"... in my view the real sign of an expert is that time and time again he completes triples even when they go wrong."
Expert Croquet Tactics, Keith Wylie, page 3.
"Since the second edition of Wylie was released, over 25 years ago, it is fair to say that the standard of croquet at the very top level has improved markedly and the number of players at the not-quite-expert level who regularly attempt and complete triple Peels has also risen greatly." Beyond Expert Croquet Tactics (BECT), Paddy Chapman, page 53.

Expert Croquet Tactics and BECT combine to provide a road map to the land of Triple-Peels. They help readers understand how individual Peels are formed and combined into Triples that begin Standard, end Straight, and follow all roads in-between. The drills herein can expedite your journey. There is one for each of the three Peels in a Triple. Collectively, they incorporate most of Wylie's situations ${ }^{25}$. They can be run individually or as a group; score can be kept tracking progress, and the drills can be used in competitive games if that is your desire.

The initial Peel attempt reflects its timing in a Standard-Triple. After that, the Peels are repeat, experienced later and later (more and more "delayed") in the break, just as they would in actual play if things do not go as planned and you kept at it. The last possible time a Peel can reasonably be done in an AC game with Striker finishing, coincides with the last attempt in each drill. It involves a sequence of one or more Straight-Peels. If they are successful, then Striker attempts to peg-out ("finish"). But if a Straight-Peel fails, then the best Striker can do is to set a leave. Your Oppos determine how good your leave is by trying to "hit-in". Hit-in success or failure alters your score.

The drills are presented in reverse order - $h(12)$ first, then $h(11)$, and finally $h(10)$. This orders them by difficulty, from easiest to hardest. It is useful to re-read applicable sections of the books at the same time and in this same reverse order!

[^17]
## MECHANICS

Repeating the Same Peel During a Break: A key element of these drills is that a Peel is attempted a pre-specified number of times during the running of a 4-ball break. After each attempt, whether successful or not(!), Peelee is re-positioned at the same Peelinghoop to set the stage for the next attempt, which will occur after the Next-Hoop is made in the break.

Every Peel attempt should be treated seriously - you want to make it! But, knowing that the same Peel will be repeated again immediately after the next hoop forces planning for the next attempt while still engaged in the current one. This involves sending additional Escape-Balls to the Peeling-Hoop; or, when the geography permits, preparing to Roll-Peel to Pioneer-Balls.

Keeping Score and Finishing: Keeping score maintains focus and tracks progress. Score 2 points for each successful Peel. It is standard dictum that "jawsing is often as good as making the Peel, and sometimes better". Therefore, these drills give equal status to making or Jawsing a Peel attempt. Score two points for each jawsed Peel, except for the final attempt in each drill where it must be made. Here Jawsing can be defined as occurring when any of the Peelee is visible on the non-playing side of the hoop.

The final attempt in each drill involves Straight-Peels: The Straight-h(12); The Straight-Double; and The Straight-Triple. In each case, the break is run to the peg during the final Peel attempt. If all required Straight-Peels succeed, then attempt to finish by pegging-out Peelee and Striker. Add one point for each ball that is pegged out ${ }^{26}$.

Setting a Leave, And Hitting-In: If a Straight-Peel fails, then it is usually impossible to finish a drill by pegging out both balls. Instead, Striker can add to his point total in various ways: with "Posthumous-Peels" ${ }^{27}$, by pegging out one ball only for one point, or by setting a successful leave. A Posthumous-Peel is completed at a hoop that Striker has already made. Successful posthumous Peels collect two points, just like regular Peels. However, as in a real AC game, the benefits and costs of posthumous Peels need to be weighed carefully. To make situations more realistic, Oppos are given a chance to hit-in if your drill ends without you having pegged out both balls. The hit-in attempt can be from where the balls lie, or from a lift-to-baulk. The result impacts the score: A successful

[^18]hit-in reduces your score by 3 points; a failed hit-in increases it by 2 points. Thus, there is a balance between progressing and setting a good leave.

Play After a Break-Down: Play continues even if there are break-downs, but at a cost: Deduct one point for each break-down, where three different types of break-downs are possible: (i) A hoop shot is missed (it is replayed from 1 feet directly in front of the hoop or peg); (ii) A rush is missed or deemed unsatisfactory (it is replayed from 1 feet from the ball being rushed); (iii) A croquet shot, other than a Peel attempt, that yields what Striker considers to be an undesirable position or turn-ending result (it is replayed).

Randomly Re-Positioning Peelee: We suggest re-placing Peelee randomly around the Peeling-Hoop. This should be done immediately after Striker escapes or Roll-Peels to his next hoop, regardless of the outcome of the last Peel attempt. The most general procedure uses a bag containing blocks numbered 1-12. Two are drawn each time a new location is needed ${ }^{28}$. Together, they define a vector: The first determines direction - its number identifies the position of an hour hand of a clock, that is anchored at the center of the Peeling-Hoop, with 12 o'clock running directly through the hoop from the playing side. The second determines distance, measured in feet. If its number is between 1 and 6 , then it is used as is. However, if the number is between 7 and 12 , then six is subtracted from the number before it is used - once again yielding a distance between 1 and 6 feet ${ }^{29}$. Peelee is placed at the specified distance along the chosen direction.

It is possible to interrupt play after each attempt, draw two new blocks, and then reset Peelee. However, a more efficient way is to do all the drawing of blocks before play starts. A "Drill Information Form" is available at the end of these notes to facilitate this process and to keep score. An even faster way to proceed is to use the pre-drawn "random" positions that are provided.

These drills are challenging. Our advice is to simplify them in the beginning. Start by placing and re-placing Peelee in an easy position (perhaps 2 feet in front of the Peeling-Hoop each time) instead of randomly. Don't - keep score. Instead, redo unsatisfactory results: Do - Replay shots that position the next Escape-Ball while simultaneously approaching Peelee; Repeat failed Peel attempts - to learn about pull, and how to get the Peel done while simultaneously going to your Escape-Ball, or Roll-Peeling to a pioneer; etc.

[^19]
## STARTING BALL POSITIONS

Each drill begins from a position that allows Striker to embark on or continue a Standard-Triple - with the $\mathrm{h}(10)$-Peel first attempted after $\mathrm{h}(3)$, $\mathrm{h}(11)$ after $\mathrm{h}(6)$, and $\mathrm{h}(12) \mathrm{W}-\mathrm{h}(9)$. Any color balls can be used but here consistent with Wylie, y is Striker and r is Peelee.

The $\mathbf{h ( 1 2 )}$ Peel Drill: Figure WPD. 1 is the starting position for the $\mathrm{h}(12)$-Peel Drill. This position is arranged in three steps:

1. Draw Blocks to Position Peelee: If blocks 5 and 6 are drawn. $r$ is placed at 5 o'clock and 6 feet around $h(12)$.
2. Place Opponents: Position $u$ as the Pioneer for $h(7)$.
3. Position Striker: Give $y$ a dolly-rush on $k$ from south of $h(11)$ toward the north.


It is possible to complete the $\mathrm{h}(12)$-Peel W -h(8) - one hoop before its timing in a Standard-Triple. This will be followed by three attempts, still at $h(12)$ : $\mathrm{W}-\mathrm{h}(9)$, its timing in the Standard-Triple, $\mathrm{W}-\mathrm{h}(10)$, and $\mathrm{W}-\mathrm{h}(11)$. There is then a fourth and final attempt which coincides with the timing of a Delayed-Triple. It is the $\mathrm{h}(12)$ Peel, $\mathrm{S}-\mathrm{h}(12)$. If successful, this Straight-Peel is followed by an attempt to peg-out Peelee and Striker.

12 points are possible - 8 from the four basic Peels, 2 for the single Straight-Peel, and 2 for the peg-out of both Peelee and Striker.

The $\mathbf{h ( 1 1 )}$ Peel Drill: Figure WPD. 2 shows the starting position for the $h(11)$-Peel Drill. This position is arranged in 3 steps:

1. Draw Blocks to Position Peelee: If Blocks 2 and 9 are drawn, $r$ is placed at 2 o'clock and $3(9-6=3)$ feet from $h(11)$.
2. Position Striker: $y$ should be positioned as if he just made $h(5)$ - within six feet of $h(5)$.
3. Place Opponents: Give y a rush on one Opponent (u). In Figure WPD. 2 a north/east direction for the rush was chosen. The other Opponent ( $k$ ) can be placed anywhere around $h(11)$. It is shown slightly north and west of $h(11)$.

From here, it is possible to complete the $h(11)$-Peel $W$ - $h(6)$ - its timing in a Standard-Triple ${ }^{30}$. This will be followed by three additional attempts, still at $h(11): W-h(8), W-h(9)$, and $W-h(10)$, its position in the Delayed-Triple. There is a fourth and final additional attempt starting at $h(11)$ and involves a Straight-Double-Peel [S-h(11) and S-h(12)] [i.e., $y$ and $r$ start both for $h(11)]$, If successful, the Straight-Peel at $h(11)$ is followed by a Straight-Peel at $h(12)$ and then an attempt to peg-out both balls.

14 points are possible -8 for the four basic Peels, 4 for the two straight-Peels and 2 for the peg-out of both Peelee and Striker.

[^20]The $\mathbf{h ( 1 0 )}$ Peel Drill: Figure WPD. 3 shows the starting position for the $h(10)$ Peel Drill. This position is reflective of play that leads to the start of a Standard-Triple ${ }^{31}$. This position is arranged in 3 steps:

1. Draw Blocks to Position Peelee: If blocks 10 and 12 are drawn, $r$ is placed at 10 o'clock and 6 feet $(12-6=6)$ around $h(10)$.
2. Position Striker: Put y in contact with r so y is taking croquet on r .
3. Place Opponents: One Opponent (k) should be near $h(4)$, and the other $(u)$ near $h(3)$, where $y$ is still alive on $u$.

Starting from Figure WPD.3, it is possible to complete the $h(10)$-Peel A-h(3) - its timing in a Standard-Triple ${ }^{32}$. This initial attempt is followed by five additional attempts, still at $h(10)$ : $\mathrm{W}-\mathrm{h}(5), \mathrm{W}-\mathrm{h}(6)$ - its timing in the Delayed-Triple, $\mathrm{W}-\mathrm{h}(7), \mathrm{W}-\mathrm{h}(8)$, and $\mathrm{W}-\mathrm{h}(9)$.

The sixth and final attempt involves a Straight-Triple-Peel. $r$ and $y$ start for $h(10)$ and the $h(10)$ Peel is attempted one last time as a Straight-Peel. If successful, it is followed by Straight-Peel attempts at $h(11)$ and $h(12)$ and then an attempt to finish by pegging-out both balls.

20 points are possible - 12 for the six basic Peels, 6 for the three straight-Peels and 2 for the peg-out of both Peelee and Striker.

[^21]
## COMPETITION

A total of 46 points can be earned while running all three drills.
In a competitive situation, players take turns running one or more drills. Obviously, the winner is the player who accumulates the most points, net of penalties for break-downs, and points lost because of hit-ins by Opponents.

In the case of a tie, a "Peel-play-off" at the h(12) hoop can be used to determine a winner: Start by placing one ball (Peelee) 5 feet directly in front of the h(12) hoop. Then place a second ball (Striker) 3 feet directly behind the Peelee. Have both teams attempt the rush and Peel from these positions. If both teams succeed, then move both balls 5 feet further from the $h(12)$ hoop and have them try again. If both teams fail, have them try again at the same distance. A winner is determined when one team succeeds and the other fails the Peel attempt.

## DRILL INFORMATION FORMS

The two forms presented below can be used to keep score and to track all positions of Peelee around the Peeling-Hoops. Keeping this record allows different players to attempt the Peels under the same conditions.

The form can be filled out before a drill is started. This expedites play and provides greater continuity for the Striker while he runs a break. This is accomplished by drawing as many blocks as are needed out of a bag (refilling when necessary) and writing down the values (or adjusted values in the case of the second block) in the columns labelled "Clock" (which is the direction) and "Dist" (which stands for distance). The completed form is then used during play to determine the direction and distance for each Peel attempt.

Another way to proceed is to use the last page of this document. Here we have taken a Drill Information Form and filled in the Clock Positions and Distances, having drawn them randomly from a bag.

The final column for each drill is set up to keep score for one or two players. Score 2 points for each: Successful Peel (where S-4B, S-P and S-R are the straight Peels at $\mathrm{h}(10)$, $\mathrm{h}(11)$ and $\mathrm{h}(12)$ ), Successful Peg-Out ("P-O"), or Successful Leave (that is, a failed hit-in ("H-I") by Opponents). Score ( -3 ) points for an unsuccessful leave (that is, a successful hit-in by Opponents).

With Randomly Drawn, Clock and Distance Positions


With Pre-Specified, Clock and Distance Positions

| h(10) Peel |  |  |  | h(11) Peel |  |  |  | h(12) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| When | Clock | Dist | Score | When | Clock | Dist | Score | When |  |  | Score |
| A-h(3) | 11 | 4 | -_ | A-h(6) | 11 | 3 | _- | W-h(8) | 9 | 1 |  |
| W-h(5) | 10 | 3 | - - | W-h(8) | 2 | 6 | - - | W-h(9) | 2 | 1 |  |
| W-h(6) | 5 | 1 | - - | W-h(9) | 5 | 1 | - | W-h(10) | ) 12 | 6 |  |
| W-h(7) | 3 | 2 | _- | W-h(10) | 8 | 1 | - | W-h(11) | ) 5 | 4 |  |
| W-h(8) | 2 | 6 | - - | S-h(11) | 3 | 2 | - - | S-h(12) | 10 | 5 |  |
| W-h(9) | 12 | 4 | - - | S-h(12) |  |  | - - | Peg-ou |  |  | - - |
| S-h(10) | 9 | 3 | - | Peg-out |  |  | - - | Hit-in |  |  |  |
| S-h(11) |  |  | - - | Hit-in |  |  |  | ==== | = | - |  |
| S-h(12) |  |  |  | ===== | $=$ | = | $=====$ | TOTAL |  |  |  |
| Peg-out |  |  | - - | TOTAL |  |  | - - |  |  |  |  |
| Hit-in |  |  |  |  |  |  |  |  |  |  |  |
| $===$ | $==$ |  | ==== |  |  |  |  |  |  |  |  |
| TOTAL |  |  | - |  |  |  |  |  |  |  |  |

## APPENDIX

Here is a list of the Peels addressed by Wylie in his book and those used in these drills. An initial "W" stands for "On the Way to", "A" for "After" ${ }^{33}$, and " S " for "Straight". Numbers identify "hoops". Finally, an " $X$ " signifies inclusion in the drills.
h(10) Peel

| When W | ylie | Drills |
| :---: | :---: | :---: |
| W-h(3) | X |  |
| A-h(3) | X | X |
| W-h(5) | $x$ | X |
| W-h(6) | X | X |
| A-h(6) | X |  |
| W-h(7) | X | X |
| A-h(7) | X |  |
| W-h(8) | X | X |
| W-h(9) | X | X |
| S-h(10) | X | X |


| When | Wylie | Drills |
| :---: | :---: | :---: |
| A-h(6) | $X$ | $X$ |
| W-h(7) | $X$ |  |
| A-h(7) | $X$ |  |
| W-h(8) | $X$ | $X$ |
| W-h(9) | $X$ | $X$ |
| W-h(10) | $X$ | $X$ |
| S-h(11) | $X$ | $X$ |
|  | 7 | 5 |

h(12) Peel

| When Wylie Drills |  |  |
| :---: | :---: | :---: |
| $W$ W-h(8) |  | $X$ |
| W-h(9) | $X$ | $X$ |
| A-h(9) | $X$ |  |
| W-h(10) | $X$ | $X$ |
| W-h(11) | $X$ | $X$ |
| $S-h(12)$ | $X$ | $X$ |
|  | 5 | 5 |

## After Jawsing Situations ${ }^{34}$

| $A-h(3)$ | $X$ |
| :---: | :---: |
| $W-h(6)$ | $X$ |
| $W-h(7)$ | $x$ |
|  | 3 |

W-h(7) X
$\frac{W-h(10) X}{2}$
W-h(9) X
$\frac{A-h(9) X}{2}$

33 "After" Peels that are not associated with back Peels are important and can be practiced on their own, but do not lend themselves conveniently to inclusion
in these drills. The Peels we are referring to are: $h(10)$ Peels $A-h(6)$ and $A-h(7), h(11)$ Peels $W$ - $h(6)$ and $A-h(7)$, and the $h(12)$ Peel A-h(9). Finally, neither Wylie nor these drills deal with the A-h(8) Peel of $h(11)$.
${ }^{34}$ Wylie's "after jawsing situations" can be attempted in these drills by jawsing Peelee at the appropriate time instead of randomly determining its position.

## Let's Go to the Videos

Videos of Sherif Abdelwahab and Charlie Xavier competing in the three Wylie Peeling Drills are available. Sherif won the overall match winning the $h(12)$ Drill [10 to -6$]^{35}$, tying with Charlie in the $h(11)$ Drill [8 to 8], and winning the $h(10)$ Drill [7 to 6], which came down to a final shot by Sherif, hitting-in after Charlie was forced to set a leave.

12,14 and 20 points were perfect scores for the individual drills - a total of 46 points were possible for each player. In fact, Sherif accumulated 25 to Charlie's 8 ! This establishes that both players needed redoes: $(0,2$, and 5$)$ for Sherif and $(3,1$, and 2$)$ for Charlie. Both players also suffered hit-ins: 2 by Sherif, and 1 by Charlie.

Finally, Sherif was able to peg-out - complete Straight Peels - in the h(12) and h(11) drills, but not the one for h(10), while Charlie did not peg-out in any of the Drills. Both wanted to run the Drills again!

This preliminary data suggests that the drills are challenging and worthwhile whether done alone - as part of your individual practice routine - or in competition ${ }^{36}$. The Drills could even be extended to a $h(9), h(8)$, and $h(7)$ to breed familiarity with Quadruple Peels, Quintuple Peels, and Sextuple Peels.

[^22]
## 2.. TRIPLE OR BUST ${ }^{37}$

## RULES

A Match involves multiple Games played under AC Rules, modified to allow each Game to continue until one Team successfully completes a Triple-Peel and Pegs-Out - earning three points for the Triple and additional points for completing it early, as explained below. When one game is done, another is started until one Team accumulate 9 or more points to win.

1. Order of Play: A coin is tossed before the $1^{\text {st }}$ Game of a Match. The winner can choose order or colors for the $1^{\text {st }}$ Game. The loser of the last Game chooses the order of play for the next Game. Colors remain the same throughout a Match.
2. Initial Clip Positions and Lifts: All clips start on and are returned to $h(1)$ at the end of each Turn. The first four turns begin with a lift-to-baulk. Lift possibilities for all subsequent turns depend on the result of the previous turn: If the last Striker broke down before $h(7)$ then there is lift-to-baulk; if he broke down after $h(7)$ but before $h(10)$ then there is a lift-to-contact, and if he broke down after $\mathrm{h}(10)$ then there is a lift-to-position.
3. Turns 1-3: The first three Turns do not earn a continuation shot for making $\mathrm{h}(1)$. Roquet and croquet-shots are allowed.
4. Striker and Peelee: The final ball to enter the Game starts the $4^{\text {th }}$ Turn as Striker, with its clip on $h(1)$. Thereafter, at the start of each Turn, the playing Team chooses one of its balls to be Striker by leaving that clip on $\mathrm{h}(1)$. Partner's clip is pocketed if Striker makes $h(1)$ and moved to $h(10)$ as Striker approaches $h(3)$.
5. Points and Winning the Game: 3 points are earned for completing a Triple and Pegging-out, zero otherwise. If " $X$ " is the number of the hoop made before pegging out, then (12-X) additional points are earned for completing the Triple early. Nine points win match. Players learning to triple may be satisfied naming the winner as the first player to Triple!
[^23]
## NOTES ON TRIPLE OR BUST

The First Three balls: The first three balls play with a lift-to-baulk and can score h(1) but do not earn a continuation shot. As far as we can determine, standard openings apply to these three balls, where the goal is to win the innings for the $4^{\text {th }}$ or $5^{\text {th }}$ ball. 3-Ball Triple Attempts are intentionally not allowed to get to the main event - Triples with four balls.

The $4^{\text {th }}$ ball and Beyond: The $4^{\text {th }}$ ball ( y ), plays, with a lift-to-baulk. At the start of his turn, $\mathrm{y}^{\prime} \mathrm{s}$ clip is left on $\mathrm{h}(1)$ and Partner's clip (r) is pocketed. Thereafter, each turn starts with all clips on $\mathrm{h}(1)$. The Team playing the turn identifies its Striker and Partner (Peelee) balls by leaving Striker's clip on h(1), making h(1), and the pocketing Partner's clip and putting it on $\mathrm{h}(10)$ when Striker is at $\mathrm{h}(3)^{38}$.

Scoring: Striker plays his turn. If Striker succeeds - Triples and Pegs-Out - then points are added to his Team's cumulative total three for the Triple and Peg-Out of both balls, and one additional point for each early hoop. If the cumulative total is less than 9 , then a new Game is started. The loser decides who goes first. If Striker breaks down or does not complete the Triple, then the balls remain where they finished during the last turn, the clips are all returned to $\mathrm{h}(1)$, and Opponents take over starting a new turn.

Lifts: Lift possibilities for all subsequent turns depend on the result of the previous turn: If the last Striker broke down before $h(7)$ then there is lift-to-baulk; if he broke down after $h(7)$ but before $h(10)$ then there is a lift-to-contact, and if he broke down after $h(10)$ then there is a lift-to-position. The lift rules were influenced by my playing this game with my favorite croquet curmudgeon. True to form, he continued turns that were hopeless - ones that might be better served by setting a leave. The rules now reward the out-player for his patience and to try to protect players from their natural excesses.

Abandoning Ship: If a situation is looking bleak, then stopping before $h(7)$ and giving just a lift-to-baulk can be a good strategy. Of course, the earlier you make this decision, the better the leave that you can set. Remember that giving contact or a position lift increase dramatically the possibility of points for early completion of the Triple and the Peg-Outs.

Extra Points: The scoring system of the game is such that completing three Triples and standard Peg-Outs will win. But it is also possible to win with just two Triples if an additional three points are earned by Pegging-Out early. The extra points can be earned in one game - Pegging-Out before $h(10)$ - or across two games - Pegging-Out before $h(12)$ in one and before $h(11)$ in the other. Understanding how, or if, to seek extra points is key to success. For example - do you send a pioneer to $h(10)$ if you think you can Peg-Out W-h(9) or is it better to send near to partner to assist with the Peg-Out and only go to h(10) if necessary?

[^24]
## Let's go to the Videos

Spread over two videos, a total of 3 hours, 43 minutes, and 50 seconds (!) of a Triple or Bust match was played by Sherif Abdelwahab and Charlie Xavier. Before play began, we all wondered if requiring only 9 points to win would be challenge enough. After all, while being the first to complete three Triples always win, victory can be achieved in just two turns by earning 3 points for each Triple and an additional 3 points by Pegging-Out early - for example before $h(11)$ and before $h(12)$. And it is even possible to win in just a single turn, completing the Triple and Peg-Out before $h(7)$ thereby earning 3 points for the triple and 6 points for a very early completion.

In fact, as it was getting dark, we chose to end the match without a victor!
Charlie won the toss and chose to go $2^{\text {nd }}$, which also meant that he would play the $4^{\text {th }}$ turn and have the first opportunity to Triple. Charlie and Sherif each failed on their initial turns. Then Charlie began a turn (at 0:13:36). It started well but ended badly ( $0: 20: 4$ ). Charlie succeeded in organizing the balls for a Standard-Triple, but was unable to make h(3), bouncing off the upright and going out of bounds. Sherif came on the lawn with a real chance to accumulate sufficient points to finish in just one turn! Sadly, it was not to be. Sherif completed the Triple (!) but failed in his attempt to Peg-Out before making h(11) (at 0:44:30).

## What Might Have Been

Figures TOB. 1 - TOB. 8 present what might have been - as an example of a very early Triple that would have won the game. From Figure TOB.1, Striker picks up rand goes to B-Baulk, Figure TOB.2.

Figure TOB.2: $r$ roquets $u$ and then sends $u$ to $P(2)$ going to $y . r$ rushes $y$ to Peel position and then Peels $y$ at $h(10), W-h(1)$, gaining a rush on k to $\mathrm{h}(1)$. r sends k to $\mathrm{R}(1)$ as r goes to position at $\mathrm{h}(1)$, Figure TOB.3. This was HP starting from a hypothetical $0^{\text {th }}$ hoop!

Figure TOB.3: $r$ makes $h(1)$ and goes to $k$. $r$ sends $k$ to $h(11)$ as the Escape-Ball to $h(3)$ as $r$ goes to $y$. $r$ moves $y$ to Peel position at $h(11)$ as $r$ goes to $u$. $u$ is sent to $R(2)$ as $r$ goes to position at $h(2)$, Figure TOB.4.

Figure TOB.4: $r$ makes $h(2)$ and goes to $u$. $r$ sends $u$ to $P(4)$ going to $y . r$ rushes and Peels $y$ at $h(11), W-h(3)$, and escapes to $h(3)$ with k. $k$ is sent to $R(3)$ as $r$ goes to position at $h(3)$, Figure TOB.5. This was 2HP starting from $h(1)$.


Figure TOB.5: $r$ makes $h(3)$ and goes to $k$. $k$ is sent to $h(5)$ - with the intent of doing a Back-Peel at $h(12)$ - while $r$ goes to $y$. $r$ sends $y$ toward Peel position while going to $u$ at $h(4)$. $u$ is sent to $R(4)$ as $r$ goes to position at $h(4)$, Figure TOB.6. This Peel consumed 3 hoops as it was done as a Back-Peel.

Figure TOB.6: $r$ makes $h(4)$ and goes to $u$. $u$ is sent to $h(6)$ as $P(6)$ as $r$ goes to $k$. $k$ is moved to Pivot-Ball position close to $h(5)$ as $r$ goes to $y$. $y$ is sent to $R(5)$, also Peel position at $h(12)$ as $r$ goes to position at $h(5)$, Figure TOB.7.

Figure TOB.7: $r$ makes $h(5)$ and goes to $y . r$ Peels $y$ at $h(12) A-h(5)$ and goes to $k$. $r$ leaves $k$ near $y$ as a Helper-Ball for the Peg-Out as $r$ goes to $u$. $u$ is sent to $R(6)$ as $r$ goes to position at $h(6)$, Figure TOB.8.

Figure TOB.8: $r$ makes $h(6)$ and goes to $u$. Then $r$ uses $u$ to get to $k$, and $k$ to get to $y$, and then $r$ pegs out $y$ and then himself.
In this hypothetical example $r / y$ completes the Triple leaving $h(7)-h(12)$ unused, generating 3 points for the Triple and 6 extra for a total of 9 . If this had happened, then $r / y$ would have won the match in a single turn.


## A Most Amazing Posthumous h(12) Peel that led to a Standard Finish!

At (57:45) Sherif came on the lawn with a possible lift-to-baulk but chose to play $r$ from where it was left. After some initial heroics, in particular an amazing pass-roll and follow-on roquet, Sherif settled down and completed the h(10) Peel A-h(3). It looked like he was on the way to a Standard-Triple. However, he failed the $h(11)$ Peel A-h(6) and failed it again $W$ - $h(8)$. He finally completed it $\mathrm{W}-\mathrm{h}(10)$ but sent Peelee ( y ) substantially south of $\mathrm{h}(12)$ during the successful croquet-Peel shot. Two amazing pass-rolls later (!), at (1:20:15) Sherif ended up as shown in Figure TOB. 10 - $r$ about to make $h(11)$ with $u$ waiting as reception, $y$ on the playing side about 4 feet from $h(12)$ and $k$ in a useful position, also on the playing side of $h(12)$. We were prepared for a routine Straight $h(12)$-Peel and follow-on Peg-Out - but what we got instead was a special treat!

From Figure TOB.10, $r$ made $h(11)$, sent $u$ as the deep ball going to $k$, sent $u$ as a shallow ball going to $y$, Figure TOB.11. r over rushed $y$, Figure TOB.12, such that neither the Peel nor a jawsing was possible. Therefore, $r$ croqueted $y$ to Peel position as $r$ went to position at $h(12)$, Figure TOB.13. At this point prospects for finishing look dim! $r$ made $h(12)$, Figure TOB.14, and then roqueted $k$, Figure TOB. 15.


Then, Sherif took croquet with $r$ on $k$ and intentionally bombarded $k$ into $y$ which sent $y$ through the $h(12)$ Hoop - posthumously completing the $h(12)$ Peel -- as $r$ went to $u$, Figure TOB-16. Since Sherif had not yet used $u$, the rest of his turn was routine (and not shown). Sherif used $u$ to gain a rush on $y$ to the peg and a normal Peg-Out. This turn earned the first points for Sherif in this the first game of a Triple or Bust match. But only 3 points, the barest minimum - what results from a successful Triple-Peel and Peg-Out that did not finish early.

We took a lunch break and then started the second game of the match. It can be seen in the second video. 2 hours and 20 minutes later we called it quits - when the score was still only 3-0 - with Sherif ahead. During this time period there were 19 Peeling turns. Only three involved completed Peels - Early on, during the third Peeling turn, starting at (00:05:45) Charlie had his best turn making it to $h(11)$ while completing two Peels along the way. Sherif immediately followed during the $4^{\text {th }}$ turn starting at (39:30), also completing two Peels but failing at $h(7)$. Finally, during turn 9 (104:42) Charlie got one Peel done before failing at hoop 5.

Summary and Conclusion: Across both games there were a total of 27 turns. Clearly it was an interactive afternoon! However, only 5 turns involved completed Peels while 22 had no Peels at all! 13 failed at $h(1), 5$ at $h(2), 3$ at $h(3)$, and one at $h(8)$. A lot of time was spent early in turns "forcing" $h(1)$ to be made with Partner in the hopes of setting up for a Standard-Triple and having a real chance at finishing early to earn extra points. It might have seemed boring at the time, but, upon reflection and review, accepting the possibility of a Delayed-Triple and fewer points might have led to more completed Triples and higher scores.
III.. Beyond TPs: New Games with Short Turns

## 1.. ONLY-ONCE

## RULES

This game uses the structure of GC, the rules of AC, and some strategies from A6W - American 6-Wicket. Each turn is limited to roqueting the three other balls "Only-Once" which keeps turns short (usually 8 shots or less) and makes the game very interactive.

1. ORDER OF PLAY - PLAYERS and HOOPS: The role of Striker rotates in color order ( $u, r, k, y$ ) as in GC. The game starts with both teams competing for $h(1)$, the initial Current-Hoop. After it is scored by any ball, (i.e., the hoop is made or Peeled), attention turns immediately to the next hoop in order, $h(2), h(3), \ldots, h(12)$, which becomes the Current-Hoop.
2. CLIPS: There are three types of clips: While not required, here is an effective way to deploy them:
(i) Score-Clips (SC): use $u$ and $r$. Subtracting one from the hoop-number of an SC gives a team's score.
(ii) Peel-Clips (PLC): use $k$ and $y$. PLCs track how many Peels $u / k$ and $r / y$ still have in their Peeling Requirements, if any.
(iii) Current-Hoop Clip (CHC): use white, or another special color. CHC identifies the Current-Hoop for all balls.
3. MAKING HOOPS AND PEELS: Both teams start with their SC on $\mathrm{h}(1)$, indicating that they have zero points. Single points are scored, and a team's SC is advanced to the next hoop when Striker makes the Current-Hoop or when Striker Peels Partner or an Oppo Ball at it ${ }^{39}$. Peels follow AC rules. Peels completed with scatter shots are allowed. Making a hoop earns a continuation shot but does not clear deadness - does not allow a ball to be used again ${ }^{40}$.
4. PEG-OUTS AND WINNING THE GAME: Once a team (call it $u / k$ ) accumulates 6 points, its SC advances to the peg where it will join up with its PLC. The goal then is to Peg-Out both balls, removing clips as appropriate. The Opposing team (r/y) continues to play Current-Hoops until it too has 6 points and advances its SC to the peg. Each Peg-Out earns one point. The winner is the team that is first to Peg-Out both balls, accumulating 8 points.

[^25]5. STARTING the GAME and LIFTS: The first 4 turns are played from within either of the GC Penalty Spots - $3^{\prime}$ semi circles herein repurposed and renamed "Opportunity Spots" (OS). Subsequent turns start from where the balls were left on the lawn at the end of the last turn or with a lift to either OS. However, a lift is not available if a Peel was completed during the last turn ${ }^{41}$.
6. MARKING-IN: Balls are marked-in 1 or 4 yards during a turn but only 1 yard at its end, after the shot that ends a turn. The next Striker can re-mark any ball situated between 1 and 4 yards to 4 yards at any time during his turn. Striker does not have to use his option to re-mark to avoid a wiring, nor can he claim a wiring after re-marking balls to 4 yards. A corner ball can be marked in 1 or 4 -yards in either or both directions. The 4 -yard mark-in procedure can be waived.
7. PEELING REQUIREMENTS (PR) and the PLCs: The PLC of a team without a PR starts at the peg.

Either or both teams can have a PR, that can be between 1 and 6 and specifies how many Peels a team must complete before it can begin pegging-out. PLCs are originally placed on the hoop identified by subtracting a team's PR from seven. If the PR=3 then $(7-3)=4$, and the PLC is placed on $h(4)$; if the $P R=6$, the maximum possible, then $(7-6)=1$, and the PLC is placed on $h(1)$. The PLC moves one hoop forward with each Peel and to the peg after $h(6)$, then to be removed with a Peg-Out ${ }^{42}$.

A team subject to a PR can earn a point by having Striker make the Current-Hoop as Opposed to Peel it, only if its SC is on a hoop that is earlier than its PC. For example, suppose the $u / k S C$ is on $h(3)$ and the $u / k$ PLC is on $h(4)$. $u$ or $k$ can make the Current-Hoop, whichever one it is, and move the $u / k S C$ to $h(4)$. But now their SC and PLC are on the same hoop indicating that Peels are required at future Current-Hoops in order for $u / k$ to progress - to reach six points and gain the ability to PegOut. In this case three consecutive Peels are required. Scoring the Current-Hoop in this circumstance does not generate a point nor does it grant Striker a continuation shot.

[^26]
## NOTES ON ONLY-ONCE

Introduction: This game uses the structure of GC, the rules of AC, and some strategies from A6W. Each turn is limited to roqueting the three other balls "Only-Once" which makes turns relatively short (usually 8 shots or less) and keeps the game interactive. Teams compete to score points by taking turns in strict color order ( $u, r, k, a n d y$ ), as in GC and A6W. The first team to score 8 points wins. The first six points are scored by making or Peeling at Current-Hoops. A team with 6 points is then for the peg. The final two points are earned with Peg-Outs - one for each ball.

The Current-Hoop Clip - CHC: Only-Once follows the structure of GC - both teams - all balls - are for the same Current-Hoop (unless one team is for the peg). Once the Current-Hoop is made, attention turns immediately to the next hoop in order. To prevent confusion, we introduced a CHC to identify the Current-Hoop. It is convenient if this clip is a different color than the ball clips we like to use white. The CHC is placed on $\mathrm{h}(1)$ to start the game, indicating that both teams are playing for the point available from winning (making or Peeling) at $\mathrm{h}(1)$. The CHC applies to both teams and is advanced one hoop in order when a point is scored by either team.

A point is scored when Striker makes the Current-Hoop or when Striker Peels any of the three other balls (Partner, Spent, or Danger ${ }^{43}$ ) at the Current-Hoop. It is a good idea to move the CHC immediately after the shot that scores the point, not waiting for end of turn.

Score-Clips - SC: In Only-Once each team has a single SC that is advanced by play of either/both of its balls. In the absence of a Peeling Requirement (PR), we find it intuitive to literally "clip" the $u$ and $k$ clips together, and the $r$ and $y$ clips together, to physically create the $\mathrm{u} / \mathrm{k}$ and $\mathrm{r} / \mathrm{y}$ SCs. An SC is advanced after a hoop is made or Peeled. This is best done intra-turn.

After reaching $h(6)$, the next stop for a team's SC is the peg, where it is then displayed as two separate clips. The appropriately colored clip is removed after each successful Peg-Out.

Marking Balls in: Balls are marked in 1 yard at the end of each turn, as in AC. At any time during a turn a ball (other than the Striker Ball) that is positioned between the boundary line and 1 yard is marked in to either 1 or 4 yards. A ball positioned between 1 and 4 yards can be left where it is or marked in to 4 yards. The 4 -yard mark-in option can be waived.

[^27]Opportunity Spots: The two GC penalty spots are repurposed and renamed opportunity Spots (OS). All balls enter the game from an OS. After the $4^{\text {th }}$ turn, if a Peel is not involved in a turn, then the next Striker can start from where the balls were left on the lawn at the end of the previous turn or the Striker-Ball can be "lifted", letting Striker start from either OS.

Peeling: Points are scored by having Striker make a hoop or by Peeling any other ball at the Current-Hoop. The CHC is advanced one hoop immediately after a Peel and then play continues. A Peel provides one important benefit to Striker - If a turn involves a Peel, then the next Striker can only play his ball from where it lies on the lawn. The option to lift to an OS is lost unless the new Striker is wired by the actions of his Opponents.

The Peeling Requirement (PR): A PR specifying the number of Peels (if any) a team must complete within the six points it scores at Current-Hoops before it is eligible to Peg-Out. A PR of 3 is often used in advanced play - Only-Once's Triple-Peel!

Peel-Clips (PLC): It is convenient in advanced play to make the SCs the single $u$ and $r$ clips, allowing $k$ and $y$ to be used as the PLCs. A PLC start on the hoop identified by subtracting a team's PR from seven. For example, if the PR is three, then $(7-3)=4$, and the PLC is placed on $h(4)$; if the $P R=6$, the maximum possible, then $(7-6)=1$, and the PLC is placed on $h(1)$. The PLC moves one hoop forward with each Peel and to the peg after $h(6)$, later to be removed with a peg-out of that colored ball.

A team subject to a PR earns a point when Striker makes the Current-Hoop only if its SC is on a hoop that precedes its PLC. When the SC and PLC are on the same hoop, then the only way the team can proceed is with a Peel.

## The Opening Four Turns

Critical Distance: Figure 00.1 shows a semi-circle with the WOS at its center. The edge of the semi-circle indicates u's critical distance (CD) - u's 50/50 hit-in distance, shown here as 10 yards, a distance that is relevant for intermediate players. Smaller and larger semi-circles would apply to weaker and stronger players. All points within the circle are at a distance less than u's CD. An equivalent semi-circle is shown for the EOS. All points outside of the two semi-circles are at a distance greater than u's CD.

Figure 00-1 also shows 4 -Yard-Lines around the court. Balls are marked-in 1 yard or 4 yards, except when they are played from an $\mathrm{OS}^{44}$. The 4-yard option can be waived, but it is useful in promoting aggressive play at all levels. It is helpful to mark the 4-yard lines with chalk or string. If this is not possible, then two markers (flag sticks?) at each corner measured-in 4 -yards will facilitate play.

[^28]

The Play of $\mathbf{u}$ - The $\mathbf{1}^{\text {st }}$ Ball: u's first turn to start the game is the only time a ball cannot score a point. It will consist of a single-shot from an OS. u must go somewhere! In the absence of a $P^{45}$, the best $u$ can do is to make it difficult for $r$ to hit-in by giving $r$ the longest shot possible from an OS. If $u$ shoots to the middle of the north boundary, then it will be marked-in 1 yard. But $r$, the next player, can remark u to the 4 -Yard-Line, Figure OO.2, leaving r with a 19.4-yard shot from either OS. This might appear to create the maximum distance shot for $r$. But, in fact, that honor is held by a position like the one shown in Figure 00.3 where $u$ is wired from the nearest OS (the WOS). Any shot at u must come from the other OS (the EOS), a 23.3-yard shot. A slight error in the placement of u makes $u$ visible from the WOS, creating a shot of only 15.2 yards. Precision matters in this game!

The Play of $r$ - The $\mathbf{2}^{\text {nd }}$ Ball: Suppose $u$ plays as shown in Figure OO.2. It is $r$ to play. $r^{\prime}$ s shoots at $u$ from the WOS and EOS are both less than 50/50. Should $r$ shoot at u? If $r$ hits, then $r$ can attempt to make $h(1)$. However, the more likely result is that $r$ shoots at $u$, misses, and goes out of bounds. The player ends his turn marking $r$ in 1 yard. Then the next Striker, $k$, can immediately or later, remark $r$ to 4 yards, near $u$, as shown in Figure 00.4 $4^{46}$. If the $3^{\text {rd }}$ and $4^{\text {th }}$ balls ( $k$ and $y$ ) do not hit-in, then $u$, has an easy start using $r$. Also, by shooting at $u$, $r$ may create a double, giving $k$ a more than $50 / 50$ opportunity to hit-in. (If $k$ does not shoot at this double, then $y$ should!).

[^29]$r$ shooting at $u$ in Figure 00.2 is not a good idea! What should $r$ do instead? Consider Figure 00-5. $r$ has shot to the outer edge of a now-imaginary CD semi-circle setting a 50/50 tice from the EOS. Why 50/50? If the likelihood of hitting-in is more than 50/50, then it is too generous to the next ball - in an expected value sense. For the same reason, if the likelihood of hitting in is less than 50/50, then the next ball should not take the tice! A good tice should be a nail-biter for both teams ${ }^{47}$ !

The Play of $k$ - the $\mathbf{3}^{\text {rd }}$ Ball: From Figure 00.5, $k$ has two choices - shoot at $u$ or shoot at $r$ : We show $k$ shooting at $r$, which, at first blush, might seem to be the appropriate shot because it is the shortest. In fact, k may be better off shooting at u , which is discussed in the footnote ${ }^{48}$. What $k$ should not do is finesse away from $u$ and $r$ as it gives $r / y$ the upper hand, a $50 / 50$ shot, for free. In this game shooting is often the best strategy!

$00.5 \mathrm{~h}(1)$

$00.6 \mathrm{~h}(1)$

$00.7 \mathrm{~h}(1)$

$00.8 \mathrm{~h}(1)$

$00.9 \mathrm{~h}(1)$

If $k$ shoots at $r$ from the EOS and hits, Figure OO.6, then he has two choices:

[^30]1. $k$ can roll with $r$ to $h(1)$. If $k$ is likely to make the hoop, then he should attempt it and use his final continuation shot to join Partner. If the hoop shot is uncertain, then $k$ should leave $r$, the Spent-ball, as a pioneer near $h(1)$ and return to Partner.
2. $k$ can send $r$ to $u$ while trying for position at $h(1)$ - an unlikely, load-and-hold. If successful, then $k$ can attempt the hoop. At a minimum, $k$ should end up as a good pioneer (or Peelee!) for $u$ at $h(1)$, but outside of the 50/50 range for Oppos.

In both instances, $u$ is near a ball (k or r) that he can use to start his next turn, and all of y 's shots are less than $50 / 50$.

If $k$ shoots at $r$ from the EOS and misses, Figure 00.7 , then, if $r$ chose his tice position carefully (!), $k$ ends up close to $r$ and a long distance from u. Having Opponents separated and Spent nearby is a desirable result.

The Play of $\mathbf{y}$ - the $4^{\text {th }}$ Ball: If $k$ misses, then what should $y$ do? He should shoot at r ! If y hits, Figure OO.8, then he should send Spent and Partner to $\mathrm{h}(1)$ and attempt the hoop. If y misses, Figure 00.9 , then $u$ will play. $u$ should pick-up and, like $k$ and $y$ before him, take the 50/50 shot at $r$ from the EOS (it may be greater than a $50 / 50$ proposition by now because of a double or triple-target!). If $u$ fails to hit-in, then $r$ will have 3 balls nearby - and an easy start ${ }^{49}$.

## Openings at the Peg

$1^{\text {st }}$ Ball Toward the Peg: u can start a game by shooting toward the peg, Figure 00.10. r's shot at $u$ is approximately 13 yards long. This is shorter than the other possibilities considered above. But what an opening at the peg lacks in distance, it makes up for in intrigue! If $r$ shoots firmly at $u$ and misses, then $r$ will end near the EOS, and can be marked-in (by k) to 4 yards, Figure 00.11 - an easy target for $k$, assuming $k$ starts from the EOS. If $r$ shoots gently, then he risks missing $u$ because of lawn conditions, and he risks leaving a double-target for $k$. What should $r$ do? u's shot to the peg left $u$ beyond $r$ 's $C D$ and therefore $r$ should not shoot at $u$ ! He should instead set a 50/50 tice, perhaps as shown in Figure 00.12, and turn the problem over to $k$. $k$ is likely to shoot at $r$. If $k$ hits, then the placement of $u$ near the peg will make it easier for $k$ to go $u$ and make $h(1)$.

Another option would be for $r$ to lag wide (probably 1-2 yards north) of $u$. This again turns some problematic options over to $k$ does $k$ shoot hard, risking a miss towards an OS spot, shoot gently risking leaving a double for y , or cut its losses and play away to a

[^31]defensive position? k could also lag to a spot which leaves no target for y - a valid option but one which hands first chance to y albeit at a ball just slightly more than the CD. If $u / k$ is the stronger shot than $r / y$, then this play which has made $u / k$ turn down a shot has certainly handed the "moral victory" to $\mathrm{r} / \mathrm{y}$ ! Opening at the peg is an interesting option.

$\underline{2}^{\text {nd }}$ Ball Toward the Peg: In Figure 00.13 u has gone to the north boundary and $r$ has chosen to set a $50 / 50$ tice by going toward the peg. If $k$ shoots firmly at $r$ for the WOS and misses, then $y$ will have an easy start from the EOS. If $k$ shots softly and misses, then he may leave a double-target for y . If k roquets r , then he should be able to get started, or at least be able to send r to u and go to $\mathrm{h}(1)$ as a pioneer. y will play next, but all of y 's shots are now less than $50 / 50$.

If $k$ shoots at $u$ on the north boundary, then $k$ has less than a $50 / 50$ chance of hitting-in, but an easy start if he does. If $k$ misses $u$, then $y$ plays. $y$ should shoot at $r$. If $y$ hits $r$, then he should roll with $r$ to $k$ and $u$, leave $r$ with $k$, use $k$ to gain a rush on $u$, and then attempt to make $h(1)$ with $u$; or $y$ can leave $r$ with $k$, destroy $u$, and go to $h(1)$ as a pioneer for $r$ if $u$ misses. Shooting toward the peg with the $2^{\text {nd }}$ ball is an interesting alternative.

## Opening Turns when there is a Peeling Requirement

The winner of an Only-Once game completes its PR while scoring its initial six points and then pegs out both balls for the win. There is no rule specifying when the Peels must occur except that teams must leave at least as many unearned points as it has unmade Peels. If 3 Peels are required, then there are 20 ways to organize the making of hoops $(H)$ and Peels $(P)$ that work - from PPPHHH to HHHPPP, and with all permutations in between.

The later in the game Striker starts to Peel, the less freedom he has to time his actions. This may motivate Striker to attempt Peels early even if they are risky. It may also encourage teams to forgo easy hoop Opportunities saving their gunpowder. Likewise, it may encourage your Opponents to try to tie your hands later in the game. They can do this by setting leaves that are easy to play from to score as hoops, but difficult to play from to complete as Peels. This process can start with the opening turns.

Consider Figure 00.14. Here $u$ has opened slightly north/east of the WOS. This position only makes sense if $r$ has a PR and $u$ is trying to tempt $r$ into making, rather than Peeling, $h(1)$. $r$ has an easy roquet but no way to rush $u$ to $h(1)$ for a Peel attempt. $r$ can decide to make the hoop, perhaps by rushing $u$ north/east and then croqueting it to a $50 / 50$ tice position near $h(2)$ as $r$ takes-off for position at $h(1)$, Figure 00.15. If $r$ makes $h(1)$, then he can go to a position that affords $k$ a less than $50 / 50$ shot at $r$ while leaving a $50 / 50$ shot at $u$, Figure 00.16. Note that if $k$ takes the tice - shoots at $u$ - then Peeling at $h(2)$ is unlikely to happen. Shooting at $r$, and hitting, would facilitate a Peel attempt at $h(2)$, but necessitates hitting-in with a less than $50 / 50$ shot.


In the alternative, $r$ could decide not to make $h(1)$. $r$ could send $u$ to tice position at $h(1)$ and then go to a less than $50 / 50$ spot on the north boundary, turning the problem over to k, Figure 00.17.

Peeling at $h(1)$ presents unique challenges. Even if $k$ 's Peel succeeds, $y$, the $4^{\text {th }}$ ball, will enter the game from an OS and one of the benefits of Peeling - removing Oppo's option of a Lift-to-OS - will not occur. y will enter the game with a lift-to-OS and may have a relatively short shot at the Peeled ball, since the Peel at $h(1)$ is inward. In the alternative, the Peel could be hit hard enough that Peelee progresses beyond $h(2)$. We do not recommend counting on this result as the Peelee could go out on the north boundary causing end of turn.

## Turns After All Balls are in the Game

The ability to score multiple hoops by running a traditional break was intentionally eliminated with the Only-Once rule. It is theoretically possible for a single turn to make 6 hoops and peg-out ${ }^{50}$, however the majority of turns in this game, those that do not break-down, will run 8 shots, and usually attempt to make or Peel at a single hoop, or if the stars align, sometimes at 2 hoops. Within the 8 shots, Striker will structure a leave - hopefully, it requires Oppo to hit-in from afar to proceed. If Oppo fails, then the other team regains the innings and can continue to repeat 8 -shot scoring turns, running a "quasi-break".

The Basic Hoop Strategy ("BHS"): Suppose a game opens with $u$ shooting to the middle of the north boundary. $r$ sets a tice near c 4 . Then $k$, followed by $y$, shoots at $r$, and misses, Figure 00.18 . $u$ is set to take his $2^{\text {nd }}$ turn. From this turn on, Striker can play the balls as they lie or from a Lift-to-OS, unless the previous Striker completed a Peel, in which case the lift option does not apply. u can play from his position on the north boundary, but his prospects are better taking a lift. Therefore, u picks-up and goes to the EOS, Figure 00.19.

Here, in single-shot detail, are the 8 shots of a BHS turn: (1): $u$ shoots at $r$, and hits - rushing $r$ towards c4, Figure 00.20. (2): $u$ croquets $r$ away from the action, toward $h(3)$, gaining a rush on $y$, Figure 00.21 . (3): $y$ is rushed towards $c 4$, Figure 00.22, (4): $y$ is croqueted to $h(1)$ as $u$ gains a rush on $k$, Figure 00.23. $k$ is rushed toward $h(1)$, Figure 00.24 . u leaves $k$ south of $h(1)$ as $u$ goes to position at $\mathrm{h}(1)$, Figure 00.25 . (7): u makes $\mathrm{h}(1)$, Figure 0026 , and (8): u shoots to $\mathrm{h}(2)$ with his continuation shot, Figure 00.27.

During this turn, Striker ( $u$ ) used his lift-to-EOS, and then hit-in, roqueting r. u "destroyed" Danger ( $r$ ), brought Spent ( $y$ ) and Partner (k) to the Current-Hoop, $\mathrm{h}(1)$, made it ${ }^{51}$, left Partner with Spent, and then used his final continuation shot to go toward the NextHoop, $\mathrm{h}(2)$. This is the Basic Hoop Strategy (BHS). It comes up frequently and is easy to perpetuate if Opponents fail to hit in.

[^32]The 8 Shots of a Typical BHS


In Figure 00.18, u started by roqueting Danger. But u could have hit Partner (k) or Spent (y) instead. A different sequence of shots would be involved, but it is possible to achieve a position akin to the one in Figure 00.27 , with $h(1)$ made, $k$ and $y$ together near $h(1), u$ at $h(2)$ and $r$ separated from the other balls.


Here, in less detail, is the BHS again, this time starting from where the last one ended, Figure 00.27. r picks up, shoots at u from the WOS, misses, and is marked-in 4 yards, Figure 00.28 . k roquets $y$, takes-off to $r$, moves $r$ closer to $h(2)$ going to $u$, makes $h(2)$, and progresses to $h(3)$ - the Next-Hoop - with his final continuation shot, while leaving $u$ and $r$ together at $h(2)$ - the Last-Hoop - Figure 00.29. None of $u$ or $k$ 's shots were particularly difficult. Therefore, if $r / y$ fail to hit-in, $u / k$ should be able to continue to make hoops following BHS.

Hoops vs Peels: A hoop or a Peel both score a single point. But there are two important differences: (i) a Peel is desirable because it "freezes" Danger to its spot on the lawn where it was left - preventing it from starting its turn with a lift-to-OS; and (ii) a Peel helps fulfill a PR, if one exists. Here is how to do a Peel:

The Basic Peeling Strategy ("BPS"): Consider again Figure 00.28. The Current-Hoop is $\mathrm{h}(2)$. r misses the hit-in on u . It is k to play. $k$ takes-off from $y$ going to $r$ and uses $r$ to adjust $u$ to Peeling position at $h(2)$. This time, $k$ Peels $u$ at $h(2)$ and then goes to $h(3)$. The resulting ball positions are shown in Figure 00.29. Here Striker (k) used both Opponent balls ( $r$ and $y$ ) to obtain a rush on Partner (u) to Peel position at h(2). Striker Peels Partner and proceeds to the Next-Hoop, leaving Partner with Spent, and Danger far away. This is the Basic Peeling Strategy (BPS).

The Basic Leave: BHS and BPS produce virtually identical ball positions. Striker is at the Next-Hoop, Partner and Spent are at the LastHoop, and Danger is off at a distance. This is the Basic Leave.

Scoring two points during a turn: A more aggressive play from Figure 00.28 is for $k$ to take-off from y and go directly to u . By avoiding $r$ before $h(2)$, $k$ can try to score two points this turn. He can do this in one of four ways: He can (i) Make two hoops, (ii) Make a hoop and then complete a Peel, (iii) Complete a Peel and then make a hoop, or (iv) Complete Peels at both hoops [remember that Peeling any other balls count towards the score - not just Peels on partner]. In each case, Striker will use one ball to score a point at $h(2)$ and then escape with the other to attempt to score another point at $h(3)$. For leave setting purposes, Striker needs to be aware of which ball he uses at which hoop!

After scoring $h(2)$ with $u$ and $h(3)$ with $r$, $k$ could go on to $h(4)-$ the then Current-Hoop. But if Partner, $u$, is used at $h(2)$ he could be left alone, stranded there without a ball nearby to use to start his turn. In this case, $k$ should not go on to $h(4)$ after scoring or Peeling at $\mathrm{h}(3)$. Instead, k should return to u at $\mathrm{h}(2)$, Figure 00.30 . Ending a turn with Partner and Striker together at a Past-Hoop, Spent at another hoop, and Danger off in the wilderness - is a common occurrence.

## Play by Oppos

Oppos ( $r / y$ ) must hit-in to break a BHS/BPS cycle by $u / k$, or $u / k$ must break-down! r/y wants to hit-in, but, if that fails, then they want to make it as difficult as possible for $u / k$ to continue to score additional points. r/y should plan their turn carefully, seeking to: (a) make it difficult for $u / k$ to Peel so $r / y$ can start future turns with a Lift-to-OS, and (b) force $u / k$ to make long rushes that can lead to break-downs.

Forget Finesses - Shoot! In Figure OO.31, the Current-Hoop is $\mathrm{h}(2)$. r has lifted to the WOS. What should r do? By design-that is good play by $u-r$ only has shots that are longer than his CD. Because of this, $r$ could decide not to shoot at all, and, instead, finesse into $c 4$, Figure 00.32. But this gives away too much! $k$ plays next. At a minimum, $k$ can roquet $y$, take-off to $u$, make $h(2)$ with $u$, and then end his turn by giving Partner ( $u$ ) a rush to $h(3)$, Figure $00.33^{52}$. Then y would play. Like the situation faced previously by $r$, Striker ( y ) is separated from his Partner ( r ), and all his shots are longer than his CD. But now $\mathrm{r} / \mathrm{y}$ have let $\mathrm{u} / \mathrm{k}$ score an additional point! Finessing did not improve $r / y$ 's prospects - it made it worse. The bottom line is that if $r$ and $y$ are separated, then $u$ and $k$ can continue to score points by rushing Partner to the next hoop. Only-Once is a shooting game! Setting good defensive leaves is intentionally difficult. Don't Finesse, at least not often! ${ }^{53}$

[^33]Responses to the BHS or the BPS: Consider Figure 00.31 once again. It shows the Basic Leave after $u$ makes $h(1)$ (with BHS). $r$ picks-up and goes to the WOS. r should shoot, but at which ball? $r$ can shoot at Spent ( $u$ ) at $h(2)$, the Current-Hoop, Figure 00.34 , or $r$ can shoot at Partner ( $y$ ) and Danger ( $k$ ) at $h(1)$, the Last-Hoop, Figure 00.35. We will consider the pros and cons of these two choices when $r$ misses, and when $r$ hits-in - thus, four scenarios.

Figure 00.34: $r$ Shoots at $u$ and Misses: $r$ is marked-in near $u$. It is convenient for $u / k$ that Spent ( $r$ ) went to Partner ( $u$ )! $k$ plays next and can leave $y$ behind and take-off to $u$ and $r$, hoping to get a Peel and follow BPS or BHS. This is a fairly easy start for $u / k$.

$r$ Shoots at $u$ and Hits-in (not shown): $r$ could make $h(2)$ with $u$, but this is risky as it leaves $y$ with $k$ during a tough take-off to a hoop. Instead, $r$ should take-off from $u$ going to $k$ and $y$. In an ideal world, $r$ uses $k$ to gain a rush on $y$ back to $h(2)$ and may make $h(2)$ with $y$. Then $r$ goes to $h(3)$. This is BHS, now used by $r / y$. If $r$ has to hit $y$ first or fails to get a rush on $y$, or the hoop cannot be made, then $r$ sends $y$ to $u$, and lags near $h(2)$, hoping $k$ will miss. This is a (more) difficult start for $r / y$.

Figure 00.35: $\boldsymbol{r}$ Shoots at $\boldsymbol{y}$ and $\boldsymbol{k}$ and Misses: $k$ plays next. $k$ roquets $y$ and then uses $y$ to obtain a rush on $r$ to $u$. $k$ tries the BPS at $h(2)$ with $u$ and goes to $h(3)$, as shown previously, Figure 00.29. This is the Basic Leave, but the starting position of Spent ( $r$ ), at the Last Hoop rather than at the Current-Hoop allowed $k$ to rush to $u$ rather than having a long take-off.
$r$ shoots at $\boldsymbol{y}$ and $k$ and Hits-in (not shown): $r$ roquets $k$, and uses $k$ to gain a rush on $y$ to the north boundary near $u$. Then,
$r$ makes (or Peels) $h(2)$ with $u$ and proceeds to $h(3)$ - following BPS. This is an easy start for $r / y$ if $r$ can see $k$; if $r$ can only shoot at $y$, this play is tough.

Conclusion: When facing a Basic Leave and having an optional Lift-to-OS, which is the result of BHS by the previous team, you should consider the shortest shot at an Oppo-Ball. If that is the ball at the Current-Hoop, your offensive play is more difficult than if you hit the Oppo-Ball at the Previous-Hoop. Missing the shot at the ball at the Current-Hoop makes the Basic Strategy for u/k slightly more difficult. The only wrong shot is shooting at Partner, unless it is significantly closer to the opportunity Spot.

## Three Ball Together ("3BT")

Leaves set at the end a turn (BHS or BPS) should separate/destroy the Danger-Ball. But what should be the ending relationship be between the other three balls? So far, we have grouped two of them (Partner and Spent) together, usually at the last hoop, and sent Striker to the next hoop, as a quasi-pioneer. However, this may not be practical or desirable. It may be better to leave Three Balls Together - 3BT. This configuration can arise as a last resort, perhaps in the context of a failed hoop approach, or by design, when the desire is to set-up for a Peel and perhaps an attempt to make two hoops in a single turn.


In Figure 00.36 u has set a Basic Leave after completing a BHS which included destroying r , making $\mathrm{h}(2)$, leaving k with y at $\mathrm{h}(2)$ and having $u$ proceed to $h(3)$. But what can $u$ do if his approach to $h(2)$ leaves him unable to make the hoop? $u$ can go to a position near
$k$ and $y$, Figure 00.37 , leaving three balls together $-3 B T$. $r$ will have a lift-to-OS, Figure 00.38 , so $u$ should be careful to not leave a double or triple target from the WOS (or the EOS!) to where the balls are near h(2).

If $r$ shoots and misses, Figure 00.39 , then it can be marked in 4 yards. $k$ can use $r$ to obtain a rush on $u$ to $h(2)$ and Peel $u$ going to $y$. If $y$ was positioned thoughtfully as an Escape-Ball by $u$ during his turn, Figure 00.40 then $k$ should be able to rush $y$ to $h(3)$ and takeoff to make $\mathrm{h}(3)$, Figure 00.41 . Finally, k would shoot to position at $\mathrm{h}(4)$, hopefully wired from y , Figure 00.42 .


A challenge for any leave, 3 BT or otherwise, is that Oppos will play next! If they hit-in, then they can use 3BT to their benefit. For example, back in Figure OO.39, r might have hit-in. If so, $r$ should be able to replicate for $r / y$ what $k$ did for $u / k$ - Peeling a ball at $h(2)$ and then escaping to $h(3)$ to try for another hoop. Turn-about is fair play in Only-Once!

Two Miscellaneous Things to Notice about 3BT: (i) 3BT in the example above was set at $h(2)$, an even-numbered corner hoop. This allowed the three balls, in particular $y$, the escape-ball to $h(3)$, to be positioned far from the WOS - to the north of $h(2)$ - outside the "box" defined by [h(1)-h(2)-h(3)-h(4)]. The escape would not be as easy at an odd-numbered hoop, say $h(3)$, where ideally the Escape-Ball to the next hoop, $\mathrm{h}(4)$, would be in the box making it more vulnerable to attack. Keeping it in the box could require a longer Peel attempt. This fact might make it prudent to forgo the second hoop attempt.
(ii) If Opponents choose to shoot at a 3BT, and miss, then picking up the $4^{\text {th }}$ ball should be easy and immediate.

## Peg-Outs and End-Games



After making his $6^{\text {th }}$ point, shown here as having $r$ make $h(9)$, Striker will be for the peg and usually set one of two leaves: Figure 00.43 is the Basic Leave $-y$ and $u$ are at the last hoop, $h(9)$, and $r$ is at the peg, the "next hoop". Figure 00.44 is the 3BT, with $u, r$, and $y$ are together at $h(9)$. In both cases, $k$ has been "destroyed", sent toward $c 2$. It is $k$ to play. Unspecified is whether or not $r$ had a Peel during his last turn. But no matter how $r$ scored, 3BT is to be preferred as it leaves $k$ a longer shot, either from where it is in $c 2$, or from either OS. Therefore, we will use 3BT as the starting point for the rest of this discussion.

We assume r's previous turn did not involve a Peel and therefore $k$ is able to start his turn with a lift-to-EOS, Figure OO.45, If $k$ does not hit, then the game should be over, r/y has an easy win! y taps $u$, takes off to $r$, rushes $r$ to the peg and pegs-out both for the win.

Now suppose that $k$ hits-in by roqueting $r$, Figure 00.46 . The score is ( 6 to 3 ). $u / k$ will proceed by having Striker score points by making Current-Hoops until they too are for the peg, or until $r / y$ have Pegged -Out for the win. During this "catch-up" period $u / k$ will need to keep $r / y$ from having an easy shot on $u / k$ that could then lead to a take-off to Partner and an easy peg-out. $r / y$ must have a shot - best that it be on Partner who is situated well away from the peg.

Figure 00.47 assumes that $u / k$ is able to fend off $r / y$ and make three more hoops [ $k$ makes $h(10)$, $u$ makes $h(11)$ and $k$ makes $h(12)$ ] such that both teams are now for the peg. The score is now ( 6 to 6 ) and all clips are on the peg. It is $y$ to play. If $y$ hits $u$ or $k$ then he should be able to get behind $r$, rush it to the peg, and Peg-Out both balls for the win.

But what happens if $y$ hits $r$ ? y could try a long Peg-Out attempt on $r$ and, if it works, then peg himself out. But there is another way: Only-Once follows AC and A6W rules and therefore once a team has made their last hoop, one of their balls can be pegged-out by the other team if it too has made their last hoop. This means that y could rush the Danger-Ball u to the peg and peg him out. y could also peg himself out (or not). Now, following rotation, it would be $r$ to play. $r$ should be able to finish and win for $r / y$ by tapping $k$ and taking off to the peg to peg out y if necessary and himself.

## Let's Go to the Videos

Matthew Essick and Steve Morgan played three games of Only-Once involving three different levels of difficulty: The conclusion is that the Standard Game is good for beginning players, the Advanced for players learning to Peel and the SuperAdvanced is good for elite players.

1. STANDARD: No Peeling Requirement, and Possible 4 -yard Mark-in: This is the basic game. We believe it is well suited for players seeking to transition from GC to A6W, or for beginning AC players who what to play a game patterned on the rules of $A C$ before the either ball rule was initiated.

This version of the game teaches color-order ( $u, r, k, y$ ), and the desirability of destroying Danger and getting Spent for Partner before scoring a hoop. It does not penalize play with carry-over deadness and facilitates play, especially rushes, by allowing balls to be marked in 1 or 4 yards. Finally, while not requiring Peels, it allows Peels and gives them meaning by removing the lift Opportunities of Oppos if a point is scored with a Peel.

The first video establishes that this version of the game can be overwhelmed by good players! Matthew got way ahead early on with turns involving 2 and then 3 scores all within the limit of using each ball only-once. Stephen made a valiant effort to recover, coming back from (6-1) to (6-3) only to see his resurgence thwarted by a failed Peel attempt at $\mathrm{h}(10)$. Matthew won (8-3). In this game there was only 1 Peel, 1 hoop made without any roquets, 7 hoops make traditionally, and 2 Peg-Outs, for 11 total points.

ADVANCED: 3 Required Peels and Possible 4-yard Mark-in: In this game both Stephen and Matthew played knowing that they needed to complete 3 Peels as part of their 6 points before they could Peg-Out to win. The Peeling Requirement can
be any number of Peels (between 0 and 6 ) and can be different for different players. The second video illustrates the importance of getting Peels done early in the point-making-process so as to not be "forced" to Peel later.

Matthew played $u$ toward the peg. Stephen missed with $r$. Matthew hit $r$ and then Peeled $u$ with $k$. The score at this point was (1-0), with Matthew's score reported first. This was an unusual Peel for two reasons: (i) it was accomplished with just 3 balls, and it was completed at $\mathrm{h}(1)$, an internal hoop. y played next from the WOS and easily hit-in. While attempting Peels on each of his next turns, Stephen ended up accepting three points by making hoops. The score was (1-3). But this left Stephen in the unenviable position of needing to Peel his way home.

Matthew scored the next two points, evening the score at (3-3) but leaving Matthew needing only two Peels to Stephen's three. Matthew followed with a Peel, his second, (4-3) and then a hoop (5-3). Thus, Matthew joined Stephen in the unenviable position of having to score his next point with a Peel, but Matthew only needed one, which he got at h(9) raising the score to (6-3). Stephen missed a Peel attempt and Matthew Pegged-Out to win (8-3).

SUPER-ADVANCED: 3 Required Peels and 1-yard Mark-in only: There was some question as to the benefit of the 4 -yard mark-in. For beginning and intermediate players, we think it is a significant advantage. But, as this final game shows, it is not needed by elite players. As with the Peeling requirement, the mark-in rules can be used to handicap play.

This game had an entirely different character from the previous game. We believe this was because the players "learned" from Steve's play in the Advance Game and decided to go for Peels early ${ }^{54}$. While increasing the challenge, we do not believe that the elimination of the 4 -yard mark-in was a significant change for these particular players.

We describe the opening turn in detail because there is a lot of information here. Stephen opened to the center, with $u$. Matthew sent $r$ to max distance on the north. Stephen missed $r$ with $k$. Matthew then hit $k$ with $y$ from the EOS, sent $k$ toward $h(2)$ gaining a rush on $r$ to $h(1)$, hoping to Peel going to $u$, but it came up short, so Matthew sent $r$ to $k$ and gained a rush $u$ to $h(1)$. It barely got to Peel position. Matthew completed the Peel, but it barely came through $h(1)$ forcing Matthew to shoot to c4 to avoid giving $u$ a lift-to-OS due to being wired by h(1). Score (1-0).

[^34]After this dramatic opening, the players traded 4 more Peels, getting to a score of (3-2) with Matthew having completed his Peeling requirement and Stephen needing one more Peel but having plenty of hoops to accomplish this task. Stephen made a hoop (3-3), Matthew scored a hoop (4-3), and Stephen Peeled, completing his Peeling Requirement, and evening the score at (4-4). So far, the game had been tit-for-tat with Stephen finally gaining momentum. But, sadly for Stephen, he lost the innings when this last Peel went out of bounds, ending his turn with $u$ on the south boundary and $k$ a couple of inches north of $h(8)$.

Matthew was able to score twice this turn! He hit u with y from c4, rushed $k$ toward $h(9)$, scored $h(9)$ going to $r$ and then scored $h(10)$ advancing the score to (6-4) leaving $r$ a rush on $y$ to the peg. Stephen then missed and Matthew Pegged-Out to win (8-4).

## 2.. PICK-THE-PEEL <br> RULES

The objective of a turn is to score points under AC rules by running a break which can last no more than 21 shots and must include making two hoops, the Striker-Hoop ("SH") and the Next-Hoop (" NH " $=\mathrm{SH}+1$ ) and completing a Peel at the Peeling-Hoop ("PH").

1. Two Clips: This game is played with two clips - one for Striker (the Striker-Clip) and one for Peelee (The Peeling-Clip). It is helpful if secondary colors are used for these clips.
2. The Start of a Game: A coin is tossed. The winner is $u / k$, and the loser is $r / y$.
a. The Initial Striker-Hoop: The $\mathrm{u} / \mathrm{k}$ team picks the Initial Striker-Hoop, SH. It can be any hoop on the lawn. The Striker-Clip is placed accordingly. During a game (Regulation Play and a Tie Breaker, if necessary), the Striker-Clip moves in normal fashion as hoops are made. It "wraps-around" (goes back) to $\mathrm{h}(1)$ after $\mathrm{h}(12)$ and then continues again in normal order.
b. The Initial Peeling-Hoop: The r/y team chooses the initial Peeling-Hoop, PH, and the Peeling-Clip is placed accordingly. $\mathrm{r} / \mathrm{y}$ must make their choice before k plays his Opening Turn.
c. Score Sheet: A score sheet is provided. The Turn \# column serves a secondary role - Numbers can be circled to signify that a hoop has been chosen as a PH. This allows players another way to see what hoops are still available to become PHs.
d. Opening Turns: There are 3 single-shot Opening Turns: $r$ plays first, followed by $k$, and then $y$. Balls can enter from anywhere along a rectangle that is marked-in 4 yards around the entire lawn. Roquets ${ }^{55}$ are possible, but there are no continuation shots. Balls are marked-in 4 yards at the end of each of these turns. Making any hoop or Peeling any ball during an Opening Turn, while possible, is irrelevant to the score. However, if a ball is jawsed and remains jawsed at the end of the 3 Opening Turns, then the direction the ball entered the hoop remains relevant for Peel attempts during subsequent Regular Turns.

[^35]3. Regular Turns: The 3 Opening Turns are followed by 12 Regular Turns. They involve:
a. Strict Color Order: u plays the $1^{\text {st }}$ Regular Turn followed by $r$, $k$, and $y$, etc. Each ball will have 3 Regulation Turns.
b. Marking-in Balls and Lift-to-Position: Balls can be marked-in 1 or 4 yards. Balls are marked-in only 1 yard at the end of the Opening Turns and at the end of each Regular Turn, subject to the next Striker having the ability to re-mark one or more of the balls in 4 yards at the start of his Regular Turn. To increase difficulty, the 4-yard option can be waived entirely or just for shots after the first shot of a turn. All Regular Turns (including u's $1^{\text {st }}$ turn) are started with a Lift-to-Position.
c. Running a break and Point Scoring Turns: Striker needs to run a break in order to score points. He starts for the SH and then proceeds to the NH in order. A break can run no more than two hoops and will involve no more than 21 strokes.

Striker scores points if he makes the Striker-Hoop, the Next-Hoop in order, and completes a Peel of Partner ${ }^{56}$ at the Peeling-Hoop. Striker will use one of three Patterns of Play: HHP, HPH, or PHH. Points earned are a function of the Pattern of Play used: 1 point for HHP, 2 for HPH, and 4 for PHH. If Striker fails to score a point during his turn, then the next Striker can play his turn at double value, at his option (i.e., 2 points with HHP, 4 with HPH, and 8 with PHH). However, Opponents automatically earn 3 points if Striker doubles and then fails to score any points.
4. New Peeling Hoop: Each hoop is used once as the PH. The PH changes after each Regular Turn, even if the Peel was not made or even attempted. Striker's team chooses the next PH after the end of Striker's turn and moves the Peeling Clip.
5. Winning a Game: The team that is ahead on points at the end of Regulation Play wins the game. Games can end early if the team that is behind has no chance to recover.
6. Tie Breaker: A Tie Breaker consists of pairs of turns - one for the $u / k$ team and one for the $r / y$ team. Turns start off where the last Regular Turn ended, with the balls as they were, and the Striker-Clip advanced in the normal fashion. Turns are played in strict color order (beginning with $u$ ) until a winner emerges at the end of a pair of turns. At the start of a Tie Breaker, all 12 twelve hoops become available once again as possible PHs. The r/y team chooses the first PH for the Tie Breaker. Then, for as long as the Tie Breaker continues, at the end of a turn, Striker's team chooses the next PH from the hoops that are still available. If all 12 hoops are reused, then all 12 once again become available.

[^36]
## NOTES ON PICK THE PEEL

## Picking the Initial Striker-Hoop

The u/k team picks the initial SH (which identifies the initial NH) before play starts. They do this knowing that $u$ will play the First Regular Turn. A pair of hoops (SH,NH) is defined as a "Pair". Although not particularly consequential, the pairs of hoops differ in length between them, and more importantly in how far they are from possible Peeling-Hoops. Picking $(5,6)$ or $(11,12)$ puts the pair central to all Peels for $u$. But if all teams are successful in their making of hoops, it will give the corresponding pair $(11,12)$ to $y$. Once chosen, the initial Pair should be considered by $\mathrm{r}, \mathrm{k}$, and y as they play their Opening Turns. Additionally, it is important information for the $\mathrm{r} / \mathrm{y}$ team as it picks the initial PH.

## Picking the Peeling-Hoop

There are 12 Regular Turns. Each will have a different PH. While the process for picking the $1^{\text {st }}$ PH for the $1^{\text {st }}$ Regular Turn is slightly different from that used to pick PHs for subsequent Regular Turns, the result is the same: Oppos pick your PH. Picking the $1^{\text {st }}$ PH: u will play the $1^{\text {st }}$ Regular Turn. The r/y team picks u's PH during the preceding Opening Turns and must do so before $k$ plays. While it can come earlier, typically, r/y will wait to make their announcement of the $1^{\text {st }} \mathrm{PH}$ until after $r$ plays its Opening Turn, at which point $r$ places the PH clip on the appropriate hoop. Picking the $2^{\text {nd }}$ Thru the $12^{\text {th }}$ PH: The team ending its Regular Turn picks the PH for the next team and moves the PH clip accordingly before the next team comes onto the lawn. The choice must be made from previously unchosen hoops.

The most basic question to ask when picking a PH is what hoops are still available? Knowing the answer to this question leads to others: How do the positions of the available PHs relate to the positions of the hoops the next Striker will be playing - the positions of the next ( $\mathrm{SH}, \mathrm{NH}$ ) Pair? And where will the balls be on the lawn when the next Striker starts his turn? In the end, the PH that is chosen should be the one that limits the scoring possibility of the next Striker - hopefully eliminating the possibility of PHH, making it difficult to achieve HPH, and perhaps even making HHP a challenge. Here are some things to consider:

Possible Initial Rush-Peel: All turns begin with a lift-to-position. This means that Striker can start his turn with a Peel attempt. If the PH is an inward hoop, then Striker can rush Peelee to the PH and attempt the Peel with his croquet-shot; If the PH is an outward hoop, then Striker can attempt the Peel with a rush and then take croquet to return to his break, which can be very challenging if Peelee is jawsed!

Inward vs Outward Hoops: An inward hoop is one that allows a Roll-Peel attempt going to a ball that can be anywhere on the lawn. An inward hoop facilitates the pattern PHH and the scoring of 4 points. Marking balls in 4 yards makes it more likely that the Roll-Peel will result in a rush on an Opponent ball as Opposed to just a roquet. An outward hoop is one where an Escape-Ball is typically needed at the PH if Striker is to continue his break after a Peel attempt. Unless one is already there, the next Striker will have to provide an Escape-Ball before attempting the Peel. The need for an Escape-Ball usually rules out the PHH Pattern of Play and forces the next Striker to focus on HPH or HHP.

Primary and Secondary Hoops: The concept of "primary" and "secondary" hoops helps to identify what type of Peel Striker will need to execute to complete his Pattern of Play. Each of the 6-physical hoops on the lawn is home to two numbered hoops, creating 12 in total, each of which could be the SH or the NH. Depending upon the context, each numbered hoop can be the "primary" hoop and each primary hoop will have associated with it a "secondary" hoop. Here is the list of possible (primary, secondary) hoops: $(1,8),(2,7),(3,10),(4,9),(5,12),(6,11),(7,2),(8,1),(9,4),(10,3),(11,6)$, and $(12,5)$.

It is possible that the PH does not overlap with the number of the primary or secondary hoops associated with the SH or the NH. In this case, attempted Peels during the turn must be Transit-Peels. It is also possible that the PH overlaps with the either the primary or secondary hoop numbers of one of the SH or NH. In this case, the Peel attempted could be a Straight-Peel or a Back-Peel.

Transit Peels: First, consider the (SH,NH) Pair (1,2) when the PH=4. The (primary, secondary) hoops involved are SH:(1,8) and $\mathrm{NH}:(2,7)$. PH=4 does not overlap with any of them. Therefore, to complete the Pattern PHH, Striker will have to go to h(4), complete the Peel and escape - transit - to $h(1)$. To complete the pattern HPH, Striker will have to go to $h(4)$, complete the Peel and escape transit - to $h(2)$. Finally, to complete the pattern HHP, Striker will make $h(2)$, and then go to $h(4)$ and complete the Peel ${ }^{57}$.

Straight or Back-Peels: Now suppose the relevant (SH,NH) Pair is ( 2,3 ). The (primary, secondary) hoops involved are SH: $(2,8)$ and NH : $(3,10)$. Also suppose that the PH overlaps with one of these. This creates Straight or Back-Peel situations discussed below:

1. Picking the SH Primary Hoop as the PH: If the PH is the same number as the primary SH number, then the Peeling-Hoop and the Striker-Hoop are the same. In general, this is not a good choice for the Peeling-Hoop because it brings the pattern PHH

[^37]into the picture, when it might not otherwise be possible. In our example, the Pair is $(2,3) . h(2)$ is an outward hoop - a Peel cannot reasonably be accomplished at it without an Escape-Ball. However, if the SH and PH are both h(2), then the Peel can be attempted as a Straight-Peel before making h(2), or as a Back-Peel after making h(2) ${ }^{58}$. The reason to consider putting the PH at the SH is psychological - challenging your Opponent to use a distant Partner ball for a risky Straight-Peel right away.
2. Picking the SH Secondary Hoop as the PH: This is a more interesting choice but still not one to pursue. Suppose the Pair is once again $(2,3)$ but this time $\mathrm{PH}=\mathrm{h}(7)$. If Striker tries to complete the Pattern PHH, then, even if the Peel at $\mathrm{h}(7)$ succeeds, Peelee may block Striker's access to the $\mathrm{SH}=\mathrm{h}(2)$ (!), leading to a failed turn and a likely double by Opponents. But, unless forced to by the score, an experienced player would most likely forgo PHH and attempt a Back-Peel, accepting HPH as the result, and an easy 2 -point turn.
3. Picking the NH Primary Hoop as the PH: This can be interesting if the NH is an outward hoop and Striker is precluded from executing the Pattern PHH. Striker will go and make the SH and then face a choice: Try to complete the Pattern HPH with a Straight-Peel; or settle for HHP with a Back-Peel. For example, suppose the relevant Pair is $(1,2)$ and $\mathrm{PH}=\mathrm{h}(2)$. $\mathrm{h}(2)$ is an outward hoop. If there are no Escape-Balls at $h(2)$ and Partner cannot be Rush-Peeled, then Striker cannot execute the Pattern PHH. Striker can send Partner to $h(2)^{59}$, go make $h(1)$ and return to $h(2)$. Then he can attempt the Peel as a StraightPeel or defer and do it as a Back-Peel.
4. Picking the NH Secondary Hoop as the PH: This is an interesting choice. If Striker is unable to go PHH to start his turn, then he will have to make the SH before considering a Peel attempt. But, after that, he most likely will not want to pursue HPH - not wanting to block the NH with the Peel attempt (or success!) and will choose to settle for HHP. This pick of the PH makes 1 point for the Opponents a virtual certainty but makes bigger scores less likely. For example, suppose the relevant Pair is once again $(2,3)$ and the $\mathrm{PH}=\mathrm{h}(10)$. Suppose Striker cannot immediately complete the Peel at $\mathrm{h}(10)$ because it is an outward Peel. Then, Striker will send Partner (and perhaps another ball) toward $h(10)$, go and make $h(2)$, and then return to the physical hoop that is both $h(3)$ and $h(10)$. Completing the Peel at $h(10)$ before making $h(3)$ could generate 2 points (with the Pattern HPH). This is a good strategy for a player who is Absotively Posilutely comfortable with bombards to remove Peelee from the jaws of the Peeling hoop. If not, then Striker can set-up for a Back-Peel after making $h(3)$ - a one-point turn but less risk.

[^38]Creating a Potential Pioneer-Ball for Your Team as You Pick the PH for Oppos: Suppose the $u / k$ team will play the Pair (1,2). The r/y team is considering its pick for the PH. They know that if u completes his required hoops (regardless of what happens with the Peel), then $r$ will face the Pair $(3,4)$ during his next turn. The $r / y$ team also knows that if $u$ makes any attempt to complete the Peel at the PH, then, at some point, $u$ will have to move $k$ from wherever it is on the lawn to the PH.

It is possible, and increasingly likely, as u moves from dreams of PHH, to hopes for HPH, to being satisfied with HHP, that, whether he ultimately succeeds or fails with the Peel, $u$ will be forced to end his turn with $k$ still near the PH. If this happens, and if $r / y$ chose $h(10)$ as the $P H$, then $k$ will be a pioneer for $r$ at his $S H!$ If $r / y$ chose $h(4)$ as the $P H$, then $k$ could be left in a position that makes him a pioneer at r's NH! Both outcomes simplify the future task of $r$.

This suggests that Ceteris Paribus, it is better for you to choose a hoop as the PH for Oppos if that hoop, or its secondary hoop, will be the SH or the NH for your next turn.

Picks for PH: The panel of figures below shows our choices for PH for four relevant (SH, NH) pairs. In each case, we assumed that the game is just starting, and that all 12 hoops are available. We made conservative choices - all are outward corner hoops that force the Peels to be executed as Transit-Peel:
(SH, NH) - (1,2): The next team would follow with the Pair (3,4). The relevant outward corner hoops are: $h(4)$ and $h(10)$. We liked $\mathrm{h}(10)$ because of the pioneer possibility at the next $\mathrm{SH}=3$, but we went with $\mathrm{PH}=\mathrm{h}(4)$ because it made it easier for the $r / y$ team to "hide". It also precluded a bombardment by $u$ that could have moved $r$ or $y$ closer to $h(10)$. Finally, and not of great value, $\mathrm{h}(4)$ provided a possible pioneer at the next $\mathrm{NH}=4$.
(SH, NH) - (2,3): The next team would follow with the Pair (4,5). The relevant outward corner hoops are: $\mathrm{h}(4)$ and $\mathrm{h}(8) . \mathrm{h}(4)$ has appeal because of the pioneer possibility at the next $\mathrm{SH}=4$. But we went with $\mathrm{PH}=\mathrm{h}(8)$ because we could position r and y further from $\mathrm{h}(2)$, Oppo's SH.
(SH, NH) - (4,5): The next team would follow with the Pair (6,7). The relevant outward corner hoops are: $\mathrm{h}(2)$, $\mathrm{h}(8)$, and $\mathrm{h}(10)^{60}$. We chose $\mathrm{PH}=\mathrm{h}(2)$ because it afforded a possible pioneer at the next $\mathrm{NH}=7$ and because it provided hiding places that were as good as, or better than, those related to $h(8)$ or $h(10)$.

[^39]Pair (5,6): The next team would follow with the pair (7,8). The relevant outward corner hoops are: $h(2), h(4), h(8)$ and $h(10)$. We chose $\mathrm{h}(2)$ as the PH because it is the option that is farthest away from the current SH and it has the potential to create a pioneer for the next $\mathrm{SH}=7$.

Picking the PH for Sample (SH,NH) Pairs and Play of the Opening 3 turns


The Opening Three Turns
A game starts with $u / k$ picking the initial SH. Then $r, k$, and $y$ each have an opening turn. Collectively they simulate how the balls can be left in a leave at the end of any Regular Turn in anticipation of the next ball playing his Regular Turn. Here $r$, $k$, and $y$ play single shots seeking to influence the play of the first Regular Turn, which will be taken by u , knowing that u will start with a Lift-to-Position.

The Opening Turn of $r$ : $r$ will play and then announce the location of the $1^{\text {st }} \mathrm{PH}$. In taking these actions, $r / y$ should consider the location of the $(S H, N H)$ pair chosen by $u / k$ and anticipate the play of $k$, and then their own play of $y$. r's goal is to restrict the play of $u$ during his $1^{\text {st }}$ Regular Turn. $r$ should not make life easier for $u$ by playing near the $1^{\text {st }} \mathrm{SH}$, near the $1^{\text {st }} \mathrm{NH}$, or near what will be the $1^{\text {st }}$ PH. Playing near the SH or the NH gives u a free Pioneer-Ball; playing near the PH gives him a free Escape-Ball. Also, r, and later y, should avoid going to corners because cannons are easy to create with the 4 -yard corners. What should $r$ do? Having the option of a lift-to-position to start each turn makes wiring lifts moot. Therefore, $r$ should play near to (and ideally up against the upright of, or even in the jaws of) a hoop that is away from the SH , away from the NH, and away from the PH.

The Opening Turn of k : k plays after r . k has two basic choices - to shoot at r , or to shoot to a specific location on the lawn. Shooting at $r$, and possibly freeing it, is an important consideration if $r$ is pinned to a hoop leg. This is because $u$ will have trouble completing any Pattern of Play without access to all 4 balls. If $r$ is not pinned, then $k$ should leave $r$ alone and consider other alternatives. $k$ can go anywhere on the lawn, but going near to the SH , the NH or the PH are relevant possibilities. Another possibility is that k goes toward the peg. In each case, k must worry about y dislodging him.

1. $k$ Goes to Pioneer-Position at SH: This might look like a good idea because it gives u a pioneer at his first hoop. But upon reflection, this is a poor choice. If $u$ starts off by making the SH with $k$, then he will have ruled out the Pattern of Play PHH and lessened the likelihood of PHP. This is too conservative of an approach! Furthermore, if $u$ does not choose to make SH with $k$, then $k$ could have been better placed to begin with.
2. $k$ Goes to Pioneer-Position at NH: Positioning $k$ at the NH does not make sense!
3. $k$ Goes to Peel-Position at PH: Invariably the $1^{\text {st }}$ PH will be outward. Even so, we like positioning $k$ at the $P H$ and waiting to see where $r$ and $y$ end up. If one mistakenly ends up as plausible Escape-Balls (to SH from PH) then $u$ can rush $k$ to the PH and attempt the Peel. Assuming that $r / y$ does not make this obvious mistake, $u$ can still cozy up to $k$ and try a rush Peel! This is a fine strategy except when $k$ jawses or just dribbles through the PH making it difficult for $u$ to carry-on to the other balls or SH.
4. $k$ Goes to the Peg: This is another good option. Being central has advantages. While $k$ will not be in "perfect" position for anything, he will be relatively close to all hoops, and he will be long way from a boundary and likely to be ignored when y takes his Opening Turn. When $u$ comes on the lawn, $u$ can rush $k$ anywhere he wants and then take-off to the other balls.

The Opening Turn of y : y plays after k and will make the final Opening shot. If k goes to a position near the PH , then y can ignore $k$, or $y$ can attempt to rush $k$ away. Rushing $k$ away is not a sure thing and might even make things worse! It could leave two balls near the PH ( $k$ as Peelee and $y$ as an Escape- Ball!) perhaps giving $u$ a previously unavailable chance at a $1^{\text {st }}$ turn croquet-Peel and a successful escape to the $\mathrm{SH}^{61}$.

[^40]If $k$ does not go to the PH, or $y$ decides not to challenge the position, then, like $r$ before him, $y$ should try to make life as difficult as possible for $u$. Ideal positions for $r$ and $y$ will not only make completing the pattern PHH impossible but will also severely threaten the viability of HPH. A good way to achieve this result is to force $u$ to make the SH with k . Here are two suggestions in this regard:

1. $y$ close to $r$ : Put $y$ close to (but not too close!) so that it is difficult for $u$ to do more than use one of them to gain a rush on the other to the Striker Hoop. Too close can allow $u$ to bombard one of $r$ or $y$ into the other - totally defeating the desire to hide $r$ and $y$ near a hoop.
2. $y$ separated from $r$ : Separate $y$ from $r$. If $k$ is at the PH and $u$ does not choose to try a Rush-Peel, then $u$ would like to: Send one of $r$ or $y$ to join $k$ at the PH as an Escape-Ball from the PH to the NH; Readjust $k$ at the Peeling-Hoop; Go make the SH; and then complete the Peel at the PH as a Transit-Peel on the way to the NH. But this can be difficult if $r$ and $y$ are separated and $u$ may end up being forced to use $k$ to make the SH, which would force $k$ to be rushed to the PH from the SH and immediately Peeled, if HPH is to be achieved. HHP is the more likely result.

Plays for the Open Turns: It is time to return to Figures PP. 1 - PP. 4 and add in the opening turns of $r, k$, and $u$.
The Placement of $r$ : In each of the four (SH,NH) groups, we have placed $r$ as far as possible from the $\mathrm{SH}, \mathrm{NH}$ and PH , ideally wired from them behind a hoop such that it is difficult for $k$ to rush $r$ to the PH and establish an Escape-Ball.

The Placement of $k$ : Assuming that $r$ is not rush-able to a useful position, and $r$ is not so wired as to make it difficult for $u$ to maneuver, then we believe it is optimal to place $k$ in Peel position at the PH, close enough to threaten a Rush-Peel attempt, but not so close that k can be easily dislodged by y . This is what we have done in the figures above.

The Placement of $y$ : With $r$ and $k$ in place, $y$ has the last word before $u$ comes on the lawn for the $1^{\text {st }}$ Regular Turn. We see no reason for $y$ to shoot at $r$, unless $k$ has moved $r$ to Escape-Ball position at the PH. Any shot by $y$ at $k$, assuming $k$ is 5 or more yards from one of the 4 -yard baulk lines, is likely not to be a square hit and could make life easier for $u$. So, we believe that $y$ should join $r$ knowing that $u$ will want to use one of them to get to the other and hoping that, while allowing a rush from one of them to the SH , their proximity does not also allow the other ball to be placed advantageously at the same time. We followed the strategies discussed above for the placement of $r$, $k$, and $y$ for Groups 1,2, and 3 in Figure 2. But we deviated from my own recommendations for Group 4 placing $r$ and $y$ on opposite sides of the lawn - a very "wide" join. This may make u's job harder if he wants to pursue PHH, but easier otherwise.

## The 12 Regular Turns

The role of Striker rotates in strict color order during the 12 Regular Turns. u plays first, followed by $r, k$ and $y$, and then back to $u$, etc. As each Striker comes onto the lawn, he knows the score of the game and how far it has progressed - how many Regular Turns have taken place and how many remain. He sees the locations of the SH, the NH, and the PH, and he sees the positions of the balls. What he sees will "suggest" which Patterns of Play (PHH, PHP, or HHP) are possible (and which are not) and therefore how many points (4, 2, or 1, unless there was a double) are reasonably available to Striker that turn. Here are some things to think about as you contemplate a Regular Turn including its ending by setting the Peeling-Hoop for your Opponents:

Progressing Through the Patterns: Given the right (!) configuration of hoops and balls, it is possible to start a turn by attempting the Pattern of Play PHH, and if that fails, then try for HPH, and if that fails, then settle for HHP. It is also possible to decide not to pursue PHH and set up for HPH and if that fails, then settle for HHP. Finally, it is possible to ignore PHH and HPH and set-up for HHP. Each Striker should think through the progressions that are open to him, as things do not always go as planned! In the end it is all about risk and reward.

Cannons: Marking balls in 4 yards creates huge corners for possible corner cannons making the acquisition of corner cannons easier. But marking in balls 4 -yards is a mixed blessing for borderline cannons: Its bad news if Striker wants to shoot out firmly because it narrows the angle of possibility; it is good news if Striker wants to use a touch shot to gain the cannon because the area of possibility - the rectangle - is expanded.

Doubling: If your Opponent fails to complete a Pattern of Play during his turn, then you have the option to double before starting your turn, giving you the possibility of earning 2,4 , or 8 points instead of 1,2 , or 4 by completing the same HHP, HPH, and PHH Patterns. But, if you double and fail, then your Opponent earns 3 points. Should you double? If your only choices are making 2 points (HHP) or failing and giving your Opponent 3 points, then there must be at least an $60 \%$ chance of success for the double to be valuable (in an expected-value sense) [i.e., $\left[x^{*}(2)=(1-x)^{*} 3\right]$ yields an $\left.x=0.6\right]$.

An 8-point PHH-turn can change the outcome of the game, but so can a 4-point HPH-turn. And a 2-point HHP-turn is almost never bad and is a lot better than failing and giving 3 points to your Opponents. If a turn involves a double, then discretion can be the better part of valor. Unless you are playing terribly or are very far ahead, we think doubling should be virtually automatic early in the game. Then which pattern to choose becomes the overriding concern and should be influenced by the score and how far the game has progressed. Late in a game intentionally failing to set a killer leave with the goal of doubling if Oppo fails can be a valid tactic.

Helper-Balls: A break can last only two hoops and must involve making the SH (the $1^{\text {st }}$ hoop) and the NH (the $2^{\text {nd }}$ hoop). After the $1^{\text {st }}$ hoop is made, there is no need to send the Reception-Ball off as pioneer to a non-existent $3^{\text {rd }}$ hoop. Instead, it should be used to "help" set-up for a final Peel attempt - the HHP pattern or to "help" set-up a difficult next turn for Oppos.

The Ever-Shrinking Pool of Potential Peels: Each hoop is used only once. While the precise order may change, invariably the outward corner hoops are chosen first, followed by the inward corner hoops, and finally the middle hoops.

Further General Thoughts of Peeling: (i) In cases where an inward hoop corner hoop [e.g. $h(1), h(3), h(7), h(9)]$ is selected as the PH, there is opportunity for Striker to exploit the 4 yard rule to have a good chance at PHH. He can do this by taking his first shot of the turn as a firm dolly rush on Partner to a spot off the lawn, 7 yards directly in front of the PH. Lining Partner back on the lawn at the 4 yard line gives a guaranteed 3 yard Peel attempt. (ii) In cases where PHH is not realistic, in particular if the PH is an outward hoop, then Striker can consider HPH as his most realistic scoring option. In order to be most successful at this option, an accurate Escape-Ball is an absolute must. In order to have the best chance of placing a good Escape-Ball from distance, it is often best to take the lift-to-position as a dolly rush on the opponent ball, rushing it directly to the Escape-Ball position at PH - this enables Striker a second shot, normally a take-off to Partner, to readjust and fine-tune the positioning of the Escape-Ball. Partner can then be croqueted toward PH while Striker approaches the final ball and makes their SH. Remember that the Escape-Ball position if usually more important than the position of the Peelee! The position of the Escape-Ball determines in what way the Peel can be played!

## Setting a Leave

How good a leave is at the end of a Regular Turn is influenced by:

1. The Positions of What Will be the Next SH and its Associated NH. These positions are not controlled by the current Striker.
2. The Choice of the PH. This choice is under the direct control of the current Striker as he ends his turn.
3. Where Striker Leaves the Balls on the Lawn: How much Striker can influence the final positions of the balls is a function of the Pattern of Play Striker used during his turn. There is usually more room to maneuver if the Peels are done early in the Pattern. Thus, the best leave will usually be set while completing the Pattern PHH, followed by HPH, and, finally, HHP. For example, if HHP is the pattern used, and the turn ends with a final scatter-shot that completes Peel, then Striker will have no
capability at all to influence the position of the balls post-Peel. At the other extreme a turn that uses the Pattern PHH and completes the " P " as a Rush-Peel. Striker will have 20 more shots (potentially) to make two hoops and set the leave.

There is a hierarchy that Striker, should worry about when setting a leave: The current Danger-Ball will be the next Striker-Ball and will begin his turn with a lift-to-position. Positioning this ball while setting a leave is a waste of time. Instead, Danger should be used to facilitate the placement of the other balls. First - position the Spent-Ball - Oppo's next Peelee. Second - position Partner - your team's last Peelee. Third - position yourself.

Given enough shots, Striker can wire Spent (far from the next PH), he can wire his Partner (perhaps leaving it near or even in the jaws of the last PH ) and, Striker can wire himself. None of this is easy but all is worth trying.

## Let's Go to the Videos

Two games between Sherif Abdelwahab and Charlie Xavier were recorded with Charlie winning the $1^{\text {st }}$ and Sherif ${ }^{62}$ the $2^{\text {nd }}$. We expected games to run approximately one hour -5 minutes per turn times 12 turns. In fact, turns ran almost double that amount reflecting the newness of the game and the need to think carefully. Only 11 of the 12 scheduled turns were needed to finish game 1 and 10 for game two. In each case the ultimate winner built up an insurmountable lead.

Four pieces of information are provided/shown for each turn: (i) An image showing the starting positions of the clips and the balls shown after Striker has used his lift-to-position, (ii) the score at the start of the turn and whether or not the turn will be played under a double ("D"), (iii) A brief summary/view of each turn, and (iv) The video themselves - with commentary (sometimes incorrect! $)^{63}$. Of particular interest was how the strategies the players used changed as the score changed - and for how long the losing player actually had a chance to win.

[^41]
## A Review of Game 1

Turn \#1: $\mathrm{SH}=\mathrm{h}(6)$ and the $\mathrm{PH}=\mathrm{h}(8)$ : Charlie went first. Magically(!) Charlie rushed k from the north boundary (marked-in 4 yards) into the jaws of $h(8)$ and was able to immediately Croquet-Peel it. This was followed by some very good play to make $h(6)$ and $h(7)$ completing the pattern PHH and earning 4 points. Must be an easy game(?!).

Turn \#2: $\mathrm{SH}=\mathrm{h}(8)$ and the $\mathrm{PH}=\mathrm{h}(2)$ : Sherif played second, aggressively using his lift-to-position to rush Partner to the $\mathrm{PH}, \mathrm{h}(2)$, and then sent an Oppo-Ball there as well, before going to the other Oppo to attempt the $\mathrm{SH}-\mathrm{h}(8)$ which failed.

Unless PHH is likely, we question the wisdom of using the lift-to-position at the start of a turn to rush Partner to the Peeling-Hoop. If HPH is the goal, then it is better to use the lift-to-position to send the Escape-Ball first and then try to send Partner. You will get a chance to adjust Partner after the SH, but you need a good Escape-Ball to make the next hoop.

Early in a game when the more difficult PHs are being assigned, we think discretion is the better part of valor - go for HHP.


Turn \#3: $\mathrm{SH}=\mathrm{h}(8)$ and the $\mathrm{PH}=\mathrm{h}(10)$ : Charlie doubled but failed at $\mathrm{h}(8)$, the initial SH. Like Sherif just before him, Charlie used the lift-to-position to rush Partner to the PH.

This was suspect for all the reasons just discussed, but also because choosing an aggressive play with a difficult PH, h(10), after doubling and then failing gave Sherif 3 points! A conservative HHP would have garnered 2 points without the drama.

Turn \#4: SH=h(8) and the PH=h(7): Sherif doubled, tried for PHH and failed, tried HPH and failed, but was successful with HHP.
This turn worked but we would have played it more conservatively.
Turn \#5: SH=h(10) and the PH=h(1): Charlie once again tried for HPH, failed, and then failed HHP.
The most important thing we can say about this turn is that my announcing was wrong! We failed to see that the $r$ had been used (roqueted) after h(10) was made and proceeded to give 12 minutes of incorrect commentary (from approximately minutes 38:30 to 50:30). Please ignore.

Turn \#6: $\mathrm{SH}=\mathrm{h}(11)$ and the $\mathrm{PH}=\mathrm{h}(3)$ : Sherif doubled. He tried for HPH, got the HP, but he could not complete the final hoop.
Turn \#7: $\mathrm{SH}=\mathrm{h}(12)$ and the $\mathrm{PH}=\mathrm{h}(6)$ : Charlie attempted HPH but settled for HHP. We thought Charlie should have doubled.
Turn \#8: SH=h(2) and the PH=h(4): Sherif went HHP.


Turn \#9: SH=h(4) and the PH=h(11): Charlie had a good turn HPH taking advantage of an easy PH, $\mathrm{h}(11)$.
Turn \#10: SH=h(6) and the $\mathrm{PH}=\mathrm{h}(9)$ : After the $9^{\text {th }}$ turn the score was 10 to 6 in Charlie's favor. A deficit of 4 points for Sherif. He had Turns 10 and 12 to catch up with the hopes of forcing a tie-breaker ${ }^{64}$.

For Sherif to earn 4 points during this turn would require ( $r$ ) to follow the pattern PHH. With PH=h(9), r needed to rush Partner (y) from where it was at the end of the previous turn, in c 3 , to $\mathrm{h}(9)$ and immediately complete the Peel. This was doable but unlikely to succeed and failure would probably leave balls on the lawn for Charlie to use to expand his lead. Sherif decided to not pursue any points at all and instead set a defensive leave - placing balls against uprights that were difficult to rush ${ }^{65}$.

This created two possible paths to victory for Sherif:
(i) If Charlie doubled and failed, then Sherif would earn 3 points and get to double - such that HHP would generate 2 points and allow him to win.
(ii) (ii) If Charlie did not double but still failed, then Sherif could double and tie by going HPH and hope to win in a tiebreaker.

Turn \#11: $\mathrm{SH}=\mathrm{h}(6)$ and the $\mathrm{PH}=\mathrm{h}(12)$ : Charlie went HHP , advancing the score to $(u / k: 11, r / \mathrm{y}: 6)$ - an insurmountable 5 point margin and Sherif conceded.

[^42]
## A Review of Game 2

Turn \#1: $\mathrm{SH}=\mathrm{h}(6), \mathrm{PH}=\mathrm{h}(4)$ : This is a fairly easy starting point such that $u$ could have rushed k to $\mathrm{h}(4)$ and attempted the Peel while gaining a rush on $r$ to either $h(6)$ or to $y$.

Charlie gave up this PHH possibility and instead set up for HPH by rushing $k$ to the south boundary, croqueting it toward the PH, $h(4)$, and seeking to rush $r$ to $y$ to then make the $S H=h(6)$, which failed. Score ( $u / k: 0, r / y: 0)$.

Turn \#2: SH=h(6), PH=h(8): Sherif Doubled. He tried and failed for HPH but succeeded with HHP, for 2 points. Score (u/k: $0, r / y: 2$ ).


Turn \#3: $\mathrm{SH}=\mathrm{h}(8), \mathrm{PH}=\mathrm{h}(2)$ : Charlie used his lift-to-position to rush an Oppo (y), but failed at his initial hoop, $\mathrm{h}(8)$. Score (u/k: 0, r/y: 2).

Turn \#4: $\mathrm{SH}=\mathrm{h}(8), \mathrm{PH}=\mathrm{h}(10)$ : Sherif chose not to double. Sherif succeed HHP for one point, making the score ( $\mathrm{u} / \mathrm{k}: 0, \mathrm{r} / \mathrm{y}: 3$ ).
We would have doubled. Yes, the PH was the outward hoop, $h(10)$, but it looked easy to send $u$ and $r$ to $h(10)$ going to $k$ to make $h(8)$. Then try the Peel W-h(9), possibly earning 4 points (for doubled HPH). You need to double in circumstances like this! After h(8) if you do not like what you see at $h(10)$ then delay the Peel until after $h(9)$ earning 2 points (for doubled HHP).

Turn \#5: $\mathrm{SH}=\mathrm{h}(10), \mathrm{PH}=\mathrm{h}(12)$ : Charlie was for $\mathrm{h}(10)$ and had a convenient Pioneer-Ball there in the name of r . Sherif succeed HHP for one point, making the score ( $u / k: 0, r / y: 3$ ).

Even though we called it out as a crazy possibility in the video, in retrospect, we think Charlie should have tried for PHH by rushing to $h(12)$ and attempting the Peel going to $y$. The roll shot from $y$ back to $r$ is well in his wheel house whether it be a full or pass roll. This is about as good as it is going to get with PHH possibilities.

Turn \#6: $\mathrm{SH}=\mathrm{h}(11), \mathrm{PH}=\mathrm{h}(1)$ : Sherif rushed y to $\mathrm{h}(1)$ and succeeded with the Peel, PHH , earning 4 points.
Sherif again had the possibility of doubling but passed. We can't imagine why! He starts the turn with balls at his CH and NH and the ability to rush Partner to an internal PH. This is a dream start with the possibility of PHH. It has to be doubled! An 8 point turn would have put the game away! Score ( $u / k: 0, r / y: 7$ ).

Turn \#7: $\mathrm{SH}=\mathrm{h}(1), \mathrm{PH}=\mathrm{h}(6)$ : This was a very interesting turn that we think was misplayed, and we know was mis-announced!
Sherif ended his previous turn trying to put $u$ and $r$ against $h(4)$ but failing with both attempts but leaving $u$ and $r$ very close together. Charlie picked up $k$ and decided to rush - bombard $u$ into $r$, moving both balls away from $h(4)$. Charlie succeeded with the bombard, sending $r$ between $h(1)$ and $h(2)$ and $u$ peg-high near the east boundary. Charlie took croquet on u sending it to $h(6)$ gaining a rush on y to the south boundary. All good so far. In retrospect Charlie could have sent y to $h(2)$ while gaining a rush on $r$ to $\mathrm{h}(1)$ and been in a position to try the Peel at $\mathrm{h}(6) \mathrm{W}-\mathrm{h}(2)$. But probably because of the interesting bombard at the start of the turn, Charlie (and I) forgot that he had not used $r$. Charlie rolled $y$ to $h(1)$ from east of $h(4)$, ignoring/forgetting about $r$ ! Miraculously Charlie found position and made the $h(1)$. While HPH was technically still on the table, the best Charlie could do was HHP, making the score ( $u / k: 1, r / y: 7$ ). We discovered all of this after the fact, while writing up the game...


Turn \#8: $\mathrm{SH}=\mathrm{h}(3), \mathrm{PH}=\mathrm{h}(7)$ : Sherif responded HHP making the score ( $u / \mathrm{k}: 1, r / \mathrm{y}: 8$ ).
Turn \#9: $\mathrm{SH}=\mathrm{h}(5), \mathrm{PH}=\mathrm{h}(3)$ : Charlie is way behind and running out of hoops but has a possibility of going PHH this turn - $u$ can rush $k$ to $h(3)$ and try the Roll-Peel going to $r$ or $y^{66}$. If this succeeds, then Charlie will move the score to ( $u / k, 5, r / y, 8$ ) and have plenty of time to set a killer leave. Sherif might fail during Turn \#10, letting Charlie double, meaning that Charlie could take the lead (u/k:9, r/y:8) after h(11) by scoring 4 points via HPH. But none of this happened.

Instead, Charlie opted to try for HPH, settled for HHP and one point, score ( $u / k: 2, r / y: 8)$.
Charlie's only remain hope was for Sherif to fail on $10^{\text {th }}$ Turn, allowing Charlie to Double, but then needing PHH to pull ahead.
Turn \#10: SH=h(7), PH=h(11): Sherif goes HHP for a single point and the win.

[^43]PICK THE Peel SCORE SHEET

| Turn | Striker | Striker Hoop | Peeling Hoop | Double y/n | u/k <br> Score | u/k <br> Total | $\begin{aligned} & \text { r/y } \\ & \text { Score } \end{aligned}$ | $\begin{gathered} \mathrm{r} / \mathrm{y} \\ \text { Total } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | u |  |  |  |  |  |  |  |
| 2 | r |  |  |  |  |  |  |  |
| 3 | k |  |  |  |  |  |  |  |
| 4 | y |  |  |  |  |  |  |  |
| 5 | u |  |  |  |  |  |  |  |
| 6 | r |  |  |  |  |  |  |  |
| 7 | k |  |  |  |  |  |  |  |
| 8 | y |  |  |  |  |  |  |  |
| 9 | $u$ |  |  |  |  |  |  |  |
| 10 | r |  |  |  |  |  |  |  |
| 11 | k |  |  |  |  |  |  |  |
| 12 | y |  |  |  |  |  |  |  |

## 3.. COLLECT THE CLIPS

## RULES FOR THE CONTINUOUS VERSION OF THE GAME ${ }^{67}$

Introduction: A player comes onto the lawn seeing the positions of the balls and the clips that identify the locations of four "ChosenHoops". He picks one ball to be Striker (the others three are potential Peelees) and begins each turn with a lift-to-position. There are two goals: 1) Earn Basic-Points and, if that is successful, then 2) Earn Bonus-Points.

Basic-Points: The $1^{\text {st }}$ goal is to run a break that can make no more than two of the Chosen-Hoops (the Striker Hoops, "SH") - any two! In any order! - and must complete Peels at the remaining Chosen-Hoops (the Peeling-Hoops, "PH") - in any order! With any Peelee! Clips are Collected after hoops or Peels at Chosen-Hoops and are replenished at the end of a turn.

Following AC rules, Striker starts a turn alive on all balls and can use no more than 21 strokes for his break: up to 7 to make the $1^{\text {st }}$ $\mathrm{SH}, 7$ to make the $2^{\text {nd }} \mathrm{SH}$, and 7 that can occur after the $2^{\text {nd }} \mathrm{SH}$. The order of hoops and Peels made during a break is up to the Striker. There are 11 Patterns-of-Play that Collect the Clips within the 21-stroke limit. Six use a 2-hoop break, four use a 1-hoop break, and one uses no hoops at all. Letting " H " and " P " stand for Hoop and Peel, these are: 2-Hoops: HPHP, HHPP, PHHP, PHPH, PPHH, HPPH; 1-Hoop: HPPP, PHPP, PPHP, PPPH; and 0-Hoops: PPPP.

A team earns one Basic-Point for each Peel completed while attempting to Collects the Clips.
Bonus-Events: If all of the Clips are Collected, then Striker's focus shifts to the $2^{\text {nd }}$ goal: earning points from Bonus-Events. Depending on his Pattern-of-Play, Striker can have Left-Over-Strokes (i.e., available continuation shots) associated with the last ball used to Collect the Clips and/or associated with other balls he is still alive on. Following AC rules, Striker can use these to attempt additional Peels - these can take place at any hoop(s), and/or peg-outs - these can involve any ball. Each Peel or peg-out is a Bonus Event. The first two Bonus Events each earn 1 Point. The third and any subsequent Bonus-Event earns 3 Points. 10 Bonus-Events are theoretically possible ${ }^{68}$. Practically speaking, completing anywhere between one and four Bonus-Events is a good result.

[^44]Winning the Game: A team's score for a turn is the sum of the Basic and Bonus-Points earned and is added to its cumulative total. A winner is declared at the end of any complete pair of turns where one team is ahead and one team has accumulated at least 15 points; or 7 pairs of turns have been played; or an agreed upon time limit has been reached.

Specifics: Normal lifts are cancelled. Otherwise, AC rules apply with the following modifications:

1. Striker Clips: Clips for the four balls are placed on the extension of the peg. One, the Striker-Ball for the turn, is removed to start a turn and carried by the player to help identify the Striker-Ball. It is returned to the peg at the end of the turn.
2. Chosen-Hoops and Their Clips: Each turn involves four Chosen-Hoops with clips to identify their locations. These clips should all be the same color and be a color that is different from the colors of the possible Striker-Clips. Chosen-Hoops are determined before the start of the game, and then before each turn as needed, by randomly drawing blocks (numbered 1-12, one for each hoop) from the "Block Bag". Drawn blocks remain outside of the bag until later when they are reused.
3. Replenishing Chosen Clips After a Turn. In the continuous (but not the discrete game) unused Chosen-Hoops (and their clips) are carried-over from one turn to the next:
a. Replacement Clips: Blocks are drawn from the Block Bag and clips are placed to identify newly Chosen-Hoops that replace those collected during the previous turn.
b. Refilling the Block Bag: When empty, the bag is refilled with all 12 blocks, except for those representing carry-over or newly identified Chosen-Hoops. The blocks are mixed, and the replacement process is continued.
4. The Start of the Game: In the continuous game:
a. Initial Ball Positions: Balls are placed without regard to color to form a 7 -yard square centered on the peg, with u closest to $\mathrm{c} 1, \mathrm{r}$ to $\mathrm{c} 2, \mathrm{k}$ to c 3 and u closest to c 4 .
b. Coin Toss: This game is played in pairs of turns. The winner of a coin toss gets to choose to play first or second.
5. The Play of a Turn: Ending ball positions from the previous turn are the initial positions for the next. The direction a ball was played into a hoop (a jawsing) is carried-over.
a. Turn Beginning Options: All turns begin where the balls were left at the end of the previous turn or where they are marked-in. Additionally: (1) A ball within a yard of the peg can be played from where it is or moved-out one yard along a line formed by the peg and the center of the ball; (2) If three balls from the previous turn are outside of the "box" formed by hoops 1-4, then one of them can be moved to any of the unoccupied four Initial Ball Positions identified in 4a above.
b. Marking-in: Balls can be marked-in during a turn either 1 or 3.5 yards, at the option of the current Striker. Balls are marked-in only 1 yard at the end of a turn, but this can be adjusted to 3.5 yards, at the option of the next Striker before his turn starts. (All 3.5-yard mark-in options can be waived by mutual agreement of the players).
c. The Striker Ball: After being marked-in, any ball can be chosen as the Striker Ball. A player indicates his choice by taking the appropriate clip from the extension of the peg. Striker cannot change his mind once the clip has been removed.
d. Peelees: The other balls are all potential Peelees. Any Peelee can be used in any Peel and can be used multiple of times.
e. Lift-to-Position: Striker can begin his turn from where the chosen Striker-Ball is, or with a lift-to-position.

Game Form: A form to keep track of the game is provided below.


## RULES OF THE DISCRETE VERSION OF THE GAME

Here two (or more competitors) play the same clip/ball positions ("puzzles"), ideally simultaneously.
Turn-Starting Ball Locations: A croquet court can be visualized as having 5 rows, each consisting of four $7 \times 7$-yard grass squares, 20 in total. The center of each square is used as a possible initial ball location for a turn. For convenience, all 20 possible locations are marked with ball markers before play starts. Each row proceeds from west to east. The northern-most row identifies the squares numbered 1-4, and the southern-most row has squares 17-20, etc. This organization is shown in the figure below.


Ball positions for all turns are determine by random draw: In addition to the bag of blocks used to identify Clip-Positions (from the continuous game), there is another bag of blocks used to identify starting ball positions. It has 20 blocks (ideally of a different color than those used for determining clip positions!). The blocks are numbered 1,2,3, ..., 20.

Starting a new Turn: Each turn starts by drawing 4 new blocks from the bag used for clip positions and 4 new blocks drawn from the bag used for ball positions. The lowest number ball position is assigned to $u$, the next higher to $r$, the $3^{\text {rd }}$ to $k$ and the $4^{\text {th }}$ to $y$. This ordering ensures that the balls are located identically for all players. The same replacement procedure is used in both balls and clips (Rule 3 above) except that the Ball Position Bag has 20 blocks instead of just 12. Balls and clips are placed before a turn starts.

Winning the Game: A competition consists of 7 "puzzles" (with each set of clip and ball positions being a puzzle). Scores from two categories will be kept - cumulative points (basic + bonus) and puzzles won. In the two-competitor situation, at the end of the 7 puzzles, if one contestant wins one category and the other contestant wins the other category, then a playoff will occur, with additional puzzles played until one player is ahead and is declared the winner. In a multi-player (more than two) situation, if only one person is in the top of both categories at the end of the 7 puzzles, then he is winner. Otherwise, the players tied at the top of each category enter a playoff. This playoff is based strictly on points. Puzzles are played until a winner is determined, with players not tied for first at the end of each playoff puzzle being eliminated.

Game Form: A separate form to keep track of the discrete version of this game, for a two-competitor competition is provided below.

COLLECT THE CLIPS GAME FORM FOR THE DISCRETE GAME

Date: $\qquad$ Competitors: \#1: $\qquad$ and \#2: $\qquad$
PUZZLE \#__: Chosen-Hoops: $\qquad$ . Ball Locations: (u) $\qquad$ (r) $\qquad$ (k) $\qquad$ (y) $\qquad$

Competitor \#1: Striker: $\qquad$ .
Pattern of Play to collect the clips:
Hor P @ $\qquad$ , H or P @ $\qquad$ , H or P @ $\qquad$ H or P @ $\qquad$
Pattern of Play for Bonus Points:
$\qquad$
$\qquad$ _ with $\qquad$ , Peel @ ___ with $\qquad$ Peel @ $\qquad$ with $\qquad$ Peel @ $\qquad$ with $\qquad$
P/O _ P/O ___ P/O $\qquad$ P/O $\qquad$
$\qquad$ Total this puzzle: $\qquad$ Cumulative across Puzzles: $\qquad$ .

Competitor \#2: Striker: $\qquad$ _.
Pattern of Play to collect the clips:
Hor P @ $\qquad$ , H or P @ $\qquad$ , H or P @ $\qquad$ H or P @ $\qquad$
Pattern of Play for Bonus Points:
$\qquad$ , Peel @ P/O
$\qquad$ , Peel @ $\qquad$ with $\qquad$ , Peel @ $\qquad$ with $\qquad$ -
P/O O__ P/O , Bonus Points: $\qquad$ Total this puzzle: $\qquad$ Cumulative across Puzzles: $\qquad$ -.

## NOTES ON COLLECT THE CLIPS

## INTRODUCTION

Each turn in a game of Collect the Clips presents a unique puzzle and gives Striker no more than 21 shots to solve it! Within the 21-shot limit there can be two parts to any turn:

Part 1 begins by picking at random four "Chosen-Hoops" and placing clips on them. Then, following AC rules, Striker runs a break to "Collect the Clips". He can do this in any order with hoops or Peels. The only requirement is that during a successful collection of the clips no more than two hoops can be scored by the Striker-Ball in a turn - thus at least two Peels must be made. The order Striker follows is his "Pattern-of-Play". Any ball can be Striker, and all turns begin with an optional lift-to-position.

A team earns as many "Basic-Points" as it completes Peels (1, 2, 3, or 4) while it attempts to Collects the Clips.
If all Clips are Collected, then there is a Part 2 to the turn - Bonus-Events and the pursuit of "Bonus-Points". Depending on the Pattern-of-Play Striker followed in Part 1, Striker can have up to seven unused strokes associated with balls he is still alive on. These "Left-Over-Strokes" are used in Part 2 to make additional Peels which can take place at any hoop, and/or to complete peg-outs which can involve any ball (or balls)., each a Bonus-Event. One Bonus-Point is earned for each of the first three Bonus-Events, and three points are earned for each Bonus-Event Peel thereafter. Bonus points are accumulated until Striker runs out of Left-OverStrokes or pegs himself out. One, two or five Bonus-Points are fairly routine as pegging out two balls and Striker happens frequently.

The challenge Striker faces is that the Patterns-of-Play that generate the most Left-Over-Strokes for use in Part 2 of a turn are the ones that are the riskiest/most difficult to implement in Part 1. Having access to 7 Left-Over-Strokes requires that Striker Collects the Clips with just 14 strokes. This is certainly possible, but it is more difficult and involves more risk than having available the full complement of 21 strokes to accomplish the same collection.

Collect the Clips can be played in one of two formats: Continuous and Discrete:
The Continuous Format: In the Continuous format team \#1 plays a turn and then team \#2 takes over. Clips that were collected in the previous turn are replenished for the next. Ball positions for the next turn start where they were left at the end of the previous turn. All turns start with an optional lift-to-position and can use any of the four balls as Striker. A winner is declared when one team is
ahead at the end of any complete pair of turns and: One team has accumulated at least 15 points; 7 pairs of turns have been played; or an agreed-upon time limit has been reached.

The Discrete Format: In the Discrete format, all teams simultaneously play the same puzzle on separate lawns (which could be in different continents!), where each puzzle includes a new set of randomly drawn clip positions together with a new set of randomlydrawn placement for the balls. The image below shows how we divide the lawn into twenty $7 \times 7$ yard squares and numbered them for use in this randomization process.


Here a match consists of a set number of puzzles (perhaps 7). Score is kept two ways: stroke play (i.e., point total), and match play (i.e., number of puzzles won). At the end of 7 puzzles if a team won both the stroke play and the match play, then they are the winner. If one team won the stroke play and the other won the match play then there is sudden death playoff involving an $8^{\text {th }}$ puzzle, and then additional ones if a tie ensues, until there is a winner.

## Outline

The remaining sections of these notes: Introduce the Patterns-of-Play; Discuss Transportation After Peels (TAPs); and Present Examples of Turns involving 2-hoop Patterns-of-Play. Then there are two appendices: The first examines the probabilities associated with different Clip Configurations, and the second presents 1-hoop and 0-hoop Patterns-of-Play. Lastly, there is a final section which reviews a video showing selected turns from Discrete Play.

## PATTERNS-OF-PLAY

Clips for the Chosen-Hoops are picked by random draw and placed before the start of each turn. Striker "collects" the clips following AC rules for making hoops and completing Peels, subject to the proviso that at least 2 clips must be collected with Peels. Striker decides which ones he will make for himself - Striker Hoops (SHs) - and which ones he will make by Peeling other balls - Peeling Hoops (PHs). The Peeling requirement limits a turn to 21 strokes: 7 to make the $1^{\text {st }} \mathrm{SH}, 7$ for the $2^{\text {nd }} \mathrm{SH}$, and 7 that can occur after the $2^{\text {nd }} \mathrm{SH}$ has been made.

There are 11 Patterns-of-Play that Striker can use to Collect the Clips within the 21 -stroke limit. However, 4 of these are 1-hoop patterns (Letting H and P stand for Hoop and Peel, these are: HPPP, PHPP, PPHP, and PPPH) and 1 is a 0 -hoop pattern (PPPP). These patterns are rarely used in actual play and are saved for Appendix 2.

That leaves six 2-hoop Patterns-of-Play which are the focus of these notes. They can be organized and evaluated in many ways, but perhaps the most useful is to consider the last action they take -3 patterns end with a hoop, and 3 patterns end with a Peel. This distinction impacts the trade-off between securing Basic-Points and pursuing of Bonus-Points. Weighing the pros and cons of this trade-off is the essence of this game.

Patterns-of-Play Ending with an H: These are PPHH, PHPH, and HPPH. A pattern ending with a hoop will always provide Striker with at most 7 Left-Over-Strokes - Striker will have a continuation stroke after scoring the hoop and he will be alive on all balls (providing 6 additional shots). Striker will use these Left-Over-Strokes in his pursuit of Bonus-Points.

Possible Bonus-Points: Earning Bonus-Points from one, two, three or even four Bonus-Events using seven Left-Over-Strokes is straightforward: Pegging-out Striker is one; pegging-out one ball and then Striker is two; Peeling a $1^{\text {st }}$ ball followed by pegging-out a $2^{\text {nd }}$ ball and then Striker is three; and Peeling two different balls, pegging-out a $3^{\text {rd }}$ ball, and then Striker provides four. There are many other possibilities for the same number of Bonus-Points.

Completing five or six Bonus-Events relies on Rush-Peels. Five is possible by: Rushing and Peeling a $1^{\text {st }}$ ball, Rush-Peeling a $2^{\text {nd }}$ ball and then croquet-Peeling the same ball, together with pegging out the $3^{\text {rd }}$ ball and then Striker. Six Bonus-Events are possible if two balls are Rush-Peeled and then croquet-Peeled, etc., with 10 Bonus-Events being "possible", as described in Footnote 57 above.

Patterns-of-Play Ending with a P: These are HPHP, PHHP, and HHPP. Here the number of strokes used to complete the required Peels after making the $2^{\text {nd }}$ Hoop, determines how many Left-Over-Strokes are then available to pursue Bonus-Points.
There will be fewer than seven Left-Over-Strokes: There can be zero - after a final scatter-shot-Peel, one - if the final Peel is completed after using the two other balls to gain position on Peelee, three - if the final Peel is completed after using only one ball to gain position on Peelee, and five - if the final Peel is completed without using either of the other two balls to gain access to Peelee.

Using "extra" strokes to gain position on balls helps complete required Peels and is a conservative approach to Collecting the Clips. It helps with the collection process, perhaps ensuring Basic-Points, but makes it more difficult to secure Bonus-Events.

TRANSPORTATION AFTER PEELS ("TAP"s)
Subject to the discussion on the use of Rush-Peels that is presented at the end of this section, Peels completed at hoops while collecting the $1^{\text {st }}, 2^{\text {nd }}$, or $3^{\text {rd }}$ clips require Transportation After the Peel (TAP) back to the break ${ }^{69}$. The $4^{\text {th }}$ clip can be collected as a Peel without a TAP because Striker can end his turn with a final Hoop or Peel. The Basic TAP Information Chart tells how many TAPs are needed for each Pattern-of-Play and when the TAP needs to be in place.

BASIC TAP INFORMATION
$\left.\begin{array}{cccccc}\hline \begin{array}{l}\text { Pattern } \\ \text { of Play }\end{array} & \begin{array}{c}\text { \# of TAPS } \\ \text { needed }\end{array} & \begin{array}{c}\text { Available at } \\ \text { Start of Turn }\end{array} & \begin{array}{c}\text { Created } \\ \text { before 1 }{ }^{\text {st }} \text { SH }\end{array} & \begin{array}{c}\text { Created } \\ \text { Before 2 }\end{array} \\ \hline \text { PPHH } \text { SH }\end{array}\right]$

[^45]How TAPs Arise: There are two types of TAPs: Inward Hoops, and Escape Balls. Conceptually, they are interchangeable.
Hoops can be categorized as "inward" or "outward" by the direction balls move through them relative to the peg. Thus, the odd numbered hoops ( $1,3,5,7,9$ and 11) are inward, and the even numbered ones ( $2,4,6,8,10$, and 12 ) are outward.

The difference between an inward and an outward hoop relates to play during a Peel attempt. Striker can Roll-Peel from an inward hoop getting to (i.e., theoretically obtaining a dolly-rush on) any ball to anywhere on the lawn ${ }^{70}$. But Striker needs the assistance of an Escape-Ball (EB) from an outward hoop in order to maneuver in the same way after the Peel attempt. If an Escape-Ball is not already in place (fortuitously left by the last team), then one must be sent to the PH. After that, Striker will need to make a SH before the now in-position Escape-Ball is usable.

Interchanging Escape-Balls and Inward Hoops: Figure CC. 1 shows the balls in their specified game-starting positions - they are placed without regard to color to form a 7 -yard square centered on the peg. It also shows four white wedges - the "clips" for the Chosen-Hoops. They are located at the Chosen-Hoops pointing in the appropriate direction of play. In this example, the ChosenHoops are $h(2), h(4), h(8)$, and $h(10)$.

All hoops in Figure CC. 1 are outward, and there are no Escape-Balls. Thus, there are no TAPs. The column labelled "Available at Start of Turn" in The Basic TAP Information Chart, shows that with this set of clips and ball positions, Striker cannot start his turn with a Peel attempt and then return to his break - Striker must start by making a hoop, using one of three patterns - HPHP, HHPP, of HPPH. The chart also specifies that: If Striker chooses HPHP, then no TAPs need be available to start the turn, but a single Escape-Ball must be positioned before the $1^{\text {st }} \mathrm{SH}$ is made; If he chooses HHPP, then, again, a single Escape-Ball is needed, but it can be positioned before or after the $1^{\text {st }} \mathrm{SH}$ is made; If HPPH is chosen, then two Escape-Balls must be positioned before Striker makes the $1^{\text {st }} \mathrm{SH}$.

Now compare Figures CC. 1 and CC.2: They have $h(2), h(4)$, and $h(10)$ in common. Then they differ - Figure CC. 2 swaps the outward hoop at $h(8)$ for $h(1)$, the inward one at the same physical hoop. This gives Figure CC. 2 one pre-existing TAP. As the TAP Information

[^46]Chart shows, this is a significant change because it adds two patterns to the consideration: PHHP which requires one TAP, and PHPH which needs two - but only one needs to be in place at the start of the turn. Both patterns start with a Peel and will need to use $h(1)$ (the inward hoop) as the $1^{\text {st }} \mathrm{PH}^{71}$.

Figure CC. 3 has the same Chosen-Hoops as in Figure CC. 1 but differs with respect the position of the black (k) ball - Figure CC. 1 has k in its game-starting position, while Figure CC. 3 has it as a pre-existing (fortuitously left by Opponents) Escape-Ball at h(8). As with the addition of an inward hoop, the addition of an Escape-Ball in Figure CC. 3 at $h(8)$ allows Patterns-of-Play that require that one TAP be in place at the start of a turn.

Figures CC. $4, ~ \mathrm{CC} .5$, and CC. 6 modify Figure CC. 1 showing three different ways to establish two TAPs: Figure CC. 4 has two inward hoops [h(1) and $h(9)]$, instead of the outward hoops at the same physical hoops: [h(4) and $h(8)]$; Figure CC. 5 has two Escape-Balls, at $h(4)$ and $h(8)$; and Figure CC. 6 has one inward hoop, at $h(1)$, and one Escape-Ball at $h(4)$. All three of these structures allow consideration of all six 2-hoop patterns-of-play (and each facilitates PPHH - the pattern that requires two TAPs to be available at the start of a turn).


Equating inward hoops and Escape-Balls is useful, but there are differences: Rushing balls to Peel position at the same physical hoop is easier (usually shorter) for outward hoops than it is for inward hoops. However, for TAPs at outward hoops there are two moving

[^47]targets, Peelee and the Escape-Ball. If the Peel fails, then Peelee can become the next Escape-Ball but it is not likely to be in an ideal position. With TAPs at inward hoops there is only one moving target - Peelee - the hoop itself stays still ${ }^{72}$.

The TAP Dance: The Chart labelled Detailed TAP Information provides relevant data for each of the six 2 -hoop Patterns-of-Play. It is divided into three panels depending upon how many TAPs are available as Striker begins his turn. Since only two Peels are needed to Collect-the-Clips, and since no more than one TAP is needed for each Peel, the relevant starting conditions to focus on, ordered from easiest to hardest, are: Panel 1 - 2 or more TAPS, Panel 2 - a single TAP, and Panel 3 - no TAPs. Each panel has information related to how many Peel attempts can take place, when they can occur, and by when they need to be successful for the Pattern-of Play to succeed. This information gives an indication of how difficult it is to complete each pattern.

Failed Peel attempts can make it impossible to implement a Pattern-of-Play. But just because Striker starts with one pattern does not mean that he must use it to Collect the Clips. It is often possible to "transform" a failing pattern into another pattern that can still succeed, albeit perhaps not as advantageously with respect to Bonus-Points. Transformations are discussed below.

Brief discussions of the six 2-hoop Patterns-of Play: These are ordered by the likelihood of generating Bonus-Events. This coincides with how early Peels are accomplished. Thus, the analysis starts with patterns that end with an H and then turns to those ending in a P. Also, possible movements between patterns - due to failed Peels - coincides (for the most part) with the order presented. It is an order that can and should be considered when you first come onto the lawn and then again (and again) as a turn progresses.

PPHH: PPHH calls for two initial Peels. Therefore, this pattern only appears in Panel 1 which describes situations where two TAPs are in place at the start of a turn. PPHH should be the first pattern considered because it is the most aggressive and because it cannot be pursued unless started immediately.

Implementation: Striker will use his lift-to-position to set-up a rush on a $1^{\text {st }}$ ball to the $1^{\text {st }} \mathrm{PH}$. He will then either Roll-Peel to a $2^{\text {nd }}$ ball or use the pre-existing Escape-Ball at the $1^{\text {st }} \mathrm{PH}$ as the $2^{\text {nd }}$ Peelee. He will rush this ball to the $2^{\text {nd }} \mathrm{PH}$ and attempt the Peel. He will do so either with a Roll-Peel going to the $3^{\text {rd }}$ ball or by using the pre-existing Escape-Ball as the $3^{\text {rd }}$ ball to make his $1^{\text {st }} \mathrm{SH}$.

[^48]
## DETAILED TAP INFORMATION³ ${ }^{73}$

## IF A TURN STARTS WITH 2 OR MORE TAPS



[^49]IF A TURN STARTS WITHOUT A TAP

| Pattern-Of-Play | Attempts before h1 A/M | Attempts before h2 A/M Recep | Attempts after h2 <br> A/M Recep Scatter |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PPHH | -- | -- |  | -- |  | -- |
| PHPH | -- | -- |  | -- |  | -- |
| HPPH | -- | 2/2 1 |  | -- |  | 2 |
| HPHP | -- | 2/1 1 | 4/1 | 1 | 1 | 6 |
| PHHP | -- | -- |  | -- |  | -- |
| HHPP | -- | 2/0 1 | 4/1 | 1 | 1 | 6 |

After making the $1^{\text {st }}$ SH (assuming both Peels are done) Striker has the luxury of moving two of the balls to more favorable positions (hopefully jawsed!) facilitating the pursuit of Bonus-Points that will be attempted after making the $2^{\text {nd }} \mathrm{SH}^{75}$.

There is only one way to execute PPHH and no room for any failed Peel attempts. However, given that Peel attempts occur so early in the strategy, an initial failure (or two!) does not preclude success with other patterns - all five of the other 2-hoop patterns (PHHP, HHPP, PHPH, HPPH, HPHP) remain possible.

PHPH: This pattern appears in the first two panels (but not the third) because it can be accomplished with one or two pre-existing TAPs. With two or more TAPs, PHPH should be $2^{\text {nd }}$ on your mental list of possibilities (after PPHH), and the first if there is only one TAP available at the start of the turn. It is also the immediate fallback if one of the P's in PPHH fails to materialize. Additionally, it is possible to decide that PPHH is too improbable from the outset, and focus instead on PHPH.

Implementation: The procedure for implementing PHPH is presented in the next section of these notes, along with a detailed example. If the initial Peel fails, then there are still four patterns that an initial PHPH attempt can transform into: HPPH, HPHP, HHPP, PHHP.

[^50]HPPH: This is the third and final pattern that ends by making a hoop, thereby providing seven Left-Over-Strokes for the pursuit of Bonus-Points. It appears in all three panels because it can Collect-the-Clips without requiring pre-existing TAPs.

Implementation: If there are no TAPs at the start of a turn, then Striker must establish two Escape-Balls before making the $1^{\text {st }} \mathrm{SH}$. After that, Striker must use the Reception-Ball at the $1^{\text {st }}$ SH as his $1^{\text {st }}$ Peelee. This arises because, after making the $1^{\text {st }}$ SH in HPPH, Striker will proceed PPH - which requires the pre-planned participation of all three balls, the Reception-Ball for the $1^{\text {st }}$ PH, a $2^{\text {nd }}$ ball for the $2^{\text {nd }} \mathrm{PH}$, and a $3^{\text {rd }}$ ball to make the $2^{\text {nd }} \mathrm{SH}$. With no pre-existing TAPs, there is no margin of error in the execution of this pattern.

HPPH can become the Pattern-of-Play if there are at least two TAPs available at the start of a turn, and both PPHH and PHPH are tried but fail to materialize. It can also become the focus of a turn that starts with just one TAP and PHPH fails. Finally, failure to complete one, or both, of the required Peels after the $1^{\text {st }}$ SH still allows for transformations into HPHP and HHPP respectively.

PHHP: There must be at least one TAP at the start of a turn, or this Pattern-of-Play cannot be accomplished. This pattern should not be the initial goal because it requires what might be a risky initial Peel attempt without providing the benefit of a full complement of Left-Over-Strokes. That is, by ending with a Peel, PHHP will provide fewer than 7 Left-Over-Strokes to pursue Bonus-Points. But PHHP can, and often does, arise when PHPH fails.

Implementation: PHHP allows for several Peel attempts - up to 8 . There can be two attempts before making the $1^{\text {st }} \mathrm{SH}$ - one must succeed. There can be two more before making the $2^{\text {nd }} \mathrm{SH}$ - neither need to succeed (and, if there are two attempts, one will be with the reception-ball from the $1^{\text {st }} \mathrm{SH}$ ). Finally, there can be four attempts after the $2^{\text {nd }} \mathrm{SH}$ - one with the Reception-Ball, two with the other balls, and then a final scatter-shot-Peel attempt.

PHHP can be transformed into three other Patterns: HPPH, HPHP and HHPP.
HPHP: This pattern is the Universal Pattern - it Collects the Clips from any Chosen-Hoop configuration and any number of TAPs.
If one or two TAPs are available at the start of a turn, then it would be rare to choose HPHP as the initial pattern of choice, because you would be giving up potential Bonus Points ${ }^{76}$. But HPHP is easy to evolve into during a turn.

[^51]Implementation: The procedure for implementing this Pattern of Play is presented in the next section along with a detailed example. In getting the two Peels done, Striker can make 8 attempts including 6 failures: He can try twice before making the $1^{\text {st }}$ SH (failing on both), he can try twice before making the $2^{\text {nd }}$ SH (failing on an initial reception-ball Peel), and then he can try 4 more times after making the $2^{\text {nd }} \mathrm{SH}$, failing on three of them (a failed reception-ball Peel, and then two regular failures) and finally succeeding with a Rush-Peel scatter-shot.

If the Peel after the $1^{\text {st }}$ hoop fails to materialize, then there is still hope because HPHP can transform into HHPP.

HHPP: This is another universal pattern - it can work from any initial clip and ball configuration.
Implementation: Ending with two Peels makes HHPP difficult to execute. Therefore, it should not be your choice as the initial Pattern-of-Play. It usually arises after HPHP fails and Striker is desperately looking for a way to collect the clips.

There are no possible transformations to other Patterns-of-Play. Once the two hoops are made there is only one way to Collect the Clips - make two consecutive Peels.

Rush-Peels: A careful reader will note that the TAP dances described above do not account for Rush-Peels. Clearly Rush-Peels are useful to complete Peels at hoops where a ball has been jawsed. But, in addition, they can be used to attempt a Peel at any hoop at any time, be it inward or outward. This possibility is facilitated by the optional lift-to-position that starts all turns. Rush-Peels should always be considered but they are risky because the croquet-shot that follows the rush will often be on the wrong side of the hoop for a normal Peel attempt and can be impaired (if the ball is in or near the jaws or just barely trickles through the hoop).

## EXAMPLES OF 2-HOOP PATTERNS-OF-PLAY

Implementing a Pattern-of-Play: Choosing a Pattern-of-Play to pursue is the fundamental strategic decision made before starting a turn. Then the focus shifts to implementation. This includes:

Picking the Striker Ball: Any ball can be Striker. But, especially with the optional lift-to-position that starts a turn, often one ball will be more convenient than the others - resulting in easier rushes and simpler croquet shots - and this one should be chosen.

Assigning Roles to the Chosen-Hoops: It is desirable to work-out initial "assignments" (hoops or Peels) for the four ChosenHoops that fulfill the desired Pattern-of-Play.

Determining the Order of Play of the Balls: It is necessary to work out the order Striker will play the balls. This is a decision that should be based on practical considerations - choosing the order of play that results in the easiest execution of the chosen pattern.

Initial choices for these variables are listed for each of the examples that follow as "The Initial Decisions". However, the only truly immutable decision is the choice of Striker. In the end, to successfully Collect the Clips during a turn, it is often necessary to modify the roles assigned to the Chosen-Hoops, the order balls are played, and the Pattern-of-Play being pursued. The remainder of this section describes two of the most useful Patterns-of-Play (HPHP and PHPH) and how they are put into action with "procedures" detailed steps for implementation.

## HPHP

HPHP is the "universal" Pattern-of-Play. It can Collect the Clips starting from any clip and ball configuration - any number (including zero) initial TAPs. And each of the Chosen-Hoops can be assigned any of the 4 possible " H " and " P " roles, although it is likely that some assignments are easier to work with than others. Additionally, if things go as planned, HPHP does not requires a Reception-Ball to be rushed and immediately Peeled, nor does it require back-to-back Peels. The downside of HPHP is that it provides only limited possibilities for Bonus-Points.

The HPHP Procedure: Assuming no initial TAPs are available or that they are ignored, after the Striker-Ball is chosen, the HPHP procedure can be run as follows:
a. Send one ball (the $1^{\text {st }}$ ball) to the $1^{\text {st }} \mathrm{PH}$. Send a $2^{\text {nd }}$ ball to the $1^{\text {st }} \mathrm{PH}$ as an Escape-Ball to the $2^{\text {nd }} \mathrm{SH}$. These balls can be sent in any order and establish a TAP. Either ball can be used as Peelee, if the other can be used as the Escape-Ball.
b. Rush the remaining ball (the $3^{\text {rd }}$ ) to the $1^{\text {st }} \mathrm{SH}$.
c. Make the $1^{\text {st }} \mathrm{SH}$. (collect the $1^{\text {st }}$ clip). Decide where to send the Reception-Ball:

1. If the Peel at the $1^{\text {st }} \mathrm{PH}$ looks "likely" then send it to the $2^{\text {nd }} \mathrm{PH}$.
2. If the Peel looks "iffy" then send it to the $1^{\text {st }} \mathrm{PH}$ as an Escape-Ball - that is, for use at the $1^{\text {st }} \mathrm{PH}$ if the Peel in (d.) below fails and HPHP converts to HHPP.

In either case, Striker goes to the two waiting balls at the $1^{\text {st }} \mathrm{PH}$.
d. Make the Peel at $1^{\text {st }} \mathrm{PH}$. (collect the $2^{\text {nd }}$ clip). Escape to the $2^{\text {nd }} \mathrm{SH}$.
e. Make the $2^{\text {nd }} S H$. (collect the $3^{\text {rd }}$ clip). Use the Reception-Ball from the $2^{\text {nd }} \mathrm{SH}$ alone, or together with, one or both, of the other balls to rush a ball to position at the $2^{\text {nd }} \mathrm{PH}$.
f. Make the Peel at the $2^{\text {nd }} \mathrm{PH}$. (collect $4^{\text {th }}$ clip).
g. Turn attention to gathering Bonus-Points using Left-Over-Strokes, if any.

Perhaps the Most Consequential Decision: Deciding in step (c.) where to send the Reception-Ball from the $1^{\text {st }} \mathrm{SH}$ is an important and non-trivial matter. The choice is between pre-positioning it at the $2^{\text {nd }} \mathrm{PH}$ or sending it to the $1^{\text {st }} \mathrm{PH}$.

If it is pre-positioned at the $2^{\text {nd }} \mathrm{PH}$ : If the initial Peel attempt succeeds, then Striker should have a relatively easy time collecting the clips. He will escape to the $2^{\text {nd }} S H$, make it, and then he can use the Reception-Ball from the $2^{\text {nd }} S H$, together with the Peelee at the $1^{\text {st }} \mathrm{SH}$, to get to the ball at the $2^{\text {nd }}$ PH and complete the Peel. Here he would have gone HPHP, as desired. If the initial Peel attempt fails, then Striker must still escape to the $2^{\text {nd }} \mathrm{SH}$ and make it. Then he can rush the Reception-Ball from the $2^{\text {nd }} \mathrm{SH}$ to either the $1^{\text {st }} \mathrm{PH}$ or the $2^{\text {nd }} \mathrm{PH}$, Peel it, and then use the ball waiting at that hoop as an Escape-Ball. This would be followed by rushing the Escape-Ball
to the other hoop. Then a Peel could be attempted with the Escape-Ball or with the ball positioned at the final hoop. If a rush on the Escape-Ball is not possible then Striker would be forced to take croquet from it (probably a take-off) going to the final ball at the final hoop. If the Peel succeeds, then Striker would have gone HHPP.

If it is sent to the $1^{\text {st }} \mathrm{PH}$ : If the initial Peel attempt succeeds, then Striker will escape to the $2^{\text {nd }} \mathrm{SH}$, make it, and then need to send one of three balls to the $2^{\text {nd }} \mathrm{PH}$ and complete the final Peel: He can rush and Peel the Reception-Ball from the $2^{\text {nd }} \mathrm{SH}$ (ignoring the two balls), or he can use the Reception-Ball to gain access on the two balls at the $1^{\text {st }} \mathrm{PH}$ and rush one of them to the $2^{\text {nd }} \mathrm{PH}$ and then execute the final Peel. This process could involve two or three balls.

If the initial Peel attempt fails, then Striker will still escape to the $2^{\text {nd }} \mathrm{SH}$ and make it. It would be nice, but not necessary to gain a rush on the Reception-Ball back to the two balls at the $1^{\text {st }} \mathrm{PH}$. But, if Striker can get there, then he can Peel one of them at the $1^{\text {st }}$ PH , and escape with the other to try a final Peel at the $2^{\text {nd }} \mathrm{PH}$.

## Example 1 - Implementing the Procedure for HPHP

Figure CC. 7 repeats Figure CC.1. This clip configuration is the worst imaginable involving four outward corner hoops ( $2,4,8$, and 10 ). There are no Escape-Balls at the Chosen-Hoops. Thus, there are no pre-existing TAPs.

Initial Decisions: Pattern: HPHP, Striker: $u$, Roles: $h(2)$ as $1^{\text {st }} S H, h(4)$ as $1^{\text {st }} P H, h(10)$ as $2^{\text {nd }} \mathrm{SH}$, and $h(8)$ as $2^{\text {nd }}$ PH, and Order: $k, y, r$.
Starting from Figure CC.7, u is placed near to k with the lift-to-position. u rushes k closer to y and then croquets it to Peel position at $h(4)$, the $1^{\text {st }} \mathrm{PH}$, as $u$ goes to y . y is sent near to $\mathrm{h}(4)$ as an Escape-Ball from $\mathrm{h}(4)$ to $\mathrm{h}(10)$, the $2^{\text {nd }} \mathrm{SH}$, as $u$ obtains a rush on $r$ towards $\mathrm{h}(2)$ [ $u$ can rush y directly to Escape-Ball position and take-off to $r$, or croquet y to position while gaining the rush on $r$, depending on their preference]. Then, $u$ sends $r$ to $h(2)$, the $1^{\text {st }} \mathrm{SH}$, Figure CC.8. u makes $h(2)$ with $r$, collects the $1^{\text {st }}$ clip, as an " $H^{\prime \prime}$. $u$ sends $r$ to $h(8)$ the $2^{\text {nd }} \mathrm{PH}$ [the other choice is to send it to $h(4)$, the $1^{\text {st }} \mathrm{PH}$ ] going to $k$ and $y$ at $h(4)$, Figure $\mathrm{CC} .9^{77}$.

[^52]
u Peels $k$ at $h(4)$, collects the $2^{\text {nd }}$ clip, " $P$ ", and escapes to $h(10)$ with $y$, resulting in Figure CC. 10 . u makes $h(10)$ with $y$, collects the $3^{\text {rd }}$ clip, " $\mathrm{H}^{\prime}$, and takes-off78 from $y$ to gain a rush on $r$ to $h(8)$, Figure CC.11. Finally, u Peels $r$ at $h(8)$, collects the $4^{\text {th }}$ clip, " $P$ ", going to $k$ at $h(9)$, its position after the Peel at $h(4)$, Figure CC.12. u has not "had" k. Therefore, $u$ can rush $k$ to the peg, peg it out and then peg itself out, generating two Bonus Points.

Bonus Points: Peg-outs or Peels? Pegging-out a ball to gain Bonus-Points is usually easier than Peeling it. But, in the example above, if $u$ did not have a rush on $k$ to the peg, then $u$ could Peel $k$ at $h(9)$ with a death-roll going to the peg, and then peg itself out.

Conservative versus Aggressive Execution: u chose to Peel r at h(8) using a Roll-Peel to gain access to $k$. A safer way to proceed is to take the "pull" out of the Peel by using straight-croquet shot rather than a split-shot. But this would separate Striker from $k$, limiting possible Bonus-Points to just one: a long-distance peg-out of the Striker-Ball [or a 13-yard roquet at $k$ and a speculative double pegout from near c4!].

[^53]There is a safer way to proceed. Instead of taking off from $y$ going to $r$, $u$ could rush $y$ to $k$ and then $k$ to $r$, obtaining a rush on $r$ to $\mathrm{h}(8)^{79}$. In doing so, u would use six of his seven Left-Over-Strokes to ensure the final Peel - limiting Bonus-Points to a final peg-out.

Discussion: This example started with a possible but extreme set of Chosen-Hoops. There were several long-distance rushes and croquet-shots required that made Collecting the Clips problematic. Situations like this should be dealt with conservatively, with Striker being content to gather the Basic-Points while sacrificing possible Bonus-Points.

Pre-Position Peelee: In the statement of the HPHP procedure (and as shown in Example 1), two balls, an Escape-Ball and Peelee (the $1^{\text {st }}$ and $2^{\text {nd }}$ balls), were sent to the $1^{\text {st }}$ PH before making the $1^{\text {st }} \mathrm{SH}$. When possible, this is the ideal play. The most important ball to achieve accurate position with is the Escape-Ball. In Example 1, Peelee required only a minor final adjustment before the Peel because it had been pre-placed at the Peeling-Hoop, but it could theoretically have been rushed from anywhere on the lawn to the PH and then Peeled. Although having Peelee poorly-placed for a PH is much less likely to achieve a successful Peel, the break can still continue if there is an effective Escape-Ball.

Peeling with the Reception Ball: It is possible to ignore the $2^{\text {nd }}$ ball entirely or send it elsewhere [e.g., to Peel position at the $2^{\text {nd }} \mathrm{PH}$ )]. If this course of action is taken, then the HPHP procedure can still proceed but the Reception-Ball at the $1^{\text {st }} \mathrm{SH}$ must be rushed to the $1^{\text {st }} \mathrm{PH}$ and used as its Peelee. This possibility is not included in the description of the general HPHP procedure because of the difficulty of guaranteeing the required rush after making the hoop. However, reception-ball-rushes, followed by Peels, have uses and are discussed in other examples.

## PHPH

The PHPH pattern is usually more difficult to execute than HPHP because PHPH starts with a Peel (instead of a hoop). Striker does not have the luxury of positioning Peelee at the $1^{\text {st }}$ PH before making the $1^{\text {st }} \mathrm{SH}$ and then coming back and re-positioning it before the Peel. But, by ending with a hoop (instead of a Peel), the PHPH pattern will generate the full complement of seven Left-OverStrokes, and hence a greater possibility of Bonus-Points.

What to do First? If a turn starts with only one TAP and PHPH is to proceed, then before making the $1^{\text {st }} \mathrm{SH}$, Striker must do two things: (1) attempt the $1^{\text {st }}$ PH and (2) establish a TAP at the $2^{\text {nd }}$ PH by sending an Escape-Ball to it. These actions can be done in either order: Striker could use his turn-starting lift-to-position to go the $1^{\text {st }}$ ball, rush it to the $1^{\text {st }} \mathrm{PH}$, attempt the Peel going to the $2^{\text {nd }}$ ball, position this ball as an Escape-Ball at the $2^{\text {nd }} \mathrm{PH}$ going to the $3^{\text {rd }}$ ball, and then make the $1^{\text {st }} \mathrm{SH}$ with this ball. Or he could use

[^54]the lift-to-position to establish the $2^{\text {nd }}$ Escape-Ball with a $1^{\text {st }}$ ball before the attempting the Peel at the $1^{\text {st }}$ PH with the $2^{\text {nd }}$ ball and then making the $1^{\text {st }} \mathrm{SH}$ with the $3^{\text {rd }}$ ball. Which order is better ${ }^{80}$ ? Striker should do the Peel first for two reasons:

1. The Peel is more likely to succeed if it is done first: A turn-starting lift-to position simplifies the execution of an initial Peel by making the rush to the Peeling-Hoop more certain, thereby increasing the likelihood that the Peel gets done.
2. If the Peel Fails, then the $2^{\text {nd }}$ TAP may not be needed: If the attempt at the $1^{\text {st }}$ PH fails, then Striker will abandon PHPH ${ }^{81}$ and go make the $1^{\text {st }}$ SH, transitioning to a pattern that starts with a hoop. While HPPH is possible (and would require a $2^{\text {nd }}$ TAP) Striker is likely to choose HPHP and then default to HHPP if necessary. These two patterns end with a Peel and require only one TAP. Note that the TAP Striker started with is still there! If the TAP was an inward hoop, then that hoop will still have a clip on it and will still be a TAP. If the TAP was an Escape-Ball, then the Peelee from the failed Peel will become the EscapeBall at the same outward hoop and it will still provide a TAP.

If there are two TAPs: If two TAPs exist at the start of a turn and an initial Peel attempt at the $1^{\text {st }}$ PH fails, then there would still be two available TAPs. PHPH remains a possibility by sending a $2^{\text {nd }}$ ball to be Peeled at the $1^{\text {st }}$ (or $2^{\text {nd }}$ ) PH before going off to make the $1^{\text {st }} \mathrm{SH}$ with the $3^{\text {rd }}$ ball. If the Peel succeeds, then there would be one remaining TAP available to facilitate the $2^{\text {nd }}$ Peel after the $1^{\text {st }}$ SH. With two initial TAPs, Striker has the option of the $2^{\text {nd }}$ Peel attempt, but won't know if it is necessary until the $1^{\text {st }}$ Peel is completed. So, starting with a Peel attempt is the appropriate course of action.

The PHPH Procedure: We will assume that there is a single TAP, an inward hoop, that is identified as the $1^{\text {st }}$ PH. There are no preestablished Escape-Balls. The remaining three hoops can be outward (or inward). They become the $1^{\text {st }} \mathrm{SH}$, the $2^{\text {nd }} \mathrm{PH}$, and the $2^{\text {nd }} \mathrm{SH}$. Finally, the initial placement of the balls can be anywhere on the lawn.

After choosing a ball to be the Striker, the PHPH Procedure is:

[^55]a. Rush the $1^{\text {st }}$ ball to the $1^{\text {st }}$ (inward) PH and Peel (collect the $1^{\text {st }}$ clip) going to the $2^{\text {nd }}$ ball.
b. Send the $2^{\text {nd }}$ ball to the $2^{\text {nd }} P H$. This ball will become an Escape-Ball to the $2^{\text {nd }} \mathrm{SH}$ - it creates the $2^{\text {nd }}$ TAP. Striker goes to the $3^{\text {rd }}$ ball which is rushed to the $1^{\text {st }} \mathrm{SH}$.
c. Make the $1^{\text {st }} \mathrm{SH}$ (which can be at either of the two remaining Chosen-Hoops) with the $3^{\text {rd }}$ ball. (collect the $2^{\text {nd }}$ clip).
d. Use the $3^{\text {rd }}$ ball (now the Reception-Ball at the $1^{\text {st }} \mathrm{SH}$ ) to gain a rush on the $1^{\text {st }}$ ball (which is at the $1^{\text {st }}$ Peeling-Hoop) to the $2^{\text {nd }}$ PH. That is, send the Reception-Ball to the $2^{\text {nd }}$ PH while gaining a rush on the former Peelee. Then, rush that ball to the $2^{\text {nd }} \mathrm{PH}$ ball and Peel it (collect the $3^{\text {rd }}$ clip) ${ }^{82}$.
e. Rush the Escape-Ball at the $2^{\text {nd }} \mathrm{PH}$ to the $2^{\text {nd }} \mathrm{SH}$, make the hoop (collect the $4^{\text {th }}$ clip).
f. Use the seven Strokes-Left-Over to pursue Bonus-Points.

Note that in this example Striker will end his turn at the $2^{\text {nd }}$ SH. If it is an outward hoop, then he may have a Back-Peel opportunity for his $1^{\text {st }}$ Bonus-Point at the internal hoop at the same physical hoop. This Peel would involve a Roll-Peel going to the two balls left at the $2^{\text {nd }} \mathrm{PH}$. It could be followed by a Peel of one of the balls at the inward hoop, followed by a peg-out of the second ball and then Striker. This would generate 8 Bonus-Points.

[^56]
## Example 2: Implementing the Procedure for PHPH

Example 2 begins in Figure CC-13 (which repeats Figure CC-2). It is the start of a new game with Chosen-Hoops h(1), h(2), h(4) and $h(10)$. Three of the Chosen-Hoops are identical to those shown in Figure CC-1 - h(2), h(4), and h(10). They are outward hoops. The $4^{\text {th }}$ Chosen-Hoop in Figure CC-1 was also outward, at $\mathrm{h}(8)$, but in Figure CC-13 it is inward - at $\mathrm{h}(1)$, providing an initial TAP. This change allows Striker to consider a Pattern-of-Play that starts with a Peel and, in this case, to choose PHPH.
 $2^{\text {nd }} \mathrm{PH}$, and $h(2)$ as $2^{\text {nd }} \mathrm{SH}$, and Order: $u, y, k$.

Starting from Figure CC-13, $r$ is placed (with a lift-to-position) just north of $u$. rushes $u$ and Peels it at $h(1)$ with a croquet shot (collects the $1^{\text {st }}$ clip) as $r$ goes just south of $y$ (Figure CC-14). $r$ rushes and croquets $y$ to $h(10)$, as the Escape-Ball to $h(2)$, as $r$ gains a rush on k to $\mathrm{h}(4)$. k is rushed to $\mathrm{h}(4)$. r makes $\mathrm{h}(4)$ with k , collects the $2^{\text {nd }}$ clip, Figure CC-15.


Next, r rushes k to c 1 and croquets k to $\mathrm{h}(10)$ gaining a rush on u to $\mathrm{h}(10)$ [the focus must be r's rush on u , which would come at the expense of developing $k$ 's position - however in this example we assume perfection]. $r$ rushes $u$ to $h(10)$, Peels it with a croquet shot (collects the $3^{\text {rd }}$ clip) gaining a rush on $y$ to $h(2)$, Figure CC.16. Finally, $r$ rushes and croquets $y$ to $h(2)$ (hopefully putting $y$ in position at h 7 at the same time) and then makes $\mathrm{h}(2)$ (collects the $4^{\text {th }}$ clip) (Figure CC.17).

The Clips are Collected, and the Basic-Points have been earned. Now attention turns to Bonus-Events (BEs). Four are possible - there are various ways to get them. Here is one way: Have $r$ Peel $y$ at $h(7)$ going to $k$. Then $r$ Peels $k$ at $h(10)$ gaining a rush on $u$ to the peg. $r$ rushes $u$ to the peg and then peg-out $u$ and itself, Figure CC.18.

## SINGLE-DOUBLES AND DOUBLE-DOUBLES

Approximately $40 \%$ of the time ${ }^{83}$ two of the Chosen-Hoops will be at the same physical hoop forming a "Single-Double". And $12 \%$ of the time a turn will involve - a Double-Double - two hoops each holding two clips. This section investigates how best to play from these situations.

## Example 3: HPHP in the Context of a Single-Double

Figure CC. 19 is an example of a Single-Double. The Chosen-Hoops are ( $1,4,8$, and 10 ) - the Single-Double is the pair $[h(1), h(8)]$. This configuration of balls (the starting position for the game) and clips has a single pre-existing TAP - at $h(1)$, which is an inward hoop. It is very similar to starting point of Example 2 shown in Figure CC.13. Both have $h(1)$ as an inward hoop. Each has three outward hoops, with $h(8)$ becoming an outward hoop in Figure CC. 19 in lieu of $h(2)$ in Figure CC. 13 .

Initial Decisions: Pattern: PHPH, Striker: $r$, Roles: $h(1)$ as $1^{\text {st }}$ PH, $h(4)$ as $1^{\text {st }} S H, h(8)$ as $2^{\text {nd }}$ PH, and $h(10)$ as $2^{\text {nd }} S H$, and Order: $u, k, y$.
This turn starts with one TAP. Striker is looking to collect the clips following PHPH. In that procedure there is the following instruction: "Send the $2^{\text {nd }}$ ball to the $2^{\text {nd }}$ (outward) $P H$ ". This is very well and good, but it does not specify which hoop to choose as the $2^{\text {nd }} \mathrm{PH}$. This is intentional, because at least theoretically, it does not matter. In Example 2, $\mathrm{h}(10)$ was chosen as the $2^{\text {nd }} \mathrm{PH}$, which was as good as any other. No matter which hoop was picked, the structure of the Chosen-Hoops made execution difficult - running Example 2 successfully takes considerable shot making skill because it involved lots of long rushes. In Example 3, h(10) could be chosen again as the $2^{\text {nd }} \mathrm{PH}$. This would result in a similar level of difficulty as that seen in Example 2.

But there is a better way to proceed: Choose h(8) - the outward hoop in the Single-Double - as the $2^{\text {nd }}$ PH. Then, starting from Figure CC-19, r uses his lift-to-position to go to $u$. r rushes $u$ to $h(1)$, Peels $u$ at $h(1)$, collects the $1^{\text {st }}$ clip, with a Roll-Peel going to $k$. Now, instead of sending $k$ to $h(10)$ as was done in Example 2, $r$ sends $k$ to $h(8)$, as an Escape-Ball for $h(10)$, gaining a rush on $y$ to $h(4)$, Figure CC-20, after the rush. $r$ makes $h(4)$ with $y$, collects the $2^{\text {nd }}$ clip, and rushes $y$ to $h(8)$, Figure CC-21.

[^57]

Now it is time to Peel at $h(8)$, the $2^{\text {nd }} \mathrm{PH}$. There are three options! It is possible, but unlikely, that y itself can be rushed over and Peeled. If so, then there would be two balls in residence ( $u$ and $k$ ) that can be used to get to $h(10)$ for the final hoop (the $2^{\text {nd }} \mathrm{SH}$ ). More likely is that $y$ cannot be Peeled. In this case, one of $u$ or $k$ should be Peeled at $h(8)$ with the other used as the Escape-Ball to $h(10)$. $u$ was just Peeled at $h(1)$, so it is possible that $u$ is already in a pretty good position for the Peel at $h(8)$, which is assumed here: $r$ takes croquet from $y$ to gain a rush on $u$. $u$ is rushed to $h(8)$. $r$ Peels $u$, collects the $3^{\text {rd }}$ clip, and then $r$ escapes with $k$ to $h(10)$, Figure CC.22. Next, $r$ makes $h(10)$, collects the $4^{\text {th }}$ clip, Figure CC.23. The Clips are Collected with significantly less "rushing around" and with better prospects for the second Peel, because Peelee was already in place ${ }^{84}$. Finally, four Bonus-Events are possible - the Peel of $k$ at $h(3)$, the Peel of $u$ at $h(1)$, and the peg-out of $y$ and then $r$, Figure CC.24.

The lesson to be learned is that the PHPH procedure is specified in general terms that can always work if there is at least one TAP at the start of a turn. But for a situation involving a Single-Double, when the procedure calls for sending the $2^{\text {nd }}$ ball to the $2^{\text {nd }} \mathrm{PH}$, choose the $2^{\text {nd }} \mathrm{PH}$ to be the outward hoop in the Single-Double.

[^58]Double-Doubles: Example 3 established the benefits of a Single-Double. Would a Double-Double be even better? The answer is no. A Single-Double is an asset, but a second can limit chances of completing any BEs. Here is a brief explanation.


Suppose Striker (u) has PHPH (or perhaps PPHH) in mind for both Figures CC. 25 (a Single-Double) and CC. 26 (a Double-Double).This is a logical choice since they both have two internal hoops - two TAPs to start the turn. Suppose $u$ sends $k$ to $h(1)$ in both cases and attempts the Peel. Whether or not the Peel succeeds, it is likely that access to $h(8)$ will be restricted/blocked by Peelee. In Figure CC. 25 Striker can go to $h(9)$ and attempt a $2^{\text {nd }}$ Peel secure in the knowledge that he will have unlimited access to $h(12)$ as his $1^{\text {st }} \mathrm{SH}$. But in Figure CC.26, an attempt at $h(5)$ will limit access (and perhaps deny it) to $h(12)$. With access at $h(8)$ already in doubt, with a Double-Double Striker could attempt and perhaps accomplish two Peels before making a hoop and then fail to make a hoop because of the blocking positions of the Peelees! So, while at first glance having all the clips spread across only two physical hoops may make prospects of success look better, in reality it's easier when there is a bit more "breathing space", to reduce the risk of Striker's progress being stifled.

## Example 4: Flowing Through All Six Patterns-of-Play

Example 4 "flows" through all six of the possible 2-Hoop Patterns-of-Play, showing how they can develop from the same starting position and how one leads to another as Peel attempts fail. It begins in Figure CC. 27 which picks-up from where Example 1 left-off in Figure CC.12. It presumes that Striker ( $u$ ) Collected the Clips (earning two Basic-Points) and then pegged-out $k$ and $u$ earning two additional Bonus Points and leading to the ball positions in Figure CC.27. Then blocks were drawn for the four new Chosen-Hoops. They are $h(3), h(6), h(7)$, and $h(11)$.

These are very favorable starting positions for the clips and balls.
The Clips: $h(7)$ and $h(3)$ are inward hoops. Furthermore, given that all the Chosen-Hoops are contained in the three most northern physical hoops, $\mathrm{h}(6)$ can be considered an inward hoop (relative to the other Chosen-Hoops). Thus, there are three inward hoops with one in a Single-Double formation at $h(6) / h(11)$.

The Balls: If $r$ is chosen as Striker, then the balls start together. This proximity simplifies "Roll-Peels" - each of $y$, $u$ and $k$ is in a convenient position, one that can be "rolled-to" after Peel attempts [at $h(3), h(7), h(11)$, and even $h(6)$ ] by the other balls.

PPHH: Although not shown here, the lift-to-position can be used by $r$ to rush and Peel $u(o r k)$ at $h(6)$ while going to $y$ at $h(3)$. Then $y$ can be Peeled at $h(3)$ returning to $k$ (or $u$ ) to make $h(11)$ and then $h(7)$. Or, $r$ could start by Peeling $y$ at $h(3)$ going to $k$ (or $u$ ), followed by Peeling $u(o r k)$ at $h(11)$ going to $k$ (or $u$ ) to make $h(6)$ and then $h(7)$. While this may seem a difficult row-to-hoe, if $y$ is close enough to $h(3)$, then, using the lift-to-position $r$ may be able to Rush-Peel $y$ at $h(3)$. Then getting to either $u$ or $k$ could be accomplished by a regular croquet shot, instead of a Roll-Peel ${ }^{85}$.

PHPH: If PPHH is the initial Pattern of choice, and the first Peel fails and the second succeeds, or vice versa, then Striker would need to shift his focus to PHPH. It is also possible that Striker ignores the initial PP possibility, and "settles" for PHPH. Here, in detail, is one way the PHPH Pattern-of-Play can be implemented ${ }^{86}$.

[^59]

Decisions: Pattern: PHPH, Striker: $r$, Roles: $h(11)$ as $1^{\text {st }}$ PH, $h(3)$ as $1^{\text {st }} S H, h(6)$ as $2^{\text {nd }}$ PH, and $h(7)$ as $2^{\text {nd }}$ SH, and Order: $k, u, y$. Starting from Figure CC.27, $r$ is picked up and placed (with a lift-to-position) just south of $k$. $k$ is rushed to position at $h(11)$ and Peeled (collects the $1^{\text {st }}$ clip), as $r$ goes south of $u$. $u$ is rushed near to $c 3$ and then croqueted to Escape-Ball position at $h(6)$ for $h(7)$ [or alternatively directly to $\mathrm{P}(7)$ ], while $r$ gains a rush on $y$ to $h(3)$, Figure CC. 28 .
$r$ makes $h(3)$ with y (collects the $2^{\text {nd }}$ clip) and then $r$ sends $y$ toward the peg as $r$ goes to $k . k$ is rushed and Peeled at $h(6)$, and collects the $3^{\text {rd }}$ clip. r escapes with u to $h(7)$, Figure CC. 29 .
$r$ makes $h(7)$ and collects the $4^{\text {th }}$ clip, with $u$ being croqueted to position at $h(2)$ in the process (ready for a Bonus-Event Back-Peel!), Figure CC. 30.

The Clips are Collected, and two Basic-Points are earned. It is time to look for Bonus-Events! There are four relatively easy Opportunities: r roquets u and then Peels u at $\mathrm{h}(2), 1^{\text {st }}$ Bonus-Event, gaining a rush on k to $\mathrm{h}(11)$. r Peels k at $\mathrm{h}(11), 2^{\text {nd }}$ Bonus-Event, gaining a rush on $y$ to the peg. $y$ is rushed and pegged-out, $3^{\text {rd }}$ Bonus-Event, and then $r$ is pegged-out, $4^{\text {th }}$ Bonus-Event, Figure CC. 31 .


HPPH: If both initial Peel attempts from PPHH fail, then Striker will be forced to use the third ball to make a hoop. After that, the balls may still be situated to attempt two Peels in a row followed by a final hoop. For instance, from Figure CC.27, suppose the lift-to-position was used by $r$ to rush and attempt a Peel on $u$ at $h(6)$. Suppose it fails (or was not attempted) and leaves $u$ in Peel position at $h(6)$ as $r$ goes to $y$ at $h(3)$. A Peel on $y$ at $h(3)$ was tried, but it too failed, as $r$ went to $k$. $r$ then rushed $k$ to $h(11)$ and made the hoop, Figure CC. 32. From here Striker should have an easy Back-Peel on $u$ going to $y$, followed by a Peel on $y$ at $h(3)$ going to $k$, with $r$ using $k$ to make the final hoop at $h(7)$.

In the example shown in Figure CC.32, a Back-Peel opportunity at a Single-Double arose out a failed Peel attempt before the other hoop in the Single-Double had been made. But more common would be a situation where a ball is sent to Peel position as the Reception-Ball before making the hoop. Striker then comes through the hoop, roquets the Reception-Ball and engages in an easy Back-Peel. From Figure CC.27, r might over-rush $u$ at $h(6)$ and not be a position to Peel it at $h(6)$ or $h(11)$. $r$ could croquet $u$ to Peel position at $h(6)$ while obtaining position at $h(11)$. Then $r$ could make $h(11)$, roquet $u$, and back-Peel $u$ going to $y$ at $h(3)$.

This suggests that HPPH is a good fallback from PHPH if the initial rush and Peel attempt is to a hoop that is part of a Single-Double.
PHHP: While not the pattern you would go for originally, there are many ways PHHP can arise. Here is one example: Starting from Figure CC.27, r could go to $y$ at $h(3)$, attempt the Peel (and succeed), going to $u$. Then $r$ rushes and croquets $u$ to $h(7)$ going to $k$. $k$ is rushed to $h(11)$ and the hoop is made, Figure CC.33. $r$ attempts and fails with a Back-Peel on $k$ at $h(6)$ going to $u$ at $h(7)$. $r$ makes $h(7)$ with $u$ and then uses $u$ and $y$ to get to $k$ at $h(6)$ for the final Peel.

HPHP: One way to get here is after a failure of the initial Peel attempt for PHHP. The path to Figure CC. 34 is the same as that for Figure CC. 33 described above, except that the Peel at $h(3)$ is assumed to have failed, but once again $r$ makes $h(11)$ with $k$. From Figure CC. 34 , $r$ Back-Peels $k$ at $h(6)$ going to $y$. The Peel at $h(3)$ is attempted again and fails again as $r$ goes to $u$ at $h(7)$. $h(7)$ is made with $r$ using $u$ and $k$ to return to $y$ at $h(3)$ for a third and final (successful) Peel attempt.

HHPP: When all other Patterns-of-Play fails there is still HHPP. We will start from Figure CC. 34 from above. But this time the BackPeel of $k$ at $h(6)$ fails as $r$ goes to $y$, Figure CC.35. From here the Peel of $y$ at $h(3)$ is tried again, and fails again as $r$ goes to $u$. $r$ makes $h(7)$ with $u$ and then uses $u$ to get to $k$ for a successful Peel at $h(6)$ as $r$ goes to $y$ for a final successful Peel of $y$ at $h(3)$.

## APPENDIX 1: PROBABILITIES OF TAPs

In this game, a player must accept the clip and ball positions he is given. That said, it is interesting to investigate the probability of various events happening.

## CLIP CONFIGURATIONS

Probabilities associated with various clip configurations are examined from the vantage point of the start of the game (or whenever the bag of blocks is completely full - when all 12 hoops are possible). Calculations for situations when there are fewer than 12 blocks in the bag are doable, but complicated, and left as an exercise for the interested reader.

There are 12 hoops. Thus, there are $11,880=\left(12^{*} 11^{*} 10^{*} 9\right)$ possible permutations of four Chosen-Hoops. That is, conceptionally, we are drawing without replacement from a bag that originally contains 12 cubes (one for each hoop). Dividing this number by $24=$ $\left(4^{*} 3^{*} 2^{*} 1\right)$ yields the number of combinations $=495$. Therefore, the probability that any one set of clips occurs is $1 / 495(0.2 \%)$.

With four clips it is possible to draw $0,1,2,3$, or 4 internal hoops. The count of clip configurations (out of the 495) and associated probabilities of each of these possibilities is shown in the following table and the associated calculations:

CLIP CONFIGURATIONS

|  | inward <br> hoops | combination <br> count | probability |
| :---: | :---: | :---: | :---: |
| 0 | 15 | $3.0 \%$ |  |
|  | 1 | 120 | 24.2 |
| 2 | 225 | 45.5 |  |
|  | 3 | 120 | 24.2 |
|  | 4 | 15 | 3.0 |

Zero or Four: For there to be no inward hoops, all must be outward. Similarly, for there to be 4 inward hoops none must be outward. Therefore, the results for zero, and the results for four hoops are the same. There are 6 external hoops. In each case, the relevant count is $\left(6^{*} 5^{*} 4^{*} 3\right) /\left(4^{*} 3^{*} 2^{*} 1\right)=15$. That is, there are 6 choices for the $1^{\text {st }}$ hoop, 5 for the $2^{\text {nd }}, 4$ for the $3^{\text {rd }}$ and 3 for the $4^{\text {th }}$. This is divided by the 24 to obtain combinations. The probability is 15/495 = 3/99 (3\%).

One or Three: The numbers for one inward and three outward hoops are the same as the numbers for three inward and one outward hoops. In each case, there are 6 choices for one type of hoop and then 6,5 , and 4 choices for the others. The relevant count is $(6) *(6 * 5 * 4) /(3 * 2 * 1)=120$. And the probability is $120 / 495=24 / 99(24 \%)$.

Two: There are 6 choices for the $1^{\text {st }}$ inward hoop and 5 for the second. The same is true for the two outward hoops. Each needs to be divided by 2 because the order does not matter. $\left[\left(6^{* 5}\right) / 2\right]^{*}[(6 * 5) / 2]=225$. The probability is 225/495 = 45/99 (45\%).

Two or more: The number of these clip configurations is the sum of the numbers for two, three and four and equals: $225+120+15$ $=360$. And the probability is 360/495 = 72/99 (72\%).

## OTHER INTERESTING PROBABILITIES

Doubles: We seek the number of combinations and probabilities that clip configurations will contain zero, one or two doubles.
Zero: $\left(12^{*} 10 * 8^{*} 6\right) /\left(4^{*} 3^{*} 2 * 1\right)=240.240 / 495=48.5 \%$. There are 12 choices for the $1^{\text {st }}$ clip, 10 for the $2^{\text {nd }}, 8$ for the $3^{\text {rd }}$ and $6^{\text {th }}$ for the $4^{\text {th }}$. To go from permutations to combinations, divide by $\left(4^{*} 3^{*} 2^{*} 1\right)=24$.

Two: $\left(12^{*} 10\right) / 2=60.60 / 495=12.1 \%$. There are 12 choices for the $1^{\text {st }}$ clip (which determines the second) and then 10 choices for the $3^{\text {rd }}$ clip (which determines the $4^{\text {th }}$ ). We do not care the order of picking these, so divide by 2.

One: 195 and 195/495 = 39.4\%. This is calculated as the total (495) less the number of combinations involved in zero or two: 495 $(240+60)=195$. And $100-(48.5+12.1)=39.4$.

## Probability that All Chosen-Hoops are in Three pre-chosen Physical Hoops:

There are 6 numbered hoops in any identified grouping of three physical hoops. We want all four clips to land in this grouping. This happens for the $1^{\text {st }}$ clip $(6 / 12)$ of the time, $(5 / 11)$ of the time for the $2^{\text {nd }}$ clip, etc.
$(6 / 12)^{*}(5 / 11)^{*}(4 / 10)^{*}(3 / 9)=0.03$.

Two of these three physical hoop groupings are particularly relevant - having all Chosen-Hoops in the three physical hoops that are entirely north or entirely south of the peg. The combined probability of this pattern of Chosen-Hoops occurring is twice the individual probability and is equal to 0.06 .

## Probability All Chosen-Hoops are in only four Physical Hoops:

A similar logic yields the following calculation:
$\left.(8 / 12)^{*}(7 / 11) * 6 / 10\right) *(5 / 9)=0.14$.

Two instances of this are particularly relevant - when the Chosen-Hoops are not in the southern-most physical hoops or when they are not in the northern-most physical hoops.

## APPENDIX 2

## SINGLE-HOOP AND ZERO-HOOP STRATEGIES TO COLLECT THE CLIPS

It is possible to Collect the Clips using single, and zero-hoop breaks but doing so is impractical because it limits the accumulation of Bonus Points. That said, the possible Patterns-of Play are: HPPP, PHPP, PPHP, PPPH, and PPPP and, for completeness, we describe them here. The first three can be handled with normal shots and are discussed below, while the final two are discussed at the end because they require some added magic that involves either a "Peel-and-hold" or jawsed balls.

HPPP: This pattern can be executed with no internal hoops and no Escape-Balls - no pre-existing TAPS. That is, with situations like the one shown in Figure CC.1. The $1^{\text {st }}$ and $2^{\text {nd }}$ balls are sent to escape positions at two of the Chosen-Hoops - one designated the $1^{\text {st }}$ PH and the other designated the $2^{\text {nd }} \mathrm{PH}$. Then, one of the two unallocated Chosen-Hoops becomes the $1^{\text {st }} \mathrm{SH}$ and is made with the $3^{\text {rd }}$ ball. The Reception-Ball from that hoop is rushed and Peeled at the $1^{\text {st }} \mathrm{PH}$. The pre-placed Escape-Ball at the $1^{\text {st }} \mathrm{PH}$ is rushed and Peeled at the $2^{\text {nd }}$ PH. Finally, the Escape-Ball at the $2^{\text {nd }} \mathrm{PH}$ is rushed and Peeled at the final Chosen-Hoop, the $3^{\text {rd }} \mathrm{PH}$. The Clips are Collected. However, 6 of the 7 potential Left-Over-Strokes have been used. The only possible Bonus-Point is a long shot at the peg. Of course, a better line of play would have been to score the final point as a SH instead of a PH (score the hoop with Striker-Ball instead of as a Peel), to generate an additional 7 strokes for the accumulation of Bonus-Points.

PHPP: This pattern can be completed if there is at least one internal hoop or an Escape-Ball - one pre-existing TAP - is at one of the Chosen-Hoops - the $1^{\text {st }}$ PH. A $1^{\text {st }}$ ball played is sent to one of the other Chosen-Hoops as an Escape-Ball to the $2^{\text {nd }}$ PH. The $2^{\text {nd }}$ ball is rushed and Peeled at the $1^{\text {st }}$ PH with Striker going to the $3^{\text {rd }}$ ball. Striker roquets the $3^{\text {rd }}$ ball and uses it to make the $1^{\text {st }} \mathrm{SH}$, after which it is rushed and Peeled at the $2^{\text {nd }} \mathrm{PH}$. The waiting Escape-Ball is rushed and Peeled at the final Chosen-Hoop, the $3^{\text {rd }}$ PH. Once again, the only Bonus-Point possible is a long shot at the peg, and again, a better line of play would have been to score the final point as a $2^{\text {nd }} \mathrm{SH}$ instead of a $3^{\text {rd }} \mathrm{PH}^{87}$.

PPHP: This pattern required two TAPs - a combination of inward hoops or the equivalent via Escape-Balls. These will be the $1^{\text {st }}$ PH and the $2^{\text {nd }} \mathrm{PH}$. Striker rushes a $1^{\text {st }}$ ball to the $1^{\text {st }} \mathrm{PH}$, completes the Peel gaining a rush on a $2^{\text {nd }}$ ball to the $2^{\text {nd }} \mathrm{PH}$. The Peel is completed with Striker gaining a rush on the $3^{\text {rd }}$ ball to the $1^{\text {st }} \mathrm{SH}$. The hoop is made, and that ball is rushed to the final ChosenHoop, the $3^{\text {rd }}$ PH, and Peeled. Bonus-Points will be dependent upon how many strokes are used to make the final Peel. The rest, the Left-Over-Strokes (can be any number between 0 and 5 ) and will support the pursuit of Bonus-Points.

Two Versions of PPPH


CC. 38

One of PPPP

CC. 40

[^60]PPPH: If there are two pre-existing TAPs then the three Peels can be completed, but, having run out of balls, how do we collect the final clip? How is the final hoop made? Here are two possibilities: a Peel-and-hold, and a starting position that includes a jawsed ball.

Peel-and-Hold: Consider Figure CC. 36 . This is a start of a game with $h(1), h(5), h(6)$, and $h(10)$ as the Chosen-Hoops. From this position, $r$ can rush and Peel $u$ at $h(1)$ while going to $y$. Then $r$ can rush and Peel $y$ at $h(5)$ while going to $k$. Next, $r$ can rush and Peel $k$ at $h(6)$. So far so good - three of the four clips are collected. The question is, having "had" all three balls, how can Striker collect the final clip? Figure CC. 37 shows a solution. Here, as r Peeled $k$ at $h(6)$, $r$ made his way to position at $h(10)$ with a Roll-Peel - a "Peel-and-hold". The final clip can be collected with a hoop shot. After running $h(10)$, $r$ will be faced with a medium-length shot which, if hit, will have good Bonus-Event opportunities.

Jawsed Ball: Assuming two pre-existing TAPs, another way to implement the pattern PPPH is to start with a jawsed ball. In Figure CC. 38 , $r$ is jawsed in $h(2)$ and $k$ is chosen as the Striker. $k$ uses the lift-to-position to go to $u$. $k$ rushes $u$ and Peels it at the inward hoop, $h(1)$ (the $1^{\text {st }} \mathrm{PH}$ ), going to y . Then $k$ rushes and Peels $y$ at another inward hoop, $h(9)$ (the $2^{\text {nd }} \mathrm{PH}$ ), going just south of $r$ at $h(2)$ (the $3^{\text {rd }} \mathrm{PH}$ ). r is Rush-Peeled and then $k$ uses $r$ in a croquet shot that puts $k$ in position to make $h(10)$, the $1^{\text {st }} \mathrm{SH}^{88}$. $k$ makes $h(10)$ with $r$ and collects the $4^{\text {th }}$ clip. Two Bonus-Points can follow- rushing $r$ to the peg, pegging it out, and then pegging out $k$.

PPPP: Figure CC. 39 shows a stylized situation involving a Double-Double and two jawsed-balls that allows the final pattern PPPP to occur. Here it is assumed that, in the previous turn, k was jawsed attempting $\mathrm{h}(2), \mathrm{y}$ (the previous Striker) was jawsed attempting $h(11)$. Either $u$ or $r$ can now be chosen as Striker - suppose it is $u$. u Rush-Peels y gently at $h(11)$ and immediately Peels $y$ at $h(6)$ going to $k$ at $h(2)$. $u$ Rush-Peels $k$ gently at $h(2)$ and immediately Peels $k$ at $h(7)$ going to just north of $r$. All the Clips are Collected. $u$ can earn two Bonus-Points by rushing $r$ to the peg and then pegging out $r$ and $u$.

Finally, Figure CC. 40 shows how PPPP can be accomplished from a jawsed, Single-Double situation where $r$ is in the jaws of $h(2)$. y plays and Rush-Peels $r$ at $h(2)$ and then Peels it at $h(7)$ going to the north of $u$. $u$ is rushed to $h(1)$. y Peels $u$ at $h(1)$ going to $k$. y rushes $k$ to $h(9)$, Peels $k$ at $h(9)$ with a Roll-Peel going to the peg. y pegs-out for one extra Bonus-Point.

[^61]
## COLLECT THE CLIPS PUZZLES Saturday May 11, 2019

These puzzles were attempted by Jeff Soo. A YouTube video is available.


## Let's Go to the Videos

The original plan was to have two players play simultaneously, competing in a 7-puzzle discrete-version of CC, with an $8^{\text {th }}$ puzzle available, if necessary, as a tie-breaker. As shown above, we drew blocks randomly for all 8 puzzles the evening before the event and only revealed them one-by-one at game time. One of the scheduled players withdrew. Jeff Soo kindly chose to proceed on his own. Puzzles 1 and 2 are in the table but not in the videos described below because Jeff failed on them very early in play.
Additionally, as there was a single competitor, we eliminated tie-breaker puzzle. That left 5 puzzles (\#3-7) that Jeff ran. These are available with commentary in the videos.

Before watching Jeff play a puzzle, we suggest that you consider each one on your own following the decision making process outlined above: Pick a Pattern: Choose the Striker Ball: Assign initial desired roles to the hoops that meet your chosen pattern and decide on the initial order of play of the balls. We provide one or more suggestions, with the caveat that hindsight is always 20-20.

## Puzzle 3: (Clips 3, 4, 9, 11), Balls (12, 13, 18, 19)

This puzzle has very favorable clip and ball positions. In particular, three of the hoops are inward, three of the balls are close to relevant hoops, and there is a double $(4,9)$.

Suggestion \#1: Try PPHH: Choose $r$ as Striker, use the lift-to-position to go to $k$, rush $k$ to $h(4)$ and try the Peel going to $y$. If the Peel succeeds and $k$ comes through far enough, then it might even be possible to Peel $y$ at $h(9)$ going to $u$, having the ability to make $h(3)$ or $h(11)$, and then make the other using $y$ and $k$. Try for PHPH: If $k$ is Peeled at $h(4)$ but $y$ cannot be Peeled at $h(9)$, $k$ should be in good Peel position for $h(9)$. y can be used to get to $u, h(3)$ or $h(11)$ made, then $k$ Peeled at $h(9)$ followed by making the last hoop.

Suggestion \#2: Try PHPH: Choose $r$ as Striker, use the lift-to-position to go to $u$, rush $u$ to $h(4)$ and try the Peel going to y . u is more likely to rush to Peel position than $k$. Try to get to the East of $y$, which is easier and would give less pull than going West of y . Rush y past $k$ and send as an escape from $h(9)$ to $h(3), E(3,9)$ while getting a rush on $k$ to $h(11)$. Hopefully $u$ Peeled or jawsed so the second Peel at $h(9)$ can be attempted before escaping to $h(3)$. Bonus Events: After making $h(3)$, $y$ can be Roll-Peeled at $h(3)$ going to $u$ at $h(4)$ which can be Peeled while getting a rush on $k$ to the peg for 2 peg-outs resulting in 4 BEs.

What Jeff did: Jeff choose $r$ as Striker and went to $k$. He rushed $k$ to the south boundary and croqueted it east of $h(9)$ gaining a rush on y . We thought he might try to rush y to $\mathrm{h}(9)$ and attempt the Peel going to $u$. This would lead to a possible PHPH turn or PHHP.

But instead, Jeff rushed $y$ to the east, croqueted it to $h(4)$ gaining a rush on $u$ to $h(3)$. He made $h(3)$ with $u$, " $H^{\prime \prime}$, sent $u$ to $h(11)$ - and came down to $k$ at $h(4)$. He chose to go to $y$ and make $h(4)$ with $y$, " $H$ ", leaving y in easy Back-Peel position. But now Jeff was out of hoops and needs to finish "PP". Toward this end he jawsed at $h(9)$, used $k$ to get to $u$ at $h(11)$, Peeled $u$ at $h(11)$, " $P$ " going to $y$ and needing to get south of $y$ for the rush/Scatter-Peel. Sadly, his croquet shot hit y out of the jaws from the north, ending his turn ${ }^{89}$.

## Puzzle 4: (Clips 6, 7, 11, 12), Balls (1, 6, 7, 15)

The clip and ball positions are friendly with only one quasi-external hoop, $\mathrm{h}(12)$. And, once again, there is a double at $(6,11)$.
Suggestion: Try PPHH: Choose y as Striker, use the lift-to-position to go to $u$. Rush $u$ to $h(7)$ attempt the Peel, " $P$ ", going to $r$. Rush $r$ Northeast to $h(11)$ and attempt the Peel, " $P$ ", going to $k$. Escape with $k$ to $h(12)$, make $h(12)$, " $H$ ". Send $k$ to the peg while getting a rush on $u$ to $h(6)$, bring $u$ along to $r$ at $h(6)$ and score $h(6), H$. Earn 2 Basic Points. Bonus Events: Back Peel $r$ at $h(11)$ [hard and hope to get the peg-out as well] while getting a rush on $u$ to the peg and peg out 3 balls for 4 or 5 BEs.

What Jeff did: Jeff choose $u$ as Striker and went to $r$, rushed $r$ to Peel position at $h(11)$, jawsed it going to $k$. He rushed $k$ south of $y$, croqueted it to Escape-Ball position at $h(6)$ for $h(7)$ going to $y$. $y$ was sent to $h(12)$. Jeff made $h(12)$, " $H$ ", rushed $y$ to the north, took off to $r$, Rush-Peeled $r$ at $h(11)$, " $P$ " croquet Peeled $r$ at $h(6)$, " $P$ " going to $k$, rushed $k$ to $h(7)$, makes $h(7)$, " $H$ ". His pattern was HPPH. Bonus Events: Jeff roqueted $k$ after $h(7)$, pegged out $k$, going to $r$, Peeled $r$ at $h(11)$ and pegged it out in one shot(!), then he pegs out y and u - for five Bonus events -9 bonus points, for a total 13. This was an amazing turn!

[^62]This puzzle is a mixed bag of clip and ball positions. There is only one internal hoop, $h(5)$. However, three balls, $u, k, a n d y$ are near enough to hoops to be pioneers or Escape-Balls.

Suggestion \#1: Try PHPH. Choose $r$ as Striker. Go to $y$, rush y to $h(4)$, attempt Peel. If the Peel succeeds: " $P$ ", going to k. Send k to $h(10)$ as an Escape-Ball, going to $u$. Make $h(2)$ with $u$, " $H$ ". Rush $u$ to $h(10)$, attempt Peel, " $P$ ", use $k$ to get to $y$ to make $h(5)$. If the $1^{\text {st }}$ Peel fails: Then change plans and try HPHP. Go to $k$. But this time send $k$ to $h(4)$ going to $u$. Make $h(2)$. " $H$ ". rush $u$ to $h(10)$ going to $k$, Peel $k$ at $h(4)$, " $P$ ", escape to $h(5)$ with $y$, make $h(5)$, " $H$ ", use $y$ and $k$ to get to $u$ at $h(10)$ and finish with a Peel, " $P$ ".

Suggestion \#2: Try PHPH. Choose y as Striker. Lift to $k$, rush to Peel position at $h(5)$ and Peel, P, going to $r$. Send $r$ just SE of $h(10)$ going to $u$ and make $h(2)$ off of $u, H$, getting a rush on $u$ to $h(10)$. Rush and Peel $u$ at $h(10), P$, getting an escape rush on $r$ to the peg and rush $k$ to $h(4), H$. Bonus Events: Back-Peel $k$ at $h(9)$ going to $r$ at the peg, peg-out $r$ going to $u$ at $h(10)$. If it is close, attempt the Rush-Peel at $h(3)$ and peg-out both for 5 BEs.

What Jeff did: Choose $u$ as Striker: rushes $r$ toward $h(4)$, tries Peel going to $y$. Jawses Peel! Sends $y$ to the west, croquets it to $h(10)$, going to $k$, makes $h(5)$, " $H$ ". Rushes $k$ off south, send $k$ to $h(2)$ going to $r$. Attempt but fails on rush Peel, $r$ remains in Peel position but out of the jaws. Jeff Peels $r$, " P ", and then shoots at y near $\mathrm{h}(10)$, but misses, turn ends.

## Puzzle 6: (Clips 1, 3, 8, 9), Balls (1, 4, 14, 19)

These are easy positions. There is a double (1/8), and $h(3)$ and $h(9)$ are internal. The only ball that has no immediate purpose is $u$.

Suggestion \#1: Try for PPHH. Choose u as Striker. Rush r to h(3), Peel, "P", going to k. Ideally, rush k to h(8), Peel ,"P", going to y. Make $h(9)$ with $y$, " H ". send y and r to the peg going to $k$. Make $\mathrm{h}(1)$, " H " and then peg out all four balls. 2 regular and 8 bonus points, total of 10 . If the initial Peel fails, then the double (1/8) could be a life saver. Here after the failed Peel on $r$ at $h(3) u$ goes to $k$. $k$ is sent to $h(1)$ as u goes to $y$. u makes $h(9)$, " $H$ ", sends $y$ to $h(8)$, Peels $k$ at $h(1)$, " $P$ ", rolling to $r$, makes $h(3)$, " $H$ ", with $r$, returns to $h(8)$ get the final Peel on either $k$ or $y$.

Suggestion \#2: Try for PPHH. Choose $u$ as Striker: rush $k$ to $h(8)$ and Roll-Peel going to $y, P,-r u s h y$ to $h(9)$ and Roll-Peel, $P$, going to $r$ near $h(3)$. Make $h(3)$ with $r$, "H". Send $r$ North of the peg while getting a rush on $y$ to $h(9)$. Jaws $y$ in $h(9)$ while going to $k$. Score $h(1)$, H , to collect the clips. Bonus Events: After scoring $\mathrm{h}(1)$ rush k to peg, peg out $k$ and $r$ going South of y . Rush-Peel y and peg out y and u for 5 BEs.

What Jeff did: Choose $u$ as Striker: rushes $k$ to $h(8)$ and tries Peel going to y - misses Peel, leave k in Peel position but hits y in the croquet shot. He sends y to $h(9)$ going to $r$ near $h(3)$. Makes $h(3)$ with $r$, " $H$ ". Sends $r$ to the west and then down to $h(1)$ going to $k$ but over-runs, finishing south of $h(8)$. Roquets $k$ then jawses $k$ at $h(8)$ going to $y$ at $h(9)$, makes $h(9)$, " $H$ ". Rushes $y$ back to $h(1)$, uses $r$ to gain the position necessary to Rush-Peel $k$ at $h(8)$, " $P$ " then croquet Peels $k$ at $h(1)$, " $P$ ". Collects the clips HHPP. Bonus events: only possibility is to peg out Striker, which he does.

## Puzzle 7: (Clips 1, 2, 6, 12), Balls (8, 10, 11, 16)

Only one internal hoop, $h(1)$. Although y could be an Escape-Ball after a Peel attempt at $h(5)$

Suggestion \#1: Choose $u$ as Striker. Attempt PHPH: Rush $r$ to $h(12)$, Peel ," ${ }^{\prime \prime}$, going to $y$. Rush y north then croquet it to h(1) going to $k$, make $h(2)$ with $k$, " $H$ ". Rush $k$ to the south boundary, use it to gain a rush on $y$ to $h(1)$, Peel, " $P$ ", going $r$. Escape with $r$ to $h(6)$. Make $h(6)$, " $H$ ". Bonus events: Peel $r$ at $h(11)$ peg out all three balls. total of 10 points, 2 Peels, 8 bonus.

Suggestion \#2: Try PHPH. Choose $u$ as Striker. Lift to $y$ and rush to $h(1)$ for a Peel, P, going to $r$. Rush $r$ East and send as an Escape-Ball at $h(2)$ while getting a rush on $k$ to $h(6)$. Make $h(6), H$, and rush $k$ to $h(2)$ for a Peel, $P$, and escape to $r$, then sending $r$ to the peg while getting a rush on $y$ to $h(12)$. Make $h(12), H$, to collect the clips. If the initial Peel at $h(1)$ fails, make $h(6)$, try to Peel $k$ at $h(2)$, escape to $h(12)$ and try to Peel $r$ at $h(12)$ going to $y$ at $h(1)$ for a HPPH. Bonus Events: A firm back-Peel at $h(5)$ towards the peg may complete 2 events while going to $r$. peg-out $r$ going to $k$ at $h(7)$. If $k$ is close enough, attempt the Rush-Peel through $h(7)$ and try to peg-out both balls for as many as 6 BEs.

What Jeff did: Choose $u$ as Striker: rushes y closer to $k$, then croquets $y$ to $h(6)$ going to $k$. Sends $k$ to $h(2)$ getting rush on $r$ to $h(1)$. Makes $h(1)$, " $H$ ", rushes r east and croquet it to $h(12)$ going to $y$. Rushes $y$ to $h(6)$, Peels $y$, " $P$ " going to $k$ at $h(2)$. Makes $h(2)$, "H". Rushes $k$ to $r$, adjusts $r$, Peels r, "P", at h(12). Bonus Event - shot at peg misses.

## 4.. PEEL AND REVERSE

## RULES

In this game each team starts with a Current-Peel-For-The-Team (a "CPT') ${ }^{90}$ and a Done-Peel-For-The-Team (a "DPT") ${ }^{91}$, all chosen randomly before the game starts. Following AC Rules, the first team to advance its single Team-Clip from $\mathrm{h}(1)$ to the peg and peg-out Striker and Partner wins. However, before the peg-outs can occur, a team must convert CPTs to DPTs accumulating a specified number (usually 3) of DPTs net of Reversals.

1. Coin Toss: A coin is tossed. The winner chooses order of play or colors.
2. Team-Clips: There are only two clips, one for each team. In the diagrams in this chapter, Team-Clips are shown as triangles that include both colors ( u and k ) or ( r and y ). Both Team-Clips start on $\mathrm{h}(1)$.
3. The Augmented Box and Home-Bases: The dimensions of the traditional "box" - encompassing $h(1), h(2), h(3)$ and $h(4)$ is increased by one yard on each side creating the "Augmented Box". A game starts with u placed 8 yards north from the south/west corner of the Augmented Box, $r$ is 8 yards south from the north/west corner, $y$ is 8 yards south from the north/east corner, and k is 8 yards north from the south/east corner. These positions are referred as "Home-Bases".

Any ball(s) outside the Augmented Box at the end of one turn can be moved back to its Home-Base(s). All such movement must be done before the start of the next turn.
4. Turns, Lifts and the 4-Hoop Limit: Turns start with a lift-to-position. Teams run breaks (under AC rules) but are limited to making 4 hoops with their Striker-Ball. Peg-outs are not counted in the 4-hoop limit.
5. Wrap-Around: A Team-Clip "Wraps-Around" back to $h(1)$ after $h(12)$ is made. Striker continues making hoops in order as part of his break, subject to the 4 -hoop limit. A team doing this is simultaneously for the peg and for its next hoop in WrapAround and can peg-out at any time (once its Peel Requirement is met).

[^63]6. Peels for the Team Requirement (PTR): Each team is required to accumulate a specified number (usually 3) of DPTs net of Reversals before it can peg-out.
7. Current PTs (CPT) and Done PTs (DPT): A bag originally containing 12 numbered blocks, one for each hoop, is used throughout the game. Each team starts with one CPT and one DPT. These are obtained by random draw from the bag after the coin toss and allocated before the first turn is played. The DPTs are drawn first, followed by the CPTs, with the initially drawn block in each case going to the winner of the coin toss.

Only one CPT per team is known at any time. Either ball of a team can complete its CPT by Peeling its Partner through the CPT hoop. Play stops after a CPT is made and the CPT becomes a DPT, which is evidenced by moving the CPT to the DPT side of whatever scoring device is used (see below).

In addition, Oppo can complete your CPT, converting it to a DPT for you, by Peeling your ball at your CPT.
Once a CPT is completed, if a team still needs additional DPTs to meet its PTR, then play stops briefly and the team whose CPT was completed returns to the bag and draws out another block, which becomes its CPT and play resumes.

A team cannot accumulate more DPT's than needed (i.e., no more than 3) to satisfy its PTR. A team that accumulates 3 DPTs will not then have a CPT, only DPTs. If this team subsequently suffers a Reversal, then play stops briefly while the DPT is removed, and the team that suffered the Reversal draws a block for a (now-needed) CPT and play resumes.
8. Peeling Partner or Oppo at his Current-Hoop: A useful name for this type of Peel is a "Progress Peel" because it immediately moves the appropriate Team-Clip one hoop forward unless the result of the Peel is subject to more than one interpretation (e.g., the Peel could also complete a CPT or be a Reversal) in which case Striker chooses the role he wants the Peel to have only one role is possible. Clips are moved accordingly to the adopted interpretation of the Peel, or the scoring board is reset for the Reversal.

A Progress-Peel does not grant a clearing of deadness. Strategically, when completed on Partner, a Progress-Peel allows a team to move its Team-Clip more than four hoops in a single turn ${ }^{92}$. The clip should be moved immediately.

[^64]9. Reversals: A Reversal occurs when Striker Peels an Oppo-Ball in the reverse direction at any one of Oppo's DPTs ${ }^{93}$. Each team is limited to completing 3 Reversals. This ensures a timely finish to a game ${ }^{94}$. Within this limit, any number of Reversals can be completed during a turn and in any order. The team suffering a Reversal must complete an additional CPT to meet its PTR. The block for Reversed DPTs are held out of the game and identified with the team that did it to help keep count.
10. Leeps: A Leep is a Peel on Oppo that sends the ball back in the opposite direction through the last hoop the team made thereby regressing the affected Team-Clip one hoop ${ }^{95}$. Another name for a Leep is a Regress-Peel. There is no Leep opportunity when a Team-Clip is on h(1). Leeps are not allowed on Partner.
11. Winning: A game is won by: (i) Advancing your Team-Clip to the peg; (ii) Generating the requisite number (usually 3) of DPTs (net of Reversals); and (iii) Pegging out Striker and Partner. If a team is unable to peg-out both balls in a single turn, then its Team-Clip remains in Wrap-Around, the pegged out ball is placed on its Home-Base, and play continues.

[^65]
## Keeping Score

The scoresheet presented below is one way to track a game of Peel and Reverse. It has one row for each team and four columns of PT information. The first identifies each team's CPT; the remaining three track DPTs. It is updated with a pencil/marker and eraser, or it can be converted into a larger scoreboard. Here removable "Score Cards" can be affixed to the scoreboard during play. 12 cards are needed. Each card reports two numbers: On top is a Hoop number (from 1 to 12); and below, and preferably in a different color, is its Reversing Hoop number. Cards are moved from Current to Done as PTs are made and are removed after a Reversal. Each team starts with three R's representing available Reversals.

PEEL AND REVERSE SCOREBOARD


## Keeping Score Out on the Lawn

The Figure below shows how to track a game while out on the lawn that does not involve pen/paper or scoresheets/scoreboards just a bag of blocks and two sticks!

We take two old mallets (any sticks will do) and lay them on the lawn (just outside the court barrier) to form a cross. The bag of blocks is positioned to the left of the vertical mallet head. The horizontal shaft is used as the dividing line between teams. CPTs are kept to the left of the vertical shaft and DPTs to the right ${ }^{96}$. Finally, Reversed PTs are kept separate to facilitate the count of Reversals.


[^66]
## NOTES ON PEEL AND REVERSE ${ }^{97}$

## Introduction - Striker's Tool Kit

The goal of this game is to be the first team to advance its Team-Clip from $h(1)$ to the peg and then peg-out Striker and Partner. However, before the peg-outs can occur, a team must accumulate three DPTs net of Reversals. Striker has eight tools available to him - some offense, some defense, and some both. Some are familiar, some new. Striker can:
1.. Make his team's Current-Hoop: This is the standard way to move a Team-Clip one hoop forward. However, Striker is limited to making no more than 4 hoops a turn. Peg-outs are not part of the hoop-count.
2.. Peel Partner at the team's Current-Hoop: This "Progress-Peel" moves the Team-Clip one hoop forward but does not give Striker a clearing of deadness. A clearing of deadness can only occur when Striker makes his team's next, now-Current-Hoop. The benefit a Progress-Peel is that the Team-Clip advances without Striker "making the Hoop". Thus, the advancement does not count against the 4-hoop per turn limit.
3.. Peel Oppo at Oppo's Current-Hoop: This immediately progresses the Oppo Team-Clip one hoop. Doing so can be strategically useful if the goal is to separate Oppo's break from his Peeling opportunities, but it does advance Oppo's Clip.
4.. Peel Partner at the team's CPT: This converts this CPT to a DPT, completing part of the PTR. If Striker has fewer DPT's than its PTR, then play stops briefly while Striker draws another block as its CPT. Then the turn resumes.
5.. Reverse an Oppo DPT: This is Peeling an Oppo-Ball (either ball) at its DPT but in the opposite direction. The DPT is removed and Oppo is forced, to execute an additional CPT to meet his PTR. It is possible (usually by mistake) to reverse your own DPT. Each team is limited to 3 Reversals (of any kind) throughout the game.

[^67]6.. Peel Oppo at Oppo's CPT: This converts a CPT to a DPT for Oppo, completing part of Oppo's PTR. Play stops while Oppo draws another block as its CPT, if needed ${ }^{98}$.
7.. Leep Oppo: This regresses the Oppo Team-Clip one hoop and is accomplished by Peeling an Oppo-Ball back through his last hoop. (Leeping your Partner-Ball is not allowed).
8.. Set a Defensive Leave: Striker can forgo Peeling in a turn altogether and attempt to thwart the progress of Oppo by setting a Defensive Leave.

## Possibilities for an Initial Peel During a Turn

There are five opportunities to complete an initial Peel during a turn, be it completing a CPT, Reversing a DPT, or moving a TeamClip. We describe them in the order they can occur within a turn.

Before the $1^{\text {st }}$ Hoop - "Quick Peels": Each turn starts with a lift-to-position. Therefore, a team with an "inward" Peeling possibility be it at its CPT, the Reversing Hoop of an Oppo-DPT, a Leep Possibility or Progress-Peel - can start a turn with a rush and Peel attempt, Roll-Peeling unless a ball happens to be available as an Escape-Ball. If a team has only "outward" Peeling possibilities, then one of them can be tried with a Rush-Peel. If it succeeds, then the follow-on croquet shot can be used to send Peelee somewhere useful while sending Striker toward his next ball/hoop. Note that jawsing the Peel attempt may be a good Peeling result but can make it difficult to continue the break. In some instances, this process can be repeated with a $2^{\text {nd }}$ ball after which, if Striker wants to

[^68](i) When an Oppo-Ball is jawsed in the hoop of its CPT. Here it can be Rush-Peeled, converting it from a CPT to a DPT and then immediately Reversed by croquet-Peeling it back through the same physical hoop. Oppo is forced to consider a new CPT.
(ii) It can also be used when Oppo is not jawsed. Here the goal would be to Peel the Oppo CPT early in a turn (converting it to a DPT) and then later (hopefully in the same turn) Reverse the DPT. The net result is forcing Oppo to consider a different CPT than they started with - hopefully a more difficult one. This strategy only makes sense if Oppo has no DPTs. if Oppo has one or more DPTs, then it is always better to Reverse one of them.
run a break, he needs to gain position at his $1^{\text {st }}$ Hoop with the remaining $3^{\text {rd }}$ ball. This sort of play can generate "Quick Peels" and is dramatic to watch ${ }^{99}$.

W-[2 ${ }^{\text {nd }}$ Hoop]: Striker can start a turn by sending Peelee and another ball - as an Escape-Ball - to a Peeling-Hoop, or the latter ball can be sent to the Pioneer-Hoop, the $2^{\text {nd }}$ Hoop in the break, if a Roll-Peel is contemplated. These two balls can be positioned in either order. Then Striker will need to use the remaining ball to make his $1^{\text {st }}$ Hoop. This is 2 HP (!) starting at a hypothetical $\mathrm{h}(0)$ before the $1^{\text {st }}$ Hoop. It allows the Peel to be attempted W-[ $2^{\text {nd }}$ Hoop].

W-[3 ${ }^{\text {rd }}$ Hoop]: If the balls are poorly placed at the start of a turn, then a more conservative play can be tried - attempting to place a Pioneer-Ball at the $2^{\text {nd }}$ Hoop while using the other two balls to make the $1^{\text {st }}$ Hoop. Here the "break comes first" maxim is followed with only limited immediate consideration of the Peel. Then, with Striker in position to make h(1), he can proceed 2 HP to complete the Peel, W-[3 $\left.3^{\text {rd }} \mathrm{Hoop}\right]$. This strategy is also available if the Peel fails earlier, W-[2 ${ }^{\text {nd }}$ Hoop or $\left.1^{\text {st }} \mathrm{Hoop}\right]$.

W-[4 ${ }^{\text {th }}$ Hoop]: If the Peel is not successful, or is not tried earlier, then, after making the $2^{\text {nd }}$ Hoop, Striker can once again try the Peel 2 HP , completing it $\mathrm{W}-\left[4^{\text {th }}\right.$ Hoop].

After the $4^{\text {th }}$ Hoop: Finally, it is possible to complete a Peel after making the $4^{\text {th }}$ Hoop. This works especially well for Reversals, but it is less effective for CPTs because Peelee is often left very near the hoop, ripe for Reversal ${ }^{100}$. Even so it may be worth peeling if for no other reason than your Opponent will need to use part of his break to generate the Reversal.

For all of these Peeling possibilities, if the Peeling-hoop coincides with a Striker's hoop, then these Peels can be done as Back-Peels or Straight-Peels, instead of Transit-Peels. Reminder that, for CPT in particular, leaving a ball just Peeled at the Peeling-Hoop is asking to be Reversed! Moving Peelee before the end of your turn is almost always a good idea ...

[^69]
## The Structure of Turns

Winning requires a team to: (1) Advance its Team-Clip from h(1) to the peg; (ii) Successfully Peel at a sufficient number of CPTs to accumulate three DPTs net of Reversals; and (iii) Peg-out both balls.

## Basic Play

Pure Offense: Ultimately, Striker needs to complete CPTs to win the game. Therefore, the most basic turn is pure offense advance your Team-Clip the allowed maximum of four hoops and complete at least one CPT. Three turns like this in a row can win a game, but only if Oppos do not intercede with Reversals or other defensive strategies.

Pure Defense: Striker advances his Team-Clip, but skip CPTs, focusing instead on Reversing Oppo DPTs. Reversals can be accomplished by Peeling either Oppo-Ball at the appropriate hoop. Each team is limited to three Reversals.

Games can be won without Reversals. That said, they are also quite useful! Here are two examples: (i) Reversals can slow down Oppo. (ii) When faced with a difficult CPT at an outward hoop, it may be desirable to let the break "come to the Peel" as you make hoops, focusing on Reversals, Leeps and Progress-Peels in the interim. But you cannot move beyond your CPT until it is completed.

Combo Plays: Here you advance your Team-Clip while opportunistically looking to Peel at your CPT and to Reverse Oppo DPTs. Having a choice of Peels makes the job of completing at least one of them easier. It gives Striker options concerning which ball to Peel first and when to Peel it, based on the score of the game, the status of Striker's break, the locations of the Peeling-Hoops, and the positions of the balls, etc. It also lets Striker fail on a Peel and not have to wait two hoops to reconstitute another try but instead go to and try another peel. It is even possible to have Linked-Peels - two Peels completed with no hoops in between.

We would recommend that Striker approaches their turns with a Combo mindset and adjusts more toward offense or defense as needed. This gives the most diversity and opportunity to complete Peels. Remember that only three "surviving" DPTs (after Reversals) are needed to win. Completing them during the early turns (your first two) puts pressure on Oppo but gives them more Reversing opportunities. It can also put stress on Striker, sometimes causing a break-down, resulting in a turn that completes fewer than the 4-hoop limit per turn, making it difficult to finish during Striker's third turn. This can be terminal. That said, It is also possible to have your hoop count get ahead of your DPTs. You need balance between meat and vegetables.

Keeping Alive a Possible $3^{\text {rd }}$-Turn Finish: Advancing your Team-Clip is an important component of all turns. Four (or more!) positions forward during each of your two initial turns keeps open the possibility of a $3^{\text {rd }}$-turn finish.

Location, Location, Location: The end of every turn should have a defensive component as Striker attempts to limit the possibilities open to Oppo as they come on the lawn. What can be accomplished in this regard depends upon how many shots Striker devotes to it. But no matter how much effort, leaves are severely limited by the rules surrounding the start of the next turn: (i) Each begins with a lift-to-position, and (ii) All balls outside the Augmented Box can be returned to their Home-Bases. Usually, the best outcome for the out-going Striker is to place the balls near/in hoops such that the next Striker has to focus on organizing his break before he can begin Peeling.

## Nine Situations for Discussion Taken that have Arisen During Play

1.. Making up a Hoop-Deficit by Peeling Partner at the Team's Current-Hoop(s): In the next panel, $\mathrm{u} / \mathrm{k}$ comes on to the lawn for their $3^{\text {rd }}$ Turn, the $5^{\text {th }}$ Turn of the game, with 3 CPTs. However, the $u / k$ team-clip is on $h(8)$ rather than $h(9)$, because $u / k$ made only three hoops during one of its two previous turns [or r/y Leeped $u / k$ 's Team-Clip back one hoop]. Can $u / k$ finish this turn? If so, how? The answer is yes. The "how" is by Peeling Partner at the team's Current Hoop - with a Progress-Peel.

In Figure PR.1, $k$ is Striker and is set-up to make $h(8)$ as the $1^{\text {st }}$ hoop of the four possible hoops Striker can make during his turn. $u$ is $R(8)$, $y$ is $V(8)$, and $r$ is $P(9)$. This situation suggests that $k$ will have to stop his break after making $h(11)$ - leaving the $u / k$ clip on $h(12)$ and giving $\mathrm{r} / \mathrm{y}$ their $3^{\text {rd }}$ turn. But this analysis forgets that a team can Peel its Partner at its Current-Hoop. To proceed, k makes $\mathrm{h}(8)$, and goes to $u$. $k$ sends $u$ to Peel position at $h(10)$ [as $V(9,10)]$, as $k$ goes to $y$. $k$ sends y from $V(8)$ to $E(11,10)$ as $k$ goes to r. $k$ sends $r$ to $R(9)$ as $k$ goes to position at $h(9)$, Figure PR.2.

Figure PR.2: $k$ makes $h(9)$. $k$ sends $r$ from $R(9)$ to $P(12)$ going to $u$. $k$ Peels $u$ at $h(10)$, converting $u$ from $V(9,10)$ to $V(11)$ as $k$ goes to $y$. $k$ escapes with $y$ to $h(11)$ where $k$ sends $y$ to $R(11)$ as $k$ goes to position at $h(11)$, Figure PR.3. Note that by Peeling $u$ at $h(10)$ the single $u / k$ clip is immediately advanced to $h(11)$ but this Peel does not grant $k$ a clearing of deadness on the balls he has used.

Figure PR.3: $k$ is for $h(11)$ having "made" only two hoops $-\mathrm{h}(8)$ and $\mathrm{h}(9)$ while his Team-Clip has progressed three hoops because of the Progress-Peel of $u$ at $h(10)$. $k$ makes $h(11)$ and then sets up to make $h(12)$ and arrange for the peg-out to follow, Figure PR.4.


Here a deficit of one hoop was made up by a Progress-Peel on Partner. Clearly a greater deficit can be made up by more Peels on Partner. For example, a failure in the $1^{\text {st }}$ turn after $h(2)$ can be corrected in the $2^{\text {nd }}$ turn with two Peels on Partner, etc., but at a cost of ignoring CPTs and Reversals ${ }^{101}$.
2.. When Oppos Have No DPT's: If Oppos have no DPTs, then they will most certainly have a CPT! It is sometimes possible to complete that CPT for them, usually an "easy" one, converting their CPT to a DPT. Why would you give Oppos such a gift? It may be useful if during the same turn you are able to Reverse the DTP just created, forcing Oppos to draw another CPT that may involve a more difficult Peel or one further from their break.

[^70]Generally, completing a CPT at an easy hoop leaves a more difficult to Reverse DPT, and vice versa. However, if both are done in the same turn, then Reversing the DPT can be simplified because an Oppo will already be at the hoop and ideally positioned for the Reversal. This ball does not have to be used in this way but doing so can facilitate the process.
3.. When Oppos Jaws their CPT: When an Oppo-Ball is left in the jaws of their CPT hoop, it can be Rush-Peeled, converting it to a DPT and then immediately croquet-Peeled in the opposite direction reversing the DPT. If the croquet shot can send Striker where he needs to go, then this can be a valuable strategy. Even if Oppo gets an easy Peeling-Hoop, at least it will not start jawsed.
4.. POP'ing: A Progress-Peel of Oppo at their Current-Hoop (a "POP") moves their Team-Clip 1 hoop forward. This can move their break away from their CPT. Suppose $u / k$ plays the $1^{\text {st }}$ Turn and $r / y$ draws $h(8)$ [or $h(1)$ ] as their CPT. $u / k$ could Peel ror $y$ at $h(1)$ moving their Team-Clip to h(2). Now r/y's CPT is more difficult. Progressing r/y one hoop involves 1 Peel as opposed to the 2 that are required to change their CPT and can be an efficient way to make things difficult for Oppo, but at a cost of giving them a hoop.
5.. Defending Against a Prolific Peeling Team: Suppose the $u / k$ team goes first and completes 1 or 2 CPTs each turn. It can be difficult for $\mathrm{r} / \mathrm{y}$ to Reverse enough DPTs to make finishing on $5^{\text {th }}$ turn difficult for $\mathrm{u} / \mathrm{k}$. Even if $\mathrm{r} / \mathrm{y}$ Reverses $\mathrm{u} / \mathrm{k}$ back to 0 or 1 DPTs, there is little time to focus on $r / y$ 's own CPTs. One way to slow down $u / k$ is to set a defensive leave and hope they fail to score all four hoops on one of their first three turns, where, against good players, the resulting failure is hoped to be 2 hoops or more to make recovery more difficult than just a single Leep, the logical alternative. Each situation is different and tricky. Here is one:

On their $1^{\text {st }}$ Turn (the $1^{\text {st }}$ Turn of the game), $u$ plays for $u / k$ with $u / k^{\prime} s$ CPT $=h(6)$ and $r / y^{\prime} s$ CPT $=h(12)$. u manages to Peel at $h(6)$, draws another CPT at $h(10)$ and Peels that as well, drawing another CPT at $h(11)$. After making $h(4)$, we will suppose $u$ had time left to spread the balls out, perhaps even attempting to Peel Partner at $h(11)$ - shown below as failing - but leaving no balls near r/y's Current-Hoop, $h(1)$, nor their CPT, $h(12)$, Figure PR.5. From here $r / y$ could build a break with one long rush to $h(1)$ followed by Peeling options that are varied. But the better tactic may be a defensive leave without focusing on Peels at all ${ }^{102}$ as follows:

[^71]

Figure PR.5: r/y play r. r rushes u towards y , sending $u$ to $\mathrm{P}(2)$ while getting a rush on y to k . r rushes y towards k and sends y south to $V(1)$ while getting a rush on $k$ to $h(1)$. $r$ rushes $k$ to $P(1)$ and croquets it to $R(1)$ while going to position at the hoop, Figure PR.6.

Figure PR.6: $r$ scores $h(1)$ and rushes $k$ towards $y$. $r$ sends $k$ to $P(3)$ and gets a rush on $y$ towards $u$. $r$ sends $y$ close to $h(2)$ as $V(2)$ to be used as an escape-ball while going to $u$. $r$ roquets $u$ and sends it close behind $h(2)$ as $R(2)$ while going to position, Figure PR.7.

Figure PR.7: $r$ starts the hoop leave by scoring $h(2)$ and placing $u$ up against the upright in $h(2)$ so it definitely cannot be rushed to $h(5)$ or $h(6)$ which are $u / k$ 's Current-Hoop and Next-Hoop. $r$ rushes $y$ all the way to $k$ and sets $y$ as an $E(4,3)$ so it can leave $k$ at $h(3)$. $r$ hits $k$ and sends it close behind the hoop to $R(3)$ while going to position, Figure PR.8.

Figure PR.8: $r$ scores $h(3)$ and roquets $k$ only to leave it in $h(3)$ where it cannot be rushed to $h(5), h(6)$ and preferably $h(4)$. $r$ rushes y away to $h(4)$ and hopes to get it nice and close to the hoop so it can finish the hoop leave, Figure PR.9.

Figure PR.9: $r$ makes $h(4)$ and attempts to put $y$ in the hoop and $r$ up against or at least within a few inches of the outside upright so neither can be rushed to $h(5)$ or $h(6)$, as in Figure PR.10. The hope with a leave like this is that $u / k$ will have trouble making 1 or 2 hoops, let alone completing any Peels. If they fail to make 3 or 4 hoops, then $r / y$ has effectively reversed the Peeling advantage and now have 2 turns to complete their required 3 DPTs.
6.. A Turn Involving 3 Reversals and 2 Leeps: Figure PR. 11 shows the end of the $3^{\text {rd }}$ Turn ( $u / k$ 's second) of a game. $k$ played this turn and finished with a Scatter-Peel of $u$ at $h(2)$ that left $u$ on the north boundary and $k$ north of $h(6)$. This Peel gave $u / k$ their third DPT the other two being the pair $h(6)$ and $h(11) . u / k$ had also moved its clip the desired 4 hoops during each of their first two turns ending with their Team-Clip on $h(9)$.

In their first turn (the turn prior to the one described above), $r / y$ made four hoops but did not complete any CPTs. Realistically, $r / y$ now need to Reverse one or two of $u / k$ 's DPTs to stay in the game. The point of attention here will be the single physical hoop encompassing two of $u / k$ DPTs, $h(6)$ and $h(11)$.
$u$ and $r$ are returned to their Home-Bases and $y$ takes a rush on $k$ to $h(11)$, Figure PR.12. y sends $k$ to Peel position, attempts, and succeeds with the Peel through $h(11)$ [reversing h(6) DPT] going to $r^{103}$ [1st Reversal]. [Play stops while $u / k$ draws a new CPT]. $y$ then uses $r$ to gain a rush on $u$ to $h(5)$ and sets up to make that hoop, Figure PR.13.
y makes $h(5)$, sends $u$ to $h(7)$ - the Reversing-Hoop for $u / k^{\prime} s h(2)$ DPT - and sets up to make $h(6)$ - and then to Back-Peel $k$ at $h(6)$ [thereby reversing the h(11) DPT], Figure PR.14. y makes the hoop, jaws $k$ at $h(6)$ on the Peel attempt, sends $r$ as a Pioneer to $h(8)$ and sets up to make $h(7)$ with $u$, Figure PR. 15 having positioned $u$ for a Back-Peel A-h(7).


[^72]y makes $h(7)$, rushes $u$ back to Peel position at $h(7)$, Peels $u$ through $h(7)$, thereby reversing the $h(2)$ DPT [2 ${ }^{\text {nd }}$ Reversal], going to south of $k$ at $h(6)$. y Rush-Peels $k$ [ ${ }^{\text {rd }}$ Reversal], croquets $k$ south of $h(8)$ going to $r$, croquets $r$ to reception and goes to position at $h(8)$, Figure PR. 16.

Now comes the fun part! y makes $h(8)$ and goes to $r$. y uses $r$ to gain a rush on $k$ to position in front of $h(1)$, the Leeping-Hoop for the $u / k$ clip at $h(9)$ ! y completes this Leep [1st Leep] going to $u$ which is in front of $h(2)$, the next Leeping-Hoop for the $u / k$ clip now at $h(8)$. y completes this Leep as well [ $2^{\text {nd }}$ Leep] moving the $u / k$ clip to $h(7)$, and finally y shoots near to $h(3)$ ending a turn involving five Peeling events - three Reversals and two Leeps! Not common - but certainly possible, if Striker has a good imagination combined with some favorable clip positions.
7.. A Failed "Routine" h(12) Peel: In Figure PR.18, In this game $u / k$ came on the lawn for its $3^{\text {rd }}$ Turn, the $5^{\text {th }}$ Turn of the game, with its Team-Clip on $h(9)$, two DPTs $[h(7)$ and $h(11)]$ and a CPT at $h(12)$. $\mathrm{r} / \mathrm{y}$ was way behind. After two turns, their Team-Clip was only on $\mathrm{h}(5)$ because they failed during their $1^{\text {st }}$ turn at $\mathrm{h}(1)$ and fell 4 hoops behind. On their $2^{\text {nd }}$ turn they completed the 4 possible hoops advancing their clip to $h(5)$, but did not complete any CPTs, instead focusing attention on trying to Leep $u / k$ from $h(9)$ back to $h(8)$ in a desperate attempt to keep $u / k$ from reaching the peg on their $3^{\text {rd }}$ turn - hence the three balls $u, r$, and $y$ near $h(8)$ after a failed scatter-shot Rush-Peel by y on $u$ at $h(1)$.
$\mathrm{u} / \mathrm{k}$ had visions of victory. The turn came down to completing a CPT at $\mathrm{h}(12)$ in exactly the timing it often occurs in $\mathrm{T}-\mathrm{AC}$ - as a straight "Rover Peel". They chose $k$ as Striker, moved $y$ to its Home-Base, placed $k$ just north of $u$, rushed $u$ to the south, croqueted it to $h(10)$ as a Pioneer, while gaining a rush on $r$ to $y$. $k$ took the rush and combined it with a good roll-shot that allowed $k$ to set-up to make h(9), Figure PR. 19.
$k$ made h(9), sent a Pioneer to $h(11)$, made $h(10)$, sent Peelee and Oppo to $h(12)$, made $h(11)$, and attempted the Straight $h(12)$ Peel. Sadly, $k$ sent $u$ a bit south and west of $h(12)$ and failed to rush it back to position! $k$ made $h(12)$ and went back and did the $h(12)$ Peel posthumously with a Scatter-Shot after jawsing $u$, resulting in Figure PR. 20.
$u / k$ ended their turn with 3 DPTs $[h(7), h(11)$, and $h(12)]$ but ran out of hoops and could not finish.
In kindness to $u / k$, we do not show the details, but Oppo came on the lawn, chose y as Striker, made four hoops, advancing their clip from $h(5)$ to $h(9)$, Reversed all three of $u / k$ 's DPTs with the last, occurring at $h(6)$ the Reversal of a DPT at $h(11)$. The game was sent virtually back to even - all because of a careless rush at $h(12)$...

| u/k start | set-up for h (9) | h(12) Peel A-h(12) | leave by r/y | $u / k$ set up at $\mathrm{h}(1)$ | then $\mathrm{h}(2)$ | finally $\mathrm{h}(3)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{lll} \pi & \pi & 0 \\ i & 0 & \\ 0 & \pi & \vdots \\ 0 & & i \end{array}$ |  |  |  |  |  |
| PR. 18 | PR. 19 | PR. 20 | PR. 21 | PR. 22 | PR. 23 | PR. 24 |

Sadly, there are two more lessons to learn from this Example:
Lesson \#1: Pause Play Whenever a New CPT is Required: $u / k$ had 3 DPTs at the start of Oppo's turn and, hence, did not have a CPT. Play should have stopped after the first Reversal because $u / k$ then needed and should have drawn a CPT, but this did not happen. Instead, r/y continued and ended their turn by carefully placing y on the upright of $h(6)$. u/k then draw h(6) as their CPT! r/y would not have set the leave they set if $u / k$ had drawn the required CPT on time. The lesson here is that it is important to pause play after every Peeling action that requires a new CPT. There is always valuable information for one team or the other.

Lesson \#2: Don't Reflexively Make all 4 hoops When you are in Wrap-Around. Here making hoops is just a vehicle to allow completion of Peels before pegging-out. While allowed, there is no need to make all four of your team's allotment.

Figure PR.21: $u / k$ chose $k$ as Striker and lifted it to just north of $u$. $k$ rushed $u$ through $h(11)$ ending in position for the Peel at $h(6)$, their now CPT. The croquet shot completed the Peel with $k$ going to $y$. At this point $k$ followed the advice of Lesson \#1: $k$ stopped play long enough to draw another CPT - $h(2)$ - and used $y$ to get to $r$, rushed $r$ and went to position at $h(1)$, Figure PR. 22.

Figure PR.22: k made $\mathrm{h}(1)$ and then sent r to $\mathrm{h}(3)$ as a Pioneer, going to y . k used y to gain a rush on u to $\mathrm{h}(2)$ and sets up to make $h(2)$, Figure PR. 23.

Figure PR.23: $k$ made $h(2)$, rushed $u$ but not as far as needed to allow a safe attempt of the Back-Peel going to $r$, Figure PR.24. This was an important decision point in the turn. Looking at the scoreboard, $u / k$ had one DPT [at $h(6)$ ] while $r / y$ have none. Also, $u / k$ was in Wrap-Around while $r / y$ still needs to make four more hoops. It is very unlikely that $r / y$ can finish on their next turn.

It is unnatural to abandon a break, but the winning strategy here is for $u / k$ was to complete the CPT at $h(2)$ and get off the lawn! Both teams had used up their Reversals and therefore it was possible for both $u$ and $k$ could end near $h(2)$ without giving up an easy Reversal. In fact, $k$ could intentionally jaws $u$ and then Scatter-Peel. For the record, $k$ chose to attempt the Peel of $u$ going to r jawsed, but $k$ rolled out of bounds on the north boundary, ending the turn. r/y had an easy time getting $u$ out of the jaws leaving $u / k$ with a difficult external CPT at h(2) that was not yet completed. If everything had gone as planned, the Peel could have been with $k$ going to r. u/k would have drawn its final CPT. But the odds of completing it this turn and pegging-out this turn, with just two hoops remaining was remote. u/k should have gotten off the lawn without completing four hoops - this was a significant mental error!
8.. Pegging-Out: Figure PR. 25 was reached in an interesting way. $u / k$ playing $u$ made $h(8)$, sent $r$ to $h(10)$ as Pioneer and then $k$ as an escape-ball, going to $y$. The objective was to make $h(9)$ and then Back-Peel $y$ at $h(4)$ Reversing ar/y DPT at $h(9)$. u made $h(9)$ but sent y a little too far west, requiring a forceful croquet shot for the Peel attempt, which succeeded but sent u to out of bounds. The Reversal counted reducing u/k DPT count to two, but it also ended u's turn, Figure PR.25. r/y drew a new CPT at h(6).

It was now $r / y$ to play. They came on the lawn for $h(12)$ needing to make $h(12)$ and move into Wrap-Around to complete the CPT at $h(6)$, for their $3^{\text {rd }}$ DPT. All $r / y$ had to do after that was to peg out for the win. There are several ways for $r / y$ to proceed to achieve these goals. We consider the "standard" method first - showing it working and showing it failing. Then we turn to aggressive play.
a.. Standard Play - When All Goes as Planned: $r / y$ needed to make three decisions at the start of their turn. Decide: (i) Which ball to play as Striker, (ii) Which ball(s) to return to Home-Base(s), and (iii) Where to place Striker to best use his lift-to-position. r/y chose $r$ as Striker. $k$ and $y$ were in the Augmented Box and could not be moved, but $u$ was outside so $r$ returned it to its Home-Base and gave $r$ a rush on $u$ toward $h(1)$, r's Pioneer-Hoop, Figure PR. 26.

Figure PR.26: $r$ rushed $u$ to $P(1)$ - the $2^{\text {nd }}$ hoop in the break and took off to $k$. $r$ sent $k$ to $R(12)$ while gaining a rush on $y$ to $h(12)$. Then, with a L\&H, r sent y to $\mathrm{V}(12)$ and set-up to make $\mathrm{h}(12)$ - the $1^{\text {st }}$ hoop in the break, Figure PR.27. With this play, $r$ chose a conservative way to start this turn - he established a Pioneer two hoops forward, went and make his first hoop, and then set-up for the Peel to be done 2HP.

Figure PR.27: $r$ makes $h(12)$ and goes to $k$. $r$ sends $k$ to be the Escape-Ball from $h(6)$ - the CPT, to $h(2)$ - the $3^{\text {rd }}$ hoop in the break. $r$ also sends $y$, Peelee, to $h(6)$ as $r$ goes to $u$. $r$ sends $u$ to reception as $r$ goes to position at $h(1)$, Figure PR.28.


Figure PR.28: $r$ made $h(1)$ and went to $u$. $r$ sent $u$ to $P(3)$ - the $4^{\text {th }}$ and final hoop in the break - as $r$ went to $y . r$ Peeled $y$ at $h(6)$ and escaped to $h(2)$ with $k$. $r$ sent $k$ to reception as $r$ set up at $h(2)$, Figure PR.29. $r$ completed its $3^{r d}$ DPT and now wants to peg out.

Figure PR.29: $r$ made $h(2)$, sent $k$ and then $y$ toward the peg as $r$ went to $u$ at $h(3)$. $r$ sent $u$ to reception as $r$ went to position at $h(3)$, Figure PR.30. From here the peg-out would be routine.
b.. Standard Play with a Touch of Reality - Missed Peel Attempts: The success of $r / y$ in the previous panel has as its basis accurate play - achieving good positions for Pioneers, Peelees and Escape-Balls. The next panel shows what can happen starting from Figure PR. 25 , moving to Figure PR. 26 and then to Figure PR. 27 just as before, but now $r$ is not as accurate placing the Peelee ( $y$ ) and the Escape-Ball ( $k$ ) as he sets-up to make $h(1)$, now Figure PR. 31 versus what it was before, Figure PR. 28.

Figure PR.31: $r$ made $h(1)$ and went to $u$. $r$ sent $u$ to $P(3)$ as $r$ went to $y . r$ attempted but failed with the Peel of $y$ at $h(6)$ and escaped to $h(2)$ with $k$. $r$ sent $k$ to reception as $r$ set up at $h(2)$, Figure PR. 32 .

Figure PR.32: $r$ made $h(2)$ and went to $k$. $r$ sent $k$ near to $y$ to facilitate a rush on $y$. $r$ rushed $y$ to $h(6)$ and attempted a Roll-Peel - it failed - as $r$ went to $u$ at $h(3)$. $r$ sent $u$ to reception as $r$ set up to make $h(3)$, Figure PR. 33 .


Figure PR.33: After making $h(3) r$ has made his 4 -hoop limit. Now what? $r / y$ still needed to complete its $3^{\text {rd }}$ CPT at $h(6)$ and still needed to peg-out. The best they can reasonably expect to do is to complete the Peel, as shown in Figure PR. 34, and set a leave. It is possible to run out of hoops for a peg-out attempt if a necessary final 2HP Peel attempt fails! In this sense, a Peg-Out is akin to a Peel.
c.. Bombards after Jawsing: Now suppose the attempted Peel in Figure PR. 33 resulted in y being jawsed, Figure PR. 35 . This new "detail" can be used by $r$ /y to finish the game this turn. The basic way to proceed is for $r$ to make $h(3)$, use $u$ and $k$ to gain position on $y$, Rush-Peel $y$, and then turn around and croquet $y$ into the peg and then peg out with $r$. This is unlikely to succeed for two reasons, both related to the position of $y$ after the Peel: (i) y is a long way from the peg - probably about 10 yards-so the croquet-peg-out is unlikely; and (ii) a piece of furniture, $\mathrm{h}(6)$, is in the way.

A better way to proceed is for $r$ to rush $u$ toward the playing side of $h(6)$, bombard $u$ into $y$ scoring the Peel, while $r$ goes to $k$, use $k$ to get to $y$, rush $y$ to the peg and peg-out. If $r$ played the initial rush on $u$ to a point south of $k$, then it can have more bites at the cherry: (i) try to bombard $y$ using $u$ while gaining a rush on $k$ towards $y$; (ii) if the first bombard fails or misses, use $k$ to bombard $y$; (iii) if the first bombard succeeds in Peeling y but only by a few inches, obscuring its rush toward the peg, $r$ then has the option to rush k close to y and bombard it onto a clear path while gaining a rush toward the peg.
d.. An Early Peel Attempt: We start again, this time seeking to Peel at $\mathrm{h}(6)$ before making the first hoop of the turn. This may seem aggressive, but in fact it provides additional opportunities to complete the Peel and, in that sense, is conservative.


Figure PR.25: $r / y$ moves $u$ and $k$ to their Home-Bases and lifts $y$ to $r$ giving $y$ a rush on $r$ to $h(6), r / y$ 's CPT, Figure PR.36. y rushes $r$ to $h(6)$ and Peels $r$ gaining a rush on $k$ toward $h(1)$, Figure PR.37. y rushes and croquets $k$ to $P(1)$ gaining a rush on $u$ to $h(12)$, Figure PR.38. y rushes $u$ and sets up at $h(12)$, Figure PR.39.

With the $3^{\text {rd }}$ DPT in hand, $y$ will make $h(12)$ and peg-out. The peg-out can take place just after $h(12)$ is made or it can be a more leisurely process with the Peel completed after $h(1), h(2)$ or even as late as after $h(3)$. Importantly, if the initial Peel attempt fails, then y should make $h(12)$, send $u$ to be $E(2,6)$, adjust $r$ at $h(6)$ and go to $k$ to make $h(1)$. The Peel can be attempted $W$ - $h(2)$, and again $W$-h(3) and still have time to peg-out.
9.. Linked-Peels: We were surprised at first by how often Linked-Peels become available in Peel and Reverse if you are on the look-out for them! Consider the following situation: r just finished his turn advancing his Team-Clip to $\mathrm{h}(10)^{104}$ and had one DPT at $h(10)$. It is $u / k$ to play with its CPT $=h(3)$, Figure PR. 40 .

[^73]

Figure PR.40: u went to $r$ with a lift-to-position, Figure PR.41. u rushed $r$ near to $c 1$ and croqueted it to $P(11)$ going to $k$. u rushed $k$ towards $y$ and then croqueted it to $R(10)$ going to $y$. Then $u$ rushed and croqueted $y$ to just north and east of $h(10)$ as $u$ went to position at $\mathrm{h}(10)$, Figure PR. 42.

Figure 42: u made $\mathrm{h}(10)-\mathrm{H}$ - roqueted k , Peeled k converting $u / \mathrm{k}^{\prime} \mathrm{S} C P T$ at $h(3)$ to a DPT - P - while gaining a rush on y to $\mathrm{h}(3)$. k rushed y to Peel position and then Peeled y going to $\mathrm{r}-\mathrm{P}$ - reversing $r / y^{\prime} s$ DPT at $h(10)$. u rushed and croqueted r to $\mathrm{R}(11)$ as $u$ went to position at $\mathrm{h}(11)$, Figure 43. Here $u$ went HPP completed two linked-Peels.

## Is Going $\mathbf{1}^{\text {st }}$ Good or Bad?

One notable advantage of going $1^{\text {st }}$ is the possibility of finishing the game with your $3^{\text {rd }}$ turn before Oppos gets a chance to play their $3^{\text {rd }}$ Turn. This requires accumulating 3 DPTs (net of Reversals) during the three turns, which would seem to be the major obstacle. But there is also the matter of getting your Team-Clip to the peg and then pegging-out. At first blush these later tasks seems simple. But it turns out not to be so easy...

Let's assume that $k$, as the $1^{\text {st }}$ Striker, makes his allotment of four hoops. Starting at $h(1)$, $k$ will finish his turn by making $h(4)$ and leave the lawn with the $u / k$ Team-Clip on $h(5)$. It will be $r / y$ to play. $r / y$ also starts for $h(1)$ and will also make $h(4)$ as its natural ending hoop. Interestingly, the physical hoop housing $h(4)$ is also home to $h(9)$ - the Leep hoop for the $u / k$ clip now on $h(5)$. It should
be an easy matter for $r / y$ to arrange to use $u$ (or $k$ ) as its $R(4)$, make $h(4)$, roquet $u$, and then attempt a Leep of $u$ at $h(9)$. If successful, this Leep will return/regress the $u / k$ Team-Clip to $h(4)$ - making it difficult for $u / k$ to finish in just three turns.

And $r / y$ need not despair if the Leep does not work out after $h(4)$. If $u / k$ makes its way to $h(9)$ during their $2^{\text {nd }}$ turn ${ }^{105}$, then $r / y$ can again arrange to have $u$ (or $k$ ) be the Reception ball, now $R(8)$, and try the Leep at $h(1)$, leaving $u / k 5$ hoops short of finishing during $3^{\text {rd }}$ turn instead of the natural 4. Played out this way, $u / k$ may come to feel like an older child being followed everywhere by an obnoxious younger sibling!

But there is a way to turn these lemons into lemonade! $u / k$ can make part of the focus of their $1^{\text {st }}$ turn using a Progress-Peel ending with their clip on $h(6)$ instead of the normal $h(5)^{106}$. This can be accomplished in one of two ways: (i) a Progress-Peel at $h(4)$ - it could be done at an earlier hoop, but this can be difficult to arrange - allowing $u / k$ thereafter to escape to and make $h(5)$, and leave the lawn gracefully, or (ii) a Progress-Peel at $\mathrm{h}(5)$ itself with then a "hasty" departure and no ability to move Peelee. Both strategies can work and achieve the goal of advancing the $u / k$ clip to $h(6)$. The former is elegant but has risk, the latter isn't pretty, but it is relatively risk free. The difference between them is what leave $u / k$ can be set.

When they do take over, after a successful Progress-Peel, $\mathrm{r} / \mathrm{y}$ will have various options: The most obvious one is to ignore $u / k$, run 4 hoops of their own, and attempt a CPT or 2 . But this can backfire! $u / k$ will play next starting from $h(6)$ and, assuming they can make their 4 hoops, $u / k$ will end by scoring $h(9)$ which this time around is the Leeping hoop for $r / y$ 's Team-Clip on $h(5)!r / y$ could easily start their next turn with their Team-Clip back on $h(4)$ and $u / k$ 's at $h(10)$ ! There are other options including: (i) $r / y$ could move the $u / k$ Team-Clip backward one hoop with a Leep: But $u / k$ could still finish on their $3^{\text {rd }}$ Turn unless $r / y$ complete two Leeps moving $u / k$ back two hoops, which is difficult and would prevent $\mathrm{r} / \mathrm{y}$ from doing much else that turn. (ii) r/y could follow $u / k$ and Progress their Team-Clip to $h(6)$ - monkey see, monkey do - but this does not accomplish anything meaningful for $r / y$. (iii) Finally, and in keeping with the name of the game, r/y can just proceed as expeditiously as possible with CPTs and Reversals ...

[^74]
## Let's Go to the Video

We videoed a game of Peel and Reverse played by Matthew Essick and Steve Morgan at the NCC on October 19, 2021. It took 2 hours and 21 minutes, not an unreasonable amount of time for an AC-based game that was well played and had lots of drama! Steve prevailed but not before he and Matthew put on a show that called on all features of the game. They used them in ways we had imagined but also in new ways as well. You will see everything - PT's, Leeps, Progress-Peels, Reverses, and a Peg-Out.

Our description is built around two panels of figures: (i): The State of the Score-Board. Here a new figure is included every time the Score-Board was adjusted (i.e., there can be more than one figure during a turn, or none - there are 10 of these -- they are identified by letters $\mathrm{A}-\mathrm{J}$ ). (ii): The Starting and Ending Ball and Clip positions for each turn, (in continuing numerical order). We define the "start" to be just after Striker uses his option to return balls to their Home-Bases and completes his lift-to-position.

Stephen won the toss and decided to go first. Matthew chose r/y which gave Stephen $u / k$. At that point we went from a blank ScoreBoard, Figure PR.A, to one that included the results of the initial random draws. Each player received a CPT and a DPT. ${ }^{107}$ As you can see, and quite by chance, these made the single physical hoop that houses $h(1)$ and $h(8)$ very important! The single Team-Clips of both teams were on $h(1)$ as was $u / k^{\prime} s$ CPT. Additionally, $r / y^{\prime} s$ DPT was $h(8)$, making $h(1)$ a Reversing-Hoop for $u / k$. Additionally, each team was also allocated three Reversal as accounted for by the red and blue markers ${ }^{108}$, Figure PR.B.

Turn \#1-u/k (6:00): Stephen came on the lawn with the balls in their game-starting positions (not shown) and his Team-Clip at its starting point, $h(1)$. He chose $k$ as Striker, and took position with it near to $y$, Figure PR.44. His CPT, which would involve Peeling Partner, was $h(1)$, and, by chance, his available Reversal, which would involve Peeling either Oppo ball ${ }^{109}$, was also at $\mathrm{h}(1)$ ! Steve established his break, made $h(1)$, and then Back-Peeled $u$ at $h(1)$. Play stopped briefly while his CPT became a DPT and a new CPT was drawn, $h(11)$, Figure PR.C. Stephen went on to complete his allotment of 4 hoops, making $h(2), h(3)$, and $h(4)$, and a final scatter-Peel of $u$ at $h(11)$, leaving the balls as shown in Figure PR. 45 , with $u / k$ now having three DPTs and no CPT, Figure PR.D. This was a very good turn that made the allotted four hoops and was able to complete two Peels! It took close to 18 minutes.

[^75]Turn \#1-r/y (25:24): Matthew came on the lawn for his first turn with his Team-Clip on $h(1)$, his CPT at $h(5)$ and the ability to erase any of Steve's 3 DPTs with Reversals at $h(9), h(8)$, or $h(6)$. Matthew returned $u$, $k$, and $y$ to their Home-Bases and then lifted $r$ to $k$ to start his turn, Figure PR.46. Matthew rushed $k$ to $h(9)$ and tried the Reverse but failed. He made $h(1)$ and tried the Reverse at $h(8)$ and succeeded. This required that the Score-Board be modified in three ways: We (i) removed Stephen's reversed DPT, gave him a new CPT at $h(6)$ (as he no longer had 3 DPTs), and removed one of Matthew's Reversals leaving two, Figure PR.E. When play resumed, Matthew rushed Partner to $h(5)$ but not into Peeling position, made his way to $h(2)$ with a very good roll-up and made $\mathrm{h}(2)$. Matthew then tried the $\mathrm{h}(5)$ Peel from very long range but was unsuccessful. Then Matthew, acting totally out of character, entirely missed a severe cut rush to h(3). His turn ended with his Team-Clip on h(3), Figure PR.47. Needless to say, this was not a successful turn. Yes, a Reversal was completed, but the aggressive (dare we say overly aggressive?) play caused Matthew to breakdown. Preaching a bit, we would like to suggest that It is very important to balance hoop-making and Peeling. Failing in either category can be a disaster. This turn consumed 10 minutes.

Turn \#2 - u/k (35:00): Stephen took over with his Team-Clip on $h(5)$. He chose to play $u$ as Striker, moved $r$ to its Home-Base and placed $u$ behind $r$ with a rush to the east, Figure PR.48. His CPT was at $h(6)$ and his single potential Reversal of a Matthew DPT remained at $h(1)$. Given that he was ahead, Stephen decided to focus once again on completing his allotment of four hoops and getting again a $3^{\text {rd }}$ DPT, this time at $h(6)$. He made $h(5)$ and $h(6)$ and then attempted but could not complete the Back-Peel at $h(6)$ and left $k$ in position instead. He went off and made $h(7)$, came back, and, this time, completed the Peel, but it barely came through $h(6)!$ The board was adjusted - moving the CPT at $h(6)$ to become a DPT, a new CPT was not needed, Figure PR.F. Then u escaped to $h(8)$ with $r$, which was the last of the 4 hoops possible in Stephen's break. The rush to $h(8)$ left a challenging roll-up which came off perfectly. Stephen made $h(8)$, attempted but failed the Reversal at $h(1)$, and then moved $k$ away from $h(6)$ to establish the leave shown in Figure PR. $49{ }^{110}$. This was a conservative turn that accomplished its goal of keeping pressure on Matthew. It took 15 minutes, "re-completed" Stephen's $3^{\text {rd }}$ DPT, and advanced his Team-Clip four hoops, to h(9), on schedule for a possible 3-Turn finish.

Turn \#2 - r/y (50:00): Matthew comes on the lawn with Stephen in a very dominant position! Stephen's Team-Clip was on h(9) while Matthew's was on h(3)! Furthermore, Stephen had three DPT's [at h(6), $h(9)$, and $h(11)$ ] to Matthew's one, and three remaining Reversals to Matthew's two. And, to add insult to injury, Stephen left no balls outside the Augmented-Box and therefore Matthew's could not move any of them to their Home-Bases ${ }^{111}$. His only play at the start of his turn was to lift one of his balls to position.

[^76]One thing we talked about on the sideline while Matthew considered his options was that two of Stephen's DPTs, $h(6)$ and $h(11)$, were at the same physical hoop. And $h(6)$ was along Matthew's break (his $4^{\text {th }}$ hoop). Therefore, it seemed logical (to us!) that Matthew would make his 4 allotted hoops, ending with his clip on $h(7)$ while reversing the two sister DPTs. We discussed how Stephen would find it difficult with only four hoops to complete two CPTs and peg-out both balls to win, all in the same turn. But we also discussed that, Stephen most likely would not need to finish on $3^{\text {rd }}$ turn in order to win! We noted that by ending his $2^{\text {nd }}$ turn on $h(7)$, presuming he got there, it would be virtually impossible for Matthew to finish on his $3^{\text {rd }}$ turn, letting Stephen have a $4^{\text {th }}$ turn that would not be faced with any more reversals from Matthew - all his would be gone. Then Stephen could attempt to finish on $4^{\text {th }}$ turn or use his reversals to prevent Matthew from finishing on his $4^{\text {th }}$ turn, thereby setting Stephen up for an easy $5^{\text {th }}$ turn win....

Clearly Matthew was not listening! Instead of following our advice, Matthew lifted y out of the jaws of $h(2)$ and took a rush on $u$, Figure PR.50. Matthew made $h(3)$ and rushed Oppo to $h(1)$ and Leeped it thereby moving Stephen's Team-Clip back from $h(9)$ to $h(8)!{ }^{112}$ Matthew made $h(4)$ and then did the Reversal at $h(9)$, removing one of Stephen DPTs while reducing Matthew's Reversals to just one. At this point play stopped, the Reversed DPT was removed, and, once again, Stephen was given a CPT, this time at h(9), Figure PR.G. This combined action - a Leep and a Reversal by Matthew was extremely clever as it made Stephen's ability to finish on $3{ }^{3 r d}$ turn remote - he would need 5 hoops (4 hoops and a Progress-Peel), one CPT and a Peg-out.

But Matthew wasn't done! He made $h(5)$ tried the Peel at his CPT, $h(5)$ yet again and failed yet again going to $h(6)$. Matthew made $\mathrm{h}(6)$ and then rushed Partner ( r ) to $\mathrm{h}(7)$ and completed a Progress Peel - advancing his Team-Clip from $\mathrm{h}(7)$ to $\mathrm{h}(8)$, the same hoop that held Stephen's Clip! ${ }^{113}$ Finally, Matthew hit Oppo at about 14 yards (!) and then set a very difficult leave for Stephen that ended with y against the peg, Figure PR.51. This turn involved four hoops, and three Peels, each a different type. An Amazing turn! 18 minutes of high drama.

Turn \#3-u/k (1:08:37): Stephen came on the lawn knowing that, realistically, neither he nor Matthew were going to win on $3^{\text {rd }}$ turn. The most important thing that Matthew had done during his $2^{\text {nd }}$ turn was the Leep. It made Stephen start his $3^{\text {rd }}$ turn with his Team-Clip on $\mathrm{h}(8)$ instead of $\mathrm{h}(9)$. So why not just "fix it" with a Progress-Peel like the one Matthew did? The answer is that Matthew's Progress Peel came after he had made all four of his allotted hoops. Even if he could complete a Progress-Peel, Stephen

[^77]would have to do it early in his break because the Progress-Peel does not grant a cleaning that would be needed to allow a subsequent peg-out. Therefore, we all believed that Stephen's path forward should be to focus on accumulating a $3^{\text {rd }}$ CPT and Reversing Matthew DPT at h(1).

Stephen had no balls to return to Home-Base. He chose $k$ as Striker and lifted to $u$, Figure PR.52. He rushed $u$ to $h(9)$ - hoping to attempt the CPT but ran $u$ into the right upright. Stephen moved $u$ to Peel position with a take-off going to $y^{114}$. He rushed $y$ off the peg driving it out of bounds middle west. Now he needed to get to $r$ to make h(8), his Current-Hoop. A take-off from $y$ to $r$ left Stephen with a reasonable cut-rush - but he hit it straight sending $r$ east of $h(8)$. He completed a wonderful roll-up but then failed at $\mathrm{h}(8)$, Figure PR.53! There was no modification to the Score-Board during this turn.

With this break-down, the course of the game took a dramatic turn. Stephen had squandered an opportunity. Now the question was, what should Matthew do?

Turn \#3 - r/y (1:14): In order to finish on his $3^{\text {rd }}$ Turn Matthew needed a Progress-Peel, Peels at two CPTs - one known, his nemesis at $h(5)$, and one yet to be determined, and Matthew would still need to peg-out. Our "discussion" on the video suggested that we thought it best for Matthew to focus on using his last Reversal to reduce Steve's DPT count from two to one, and to increase his own DPT account from one to two. Stephen would probably not be able to finish, setting the stage for $4^{\text {th }}$ turn play. Matthew understood our argument - that at this stage of the game Progress and Regress-Peels lost their importance and that the game became a battle of Peels and Reversals - but chose his own, as he would later describe it, very aggressive approach in an attempt to win this turn. Sadly, it failed...

Matthew chose not to return $r$ to its Home-Base. He had other plans for $r$ ! He chose $y$ as Striker and gave y a rush, Figure PR. 54. Matthew rushed $r$ to $h(8)$ and attempted the Progress-Peel. It jawsed! Now what? y could scatter-Peel u through at h(8) but it would be end of turn unless $y$ could hit $k$, the other live ball in the same stroke - unlikely. Matthew instead roqueted $k$, and then attempted the Peel of $r$ at $h(8)$ as a bombard ( $k$ into $r$ ) as y went to $u$. It worked! Matthew completed the Progress-Peel, moved his clip from $h(8)$ to $h(9)$, and was ready to make $h(9)$ - as his first of four possible hoops - with the waiting $u$.

Matthew made $h(9)$. Then, in an effort to keep his dream of finishing this turn alive, Matthew attempted the $h(5)$ Peel again, it failed again but, more importantly, y did not get a good rush on $k$, the ball he need to make $h(10)$. A heroic roll-up failed, and Matthew's turn ended, Figure PR.55. This turn took 8 minutes. There was no change to the Score-Board during this turn.

[^78]If the Peel at $h(5)$ and the roll-up to $h(10)$ had both succeeded, then Matthew would have had two hoops within which to do a final Peel (with an unknown CPT) and Peg-Out. Possible but difficult.

Turn \#4-u/k (1:22): Stephen came on the lawn still for $h(8)$, still needing 5 hoops, one Peel and a Peg-out for the win. We discussed that the most productive thing he could do was to Reverse Matthew's sole DPT, Reversal at h(1), leaving Matthew needing to complete 3 CPTs and Peg-out in just four hoops for the win. It would also be desirable for Steve yet again to complete his $3^{\text {rd }}$ DPT forcing Matthew to use his final Reversal - hopefully in lieu of completing his own CPTs. Then Stephen could come on the lawn for his $5^{\text {th }}$ turn needing no more than one DPT and a Peg-out to win.

Stephen chose $k$ as Striker and lifted it to $y$, Figure 56. Then there was a bit of confusion because Stephen conflated Matthew's CPT and DPT situations. In the spirit that we were operating, Matthew graciously had Stephen replay the start of his turn. Even so, in the end Stephen made only three of his four possible hoops [h(8), $h(9)$, and $h(10)$ ], ended with his Team-Clip on $h(11)$ and scatter-Peeled y at $\mathrm{h}(1)$, Reversing Matthew's DPT, where Figure PR. 57 shows the ball positions at the end of his turn. Figure PR.H shows the ScoreBoard adjusted for the Reversal - Matthew's DPT was removed, and Stephen's supply of Reversals was reduced from three to two.

Note that Stephen sacrificed his break to complete the Reversal. He was not going to finish this turn anyway, so it really did not matter if he starts his $5^{\text {th }}$ turn, presuming he got one (!), for h(11), or h(12).

Turn \#4 - r/y (1:39): Matthew now needed 3 Peels and a Peg-Out this turn to win. In the alternative, Matthew could give up finishing and work to slow Stephen's advance, which looks set to win on $5^{\text {th }}$ Turn. Matthew's goal would be to stretch the game out to a $6^{\text {th }}$ Turn by Reversing one of Stephen two DPTs and then making one of his own by completing his CPT at the elusive h(5)!

Matthew comes on the lawn for $h(10)$ and chose $r$ as Striker. Stephen's "hasty" end to his break left balls outside the AugmentedBox which allowed Matthew to move $u$, $k$, and $y$ back to their Home-Bases. Matthew lifted $r$ to $y$, Figure PR.58, rushed $y$ to $h(5)$, and tried the CPT, but failed. Matthew makes $h(10)$ and tried the $h(5)$ Peel again, now on-the-way to $h(11)$ and failed again, this time putting $y$ in a non-Peelable position against the right upright. At $\mathrm{h}(11)$, in an effort to give himself more time to complete other Peels Matthew tried a Reverse on $u$ as a Straight-Peel. This failed as did his hoop attempt. Matthew's turn ended after making one hoop and no peels, Figure PR.59. The turn took only 8 minutes. There was no change to the Score-Board during this turn.

Turn \#5 - u/k (1:51): r/y left no balls outside the Augmented-Box and so Stephen could not return any of them to their Home-Bases. His Team-Clip was on $h(11)$ but Stephen was allocated four hoops: the remaining traditional hoops $-\mathrm{h}(11)$ and $\mathrm{h}(12)$ and then two
hoops in "Wrap-Around" - $h(1)$ and $h(2)$. Steve seemed in position to finish - he had four hoops but only needed to make two of them. He needed one CPT, at $\mathrm{h}(9)$ and then he needed to Peg-out.

Stephen chose $k$ as Striker and lifted it to $y$, Figure 60. This seemed conservative at the time. The plan appeared to be to establish an escape ball at $h(9)$ with $y$, bring $r$ into the mix and make $h(11)$ with $u$. This would be followed by rushing $u$ to $h(9)$ and attempting the peel going to $h(12)$. But Stephen had difficulty maneuvering u to $h(9)$ after making $h(11)$ - so much so that his first Peel attempt only took place after he made $h(11), h(12)$, and $h(1)$ and then Stephen abandoned making a $4^{\text {th }}$ hoop to facilitate the Peel. Stephen was forced to use the Escape-Ball he had planned to use for $h(2)$ to gain access to $u$ because Stephen had accidentally wired $u$ from $k$ in the roll to $h(9)$ ! The Score-Board was updated for this Peel, Figure PR.I. Steve now had 3 DPTs (and did not need a CPT), but his turn ended ${ }^{115}$. The result of the Peel left $u$ and $k$ just through $h(9)$, Figure 61. This turn took 9 minutes.

Turn \#5 - r/y (2:00): Matthew came back on the lawn for an unexpected $5^{\text {th }}$ Turn. He chose $y$ as Striker and lifted it to $k$, ready to attempt a rush-Peel at $h(4)$ as a Reversal of the DPT at $h(9)$, Figure 62. Matthew's goal was to reduce Steve's DPTs back to two, and to make one or two DPTs for himself. As we will see, $h(5)$ once again stood in his way...

Matthew completed the rush-Peel. The Score-Board was changed to reflect the Reversal, Stephen's need for a new CPT, he drew $h(3)$, and that Matthew was now out of Reversals, Figure PR.J. Matthew made h(11) and tried his CPT at $h(5)$ but failed. He made $h(12)$ and tried the Peel again and failed again ${ }^{116}$. He made $h(1)$, tried to Peel $h(5)$ and failed once more. Matthew then jawsed $y$ in $h(5)$, finally getting something to work at $h(5)$ (!), ending his turn as shown in Figure PR.63. This turn took approximately 12 minutes.

[^79]In his review of this turn Ben wrote about anticipating the next draw - an interesting aspect of the game when there are few remaining blocks:
Matthew had 2 hoops left and needed 3 Peels and a Peg-out. Had the bombard worked, he would possibly have a rush to h(7) or if he got lucky and drew h(12) he could attempt the $2^{\text {nd }}$ peel on the way to $k$ and the $3^{\text {nd }}$ hoop [ $h(1)$ ]. This would leave him time for HP on the $3^{\text {rd }}$ peel and live on Partner after he scores $h(2)$ so he could Peg-out. ... Matthew did mix up the fact that all he needed was to not draw h(10) as h(2) would also not allow him a reasonable Peel attempt before making h(1). He had a 50/50 chance of drawing a hoop he could Peel before hitting $k$ and making h(1) [7 or 12, not 2 or 10].

Turn \#6-u/k (2:13): Steve on the lawn for what was the final turn. He had four hoops to complete a final CPT, at h(3), and Peg-Out. This seemed like an easy task, given that his Team-Clip was on $h(2)$. We expected him to make $h(2)$ and $h(3)$ and then Back-Peel at $h(3)$ to get his final DPT. He would then make $h(4)$ and Peg-Out having $h(5)$ available if something went wrong. In fact, Stephen forgot that he was peeling at $h(3)$, and thought it was at $h(10)$ ! He lifted y to k, Figure PR. 64 . He made $h(2), h(3), h(4)$ and Peeled on the way to $h(5)$. This was followed by a successful Peg-out and the win! This turn took approximately 11 minutes.

THE STATE OF THE SCORE BOARD


TURN STARTING AND ENDING BALL AND CLIP POSITIONS



PR.50: y as Striker


PR. 51


PR.52: k as Striker


PR. 53


PR.54: y as Striker


PR. 55

IV.. Substantially Beyond: New Games with Full-Length Turns

## 1... PEEL CROQUET

## THE RULES

Peel Croquet ("PC") is a form of AC" where the continuation of a break requires Striker to complete a "BELP" - a Break-Extending Leep or Peel - at least once every two hoops ${ }^{117}$. This is the Peel/Leep Requirement, the "PLR". It is the rule that defines PC. As in AC, a successful Peel moves Partner's clip, or one of Oppos' clips, forward one hoop ${ }^{118}$. A successful Leep moves the relevant clip backwards one hoop.
1.. Initial Clip Positions: A game starts with $u$ on $h(2), r$ on $h(3), y$ on $h(4)$ and $k$ on $h(5)$. Each team therefore begins with five points.
2.. Winning the Game: The winner is the first team to reach 26 by scoring the remaining hoops for both of its balls and pegging-out.
3.. Baulk Lines: The A- and B-Baulk-lines are extended to encompass the full South and North boundaries.
4.. Leeps, Peels and BELPs: All successful Peels or Leeps ${ }^{119}$ move Peelee/Leepee's clip forward/backward as appropriate. The clip should be moved immediately so that both sides can keep track of the updated Peel and Leep opportunities. In addition to moving a clip, a Peel or Leep is Break-Extending - a "BELP" - if it is not a Reversal.
4.. Reversals: During a single turn, a Peel on a particular ball can be followed by a Leep on the same ball, or vice versa. This is called a Reversal. The clip is moved appropriately after a Reversal, but the Reversal itself and any other Peels or Leeps on that ball during that turn are not break-extending.
5.. Starting the PLR: The PLR applies to the $5^{\text {th }}$ turn. However, it can start earlier if: (i) A hoop is made without a roquet (i.e., an opening shot from a baulk line) during the initial four turns; or (ii) A roquet is made during the second, third or fourth turns.

[^80]7. Performance-based lifts: Once the opening four turns are completed, each turn starts from where the balls were left, or with a lift-to-baulk, contact, or position depending on what Oppos achieved in their last turn:
(i) If a Peel or Leep was achieved, Striker is entitled to play the balls as they lie or use a lift-to-baulk.
(ii) No Peel or Leep was achieved but a hoop point was scored, Striker is entitled to the options offered in (i) and additionally Striker can use a lift-to-contact.
(iii) No Peel or Leep was achieved, and no hoop point was scored, Striker is entitled to the options offered in (ii) and additionally Striker can use a Lift-to-Position ${ }^{120}$.
(iv) Passing: Notwithstanding (i), (ii) and (iii) above, if the previous Striker did not Pass, then the Current-Striker can Pass meaning not play a turn, leaving the balls where they are on the lawn. Following a Pass, the next Striker can play the balls as they lie or use a lift-to-baulk, but he cannot Pass. However, if the PLR has not been triggered during the first four turns, then the $5^{\text {th }}$ Turn cannot Pass.

The lift hoops found in AC do not apply in PC - for example, running $h(7)$ and $h(10)$ in the same turn with the first ball does not concede a contact necessarily, so long as the striker achieved a BELP during the turn.
8.. End of the Game: A ball from one team may not be pegged out by an Oppo-Ball. Striker can peg out Partner but only if both clips of his team are on the peg. Pegging-out Partner is deemed to be a Peel and can be a BELP. Failure to peg-out both balls results in the clip of the pegged-out ball being returned to the peg and the pegged-out ball being placed anywhere on the baulk lines, at Oppo's option.

[^81]
## NOTES ON Peel CROQUET

Peel Croquet ("PC") is a variant of Association Croquet ("AC") designed to restore interest and challenge when playing in easy conditions. It increases the importance of break playing skills and reduces the importance of shooting. It makes it easier to start a break in many circumstances but increases the difficulty of extending the break to its normal length and of avoiding giving the Opponent an easy start to their next turn. (Stephen Mulliner, 2017)

## If we had all started with PC, we might never have played AC! (Peter Trimmer 2019)

INTRODUCTION: Starting with Striker for h(1), the basic AC Peeling patterns - "schedules" - of hoops (h), Peels (p), and peg-outs are:

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Standard-Triple: [h1, h2, h3, p10] [h4, h5, [h6, p11] [h7, h8, p12] [h9, h10, h11, h12], peg-out
Delayed-Triple:
Sextuple:
[h1, h2, h3, h4, h, p(10] [h6, h7, h8, h9, p11] [h10, h11, p12] [h12], peg-out
[h1, h2, p7] [h3, h4, p8] [h5, h6, p9] [h7, h8, p10] [h9, h10, p11] [h11, p12] [h12], peg-out
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These schedules are encouraged by the $h(7)$ and $h(10)$ lift rules of Advanced and Super-Advanced AC and the desire of players to limit Oppos to a single or at most two attempts to hit-in.

Each pattern has well known variations that speed up or delay specific Peels, and still qualify for the designations of "TP" or "SxP". In AC, it is all about getting the Peels done by the end of the turn, not when they occur within the turn. Of the patterns listed above, only the Sextuple qualifies as "legal" under the rules of PC. The Standard and Delayed-Triples complete the required Peels, but do not meet the PLR requirement - a Leep or Peel every two hoops. Thus, PC adds a time dimension to $\mathrm{AC}^{121}$ that we will now explore.

## PC from 30,000 feet

In PC, a Peel adds a point to the score of Peelee's team, moving its clip forward one hoop; while a Leep deducts a point from the score of Leepee's team, moving its clip backward one hoop. Balls begin for different hoops $-u$ for $h(2)$ and $k$ for $h(5), r$ for $h(3)$ and

[^82]$y$ for $h(4)$ - giving each team an initial score of five points, as well as unique initial Peeling and Leeping opportunities. Before the initial Striker is chosen, there are four potential Peels: $u$ at $h(2), r$ at $h(3), y$ at $h(4)$ and $k$ at $h(5)$, and four potential Leeps: $u$ at $h(8)$, $r$ at $h(7)$, $y$ at $h(10)$, and $k$ at $h(9)^{122}$, as shown in the figure presented below. As in traditional AC, the first team to reach 26 points by completing all remaining hoops for both balls and peg them out wins the game.


The eight Peel and Leep Opportunities reduce to six once the Striker is chosen. Thus, at the start of a turn, each Striker will have access to three Peels and three Leeps, unless one or more balls is on $h(1)$ or on the peg. (That is, a ball cannot be Leeped from $h(1)$ and it cannot be pegged-out before Striker is also for the peg). This set of BELPs evolves during a turn as discussed below.

There are two fundamental rules in PC.
(i) The Peel/Leep Requirement (the PLR): Striker may not score more than 2 hoops before achieving a BELP.

Reversals are not Break Extending: A Reversal occurs when: (i) An initial Peel on a ball is followed by a Leep on the same ball in the same turn, or (ii) An initial Leep on a ball is followed by a Peel on the same ball in the same turn. If a Peel or Leep is a Reversal, then that Peel or Leep, and all subsequent Peels or Leeps on that ball, in the same turn do not constitute BELPs. However, all such Peels or Leeps will cause the relevant clip to be moved. The rationale for not allowing Reversals as BELPs is to prevent a player from leaving a

[^83]ball at a hoop, Peeling in one direction to meet his PLR and then two hoops later Leeping in the other. While the clip would move between hoops, the ball would not move much at all. This is not desirable and would trivialize the PLR.

Only the four traditional clips are used in play out on the lawn during a PC game. However, in the diagrams in this section, and only this section, we identify clips for Peels and Leeps as color-coded cartoon-like triangles pointing in the direction needed to score the hoop. Peels and Leeps that are possible but not BELPs (i.e., Reversals), are in white. Striker is identified by a circle of his color. We begin with an example that focuses on clip movement, leaving the actual play of the balls to be filled-in by the reader. This example also considers PC from the AC-perspective of trying to finish in two turns - we have $\mathrm{k}^{123}$ run the first break and set a leave; $r / y$ fails to hit in; $u$ takes over, runs a second break, and then pegs-out $k$ and $u$ to win the game. We use insights from Chapter 1to choose between BELP Opportunities.

## A 2-Turn Finish - So What's the Big Deal?

Figure PC.1: k is Striker and is for $\mathrm{h}(5)$. All clips are on their starting hoops. We ignore the opening and how k gets control of the balls, leaving these as topics for later. $k$ can make $h(5)$ and $h(6)$ but then faces the PLR - he needs a BELP if his break is to continue. $k$ has 6 Leeps/Peels to choose from. Let's first consider the Peel of Partner $u$ at $h(2)$. "Economically" it is the preferred choice because it advances Partner. In AC this Peel would most likely be done as a Back-Peel, $A-h(7)$. But in PC, with $X=2$ and $k$ starting his turn for $h(5)$, this Peel must be done $W-h(7)$ if it is to serve as a BELP. In this case, u's passage through $h(2)$ (whether successful or not!) could block k's attempt to run $h(7)$, the same hoop in the opposite direction, ending k's turn. We rule it out for that reason.

Next, let's consider the Transit-Leep of Partner $u(-)$ at $h(8)$. This is not attractive because it takes a point away from the $u / k$ team and rules out break extending Peels on Partner ( $u$ ) later in this turn. It also involves a long rush to $h(7)$ if $k$ is to continue his break. The Transit-Peels of $r$ at $h(3)$ and $y$ at $h(4)$ are also unattractive - they give a point to Oppos and involve long rushes to $h(7)$. The Transit-Leep of y at $\mathrm{h}(10)$ is possible -it takes a point away from Oppos, but it too involves a long rush after the Peel, or a difficult Roll-Peel with significant pull.

You may differ, but we think the best choice is Leeping $r$ at $h(7)$. This is a Straight-Leep. It would be considered riskier than the Transit-Leep of $y$ at $h(10)$ in T-AC because a failed Transit-Peel is not usually break-ending while a failed Straight-Peel can be. But in

[^84]PC the failure of any type of Peel/Leep when a BELP is needed means the break cannot continue - so the lack of rush (escape) in a Straight-Peel is to be preferred over a long rush involved in a Transit-Peel.

Figure PC.2: This figure shows $k$ for $h(7)$ and $r$ 's clip moved back to $h(2)$. The $r$ Peel clip is shown but it is in white indicating that, while feasible, it is not break-extending. $k$ needs to make $h(7)$ and $h(8)$ and then Peel/Leep again while progressing to $h(9)$. There are now only five break extending possibilities open to k . Once again, the Leep on Partner u at $h(7)$ is unattractive. The three remaining Peels/Leeps on Opponents ( $r$ and $y$ ) are also unattractive because they involve long rushes. The best opportunity is to Peel Partner, $u$ at $h(2)$, which gives $u / k$ a point and advances Partner's clip. Because of the last Leep, $r$ is sitting conveniently at $h(7)$ which could be the Escape-Ball for $k$ to $h(8)$. Peeling $u$ at $h(2)$ is our choice.


Figure PC.3: $k$ is at $h(9)$ and $u$ 's clip has been moved to $h(3)$. $k$ considers his options. If $k$ makes $h(9)$ and $h(10)$ and executes one more BELP, then he could set a leave as he makes $h(11)$ and $h(12)$ and end with his clip on the peg. But proceeding to the peg limits u's options by taking away two easy BELP opportunities - Peeling Partner at $h(11)$ and $h(12)$. Therefore, $k$ decides not to go to the peg.

Figure PC.4: This lawn shows the clip positions after k has progressed to $h(11)$ and set a leave.

Figure PC.5: $\mathrm{r} / \mathrm{y}$ fails to hit-in and $\mathrm{u} / \mathrm{k}$ decides to play their back ball, u . This lawn shows u in his starting position at $\mathrm{h}(3)$. u wants to finish the game this turn. He will need to make 10 hoops $[h(3)-h(12)]$ and peg out $u$ and $k$ to win. This will require 4 BELPs and an
additional break extension (also a BELP) that arises from the pegging-out of Partner. But, before $u$ can peg-out $k$, $u$ needs to advance $k$ to the peg. Thus, two of the BELPs must be Peels on Partner. The others can be Leeps or Peels on Oppos.

As an initial matter, $u$ needs to make $h(3)$ and $h(4)$ and do his first Peel/Leep. All six possibilities are available. But a Leep on Partner [ $k$ at $h(3)$ ] would be counterproductive, because any further Peels on $k$ in the turn would be Reversals, and hence would not be break-extending, essentially preventing u from finishing in this turn. While not forgetting the need for two Peels on Partner, u chooses the Transit-Leep of $r$ at $h(8), \mathrm{W}-\mathrm{h}(5)$. It takes a point away from Oppos and can be accomplished with a short rush (escape) from $h(8)$ to $h(5)$. The other options involve longer rushes and/or give points to Oppos.


Figure PC.6: $u$ has progressed to $h(5)$ and $r$ 's clip was pushed back to $h(1)$. There is no longer an available Leep on $r$ because $r$ cannot be pushed back further than $h(1)$. The $r$ Peel is possible, but it would be a Reversal and therefore not break-extending, so it is shown in white. u needs to make $h(5)$ and $h(6)$ and then Peel or Leep. Once again, the Leep on Partner is ruled out because $u$ wants to finish and needs to advance $k$, not push it backward. There are three remaining options - a Leep or Peel on y or the Peel on k . The most convenient option is to Peel $k, k(+), A-h(6)$. In AC this Peel would normally be completed as a Back-Peel.

In PC, given the heightened importance of achieving a successful Leep or Peel, we recommend playing to give Striker the option of both a Back-Peel or a Transit-Peel where possible. So, in this example, Striker could keep their h(7) pioneer near to h(6), or at least several yards south of $h(7)$ to keep the Transit-Peel option open. As well as this, in the lead-up play, Striker could play with the intention of attempting a Back-Peel, with $k$ as Reception-Ball, after $h(6)$. We feel the optimum method for this would be to keep the

Escape-Ball for the Peel in a position slightly north-east of h(6), so that after u runs the hoop and attempts the Back-Peel, a jawsed Peel may be bombarded through using the escape ball, achieving the BELP in time so that $u$ is able to continue its break. If, after $u$ runs $h(6)$, $k$ is not in an easily Peel-able or jaws-able position, then $u$ has the option to switch back to the Transit-Peel method by roqueting the ball that would have been the escape ball, first.

Figure PC.7: $u$ has progressed to $h(7)$ and $k$ to $h(12)$. There is no longer a break-extending Leep on Partner - so $k$ at $h(6)$ is shown in white. While Peels/Leeps on $r / y$ are possible, once again $u$ chooses to Peel Partner. $u$ will make $h(7)$ and $h(8)$ and then attempt the Transit-Peel $k$ at $\mathrm{h}(12), \mathrm{W}-\mathrm{h}(9)$. (This is familiar to AC players as the last Peel in a Standard-Triple.)
Figure PC.8: $u$ is now for $h(9)$ and $k$ has progressed to the peg. However, Peeling $k$ at the peg is not possible until $u$ is also for the peg so this Peel Clip is shown in white as is $k^{\prime}$ s Leep at $h(5)$. There are no break-extending Peels on $r$, and so $u$ is left with only two choices, the Peel or Leep on $y$ : that is, between Peeling $y$ at $h(4)$ or Leeping $y$ at $h(10)$.

The Transit-Peel of y at $h(4), W$-h(11) is away from u's next hoop, involves a long rush, and gives Oppos a point. The Leep of $y$ at $h(10), A-h(10)$ or $W-h(11)$ is the better choice. It has the right economics - taking a point away from Oppos and it should be easier to execute. u will make $h(9)$ and $h(10)$ and then needs to Leep. It is possible to complete this BELP as a "Back-Leep", but again, we recommend treating it as both a Back-Leep and a Transit-Leep W-h(11).

Figure PC.9: $u$ is now for $h(11)$ and $y$ 's clip has been moved back to $h(3)$. The Peel of $y$ at $h(3)$ is shown in Figure PC.9. It is white because it is possible but not break-extending.

Figure PC.10: $u$ and $k$ are now both for the peg and therefore the peg-out of $k$ by $u$ becomes possible. That is, the Peel of $k$ at the peg option that had been unavailable, is now available and is shown returned to black from white. Pegging out k grants u one last break extension that he needs and uses to peg himself out and win the game.

## Let's Go to the Videos

The high-level exploration of PC that was just presented examined a two-turn finish that is reminiscent of two-turn finishes in AC. Note however that the second turn started with $u$ at $h(3)$ not $h(1)$, and, because of the PLR, it required four BELPs to finish instead of three Peels! How influential are these changes? The answer can be determined by examining actual play. We selected four games to study. One was from CIT I: between Stephen Mulliner and Jeff Soo (Soo, 26-24). The other three involved late tournament play
from CIT II: Paddy Chapman and Ben Rothman (Chapman, 26-6), Jamie Burch and Stephen Mulliner (Burch, 26-19) and the finals between Jamie Burch and Paddy Chapman (Chapman, 26-12).

Initial Clip Positions: In evaluating these scores, it is important to remember that each team starts with 5 points. This can shorten a game, but it also adds complications: (i) it compresses the Peeling/Leeping activities into 21 rather than 26 points, and (ii) no ball gets a full 12-hoop turn. Furthermore, a final score identifies a victor but does not tell if they inflicted or had to overcome setbacks caused by Leeps in their path to 26.

Triggering the PLR: In PC, the PLR starts with the first ball to make a hoop or a roquet, or with the play of the $5^{\text {th }}$ turn, whichever comes first. All initial turns can trigger the PLR, but none are forced to do so. Unless/until the PLR is triggered, play during the initial turns starts from the extended A-Baulk or B-Baulk lines.

In these four games the PLR was triggered once by the $2^{\text {nd }}$ ball, twice by the $3^{\text {rd }}$ ball, and once by default - the $5^{\text {th }}$ turn.
The turn after the PLR was triggered: The team playing just after the PLR was first triggered played with different lift options:

- Burch/Mulliner: Burch using a lift-to-baulk was able to meet the PLR;
- Rothman/Chapman: Rothman using position was able to meet the PLR;
- Mulliner/Soo: Mulliner using position was able to meet the PLR;
- Burch/Chapman: Burch using position was able to meet the PLR. All "got started" but none were able to dominate - none had multiple BELPs in that turn.

This suggests that openings (discussed below), while interesting, are not as dominant a force in PC as they are in AC. This is because of the omnipresence of the PLR for both teams.
\# of Turns per game: The number of turns in these games were: $9,10,15,19$ - total of 53 . This is evidence of just how much more interactive PC is than AC where 5, 6 or 7 turn finishes are common among top players.

Distribution of Lifts: Each turn in a PC game starts with one of three lifts: baulk, contact, or position. Across the four games (i.e., during the 53 turns) there were 34 baulk, 9 contact, and 10 position lifts.

BELPs: In order to extend a turn, a team must complete a BELP every two hoops or faster. In these games there were 45 BELPs. Of these, 29 were Peels and 16 were Leeps. The Peels were mostly done on Partner (21) but there were several done on Oppo (8). In contrast, Leeps were done only on Oppo, never Partner.

The economics of Peeling Oppo - adding a point to their score, is the same as the economics of Leeping Partner - taking a point away from your score. However, the knock-on ramifications are different due to the Reversal rule. Losing the right to gain a break extension by Leeping Oppo is not nearly as costly as losing the right to gain a break extension by Peeling Partner.

Types of Peels/Leeps: In the first chapter of this book, we described three types of Peels/Leeps involving three or four balls that use two hoops (2HP) in the process - Back-Peels: A-h(), Transits-Peels: W(), and Straight-Peels: S(). We also identified Peel/Leep situations involving only a single hoop (HP). The discussion in the text was limited to Peels/Leeps in the context of an on-going break. This discussion can be extended to situations involving a Peel/Leep that is made without also making a hoop. Additionally, the analysis can be expanded to count Peels/Leeps that are possible but not break-extending - Reversals. All of these possibilities, 2-hoop, 1-hoop, and 0-hoop Peels/Leeps, were used in the examined games. Their occurrence is detailed in the next chart.

| 2-Hoop BELPs |  |  |  | 1-H BELP | O-H BELP | Reversal | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A-h()__ 5 | W-h() |  | S-h() _ 8 | 9 | 1 |  | 45 |

Types of BELPs: There were 45 BELPs during the four games - no Reversals ${ }^{124}$. The two charts presented below organizes these BELPs into the categories discussed above and include one other data point - "Bêtise". This is a form of Transit-Peel identified by Wylie (page 12) and indicates a Transit-Peel or Transit-Leep where there is the risk of failure caused by having Peelee/Leepee clog the hoop just before Striker needs to make it. Wylie's classic example involves Peeling Partner at $\mathrm{h}(10)$ and then "escaping" to the next hoop when it is $\mathrm{h}(3)$. In PC such a Peel may be the only way to progress, if two hoops have already been made. The variety of BELPs we witnessed is evidence of the creativity and skill of these players involved.

| BELPs | 0 | 1 | 2 | 3 | 4 | 5 | total turns |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TURNS | $12 / 14$ | 16 | 3 | 2 | 3 | 1 | 51 |

[^85]BELPs per Turn: There were 51 turns spread across these four games. Of these, 12 occurred at the very start of the games - pre-PLR. That leaves 39 turns when the PLR was in place. Of these $14-36 \%$, did not achieve a BELP; $16-41 \%$, had a single BELP, and $9-23 \%$, had 2 or more BELPs. The most common number of BELPs per turn was either zero or 1 and occurred 30 time $-77 \%$ with the PLR.

| Turn Starting Lift | Baulk | Contact | Position | Total |
| :--- | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| BELPS | 9 | 6 | 10 | 25 |
| Points Scored | 20 | 7 | 18 | 45 |

Conclusions: Taken together, the evidence from these four games shows that PC is extremely interactive. It also suggests that multiple BELPs during a turn, while dramatic, are not the life blood of PC.

## SOME THINGS TO CONSIDER IN PC

1.. Sticking to Partner-only Peels may seem "virtuous", but it creates needless difficulty and risk ${ }^{125}$. Similarly, running a ball to the peg is fun, but it can limit the future Peeling opportunities of your Partner.
2.. Leeping Partner or Peeling Oppo can be a logical action (even though it helps your Opponent economically) if it facilitates the continuation of your turn or prevents Oppos from getting an easy start.
3.. You may not want to wait until after making the last hoop in your limit before attempting a Peel/Leep. It can be advantageous to make your first BELP attempt after your penultimate hoop, allowing another chance if it fails. But remember, a successful early BELP comes with a cost - the need for another BELP is immediately re-instituted, even if you had more hoops available in your previous allotment. There is no carryover of unused hoops - no rest for the weary! Therefore, If you find yourself in a good position for a Peel or Leep after your penultimate hoop in your current PLR circuit, consider attempting to only jaws the Peel - that way you can make your final hoop and have an easy rush-Peel to meet your BELP and continue your break for at least another 2 hoops.

[^86]4.. In T-AC the break comes first - the Peel can be done later, and if you never complete the Peel, then at least the break continues. In PC, failure to Peel or Leep after making 2 hoops means that the break cannot continue. When approaching your hoop limit, sending an extra Escape-Ball to the Peeling/Leeping hoop may be desirable. Additionally, when you have reached your 2-hoop allotment, the risk of a Straight-Peel is more acceptable than in traditional-AC. Striker may even attempt the Straight-Peel as a Transit-Peel while still alive on a $3^{\text {rd }}$ ball. This would allow a possible bombard of a reluctant (jawsed) Peelee to preserve the break.
5.. If a Peel or Leep is not made in the normal course of a turn, it may be advantageous to complete one as you leave the lawn. Think bombardment and Scatter-Peels! It may mean the difference between conceding a lift-to-baulk and a lift-to-position.
6.. Coming on for a turn and just completing a Peel or Leep can be a good strategy - it limits Oppos to a lift-to-baulk, but be careful doing this at outward corner hoops, where they may be able to immediately hit-in and reverse the Peel/Leep. Also, be aware that Oppos may be able to Pass if they do not like your leave.
7.. Peeling Oppo through one or more of his latter hoops may force him to give up an additional lift option if/when he chooses to play that ball. That is, your action may cause him to run out of hoops before he can set up a Peel/Leep.
8.. Having multiple BELP opportunities at the same physical hoop is always useful. Most delightful is when Partner can be Peeled [say at $h(3)$ ] and Oppo can be Leeped [say at $h(10)$ ] at the same physical hoop. Striker can do one and then come back two hoops later and do the other one using the first BELP ball as the escape after the second.
9.. The greatly increased importance placed on Peeling in PC means an analysis of the most successful Peeling methods is required. Hence, Peels played without pull are generally the most optimal (if available) followed by Peels played forcefully but with pull. The Peel least likely to succeed is one played gently and with pull, so thought should be given to placement of escape balls and pioneers with this in mind.

## OPENING TURNS

"The large number of imponderable factors in most openings clouds one's vision and disrupts attempts at objective evaluation ...
So much depends upon judgment on the day that one can make objective comments only with the greatest diffidence". (Wylie, Expert Croquet Tactics, pages 130,131 )

Winning the opening in AC is gaining the innings and "running 9 ". What is it in PC? Its added complexities make what Wylie said about objective evaluation doubly true. What follows is incomplete, anecdotal, and just an opening salvo to encourage discussion.

Comparing Rules: AC and PC: We compare the rules of $A C$ and PC and then turn to the main event - the triggering of the PLR.
AC: (i) All clips start on $h(1)$. Superstition aside, ball color should not influence the order of play. (ii) The balls enter seriatim, and all do so from the A or B-Baulk lines unless the preceding ball progresses beyond $h(7)$ in Super Advanced $A C$, or beyond $h(10)$ in Advanced AC, in which case the augmented optional lift rules apply: contact or maybe position in Super Advanced and contact in Advanced. (iii) "Normal" play starts with the $5^{\text {th }}$ turn with the balls played from where they were left at the end of the $4^{\text {th }}$ turn (unless a lift hoop is made during that turn). Either ball can be played each turn and can progress are far as it wants within the 12 hoop limit.

PC: (i) Clips start on different hoops: $u$ for $h(2), r$ for $h(3), y$ for $h(4)$ and $k$ for $h(5)$. Thus, color matters. (ii) The four balls enter seriatim. They are scheduled to do so from extended A or B-Baulk lines ${ }^{126}$. (iii) The PLR restricts advancement of Striker's clip to 2 hoops without a BELP and can apply as soon as the first ball, if it makes its hoop, or to $2^{\text {nd }}, 3^{\text {rd }}$, or $4^{\text {th }}$ balls if they are the first to make a hoop and/or a roquet.

Triggering the PLR: The most fundamental rule of PC is that Striker may not score more than 2 hoop points in a turn before achieving a Break Extending Leep or Peel (BELP). When exactly the PLR is triggered is a major element of the opening of a Peel Croquet game and is under the control of the players. It starts no later than the $5^{\text {th }}$ turn but can be triggered earlier if one of the first four balls makes its hoop with an opening baulk line shot, or if it roquets another ball already out on the lawn. Once triggered, the need for BELPs applies to the on-going turn and to all subsequent turns.

[^87]All balls must enter the game, none can Pass. In the absence of a PLR-triggering event, the first four balls enter the game from the Aor B-Baulk Lines. If the PLR is triggered during the initial three turns, then, the lift opportunities of the next Striker are based upon the performance of the previous Striker:
if the previous Striker achieved one or more BELPs and any number of hoops (even zero), then the current Striker can use only a lift to baulk. If the previous Striker made one or more hoops, but no Peels or Leeps, then the current Striker can use a lift-to-baulk or a lift to contact. Finally, if the previous Striker did not make a hoop or a BELP, then the current Striker can use a lift-to-baulk, a lift -tocontact or a lift-to-position.

The first four turns create an environment where one team, by initiating the PLR before it is required, takes on the PLR for itself but also forces the other team to play with the early PLR. A team would do this if the expected value of this action is in their favor. When to trigger the PLR is complicated and influenced by the color of the balls.

## The Play of the $5^{\text {th }}$ Turn and Beyond

The lift options open on $5^{\text {th }}$ turn depend on whether or not the PLR was triggered in the previous four turns. If it was triggered then the options are the same as those listed above for the initial four turns with the addition that the $5^{\text {th }}$ turn, now a ball already in play, can Pass. However, if the PLR was not triggered earlier, then the PLR starts with this $5^{\text {th }}$ turn, and this turn cannot Pass.

All turns beyond the $5^{\text {th }}$ have the options listed above and the ability to Pass, as long as the previous Striker did not pass.

## Working Backwards

$5^{\text {th }}$ Turn: Suppose the PLR is not triggered by the first four balls. The $5^{\text {th }}$ turn starts with the PLR in place but without the possibility of Passing. Failing on $5^{\text {th }}$ turn to make a hoop and/or a Peel/Leep will give the $6^{\text {th }}$ turn an enhanced lift - contact or position. To prevent this from happening, $3^{\text {rd }}$ turn may want to "cozy up" to one of the balls that played during the $1^{\text {st }}$ or $2^{\text {nd }}$ Turns. This may then influence play by the $4^{\text {th }}$ turn, encouraging that ball to attempt to start the PLR or to go to a position that limits the value of the proximity that the $3^{\text {rd }}$ ball gained...
$4^{\text {th }}$ Turn: Suppose the $1^{\text {st }}, 2^{\text {nd }}$ and $3^{\text {rd }}$ balls have not triggered the PLR. It is the $4^{\text {th }}$ ball to play. This ball will play from one of the baulk lines and can shoot to a position that does not trigger the PLR which would leave the team that played the $1^{\text {st }}$ and $3^{\text {rd }}$ turns to deal with the PLR on $5^{\text {th }}$ turn. Or the $4^{\text {th }}$ ball can attempt to trigger the PLR and get started, now with all four balls. Whether or not to do this will depend on the ball positions and the confidence that the $4^{\text {th }}$ ball has in what he can accomplish. The prize would be to force the $5^{\text {th }}$ ball to play from a disadvantageous lift-to-baulk position, but this is countered by the $5^{\text {th }}$ turn's ability to Pass.
$3^{\text {rd }}$ Turn: Now go back one turn. Suppose the first two balls have played without triggering the PLR. The $3^{\text {rd }}$ ball has a choice. Clearly it can avoid triggering the PLR and turn the problem over to the $4^{\text {th }}$ ball. But the $3^{\text {rd }}$ ball could also attempt to trigger the PLR. If it is able to complete a Peel or Leep (with just 3 balls) then the $4^{\text {th }}$ ball will be forced to start with just baulk and be subject to the PLR, which may cause it to fail, giving the $5^{\text {th }}$ turn a lift-to-position (if the $4^{\text {th }}$ ball has no Peels/Leeps or hoops) or a lift-to-contact (if the $4^{\text {th }}$ ball makes one or more hoops but has no Peels or Leeps).
$\mathbf{2}^{\text {nd }}$ Turn: Go back one more turn: Suppose the $1^{\text {st }}$ ball has played without triggering the PLR. The $2^{\text {nd }}$ ball has the choice. Clearly it can avoid triggering the PLR and turn the situation over to the $3^{\text {rd }}$ ball. But the $2^{\text {nd }}$ ball can also attempt to trigger the PLR. While possible, if the $1^{\text {st }}$ ball is poorly placed(!), a Peel/Leep is unlikely, but having the $2^{\text {nd }}$ ball make a hoop either directly from baulk or more likely by hitting the $1^{\text {st }}$ ball and then taking off or rolling to his hoop is doable. This would trigger the PLR and give $3^{\text {rd }}$ ball contact but that may not be enough, which could benefit the $4^{\text {th }}$ ball...
$1^{\text {st }}$ Turn: Finally, the $1^{\text {st }}$ ball can certainly avoid triggering the PLR. But it too can set things in motion with a hoop shot completed from baulk. This would enhance the lift options of the $2^{\text {nd }}$ ball (to contact from baulk) but it could enhance the options for the $3^{\text {rd }}$ ball (or the $5^{\text {th }}$ ball) to contact or position, depending on the performance of the intervening balls, all of which would be subject to the PLR on their opening turns.

## Color and the Opening Turns

This discussion so far has intentionally not identified balls by color. Under the rules of PC, all of the balls have a chance of going first. And, given the extended baulk lines, each ball has a possible opening shot at its starting hoop $-u$ and $k$ from A-Baulk, at $h(2)$ and $h(5)$, and $r$ and $y$ from B-Baulk, at $h(3)$ and $h(4)$. So far there is no clear evidence or consensus as to whether it is advantageous to
play $u / k$ (starting clips of 2 and 5 ) or $r / y$ (starting clips of $3 \& 4$ ) ${ }^{127}$. That said, $r$ has the most realistic chance of shooting and making his hoop. So, the play of $r$ can take on special significance for all turns, but especially turns 1 and 2.

## Sample Openings

Without professing to be complete, here are two examples of openings.
In Figure PC. $11^{128}$, $r$ opens the game by shooting to the middle of the east boundary. $u$ follows going mid-west, and then $y$ goes north of $u$. The first three balls have not triggered the PLR. It is $k$, the $4^{\text {th }}$ ball to play. What should $k$ do? $k$ can attempt to get started, or k can finesse.
$\mathbf{k}$ attempts to get started: In an AC game all clips would be on $h(1)$. We would probably shoot $k$ from A-Baulk at a double target lined up between $u$ and $y$ and have an easy start if we hit in - making $h(1)$ and $h(2)$ with $y$ and $u$, and picking up $r$ after $h(3)$, etc.

In PC, things are different, the balls are not for $h(1)$. Instead, $u$ is for $h(2)$, $r$ for $h(3)$, $k$ for $h(5)$, and $y$ for $h(4)$. The baulk lines are extended and there is the PLR to worry about. $k$ could shoot from the extended B-Baulk, at $y$ and $u$, but now with a shorter double target. If $k$ hits in, then he can start a break but can only make $h(5)$ and $h(6)$ before being required to meet the PLR. We can see $k$ hitting $u$ and then moving $u$ toward $h(6)$ - as pioneer - while gaining a rush on $y$ to $h(5)$ followed by sending $y$ to reception as $k$ goes to position at $h(5)$, Figure PC. $12^{129}$. After making $h(5) k$ needs to arrange a Peel/Leep. The best, most economic, and easiest would be the Leep of $y$ at $h(10)$, as set up for in Figure PC.13, as $k$ goes to position at $h(6)$. $k$ makes $h(6)$, sends $u$ as pioneer to $h(8)$, Leeps $y$ at $h(10)$, escapes to $h(7)$ with $r$ and sets up to make $h(7)$, Figure PC. 14 .

[^88]

This is all doable, but difficult, and perhaps not optimal ...
$\mathbf{k}$ finesses: With three balls having played before him and having not triggering the PLR, as the $4^{\text {th }}$ ball, $k$ does not face the PLR and does not have to attempt a break. One possible response is for $k$ to be set down on $\mathrm{c} 2^{130}$, Figure PC. 15 . It will be $r / y$ to play the $5^{\text {th }}$ turn facing the PLR with only a lift-to-baulk. We suspect $r$ would play starting with a croquet shot on $k$ sending $k$ to $h(4)$ going to $y$ and $u$, and then using one of them to get a rush on the other to score $h(3)$. The best Peel/Leep opportunity is probably to Leep $k$ at $\mathrm{h}(9)$ after making $\mathrm{h}(4)$. But failure will definitely leave balls on the lawn for the benefit of $u / k-a$ good reason for $k$ to show patience by finessing ...

In Figure PC. 16 r realizes that going to mid-east or west may not be profitable and instead goes toward the peg. This time $u / k$ places $u$ on c2. The equivalent in AC would be a super shot opening by $r$, with $u$ responding by going just south of $c 2$. $y$ would shoot at $u$ and could run 9 if he hits. If not, then $k$ may have a double and a good chance of getting started.

[^89]
## $r$ toward the peg, $u$ to $c 2, y$ to play



In PC, $y$ can take croquet on $u$ sending it to $h(5)$ while gaining a rush on $r$ to $h(4)$, and then position at $h(4)$, Figure PC.17. Assuming y makes $h(4)$ he should also be able to make $h(5)$ but would then need to Peel or Leep. The most economical BELP would be to attempt the Leep of $u$ at $h(8)$. After making $h(4)$, $y$ sends $r$ to $E(6,1)$ as he gains position at $h(5)$, Figure PC.18. Then y would make $h(5)$, rush $u$ to $h(8)$ and attempt the Leep. However, failure would probably leave $u$ close to A-Baulk and an easy start for k with at least two balls on the lawn. Alternatively, y could decide he was happy with just making two hoops. Here he would position the balls as shown in Figure PC. 19 instead of Figure PC.18, make $h(5)$ and then be in a position to set the contact leave shown in Figure PC. 20. The $4^{\text {th }}$ ball $k$ will probably begin his turn with contact and all 4 balls on the lawn with better prospects of a Peel/Leep.

## The Evolution of Rules from Leaves

During CIT I, Stephen Mulliner realized that a turn that went HHP-HH could be used to deadly effect. This is the Aunt Emma Turn of PC that, in honor of its finder, we have named the Uncle Stephen Turn "UST". It involves ( $r / y$ ) coming on the lawn, making two hoops while setting up for the "easiest" BELP, completing the BELP, and then making two more hoops while setting a killer leave. Possible leaves are shown in Figures PC. 21, PC. 22 and PC.23. All players quickly decided that the "all boundary" leave, Figure PC. 23 was the easiest to set and the most damning. It was universally adopted at the end of a turn that did not end with a break-down.


Under the original PC rules (2017), the next team ( $u / k$ ) comes onto the lawn with only a lift-to-baulk. If $u / k$ misses then, $r / y$ takes over with a lift-to-position and the significant prospect of another UST. By CIT II (2019), we modified the rules to say that r/y was free to set any leave it wants, but $u / k$ cannot be forced to play with only a lift-to-baulk twice in a row. Here two or more USTs can happen in a row, but $\mathrm{u} / \mathrm{k}$ is awarded a lift-to-contact after a $2^{\text {nd }}$. We left it to $\mathrm{u} / \mathrm{k}$ to keep track and demand his contact instead of baulk lift!

In subsequent play, we have discovered that a turn involving making two hoops $(\mathrm{HH})$ or just a single hoop $(\mathrm{H})$ but not even trying to complete a BELP, can end with a leave like that shown in Figure PC.23. This can lead to a series of turns where each team takes contact, ekes out a hoop (or two) and gets off the lawn. To diminish the value of this type of turn as well as the original concern for USTs, we have modified the rules. In the current rules, we have reinstated the optional lift-to-position after each time a team fails to Hoop or Peel, but now allow a team with only a lift-to-baulk to "Pass". A team that, for any reason, does not want to play from a leave Oppos just set can Pass - not play the turn. Following a Pass, the team responsible for the offending leave can play the balls as they lie or lift either ball of their side to any point on a baulk line. Critically, they cannot Pass!

With this new rule, setting a leave like the one shown in Figure PC. 23 is risky because $u / k$ can Pass forcing $r / y$ to play the balls from where they are. We believe this will lead to more leaves like Figure PC. 24 which makes it easier for $u / k$ and $r / y$ to get started and hence diminishes the value of the Pass.

## An Amazing Turn

Jamie Burch reached the finals of the PC tournament in CIT II against Paddy Chapman. Playing r/y, Jamie had an amazing turn. It involved making 8 hoops, and in the process completing 5 BELPs: 4 Leeps - all on Oppo - and one Peel - on Partner. The video of this turn is available on the website. Here we provide a description and the timing of the events on the video, that tries to do justice to its brilliance. We have identified noteworthy shots with an (!) and the BELPs as LEEPs or PEELs, as appropriate.


Jamie started in Figure PC. 25 with a lift-to-baulk. $r$ and $y$ were for $h(3)$ and $u$ and $k$ were for $h(6) . u, r$, and $y$ were all on the west boundary far from $\mathrm{h}(3)$ and k was in the jaws of $\mathrm{h}(11)$. The prospects for starting a break, let alone completing a BELP look remote. Jamie could follow 2HP, making h(3) and h(4) and then Peel or leep. But where and with which ball? With only a lift-to-baulk, Jamie's choices were severely limited. He chose to try for the Leep of Oppo back from h(6) to $h(5)$, leeping at $h(12)$.

Jamie picked $r$ as Striker, went to the extended B-Baulk, and rushed $y$ near to $u$. Then $r$ took off to the west of $u$ and rushed $u$ to $h(3)$ (!) and made $h(3)$, Figure PC26. HOOP. r rushed $u$ north of $k$, sent $u$ toward $h(12)$ while gaining rush on $k$. $k$ was rushed out of the jaws and toward $h(12)$, and then $r$ took off to the west of $y(!)$, rushed $y$ to $h(4)(!)$, and then made $h(4)$, Figure PC.27, HOOP. Having made two hoops Jamie needed an immediate BELP or his break would end. He rushed $y$ to the east of $h(12)$ and took off to $u$, rushed $u$ to $h(12)$, leeped it (!), moving u's clip from $h(6)$ back to $h(5)$, LEEP, while going to k . What made this special is that the Leep at $h(12)$ could have blocked $r$ 's attempt to make $h(5)$. u came through $h(12)$ allowing $r$ to rush $k$ to $h(5)$ and croquet it to leep
position as $r$ went to position at $h(5)$. $r$ then made $h(5)$, ending up right near $k$, Figure PC.28, HOOP. $r$ tapped $k$, and then leeped $k$ at $h(12)$, LEEP, moving k's clip from $h(6)$ back to $h(5)$, going to $u$. Here Jamie chose to use only one hoop between BELPs.


Next, Jamie followed 2HP to set up for and to execute his next BELP: He used $u$ to get to $y$ and then rushed $y$ to $h(6)$, and made it, Figure PC.29, HOOP. Jamie rushed and croqueted y to what would become Escape-Ball position for $\mathrm{h}(8)$, while going to k . k was rushed to $h(9)$ in the hopes of another leep, while $r$ took off to $u$ at $h(7)$ and made $h(7)$, Figure PC.30, HOOP.

At this point, Jamie has completed two hoops in a row and needs a BELP. Jamie did not get a forward rush out of $h(7)$, so takes off from u near $h(7)$ towards $k$, rushes $k$ to position at $h(9)$ and leeps it, LEEP, moving k's clip from $h(5)$ back to $h(4)$, while gaining a rush on $y$ to $h(8)$ (!). $r$ rushes $y$ to $h(8)$, and makes it, Figure PC.31, HOOP. This is the first hoop in a new 2HP cycle.

Jamie sends y to $h(10)$ while going to $u$. $u$ is rushed and croqueted toward $h(4)$ as $r$ goes to $k$. $r$ uses $k$ to make $h(9)$, Figure PC.32, HOOP. This is the second hoop in the 2HP cycle. It is time for the BELP.

$r$ roquets $k$ and then croquets $k$ toward the east boundary gaining a rush on $u$. $u$ is rushed to position and then roll-leaped, sending $u$ most of the way to $h(10)$ (!), LEEP, as $r$ goes to $y$ at $h(10)$. $r$ makes $h(10)$, HOOP, Figure PC. 33 .

This hoop could be part of a new 2HP process - making $\mathrm{h}(10)$ and $\mathrm{h}(11)$ and then Peeling y at $\mathrm{h}(3)$. But Jamie had a different idea he wanted to stop before making $h(11)$ leaving $y$ the relatively easy Peels on $r$ at $h(11)$ and $h(12)$ to be part of what he hoped would be a finishing turn for $y$. The further along $y$ is when he takes over, the easier it should be for $y$ to finish. Therefore, after $r$ made $h(10)$ he went to $y$ and tried the Peel - which was severely angled - and succeeded, PEEL (!), advancing y's clip from $h(3)$ to $h(4)$ as $r$ went to $u$.

Then Jamie ended this wonderful turn by roqueting $u$ and rolling both $r$ and $u$ out on the west boundary, Figure PC.34. Sadly, it was not enough. Later mishaps caused Jamie to lose to Paddy.

## 2.. AC-3BO

## RULES

AC-3BO stands for Association Croquet with a 3-Ball Opening. It is governed by AC Rules as modified herein. The rules results in a period of 3-ball play where a 1-ball team ("1BT") has one ball in the game and one ball kept out (the "BKO"), and a 2-ball team ("2BT") that has both balls in the game. The eventual entry into the game of the BKO is a key strategic element. All special rules related to the initial period of 3-ball play, except those associated with defining lift hoops, cease to exist after the BKO enters, returning an AC-3BO game to a T-AC game. In AC-3BO, either team can finish in two turns: The 2BT with a 3-ball Double-Peel; the 1BT with a 4-ball Quadruple-Peel. There are Standard, Advanced and Super-Advanced versions of the game as noted below.

During the period of 3-Ball play:

1. Marking-in Balls: Balls are marked-in one yard at the end of all turns. However, until the BKO enters, Striker can:
a. Re-mark any/all balls from the 1-yard-line to the 4 -yard-line (but not the other way) at any time during a turn.
b. Mark-in balls that cross a boundary line to the 1 or 4 -yard-lines.
c. Use the A-Baulk and B-Baulk lines from the 1 or 4 -yard-lines.

The 4-yard mark-in option is not available in Advanced or Super Advanced AC-3BO.
2. Opening: The first three balls entering the game do so from the A-Baulk or the B-Baulk lines (at either 1 or 4 yards).
a. The first ball enters and can progress, perhaps making $\mathrm{h}(1)$ and $\mathrm{h}(2)$.
b. The second ball enters and can progress but cannot make another hoop after making the Trigger-Hoop (see rule 4).
c. Finally, the $3^{\text {rd }}$ ball has a choice: To enter the game or be kept out. If the $3^{\text {rd }}$ ball is kept out, then the $4^{\text {th }}$ ball must enter. If the $3^{\text {rd }}$ ball enters then the $4^{\text {th }}$ ball cannot enter the game until later (i.e., as specified in rule 6). Whichever ball enters can progress (make hoops) subject to the rules herein.

4-yard baulk-lines are not available in Advanced or Super Advanced AC-3BO.
3. Lift-Hoops: The 2BT has one lift-hoop - $\mathrm{h}(11)$; the 1 BT has two lift-hoops $-\mathrm{h}(9)$ and $\mathrm{h}(11)$. These remain in place throughout the game - during the period of 3-Ball play and any subsequent period of 4-Ball play.
a. Scoring a lift-hoop by Striker-Ball gives the other team an optional lift-to-position. Peels do not trigger this option.
b. Until the BKO enters, the 1BT cannot make two lift-hoops in a single turn.
4. The Trigger-Hoop: An AC-3BO games starts with a Trigger-Hoop in place. In the standard game it is $h(8)$.
a. The BKO cannot enter the game until one side scores the Trigger-Hoop with their Striker-Ball.
b. The Trigger-Hoop is "Triggered" at the end of the turn where, as Striker, one of the three balls in the game scores it. Once triggered this hoop loses its special status.
c. When Striker scores the then Trigger-Hoop, he may not also score a lift-hoop in the same turn.
d. The pegging-out of any ball by either team triggers the Trigger-Hoop.
5. Failure by the $2 B T$ to make a Hoop: If the $2 B T$ fails to make at least one hoop during a turn, then the $1 B T$ can start its next turn with an optional lift-to-baulk. The 1BT loses this option when the BKO enters the game, and when, as Striker, the single ball of the 1BT has made the Trigger-Hoop.
6. Entrance of the BKO and Return to T-AC Rules: The BKO enters the game from the 1 or 4 -yard-line of A-Baulk or B-Baulk, or with an optional lift-to-position, (see rule 3a). After the BKO has been positioned for its initial shot, but before the shot is taken, the rules of an AC-3BO game revert to T-AC rules with the exception that the lift-hoops remain as specified in rule 3: the former 2BT has a single lift hoop - $\mathrm{h}(11$ ), and the former 1BT has two lift hoops - $\mathrm{h}(9)$ and $\mathrm{h}(11)$. Normal AC rules (lift-tobaulk and lift-to contact) apply to scoring lift hoops. Lifts-to-position are no longer conceded.

Advanced and Super-Advanced Play: 4-yard mark-in and 4-yard baulk lines are not available in Advanced or Super Advanced Play. In addition, in Super-Advanced, the lift-hoop for the 2BT is $h(10)$. The lift-hoops for the $1 B T$ are $h(7)$ and $h(10)$. The Trigger-Hoop is $h(6)$. Finishing in two turns requires the $2 B T$ to run a Triple-Peel with just 3 balls, or the 1BT to run a Sextuple using all 4 balls.

Mixed-Play: One team can use Standard rules while the other uses Advanced or Super Advanced rules. In Super-Advanced, the Trigger-Hoop for both teams is $h(6)$.

## NOTES ON AC-3BO ${ }^{131}$

## INTRODUCTION

AC-3BO follows AC rules with modifications that initially promote breaks and Peels conducted with just three balls but ultimately encourage them with all four.

AC-3BO adds six rules. Rules $2,3,4$ and 6 are discussed immediately below, whiles rules 1 and 5 are presented later in these notes.
The Opening (Rule 2): The first two balls enter as in AC. Then the $3^{\text {rd }}$ ball has a choice - it can enter the game or stay out. If the $3^{\text {rd }}$ ball stays out, then the $4^{\text {th }}$ ball must enter. If the $3^{\text {rd }}$ ball enters then the $4^{\text {th }}$ ball must stay out. This start creates a one-ball team ("1BT"), a two-ball team ("2BT"), and a ball-kept-out ("BKO"). A period of 3-ball play ensues.

The Trigger-Hoop (Rule 4): The BKO must stay out until one of the balls in the game as Striker (Peels do not count!) makes the "Trigger-Hoop". The Trigger-Hoop is h(8), in the Standard and Advanced Versions and is h(6) in the Super-Advanced. Once the Trigger-Hoop is made, then, on any subsequent turn of the 1 BT , the BKO may enter the game, but it is not required to.

The front ball of a team cannot "trigger" the Trigger-Hoop and then make a lift-hoop in a single turn.
The Lift-Hoops (Rule 3): In Standard and Advanced, the 2BT has a single lift-hoop which is h(11). The 1BT has two lift hoops $h(9)$ and $h(11)$. In Super-Advanced, the single lift-hoop for the 2BT is $h(10)$. The 2 lift-hoops for the $1 B T$ are $h(7)$ and $h(10)$.

During the period of 3-ball play, running a lift-hoop by the Striker of one team (Peels do not count!) gives the Opposing team a lift-to-position. Also, during the period of 3-ball play, the 1BT can make only one lift hoop in a turn.

Return to AC Rules (Rule 6): The designation of the lift-hoops endures, but all other AC-3BO rule modifications cease to apply once the BKO enters the game. In particular, while the designation of lift hoops remains, the lifts themselves revert to baulk or contact - no more lift-to-position.

[^90]STRATEGIC IMPLICATIONS: The goal in AC-3BO, as in AC, is to be the first team to accumulate 26 points. During the period of 3-ball play only the $2 B T$ can finish. However, the rules of $A C-3 B O$ intentionally impede the progress of the $2 B T$ 's breaks, (Rules 3 and 4 ). The 2BT can finish a game on its $2^{\text {nd }}$ turn, but to do so requires it to complete a Double-Peel conducted with just three balls in Standard and Advanced and a Triple-Peel conducted with just three balls in Super-Advanced.

The 1BT can run an initial break with 3-balls making the Trigger-Hoop. This is $h(8)$ in the Standard and Advanced and $h(6)$ in SuperAdvanced. But the 1BT must stop its initial break with its clip on the first of its two lift-hoops. This is h(9) in Standard and Advanced and $h(7)$ in Super-Advanced (Rule 3). On any subsequent turn, the 1BT can (but does not have to!) bring in the BKO (Rule 4). With all four balls on the lawn, the 1BT - now with two balls - can finish on its second turn by completing a Quadruple-Peel in Standard and Advanced and a Sextuple in the Super-Advanced - in all cases conducted under normal AC rules (Rule 6).

Double and Triple-Peels with just three balls, and Quads and Sextuples with all four, are the foundation of AC-3BO. Clearly these strategies are elegant to contemplate but challenging to implement. Their difficulty encourages the study of alternatives and fallbacks for when things do not go as planned.

## HOW AC AND AC-3BO DIFFER

There are differences between AC and $\mathrm{AC}-3 \mathrm{BO}$ that arise at the beginning of a game, continue during the period of 3-ball play, and disappear with the entry of the BKO, the $4^{\text {th }}$ ball. Notable ones include ${ }^{132}$ :
a. Marking in Balls (Rule 1): Balls are marked in one yard in T-AC. However, during the period of 3-ball play in AC-3BO, balls are marked in 1 or 4 yards, at Striker's option. Additionally, the A-Baulk and B-Baulk lines are available on both the 1-and 4-yard lines, again, at Striker's option. This modified mark-in procedure facilitates break development and expedites play ${ }^{133}$.
b. Incidence of 3-ball Play: 3-ball play occurs in a T-AC game with the initial play of the $3^{\text {rd }}$ ball and can involve a single shot or a 3 -ball break, perhaps even to the peg. The $4^{\text {th }}$ ball then enters. Late in a T-AC game, play can return to 3 -balls if one ball is pegged out, leaving a 2 -on-1 end game.

[^91]In contrast, an AC-3BO game starts out as, and stays at, only 3-balls (Rule 2) until the BKO enters the game (Rule 4), at which point an AC-3BO game converts to a T-AC game involving four balls. Later, if there is a peg-out, the game can once again involve just three balls - a 2-on-1 end-game, now under T-AC rules.
c. Strategies for 3-Ball Play: In a 2-on-1 T-AC end-game, one ball is already "in the box" and the remaining ball seeks to finish which can be accomplished by running a 2-ball or a 3-ball break, or by making the remaining hoops one-by-one.

In AC-3BO, one ball of the 1BT is in the game and the other (the BKO) is waiting to come in. The ball-in-the-game can and should run a break, when possible, but if it makes the Trigger-Hoop, it must stop before making its first lift hoop (Rule 4). Additionally, much of its energy should be focused on giving its Partner the option to enter the game. For this to happen, unless the 2BT has already done so, the 1BT must make the Trigger-Hoop.

In a 2-on-1 T-AC end-game, the 2-ball team can run a 3-ball break, but usually will do so only if it is "given" the $3^{\text {rd }}$ ball. That is, the 2-ball team will not usually actively seek a 3-ball break and will be content to progress with a 2-ball break. To keep the innings, if time permits, the 2-ball team will only make a hoop when it is a "sure-thing" - abandoning an effort that is likely to fail - all the while being mindful of the position on the lawn and clip progress of the 1-ball team. If the 2-ball team gets far enough ahead, it will peg out its forward ball and reduce the game to a more predictable 1-on-1 finish.

Things are intentionally different in AC-3BO. The 1BT is granted an optional lift-to-baulk if the 2BT fails to make a hoop during any turn (Rule 5). This lift remains a possibility until the BKO enters the game, or the 1BT makes the Trigger-Hoop. This lift rule prevents the 2BT from "sneaking-up" on hoops without needing to make them on any turn. It also encourages the 2BT to keep pioneer and Reception-Balls away from the baulk lines, at least for the first hoop of each turn. This type of planning allows Striker to abandon a risky hoop attempt, join Partner and maintain the innings - but only if the 1BT does not hit-in. Further implications of Rule 5 are discussed in the sections below which consider strategies for the 1BT and the 2BT.
d. Consequences of Making Lift-Hoops: In the advanced version of T-AC, the lift-hoops for both teams are the same: $\mathrm{h}(7)$ and $\mathrm{h}(10)$. The consequence of running a single lift hoop is giving Oppos a lift-to-baulk and the consequence of running two lifthoops (before Partner has run one) is giving Oppos a lift-to-contact.

The lift-hoops in AC-3B0 differ for the two teams: There is only one for the 2BT, and two for the 1BT. The consequence of running lift hoops in $\mathrm{AC}-3 \mathrm{BO}$ is intentionally more onerous than in T-AC. During the period of 3-ball play, Rule $\mathbf{3}$ gives the Opponents a lift-to-position after any lift hoop is run by a Striker-Ball (notably, Peels do not trigger a lift!).

Choosing to give a lift-to-position to Oppos (running a lift-hoop during the period of 3-ball play) is a valid strategy for both the 2 BT and the 1 BT , but one that requires careful thought and planning.
e. Return to T-AC Rules (Rule 6): After the BKO has been positioned to enter the game, but before its first shot is taken, the rules of an AC-3BO game revert to T-AC with the exception that the lift-hoops remain as specified in Rule $\mathbf{3}$ but the consequences of running them now follows T-AC.

## THE START OF AN AC-3BO GAME

Openings to an AC-3BO game will be examined assuming that the goal of each team is to maximize the probability that it captures the innings (and attempts the first break). Implicit in this assumption is another - that the participants in an AC-3BO game are indifferent between becoming the 1BT and the 2BT.

While any color-order of entry is possible, in the discussion that follows it will be assumed that the order of play of the balls is blue ( u ), red ( r ), black ( k ) and then yellow ( y ).

Figure 3BO. 1 is a model of a standard croquet lawn that can be used to illustrate three things:
a. The "4-yard-line" Box: In the Standard version, AC-3BO allows balls to be played on the entire lawn but Rule 1 specifies that, during the period of 3-ball play, at Striker's option, balls are marked in 1 or 4 yards and that the A-Baulk and B-Baulk lines are available on both the 1 and 4 -yard lines ${ }^{134}$.

[^92]b. Two Critical Distance Areas ("CDAs"): "CD" stands for critical distance - the distance at which there is a 50/50 hit-in ratio. The teal areas under the CD curves are all within the CD of the A-Baulk or B-Baulk lines and are called CDAs. Here, as an example, they were drawn assuming $C D=10$ yards. The two CDAs define an inner area where all shots from the A-Baulk or B-Baulk (measured in 4 yards) are longer than the CD. This area is called the "GCDA" - to describe the area on the lawn that is at a distance "greater" than the CD from both the A and B-Baulk lines. The GCDA decreases in size as the CD is increased ${ }^{135}$.
c. The $\mathbf{9}^{\prime}$ Hit-in-Point South of $\mathbf{h ( 1 ) . ~ A C - 3 B O ~ a l l o w ~ p l a y e r s ~ t o ~ a t t e m p t ~ t o ~ m a k e ~ f i r s t ~ h o o p , ~} \mathrm{h}(1)$, from the A -Baulk as they enter the game. It is a 9 ' shot from the 4 -yard line.


Rule 2 specifies that one ball of each team enters the game (here $u$ enters followed by $r$ ). Then, by either entering the game or staying out, the third ball (k) determines which team becomes the 2 BT and which becomes the 1 BT . If k comes in, then y must stay out $-u / k$ become the $2 B T$ and $r / y$ become the $1 B T$. If $k$ stays out, then $y$ must come in $-u / k$ become the $1 B T$ and $r / y$ become the $2 B T$. In making this decision, $k^{\prime}$ 's goal is to give $u / k$ a greater than $50 \%$ chance of winning the innings and attempting the first break.

[^93]The Play of the First Two Balls: $u$ and then $r$ will play from the 1 or the 4 -yard A or B-Baulk lines and each will end their turn in one of the two CDA's, or in the GCDA. Where they go matters, but also important is where $r$ goes relative to $u$ - that is, the distance between $u$ and $r$, and how this distance compares to the CD.

Consider Figure 3BO.2. Here u played first followed by r. Both played to a distance greater than the CD, and both were marked in four yards. Given the play of $r$, the distance between $u$ and $r$ is also greater than the CD. What should $k$ do - come in or stay out? The answer is shown in Figure 3BO.3: $k$ should come in (making $u / k$ the 2BT) and shoot at $u$ (or maybe just toward $u$, as explained below). If $u$ misses, but remains in the GCDA, then $r$ (now the 1BT) will be left with a shot that is longer than the CD and $r$ will have less than a 50/50 chance of hitting and gaining the innings. This is true if $r$ shoots from where it is or if $r$ uses its optional lift to the A or B-Baulk lines ${ }^{136}$.

The Influence of the 4-yard Line: Bringing in $k$ makes sense, but having $k$ shoot directly at $u$ may or may not be a good idea depending on where $u$ was positioned on its initial turn, and the possible angles of k's shot at $u$. That is, the shot by $k$ at $u$ looks like a free shot but marking in balls 4 -yards instead of just 1-yard influences how free it is.

If k hits u , then k can try to make $\mathrm{h}(1)$ and develop a break. This would be a good result, but a low probability (less than $50 \%$ ) event. More likely is that k shoots firmly at u (which, by assumption, is on the 4 -yard line), misses, and goes out of bounds. k will be marked in 4 -yards. How far $k$ ends up from $u$ will depend upon the angle that $k$ chooses relative to the out of bounds line when it shot at $u$. Angles of 45 degrees or less will put $k$ twelve feet or more from $u$, instead of just three feet or more, which would occur with the 1-yard mark-in procedure in T-AC.

Suppose $r$ (now the 1BT) shoots (perhaps after taking a lift), misses, and, intentionally, ends up a considerable distance from $u$ and $k$. Then, on their next turn, $u$ or $k$ (the 2BT) will have a shot at each other, that could be an uncomfortably long shot - it may be at a decent roquet distance, but at a difficult rush distance - which could complicate the start of a break.
$u / k$ can deal with this situation in at least three ways: (1) As the first ball to play, $u$ could position itself considering what k's potential angle and distance will be. Of course, $r$ as the second ball to play, has a say in this. (2) If $k$ wants to shoot at $u, k$ can choose an angle that minimizes the mark-in effect, but this may lengthen the shot. Or (3) $k$ can give up hitting $u$ altogether, and, instead shoot to a

[^94]point out of bounds that, when marked-in 4-yards, will give the members of the $u / k$ team a dolly rush to $h(1)$ on its next turn, but only if $r$ misses! This is further complicated by the fact that by setting-up for a dolly rush $u / k$ may give $r$ a double target to shoot at.

The opening developed in Figures 3BO. 2 and 3BO. 3 did not produce a good result for $r / y$. This is because $r$ chose to play into the GCDA and to a distance from $u$ that was greater than the CD. What could $r$ have done differently? Figure 3BO. 4 is one possibility. Here $r$ still plays into the GCDA but has moved closer to $u$ than the CD. In this case $u / k$ maximize their chances of gaining the inning by keeping $k$ out and having $y$ come in. That is, any shot by the $3^{\text {rd }}$ ball (be it $k$ or $y$ ) at $u$ or $r$ is greater than the CD and therefore less than $50 / 50$. $u / k$ maximizes its chance of gaining the innings by having $y$ take this shot and not $k$. If $y$ misses, then $u$ has a short shot at $r$ and possibly an even shorter shot at $y$ from one of the baulk lines.


Now consider Figure 3BO.5. Here $r$ is on the CD curve but at a distance from $u$ that is more than the CD. Shooting at $r$ by either $k$ or $y$ from B-Baulk is a $50 / 50$ proposition. But $k$ plays first, and the right response for $k$ is to shoot at $u$, and not at $r$. This is the lower probability shot but like in Figure 3BO-2, a free one. If $k$ misses $u$ but stays in the GCDA and at a distance greater than CD from $r$, then $u / k$ leaves $r$ with a shot from where it is, or from the A-Baulk or the B-Baulk. In either case, the shot is longer than the CD and hence less than 50/50. Again, $u / k$ wins the opening. Remember that when $k$ decides to enter the game on turn $3, y$ must stay out of the game, and therefore $r / y$ lose the 50/50 shot at $r$ that would occur if $k$ stayed out and $y$ came in.

Finally, consider Figure 3BO.6. Here $r$ is on the CD curve and $r$ is closer to $u$ than the CD. $r$ has set a 50/50 "tice" that both teams should shoot at. If the $u / k$ team chooses to become the 2BT by bringing $k$ in, then the best $k$ can do is to shoot at $r-g i v i n g ~ u / k ~ a ~$ $50 / 50$ chance of gaining the innings. If $k$ is kept out, then $y$ will have the same $50 / 50$ chance. The tice makes the opening a draw.

Is there anything that either team could do to improve its odds of winning the opening? Consider Figure 3BO.7. Here $u$ has gone to a point just within one of the two CDA's. What should r's response be? The answer is that $r$ should shoot at $u$. To see why this is true we need to examine the two possible outcomes $-r$ hits and $r$ misses:
a. $r$ hits: Given where $u$ is, $r$ has a greater than $50 / 50$ chance of hitting. If successful, then $r$ can attempt to run a 2-ball break with $u$ but, because of Rule $\mathbf{2}$, $r$ cannot make a hoop after he makes the Trigger-Hoop - h (8). And, in fact, not yet knowing if he will be part of the 2BT or the 1BT, $r$ may want to stop before making the Trigger-Hoop and not clear the way for the entry of the BKO for a team $r$ may not be on! ${ }^{137}$.

Wherever $r$ chooses (or is forced) to stop, the best he can do is to set a tice like the one in Figure 3BO.6 - leaving both teams with a 50/50 chance of gaining the inning and being the first to attempt a 3-ball break.
b. $r$ misses: If $r$ misses, then it should attempt to end in the GCDA, and not give $u / k$ a double target to shoot at. Then $k$ should play and shoot at $u$, or at $r$ - if $r$ is closer. $k$ will have a better than $50 / 50$ chance of hitting. If successful, $u / k$ will win the opening and can attempt to run the first 3-ball break as the 2BT.

The analysis of Figure 3 BO .7 suggests that going first in $\mathrm{AC}-3 \mathrm{BO}$ and playing just into one of the CDAs may produce a slight advantage. The best the $2^{\text {nd }}$ ball can do is end his turn having created a $50 / 50$ tice (and perhaps having made a few hoops). Any other result gives the $3^{\text {rd }}$ ball a better than $50 / 50$ chance of gaining the innings and running the first break. Finally, just the ability to choose, whether to be the 1BT or the 2BT can have perceived value.

[^95]Other Considerations for the Opening: Here are three other things to consider - double targets, cannons, and the ability to attempt the opening hoop, $h(1)$, from the A-Baulk.
a. Double Targets: The strategy employed by $u / \mathrm{k}$ in Figure 3BO.3, of joining on the western 4 -yard-line, can create a double target from either the A-Baulk or the B-Baulk lines increasing the probability of $r$ hitting in.
b. Cannons: The corners in AC-3BO are 4 times longer and wider than those in normal AC. Therefore, cannons are easier to generate ${ }^{138}$. Figure 3BO. 8 shows one situation that could lead to a cannon: $u$ starts by shooting to the east boundary. In trying to get as close to $u$ as possible while still setting a $50 / 50$ tice, $r$ also ends up on the east boundary. Now $k$ can attempt to capitalize on a double from the B-Baulk line. But if $k$ shoots firmly and misses, $k$ can end up in the 16 square yards of c 4 ! If this happens, then $r$ can rush $u$ to $c 4$ and form a cannon.


This possibility might convince $k$ not to shoot, choosing instead to force $y$ into the game. If $y$ shoots at the double and misses, $u$ will have easy access to $r$, but no cannon. A similar situation - a cannon from c2-can develop if $u$ goes towards the west boundary and $r$ goes there as well.
c. Attempting to Make $\mathbf{h ( 1 ) : ~ A l l ~ b a l l s ~ c a n ~ e n t e r ~ t h e ~ g a m e ~ b y ~ a t t e m p t i n g ~ t o ~ m a k e ~ t h e ~ f i r s t ~ h o o p , ~} \mathrm{h}(1)$, from the A -Baulk

[^96](the 4-yard-line), but this opportunity is uniquely valuable to the $3^{\text {rd }}$ ball - the second member of the 2BT. Figure 3BO.9 shows $y$ in position to take this 9 foot hoop shot after $u$ has gone west to a position greater than the CD and $r$ followed by going slightly outside the CD curve near $h(1)$, but within the $C D$ of $u$. $u / k$ decide to keep $k$ out (figuring that $y$ has a less than 50/50 chance of hitting). Therefore, it is $y$ to play.

Instead of shooting at $u$ or $r, y$ can try to make $h(1)$. If $y$ is successful, then $r / y$ (now the 2BT) will have satisfied their hoop requirement (Rule 5) for this turn depriving $u$ - the 1BT - of the lift-to-baulk it was expecting if $y$ did not hit in. After making $h(1)$, $y$ may be able to start a break by hitting $r$. But at least $y$ can shoot at $r$ without worrying about giving $u$ a lift-to-baulk. However, if $y$ fails to make $h(1)$, then $u$ will get a lift-to-baulk, and an easy start.

This discussion suggests that attempting to make $h(1)$ can be a viable strategy for $y$ if $u$ and $r$ are at or beyond the CD, and $y$ believes he has at least a $50 / 50$ chance of making $h(1)$ and making the subsequent roquet.

## PLAY BY THE 2BT

The 2BT and the 1BT have separate paths to victory. At first blush, the 2BT would seem to have the easier row to hoe: It has two balls to play with and only needs to complete a Double-Peel to finish in two turns. This contrasts with the situation faced by the 1BT which, at the start, does not have both of its balls in the game, and needs a Quadruple-Peel to finish in 2 turns. But there are equalizers - three are discussed here for the 2 BT , and one is saved for the next section which discusses play by the 1 BT .

The first equalizer is a constant "annoyance" for the $2 B T$ - Rule 5 - the need of $2 B T$ to make a hoop each turn or give the 1BT a lift-to-baulk. Running a 3 -ball break has been facilitated by the optional 4 -yard mark-in procedure. But, even so, it is not a forgone conclusion that the 2BT will get going and make a hoop each turn.

The second equalizer is the possible entry of the BKO. Once the Trigger-Hoop has been made, the BKO can come in on any subsequent 1BT-turn with a lift to either baulk line (and marked-in 4-yards if he wants)! The 2BT must be on guard for the 1BT sending its ball-in-the-game to one of the baulk lines to facilitate the entry of the BKO. If this happens, then the 2BT may need to forgo a break and instead move all balls away from the baulk lines, separate the Opponent's ball from the two balls of his team while, attempting to maintain the innings (i.e., a rush on or for Partner). Note that if the 2BT makes the Trigger-Hoop (and the 1BT has not) then, at the start of every turn (i.e., before it has made an initial hoop), the 2BT must worry about giving a lift-to-baulk to both balls of the 1BT - the ball-in-the-game and the BKO.

The third equalizer is a major strategic problem for the $2 B T$ - Rule 3 - the lift-to-position penalty that the $2 B T$ will incur if it transfers control back to the 1BT after making (as Striker) its lift-hoop, $\mathrm{h}(11$ ). This is particularly problematic and can be fatal when the Trigger-Hoop has been made and the BKO can enter and start a 4-ball break with a lift-to-position. But it is also a serious issue when the BKO cannot yet enter. Here, with a lift-to-position, the 1BT should be able to run a 3 -ball break stopping after making the Trigger-Hoop and setting a leave that allows the 1BT to prepare for the entry of the BKO and a finishing turn, a Quadruple-Peel, if the 2BT does not hit in.

Without claiming to be complete, here are some things for the 2BT to think about:
A Leave After "Triggering" the Trigger-Hoop: Rule 4 specifies that the 2BT cannot make the Trigger-Hoop and its lift-hoop, $\mathrm{h}(11$ ), during the same turn. Therefore, when it gets in, the front ball of the 2BT (call it y) can attempt to run a 3 -ball break making $\mathrm{h}(8)$ the Trigger-Hoop - but must stop before making $\mathrm{h}(11)$ - its lift-hoop and set a leave. y 's progress denies u a lift but allows k to enter if he wants to. One possible leave that deals with both of these possibilities is shown in Figure 3BO.10. Here $r$ and $y$ are as far from the baulk lines as possible, $u$ is wired from $y$ but open on $r$, and $r$ has a cut rush to $h(1)$. If $u$ misses or finesses, then the 2BT with $r$ as Striker can finish the game by re-establishing a 3-ball break that runs to the peg and includes a Double-Peel ${ }^{139}$.

Progressing the Front Ball to $\mathbf{h ( 1 1 )}$ without Triggering the Possible Entry of the BKO: The BKO can enter the game after one of the three balls in the game, as Striker (Peels do not count!) makes $h(8)$, the Trigger-Hoop (Rule 4). The 2BT may decide that it wants to progress its front ball to its lift hoop, $\mathrm{h}(11)$, but it does not want to trigger the possible entry of the BKO in the process. A solution is to Peel the front ball of the 2BT through $h(8)$.

In Figure 3BO.11, y has run 7 hoops but stopped without making $h(8)$. Instead, y put itself in the jaws of $h(8)$ and left $r$ with a RushPeel that $r$ will take if $u$ shoots and misses, or finesses. Putting $u$ in $c 3$ maximizes the distance of $u$ 's shot. Because of the 1 or 4 yard mark-in rule, any miss by $u$ will come back within about 3 yards of $h(1)$. So, $r$ can play its Rush-Peel hard to the south boundary ( $y$ advances to $h(9)$ without triggering of the Trigger-Hoop), and then croquet $y$ north while getting a rush on $u$ to $h(1)$. $r$ will want to make $h(1)$ satisfying Rule 5 - the need of the $2 B T$ to make a hoop in order not to grant a lift-to-baulk to the 1BT on its next turn! Then, $r$ can rush $y$ to $h(9)$, set a leave giving $y$ a rush to that hoop and the ability to trap $u$ if it shoots, Figure 3BO.12. If $u$ misses or finesses, $y$ can take over, make $h(9)$ and $h(10)$, and then set a leave giving $r$ a rush to $h(2)$, Figure 3BO.13. y is for $h(11)$ and $r$ for $h(2)$.

[^97]

The 2BT progressed to this point by playing $y$, then $r$, then $y$, and is ready to play $r$ again. At each switchover, Striker made at least one hoop satisfying Rule 5, and captured $u$ if it shot, or dug $u$ out if it finessed. The 1BT ( $u / k$ ) has had shots but was not granted a lift of any type and is not able to bring in the BKO. This is a good result for the 2BT! With his clip on $h(2)$, $r$ has time (i.e., 6 hoops before making the Trigger-Hoop) to attempt the Peel of $y$ at $h(11)$ without the threat of $k$ entering the game from B-Baulk ${ }^{140}$.

3-Ball Peeling Opportunities for the 2BT: A Peel by the 2BT at $\mathrm{h}(11)$ (its lift-hoop) is desirable to progress while avoiding giving the 1BT a lift-to-position. With an added Peel at $h(12)$, the 2BT can finish during its second break. The question of how 3-ball Peels are completed was discussed in detail in Chapter 1 which described the "standard" way of proceeding: Engage in a Back-Peel at $\mathrm{h}(11$ ) after $h(6)$ and a Straight-Peel at $h(12)^{141}$. If $r$ can complete the $h(11)$-Peel, the $h(12)$-Peel, and peg-out of both $y$ and $r$, then $r / y$ will have won the game with $k$ still waiting on the sidelines, still the BKO!

[^98]"Jawsing" to Get the $\mathbf{h ( 1 1 )}$ Peel Done: The situation gets complicated for $r / y$ if one or both Peels (and the peg-out!) cannot be accomplished in one turn. One thing $r / y$ can do to increase the probability of completing the $h(11)$-Peel is to have its first ball ( $y$ ) end its turn in the jaws of $h(11)$, Figure 3BO.14. This is relatively easy if $r$ has Peeled $y$ through $h(8)$ and $k$ cannot yet enter the game.

Failure at $\mathbf{h ( 1 1 ) : ~ W h a t ~ s h o u l d ~} \mathrm{y}$ do if the Peel of his Partner ( r$)$ at $\mathrm{h}(11)$ has not happened by the time y is also for $\mathrm{h}(11)$ ? This is where AC-3BO gets interesting! There are no good choices for y . Most likely y will make $\mathrm{h}(11)$ [and perhaps $\mathrm{h}(12)$ ], and then set a leave that defends as best as possible against the lift-to-position that $u / k$ will have. This is not a particularly attractive play for $r / y$, especially if k can enter the game.

Failure at $\mathbf{h ( 1 2 )}$ - Should the 2BT Peg-Out? Suppose $r$ Peels $y$ through $h(11)$, makes $h(11)$ for himself, but then $r$ is unable to complete the Straight-Peel of $y$ at $h(12)$. Having made $h(11), r$ knows that $u / k$ will be entitled to a lift-to-position. Should $r$ peg-out, leaving $u$ and $y$ somewhere on the court?

Rule 4(c) specifies that the pegging-out of any ball by either team allows the BKO to enter regardless of the status of the TriggerHoop. So, if $r$ pegs itself out, then the BKO ( $k$ ) will be able to enter the game with a lift-to-position. A competent $k$ should be able to run a 3-ball break to the peg. Note that $k$ can run through the Trigger-Hoop because its special status no longer applies - all AC-3BO special rules are cancelled when the BKO enters the game! Additionally, $k$ can run through his two lift-hoops ( $\mathrm{h}(9)$ and $\mathrm{h}(11$ ) without giving a lift-to-contact, the usual T-AC rule for running two lift hoops. However, these do not apply in T-AC if $r$ pegged itself out! k can set a leave for $u$ establishing a traditional 2 -on-1 end-game where $u / k$ are for $h(1)$ and peg and $y$ is for $h(12)$. $y$ will play next, but without the benefit of any future lifts. A competent $u / k$ should have the advantage in this situation ${ }^{142}$.

## PLAY BY THE 1BT

The analysis presented in the previous section suggested that, while the path to victory for the 2BT may seem easy at first, in fact it can be complicated and difficult, especially if things do not go as planned. We will now see that the opposite is true for the 1BT, its path to victory may seem difficult at first, but it may not turn out to be as hard as it seems. The great equalizer for the 1BT is that it controls when the BKO enters the game. Clearly both teams have an easier path to victory with four balls on the lawn. But the 1BT always gets to go first in this regard - and should use this asset wisely!

[^99]Leaves by the 1BT After Making the Trigger-Hoop: When the 1BT first gets in, the best it can do is have $u$, its only ball in the game, run a 3-ball break as far as Rule 4 allows. This means stopping after making h(8), the Trigger-Hoop, and before making h(9), its first lift-hoop, and then setting a leave. By making the Trigger-Hoop, the 1BT gains the option to bring in its BKO on any future turn. The leave set by the $1 B T$ should involve separating $r$ and $y$ and then having $u$ go to either the A-Baulk or the B-Baulk to await and facilitate the potential entry of $k$.

Consider Figure 3BO.15. $r$ and $y$ were placed near $h(1)$ and $h(2)$, and $u$ has gone to the north boundary, wired from $r$. If $r / y$ shoots and misses or finesses, then k will come in from the B-Baulk with a rush on $u$ to $h(2)$. Running a 4-ball break from here is routine.


An even more powerful leave is shown in Figure 3BO.16. Here $r / y$ are cross-wired at $h(2)$ and $u$ has gone out on the south boundary to the east of $h(1)$. Once again, $u$ has made $h(8)$, the Trigger-Hoop, giving the 1BT the possibility, but not the obligation, to bring $k-$ the BKO - into the game on any future turn. Of course, if $r$ or $y$ shoot at $u$ and hit, then control transfers back to the 2BT and $k$ stays out. But suppose $y$ shoots and misses. If the 1BT decides to bring $k$ in, then Rule 6 will apply, and $k$ can also be marked in 4 -yards, as shown in Figure 3BO.18. Note carefully however, that, per Rule 6, immediately after $k$ is measured in (and before $k$ shoots!) there is a return to AC rules and, from this point forward, all balls will be marked in only 1-yard.

The Quadruple Peel: The most basic play for the 1BT, is to bring $k$ into the game and finish with a Quadruple-Peel. In Figure 3BO.17, $y$ shots at $u$ and misses. If $k$ comes in (as shown in Figure 3BO.18) then $k$ can send $u$ to Peel position at $h(9)$ and make $h(1)$ with $y$. $k$ can send $y$ to $h(3)$ and try the Peel at $h(9)$ as a Roll-Peel as k goes to $r$ at $h(2)$. Alternatively, $k$ could come in to the east of $y$. In this case, $k$ can send $y$ to $h(9)$, as an Escape-Ball, and then rush $u$ to $h(1)$. After $k$ makes $h(1), k$ can rush $u$ to $h(9)$ and try the Peel.

If the Peel at $h(9)$ is accomplished before $k$ makes $h(2)$, then $k$ can finish with a Standard-Triple. If the $h(9)$-Peel is accomplished before k makes $\mathrm{h}(3)$, then k can still finish with a Delayed-Triple.

Having $r$ or $y$ shoot at $u$ before $k$ enters the game is not necessary for the completion of the Quad. Given the 4 -yard mark-in for the ball that shoots (call it y ) that precedes k 's entry into the game, no matter where y goes, k should be able to make $\mathrm{h}(1)$ off u and still have easy access to y and a completable Quad - involving a Delayed-Triple.

Keeping the BKO Out: Running a Quad is straight forward in concept but challenging in practice. And so, in the remainder of this section we will consider some other alternatives for the 1BT. In order to win the game, the 1BT must bring in $k-$ the BKO. Bringing in k returns the game to $\mathrm{T}-\mathrm{AC}$ rules and allows k to run a break with all four balls. In lieu of running a Quad, k can enter and run a break to $h(11)$, making its first lift hoop $h(9)$, granting r/y a T-AC lift-to-baulk. Now the 1BT and the 2BT are possibly on even footing - both need Double-Peels to finish.
 make Peels with just three balls. So, the question is, when is the right time to bring $k$ in? Suppose the $2 B T(r / y)$ gets in first and successfully runs a break to $h(11)$. If $r / y$ sets a good leave, then $k$ will have less than a $50 / 50$ chance of hitting-in. And, if $k$ fails to hitin, $r / y$ will have a relatively easy 4-ball finish involving a Double-Peel, with only normal AC lift rules to contend with. So, in this circumstance, k should be kept out. The 1BT should not bring in the BKO until the odds are significantly in its favor of hitting in and running a successful break - just gaining the innings may not be enough.

If $k$ stays out, then $u$ must play. $u$ can shoot at $r$ or $y$. If $u$ hits-in, then $u$ may be able to organize a 3 -ball break stopping at $h(9)$ and setting the cross-wire leave shown in Figure 3BO.16. Alternatively, u could shoot to B-Baulk just west of c3. Now r/y must be careful - failure to make $h(1)$ would bring $k$ into the game with an easy start from the B-Baulk. While making $h(1)$ would deprive $u$ of a lift-to-baulk, $k$ could still have an easy entry unless $r / y$ move $u$. But, in moving $u, r / y$ may find it difficult to continue their break...

Thus, if the BKO is kept out, a cat and mouse game is started. The 1BT is hoping to hit-in and run its own 3-ball break. At the same time, the 2BT is trying to set up and complete its 3-ball Double-Peel and finish.

Intentionally Running a Lift-Hoop by the 1BT and Giving the 2BT a Lift-to-Position: The discussion of play by the 2BT highlighted the risk of having the 2BT run $h(11)$ - its only lift-hoop - and then fail to finish. The situation is different if the 1BT runs one of its lifthoops. When the lift is taken by the 2BT there will be only three balls on the lawn, never four. This is an important distinction!

Let's return to Figure 3BO. 18 where $u$ completed a break to $h(9)$ and set a leave, and then $y$ shot at $u$ and missed. Suppose the 1BT decides to keep k out of the game (at least on this turn) and instead plays $u$. One strategy is for $u$ to attempt to make $h(9)$ ( $u / k^{\prime} s$ first lift-hoop) and then make $h(10)$. If successful, $u$ would be forced to stop at this point because Rule $\mathbf{3}$ specifies that $u$ cannot run two lift-hoops in a single turn during the period of 3 -ball play. The good news for $u / k$ is that, on any subsequent turn, $k$ can be brought in and only needs to complete a Double-Peel with four balls to finish. The bad news is that $r / y$ get a lift-to-position - because $u$ ran a lift hoop (Rule 3). If $r / y$ can get going, then they can attempt to complete their first break, stopping at $h(11)$, if they have not already done so, or, if the first break to $\mathrm{h}(11)$ is complete, they can attempt to finish with their second ball. This is not a good strategy for the 1BT against a competent 2BT.

## RETURN TO AC RULES AFTER THE BKO ENTERS THE GAME

Once the BKO has entered the game, all AC-3BO rule modifications cease to exist - and play is governed solely by AC rules. Well know strategies for both teams apply:

The 1BT (now 1-ball in name only) can have its front-ball:

1. Run a break as far as its first lift hoop, $\mathrm{h}(9)$, set a leave (not giving a lift) and then have its Partner finish with a quad.
2. Proceed to $h(11)$, granting a lift-to-baulk and then have its back-ball finish with a double Peel.
3. Run both of its lift hoops $[\mathrm{h}(9)$ and $\mathrm{h}(11)$ ] - proceed to the peg - granting a lift-to-contact and hoping to have its back-ball finish with a simple break to the peg.
4. Finally, as with normal AC, the 1 BT can run three breaks - in this case, one to $h(11)$, one to the peg, and another to the peg, (a $10,12,4$ as opposed to the traditional $9,12,5$ ) granting two lifts-to-baulk in the process.

Likewise, the 2BT can have its front-ball:

1. Run as far as its lift hoop, $h(11)$, set a leave (giving no lift), and then have its back-ball finish with a Double-Peel, now involving all four balls.
2. Go all the way to the peg, granting only a lift-to-baulk and then have its back-ball finish with another break to the peg.

## Let's Go to the Videos

There are three videos to review, this time with Matthew Essick and Steve Morgan as the players. The first two are actual games and the third is a Master-Class on 3-ball Peels.

In Game \#1: Stephen opens as u from A-Baulk toward super-shot position, Matthew goes to B-Baulk with $r$, shoots and misses to the south boundary. Stephen chooses to play k, thus Stephen is the 2BT and Matthew is the 1BT. Stephen starts a break but overshoots his approach at $h(4)$. Matthew takes over and runs 8 hoops with $r$, cross-wiring $u$ and $k$ at $h(2)$ and shooting out on the south boundary east of $h(1)$. Stephen shoots $y$ (the south/east ball in the cross wire) and misses $u$.

Matthew chooses to bring in the $4^{\text {th }}$ ball, the BKO, $y$ and starts a quad. He gets the $h(9)$ Peel done $W-h(2)$ but breaks down at $h(4)$. Stephen takes over but once again breaks down, this time at $h(5)$. Matthew comes back on the lawn and runs a beautiful Triple-Peel for the win - he completes the $h(10)$ Peel $W$ - $h(6)$ - thus starting a Delayed-Triple-Peel, then he completes the $h(11)$ Peel W-h(7)! This converts his situation back to a Standard-Triple-Peel. Shortly thereafter, he completes the h(12) Peel W-h(9).

In Game \#2: Matthew opens this game as $u$, again to super-shot position. Stephen hits with $r$ and sets a leave with both balls near the peg. Matthew decides to keep kout, becoming the 1BT. Stephen as the 2BT brings in $y$ and is successful at running seven hoops and jawsing at $h(8)$. Stephen is in position to Rush-Peel $y$ with $r$ and avoid making the Trigger-Hoop, $h(8)$, thus facilitating his attempt at a double-Peel with just three balls. However, Matthew takes a 20 yard shot at $r$ and hits! Matthew runs 8 hoops, sets a cross-wire at $h(7)$, and shoots out-of-bounds SE of $h(8)$. Stephen shoots $y$ at $u$ and misses. Matthew then brings $k$ in and runs a scrappy quad for the win. He Peels $h(9)$ A-h(4) as a Back-Peel. Next is $h(10), W-h(8)$, but $h(11)$ takes a couple of attempts. First, he jawses $W-h(10)^{143}$ and then he completes the Peel, $\mathrm{W}-\mathrm{h}(11)$. Finally, he completes the Peel at $\mathrm{h}(12) \mathrm{S}-\mathrm{h}(12)$ and then pegs-out.

In the Master Class: Both of the complete games discussed above were won by the team that was originally the 1BT - both were originally Quadruple-Peel attempts. We thought it important to let viewers see the 2BT play attempt a 3-ball Double-Peel.
Therefore, we set up a leave for the 2BT assuming it: (i) originally progressed to $\mathrm{h}(11$ ) , and (ii) The 1BT choose not to bring in BKO on its first opportunity. This can happen if the 1BT chooses to "save" the entry of the BKO for a later turn. We had the 1BT shoot and miss and then let Matthew and Stephen play alternate shots, attempting to finish with a 3-ball Double-Peel.

[^100]The leave placed $r$, the 1BT, halfway between $h(1)$ and $h(2)$, the 2BT with $u$ for $h(11)$ and $k$ for $h(1)$ were placed between $h(3)$ and $h(4)$ with $k$ having a rush on $u$ towards $h(1)$. $r$ shoots and misses. The guys ran a 3-ball break making $h(3)$ with $u$. $k$ rushed $u$ to $h(11)$ and tried/failed the Peel going to $r$ at $h(4)$. They 2-balled to $h(5)$, made $h(6)$ with $u$ and then back-Peeled $u$ at $h(11)$ and escaped to $h(7)$ with $r$. They then progressed to $h(12)$ for the Straight-Peel. The Peel succeeded, but $k$ hit $u$ coming through $h(12)$ and they were not able to peg-out. We stopped it there but technically $r / y$ would have had a lift-to-position and could have played either $r$ or $y^{144}$.

Conclusion: In post-play conversation, both players expressed enthusiasm for AC-3BO. We asked if they thought the desired balance between a 3-ball Double-Peel and a 4-ball Quadruple-Peel had been achieved. They indicated that their familiarity with the quad made that arm of the game more welcoming, but that they enjoyed working out the patterns of play for 3-ball Peels.

[^101]
## 3.. PEELS-ONLY

## RULES

This game follows AC rules with the following modifications:
1.. Team Clips: Each team has a single Team-Clip that starts on $h(1)$, progresses to $h(12)$, and then to the peg.
2.. Start of Each Turn: Each turn can be played from where Striker is on the lawn, or with a "Lift-to-Boundary".
3.. Lift-to-Boundary: With the caveat that the Striker-Ball must be placed in bounds, Striker can start his turn by placing his ball anywhere that is less than or equal to $36^{\prime \prime}$ from the entire rectangular boundary of the lawn. Thus, at Striker's option, and depending upon the location of the other balls, a Lift-to-Boundary can effectively become a lift-to-position, contact, or baulk.
4.. Bamford Start: After the $1^{\text {st }}$ ball is played, Oppos can switch colors and accept the position of the $1^{\text {st }}$ ball as their own.
5.. Peeling: A Peel is the only way to advance a Team-Clip.
I. 3 balls can be Peeled: A Peel can be accomplished with any of the other three balls.
II. Scoring: If there is only one Team-Clip on a given hoop, then a Peel at that hoop, intended or otherwise, advances that clip. If a Peel occurs when both Team-Clips are on the same hoop, then only the clip of Striker's Team is advanced.
III. Break Continuation: A Peel on any ball, at Striker's hoop, including a Scatter-Peel, clears all deadness and grants Striker a continuation shot and, thus, the ability to continue his break.
6.. Winning the Game: The winner is the first team to reach 13 points, by scoring (Peeling) at the 12 hoops in order and then pegging-out a single ball, which can be any ball.

## NOTES ON PEELS-ONLY

Introduction: In this game, each team has a single Team-Clip that can only be advanced by peeling another ball (Partner or Oppos) through its current Team-Hoop. Having multiple Peelees available and a cleaning of deadness after a Peel, allows Peeling breaks.

Here is a drill first proposed by Keith Wylie for Straight-Peels in AC that can be repurposed for Peels-Only:
..." I got my confidence in straight peels as a result of a practice routine of mine: you do a three-ball break in which you have to try a straight peel on the pioneer at each hoop if at all possible. The most I have managed so far is 10 peels in 12 hoops, but I am sure that can be bettered." (Wylie, Expert Croquet Tactics, pages 54, 55).

The 7-Shot Limit: As we know, in AC, at the start of a turn, or having just made a hoop, Striker must score his then Current-Hoop using no more than 7 shots. He could immediately shoot at his hoop, but typically, Striker roquets a ball to earn the right to play a 2-shot sequence, a croquet shot followed by a continuation shot. He can do this on one, two, or on all three of the other balls. Finally, when Striker has "had" them all, or is in position at the Current-Hoop, he can use the continuation shot for a hoop attempt. If made, then Striker earns a continuation shot and can start the program all over again, thereby running a multi-hoop break ${ }^{145}$.

Peels-Only also has a 7-shot limit, this time between Striker completing Peels. Once again, there can be up to three two-shot sequences, this time best thought of as roquet/rush followed by a croquet shot. The clip-advancing Peel can be completed with the rush, but it is most often done with the croquet shot. Once again, Striker can use one, two or three balls and after using the $3^{\text {rd }}$ ball there can be a final $7^{\text {th }}$ shot. Here it is technically a scatter-shot - Peels generated with scatter-shots happen frequently in this game. Peels advance Striker's Clip and clean Striker of deadness on all balls (Peelee included) ${ }^{146}$.

Lift-to-Boundary: A key difference between AC and PO occurs at the start of each turn. In AC the four opening turns start from the A- or B-Baulks. After that, balls can be played from where they are on the lawn, or with a lift (baulk, contact, or position) depending on whether the game is being played under Advanced or Super-Advanced rules, and on how far the previous player progressed. In

[^102]PO, all turns, opening and otherwise, start with a new type of lift - a Lift-to-Boundary. In PO, Striker can play the ball from where it is on the lawn or he can place it anywhere within 36 inches of any boundary around the entire lawn, resulting in the equivalent of a lift-to-position, contact, or baulk.

## Running Breaks

In AC and in PO, it is possible to run 2, 3, and 4-ball breaks thereby advancing multiple hoops. However, continuing a break by making a hoop - in AC - and by completing a Peel - in PO - creates conceptual and strategic differences that are discussed below.


Here is one possible start to a PO game (others are discussed below). The $1^{\text {st }}$ ball to play, $\mathrm{u}^{147}$, has no possible way to advance his Team-Clip - there are no Peeling possibilities. His goal is to make it difficult, for the $2^{\text {nd }}$ ball, $r$, to score while at the same time giving the $3^{\text {rd }}$ ball, his Partner, $k$, a chance to get going if $r$ is not careful. Cognizant that $r / y$ will start with a Lift-to-Boundary, we have $u$ shoot to a position that is north and east of $h(1)$. Here $u$ stays away from the boundaries, and shoots to a position that is reminiscent of the super-shot opening in AC, Figure PO.1.
$r$ could use his Lift-to-Boundary to shoot from the north boundary, hoping to rush $u$ to Peel position at $h(1)$. But achieving this outcome is not a reasonable expectation, and missing gives an easy start to $k$. Therefore, $r$ shoots gently at u from the west boundary. We show $r$ missing $u$ and ending close to the peg, Figure PO.2. It is now $k$ to play $-k$ can get started if he successfully

[^103]roquets either $u$ or $r$ and then rushes the other ball to $h(1)$ for a Peel attempt. Here $k$ uses his Lift-to-Boundary to line up a double of $u$ and $r$, misses, slightly overhits, and progresses to within 7 yards of the east boundary, Figure PO.3. It is now $y$ to play. $y$ should use his Lift-to-Boundary to choose the shortest shot, by now probably a double (or triple) target, shown here as a position that is level with $r$, marked in one yard from the east boundary, Figure PO.4.

## PO Played From an "AC-Education"

In both AC and PO, y will often start a turn, or start play to a new hoop by trying to establish/extend his break. y will seek to: (i) establish a pioneer at his Current-Hoop plus one, (ii) organize a Pivot-Ball for his Current-Hoop, and (iii) rush the final ball to his Current-Hoop. These three roles can be filled by any of the three non-Striker-Balls. From Figure PO. 4 (above), we assume y takes his shortest shot and roquets $k$. Then, $y$ sends $k$ to the playing side of $h(2)$ to be the Pioneer, $P(2)$, going to $r$. Next, $y$ sends $r$ between $h(1)$ and $h(2)$, to be $V(1)$, going $u$. Finally, y rushes u to "hoop" or "Peel" position, $\mathrm{P}(1)$, at $\mathrm{h}(1)$, Figure PO.5.


From here AC and PO deviate. AC: y will croquet u from $P(1)$ to reception, $R(1)$, as y goes to position at $h(1)$. Then $y$ will make $h(1)$, Figure PO.6. PO: y Peels $u$ at $h(1)$, Figure PO.7. In both: y's position after the hoop or Peel was chosen to allow him to continue his break: y roquets $u$ and then sends $u$ to $P(3)$ going to $r$. $y$ sends $r$ from $V(1)$ to $V(2)$ going to $k$, Figure $P O$.8. In $A C$, $y$ roquets $k$, $y$ sends $k$ to $R(2)$ as $y$ goes to position at $h(2)$. Then y makes $h(2)$, Figure PO.9. In PO, y roquets $k$, and then $y$ Peels $k$ at $h(3)$, Figure PO. 10.

A relatively skillful AC player should have no difficulty continuing the 4-ball AC hoop-making break described above. This same player maybe also be able to continue the 4-ball PO Peeling-break as just outlined but he will find it more difficult for two reasons - one that is inherent in PO and one that can be avoided. (i) Inherent: Clearly Peeling at a hoop is more difficult than making a hoop. This is the challenge you have chosen to take on by playing PO! (ii) Avoidable: Unknowingly, the Striker in the example above, has attempted a PO Peeling-break using his "AC-Education" rather than ones better suited to PO.

## Insights for PO - the $\mathbf{7}^{\text {th }}$ Shot

Striker used only 6 shots to complete each of the two Peels described above. We now turn to how the $7^{\text {th }}$ shot arises and how it is used. Figure PO. 11 shows a similar, but different, play by y on $4^{\text {th }}$ turn to establish his break. The change relates to the Pivot-Ball, r. Instead of being sent part way to $h(2)$ as in $A C$, it is now sent as a "Helper-Ball", close to $h(1)$ and ideally just on the playing side.


We will now see how the 7th shot together with the process of Peeling in PO gives value to this new Helper-Ball position ${ }^{148}$.

[^104]From the Jaws: Jawsing plays a prominent role in PO. Here is an example that highlights the $7^{\text {th }}$ shot. In Figure PO.12, y sets out to Peel $u$ at $h(1)$. Failing that, $y$ 's goal is to jaws $u$ in $h(1)$ to allow a Rush-Peel. There are at least three benefits to this strategy: (i) By not needing to hit u firmly, $y$ can stay on the playing side of the hoop, in a position that will allow a Scatter-Peel attempt if necessary. (ii) $y$ can go to $r$, the Helper-Ball, after the Scatter-Peel and continue - that is, $y$ does not need to worry about getting wired from $u$ immediately after the Peel. (iii) y can attempt the Peel with a straight-on croquet shot with no pull, allowing maximum chance of success, also knowing that if y is blocked from u by the hoop, then y can still get to r .

If $u$ Dribbles Through: In Figure PO.13, y has completed the Peel with the $6^{\text {th }}$ shot, but $u$ has dribbled through such that $y$ cannot see $u$. The successful Peel means that $y$ is live again on all balls but now needs to hit one of them to continue his break! If $r$ is in the traditional Pivot-Ball position and not available, then y must hit $u$. Depending upon the condition of the lawn and the toughness of the hoops, y may not be able to roquet $u$ for at least two reasons: (i) y may be wired from $u$ by the hoop. Here $y$ can try to come through the hoop and hit u. But u might have drifted to the left or right after the Peel such that $y$ will not be able to hit it. (ii) It is also possible that $u$ is available through the hoop, but $y$ is not positioned to make it. In both of these circumstances, having ron the playing side as a Helper-Ball can provide a much appreciated target and the ability to continue the break.

Intentionally Peeling Hard: Nothing prevents y from intentionally Peeling u firmly (perhaps to mitigate the vagaries of the lawn), with $y$ ending on the non-playing side of the hoop. With $r$ in the traditional position for a Pivot-Ball, $y$ will need to Peel $u$ and also go to u! But y does not know how far u will come through the hoop with the Peel. Therefore, y must be positioned guessing where $u$ will be. This uncertainty can be avoided if y Peels u going to $r$ (Figure PO.11) - $r$ 's position is known and unchanging. Additionally, $y$ can Peel $u$ straighter, perhaps intentionally hitting the upright of the hoop in an effort to stay nearby. Again, the Helper-Ball $r$ will be the "go to" ball, Figure PO. 14

## Are Two Bites of the Apple Better than One?

In Figure PO.15, $k$ has just Peeled $r$ at $\mathrm{h}(10)$ and is for $\mathrm{h}(11)$. In Figure PO.16, k sends u to $\mathrm{P}(12)$ going to r , and then intentionally rushes $r$ to a position that can serve as both Helper-Ball and potential Peelee. The logic here is that if $k$ likes the position of $r$, he can attempt the to the Peel going to $y$. This is The First Bite of the Apple. There are various possible outcomes: The best is that the Peel is successful, Figure PO.17. Next best is the "oh well" result - the Peel fails, but k gets a good rush on y for the next Peel attempt at $h(11)$, and $r$ is in good Helper-Ball position, Figure PO.18. This Peel Attempt seems to be free, but is it? Not necessarily!

The $\mathbf{2}^{\text {nd }}$ Bite at the Apple. In striving to Peel $r$, $k$ may not get a good rush on $y$, Figure PO.19149. Or the Peel on $r$ may leave $r$ blocking $\mathrm{h}(11)$, preventing k from rushing y to $\mathrm{h}(11)$ and completing the Peel, Figure PO.20. So, the Peel attempt on r is not free!

The First of Bite of the Apple: Attempting to Peel $r$


One Careful Attempt: Our advice is to focus on only one Peelee -y . Starting from Figure PO.15, rush $u$ toward c 3 , croquet $u$ to $h(12)$ gaining a rush on $r$, Figure PO.21, where the focus of this shot should be on getting a good rush on $r$. Then rush $r$ to a comfortable position, Figure PO.22, from where it can be croqueted to Helper-Ball position while getting a good rush y to h(11), Figure PO.23.

## THE BOTTOM LINE

Playing PO, you will see that it requires Striker to be accurate with BOTH balls - a skill which goes unrewarded all too often in AC!

[^105]The Second Bite: Peeling $y$


One Careful Attempt on y


Openings
Figure PO. 24 shows five alternative opening positions for play by the $1^{\text {st }}$ ball, $u$. Before considering them, it is important to remember that the rules of PO provide for a "Bamford Opening": After u plays, Oppos ( $r / y$ ) can switch colors and take over the position of $u$ as their own. Thus, if a play by $u$ is attractive, then the benefits need not accrue to the team that first played $u$ ! This way of proceeding should lead to players finding neutral openings.

The only play of the ones shown that creates an immediate scoring opportunity for $r$ is $u$ to $c 3$. This position is emblematic of any position where $u$ is left on or near a boundary and a goodly distance from $h(1)$. $r$ can use his Lift-to-Boundary to gain a Dolly-Rush on u to $\mathrm{h}(1)$ and attempt the Peel ${ }^{150}$. If the Peel succeeds, then it will have done without the benefit a Helper-Ball (one cannot exist as only two balls are in play!), meaning that $r$ will need to have access to $u$ after the Peel, in order to continue. Here "continue" most likely means moving u away from the west boundary - trying to deprive $k$ of a 6 -yard hit-in opportunity (starting with a Lift-toBoundary level with $u$ on the west). There is no realistic way for $r$ to mount a break. Therefore, some players would not recommend the rush. However, others would take it hoping for a free point. This disagreement suggests that u to c3 may be a good tice!

[^106]Here are two other plays after $u$ to c 3 : (i) r can rush $u$ toward the center and set a leave, Figure PO.25. k plays next with a Lift-toBoundary. $k$ can start from anywhere on the boundary, $k$ will always have a double target. Or, (ii) r roquets $u$ and then croquets-out both $u$ and $r$ to a boundary, north or east are likely candidates, Figure PO.26. It will be $k$ to play. With relatively simple play, $k$ can maneuver the balls from Figures PO. 25 or PO .26 to $\underline{\mathrm{PO} .27}$ where all three balls are in the center but getting going is challenging.
$r$ may be tempted to shoot hard at $u$, but missing can be a disaster, as shown in Figure PO. 28 where $u$ went near to $h(1)$ and $r$ shot hard and missed. k will use his Lift-to-Boundary to gain a rush on $r$. k will rush r toward u and then croquet it to $\mathrm{P}(2)$ setting up for one and perhaps two easy Peels.

One amusing opening is $u$ to just north of $h(3)$, close enough to the hoop so that it will be difficult for either team to rush it to $h(1)$, Figure PO.29. This position is within easy roquet distance of the north boundary. It sets $u$ up as a future Pioneer for h(3), but not as a current Pioneer to $h(2)$. One response is for $r$ to roquet $u$ and then move both balls to the center, again Figure PO.25. However, if $r$ shoots gently at $u$ and misses, then $k$ might be able to roquet $u$, send it toward $P(2)$ and gain a rush on $r$ to $h(1)$. This may or may not be a realistic concern given the difficulty of running a 3-ball break.


Other possibilities for $r$ are shown in Figure PO.30. Our favorite is $r$ to $c 4$, Figure PO.31. Yes, this can let $k$ rush $r$ to $h(1)$ and attempt the Peel, followed by $k$ rushing $r$ to $h(3)$ and then $u$ to $h(2)$ for a $2^{\text {nd }}$ Peel, and maybe even a $3^{\text {rd }}$, but we think it more likely than not that $k$ will fail along the way, leaving balls on the lawn for $y$ on $4^{\text {th }}$ turn. Alternatively, $k$ can skip the initial Peel attempt and move all balls to the center, Figure PO. 32 , or $k$ can be more adventuresome going to various places shown in Figure PO. 33.


Picking up an initial break in PO can be very challenging ${ }^{151}$. This is partly true because both teams are for $h(1)$. And it is certainly true when balls are not in the south-west quadrant of the lawn. Once 4 balls are on the lawn, it may very well be a case of who blinks first and dares to rush to $h(1)$ and try a peel. Failing the peel could be bad! With this in mind, there is a temptation to put the $2^{\text {nd }}$ ball (r) to somewhere near the middle of the court, or maybe even just a few yards directly north of h1, giving $k$ a 5 yarder at $u$ and daring them to try a " 3 ball break". Whatever happens, the $4^{\text {th }}$ ball on will have at least a double target - maybe a triple target - from somewhere.

## Ending Turns and Setting Leaves

Each team in PO has a single Team-Clip. This means that a team can run a Peeling break starting from $h(1)$, or from any other hoop, to the peg and win the game in a single turn. Short of finishing, there are three ways a turn can end: (i) Striker can miss a roquet, (ii) a ball in a croquet shot can go out of bounds (even if there was a successful Peel!), and (iii) Striker can fail to complete a Peel in the allotted 7 shots. The first two endings usually aren't anticipated or intended meaning that Striker does not consciously influence the positions of the balls he gives to Oppos. But he can influence the leave that Oppos inherit if he decides not to Peel and then again after a failed Peel attempt with a scatter-shot.

[^107]We will now consider what Striker can do with his $6^{\text {th }}$ shot when a Peel attempt is not possible or is iffy. Finally, we will turn to the role of a $7^{\text {th }}$ shot - a scatter-shot that is used after a failed Peel attempt to try to influence the leave by moving a "dead" ball.

## The 6 ${ }^{\text {th }}$ Shot: when a Peel is not Possible

In the next three panels, the leftmost figure shows Striker's ( $u^{\prime}$ 's) predicament - With his first four shots, $u$ has established a Pioneer at $h(2)$ and a Helper-Ball at $h(1)$. But, with his $5^{\text {th }}$ shot, $u$ has over-rushed Peelee at $h(1)$ such that a $6^{\text {th }}$ shot Peel attempt will fail.
$u$ is ball-in-hand on Peelee, What should he do? What he can/should do is a function of the state of the game (the score), the roles the various balls are playing, and the positions of the Team-Clips. Here we will assume that the $7^{\text {th }}$ shot is used only to position Striker, saving a discussion of scatter-shots for later.

Three possible roles for the Partner Ball: The three panels are distinguished by the role of the Partner-Ball: The first has Partner as Pioneer, and Opponents as the Peelee and Helper-Ball, the second has Partner as Peelee, and Opponents as the Pioneer and the Helper-Ball, and the third has Partner as the Helper-Ball, and Oppos as the Peelee and the Pioneer.

Notice that in this discussion it is not necessary to distinguish between the two Oppo-Balls. Their colors do not matter.

Clip Positions: Appropriate leaves also depend on clip positions. We examine three different sets of clip positions: (i) when r/y and $\mathrm{u} / \mathrm{k}$ are both for $\mathrm{h}(1)$, indicating that the teams Share 2 physical hoops, their current and Pioneer-Hoops; (ii) when $u / k$ is for $\mathrm{h}(1)$ and $r / y$ for $h(2)$, indicating that the two teams Share 1 physical hoop. That is, $h(2)$ serves a dual purpose, as the Current-Hoop for $r / y$ and as the Pioneer-Hoop for $u / k$, and finally (iii) when $u / k$ is for $h(1)$ and $r / y$ for $h(3)$ indicating that the teams do not share any hoops, Share 0, their current and Pioneer-Hoops are not overlapping.

We consider shared "physical" hoops instead of just shared "numerical" hoops to account for when $u / k$ is for $h(1)$ and $r / y$ is for $h(7)$.
Leaves: Our suggestions for leaves for nine combinations of the three ball positions and the three clip positions are presented below. Our choices were informed by remembering that a leave must account for the optional Lift-to-Boundary that r/y will have to start their next turn.

## Partner as Pioneer, Oppos as Peelee and Helper-Ball, Figure PO. 34

u is the Striker-Ball. Partner-Ball k is the Pioneer at $\mathrm{h}(2)$, an Oppo-Ball y is the Helper-Ball at $\mathrm{h}(1)$, and u is ball-in hand on the Peelee, $r$, the other Oppo-Ball. $u$ has just rushed $r$ to a position from which a Peel is unlikely to occur. $u$ has two more shots, a croquet shot and then a continuation shot. The continuation shot discussed here assumes that it is not used as a scatter-shot. What $u$ does to set a leave is a function how the hoops are "shared".

Share-2: Suppose $u / k$ and $r / y$ are for the same Current-Hoop - $h(1)$ and have the same pioneer hoop - $h(2)$, thus the teams "Share$2^{\prime \prime}$. We have assumed that from this starting point $u$ will move itself and $r$. Thus $r / y$ will come onto the lawn with $y$ near $h(1)$ and $k$ near $h(2)$, and if they could, $r$ /y would like to play $r$ (e.g., have $r$ roquet either $k$ or $u$, leave $k$ at $h(2)$, establish $u$ as a Helper-Ball at $h(1)$ and then Peel $y$ at $h(1)$, etc.). Our proposed leave is shown in Figure PO.35. $r / y$ can play $r$ as just described, but the hope is that the position of $r$ "encourages" $r / y$ to play $y$ instead, removing the pioneer at $h(1)$.


Share 1: $u / k$ is for $h(1)$ and $r / y$ is for $h(2)$. They "Share-1" hoop - $h(2)$ is the Pioneer-Hoop for $u / k$ and the Current-Hoop for $r / y^{152}$. With $k$ at $h(2)$, no matter what $u / k$ does, $r / y$ will have a Peelable ball at their Current-Hoop. The leave in Figure PO. 35 would be a disaster(!) - y picks up, hits $r$ and sends it as pioneer at $h(3)$, goes to $u$ and then to $k$.... With these clip positions, $u / k$ hopes $r / y$ will play $r$ ! One possibility is shown Figure PO.36. It's not great but the intentional proximity of $r$ and $u$ should force $r / y$ to at least

[^108]consider $r$ roquets $u$, followed by $u$ to $h(3)$ as $r$ goes to $k$. If $r / y$ were to fail at $h(2)$, then they would leave $y$ as a pioneer at $h(1)$ for $u / k^{153}$.

Share- $\mathbf{0}: \mathrm{u} / \mathrm{k}$ is for $\mathrm{h}(1)$ and $\mathrm{r} / \mathrm{y}$ is for $\mathrm{h}(3)$. The teams do not share a hoop (they "Share-0" hoops). Unless $\mathrm{u} / \mathrm{k}$ is careless, $\mathrm{r} / \mathrm{y}$ will come on the lawn without a ball at its Current or Next-Hoops. Our suggested leave is Figure PO.37. We are trying to encourage $r / y$ to play $r$ and start the turn with $r$ roqueting $\mathrm{k} . \mathrm{r} / \mathrm{y}$ can build a break, but it is a lot of work.

Partner as Peelee, Oppos as Pioneer and Helper-Ball, Figure PO. 38


Share-2: Suppose $u / k$ and $r / y$ are for the same Current-Hoop - $h(1)$ and have the same pioneering hoop - $h(2)$, thus the teams Share-2. From this starting point $u$ will move itself and $k$. Thus, $r / y$ will come on the lawn with $y$ near $h(1)$ and $r$ near $h(2)$, and if they

[^109]could, $r$ /y would like to play $r$ (e.g., have $r$ roquet either $k$ or $u$, send one of the Oppo balls to $h(2)$, establish the other Oppo ball as a Helper-Ball at $\mathrm{h}(1)$ and then Peel y at $\mathrm{h}(1)$, etc.). With this in mind, our proposed leave is shown in Figure PO. 39 .

Share-1: Now $r$ /y would like to play $y$, leaving $r$ as a good Pioneer for their Current-Hoop, $h(2)$. We have $u$ send $k$ toward the peg and then go to a position near to, but south of, $h(2)$ and $r$, Figure PO. 40.

Share- $\mathbf{0}$ : r and y are not in position at their Current-Hoop, $\mathrm{h}(3)$ nor at their Pioneer-Hoop $\mathrm{h}(4)$. We have $u$ croquet y toward c 1 and then shoot out to c 1 leaving u a rush on k to $\mathrm{h}(1)$, Figure PO.41.

Partner as Helper-Ball, Oppos as Peelee and Pioneer, Figure PO. 42


Share-2: No matter what $u$ does to end his turn, $k$ will remain near $h(1)$, as a good Current-Hoop pioneer for $r / y$. In Figure PO.43, we have $u$ separate the balls as much as possible. $r / y^{\prime} s$ shortest shot is $r$ at $k$ which would not make for an easy start. Next shortest is $r$ at $y$. If $r$ hits, then he has an easy start.

Share-1: y is a potential pioneer at $\mathrm{r} / \mathrm{y}$ 's Current-Hoop, therefore $\mathrm{r} / \mathrm{y}$ would like to play r . This led us to have $u$ send r toward the east boundary and then attempt to jaws, or get close to the upright, at $\mathrm{h}(1)$, Figure PO. 44.

Share-0: Here the goal is to make $\mathrm{r} / \mathrm{y}$ run around as much as possible to get started. A number of 7 -yard options are available here one potential play would be $y$ at $r$, which can be used to create a pioneer at $h(4)$ while $y$ goes to $k$ and then to $u$, Figure PO. 45 .

## Iffy Peel Attempts: Inward vs Outward

In Figures PO. 46 and PO.47, $k$ has played a poor rush on $u$ to his Current-Hoop - $h(1)$ in the first figure, and $h(2)$ in the second. Should k attempt the Hail-Mary-Peel? As in our previous discussion, this decision should factor in the score of the game, the positions of the ball and the clips. But now there is an additional factor - the "inward" - for h(1), or "outward" - for h(2), nature of the Peel. If inward and the attempt is not so hard that a miss causes $u$ to go out of bounds, then it may be worth a go. But if outward, then a Peel attempt with pace has significant chance of being a turn-ending event and an easy start for Oppos.


As Striker k must also weigh-up the likelihood of a successful Peel versus a successful jawsing - if the hoops are not very firm, then a softer or more even-paced peel attempt could give a good chance at jawsing the Peelee, ready to be scattered through in the subsequent continuation shot. On the other hand, if the hoops are firm, or the ground around the hoops is mounded or uneven, then jawsing may be a very unlikely scenario and the Hail-Mary could be the best option.

## Scatter-Shots: Wise or Scatterbrained?

In Figure PO. 48 a mound around $h(1)$ caused $k$ to fail in his attempt to jaws $u$. There is no possibility of a successful Scatter-Peel. Now what? The temptation is to have $k$ hit $u$ or $y$ and hit it hard! But where can $k$ rush $r$ or $y$ to that will make life tougher to $r / y$ ? In answering this question, it is important not to forget that $r / y$ will play their next turn with a lift-to-Boundary! A ball driven out of bounds will give $r / y$ the equivalent of a lift-to-position. And any centered hit will leave $k$ at $h(1)$ ! Better would have be accept the situation and calmly send $k$ toward the peg, Figure PO.49, or perhaps to tempt fate once again and try to jaws $k$ at $h(1)$, Figure PO.50. The latter play could be profitable if $r / y$ are for a hoop other than $h(1)$.

Dealing with rushes that are too short


This panel starts with $u$ having tried to rush Peelee, $k$, to the Peeling-hoop, $h(1)$. But he came up short - getting $k$ directly in front of $\mathrm{h}(1)$ in Figure PO. 51 and just to the side In Figure PO.52. In both cases, $u$ used a pass-roll to reach Figure PO. 53 to move $k$ to the playing side of $h(1)$. He sent $k$ through $h(8)$ from Figure PO.51, and to position from the side from Figure PO.52. These were followed by Scatter-Peel attempts, shown successful, that continued u's break, Figure PO.54. These are fun to try but always risky! Certainly this is a more appealing option when $\mathrm{r} / \mathrm{y}$ is not sharing a hoop with $\mathrm{u} / \mathrm{k}$ (Share-0).

## Peg-Outs

Pegging Out: Once the h(12) hoop has been Peeled, Striker can peg-out any ball for the win. No need to additionally peg-out the Striker-Ball. Note that a "Grievous-Rush" is not to be feared - in fact, it counts and ends the game!

## Let's go to the Videos

Matthew Essick and Steve Morgan played three games of Peels-Only during March 2021 that were recorded and are available. Statistics from these games were compiled are provided in the chart below. Matthew won the $1^{\text {st }}$ game 13 to 2 , Steve won the $2^{\text {nd }} 13$ to 10 and Matthew won the $3^{\text {rd }} 13$ to 1 . The $1^{\text {st }}$ and $3^{\text {rd }}$ games were similar - Matthew had long Peeling breaks, 10 in a row in the $1^{\text {st }}$ game, and 6 in a row in the $3^{\text {rd }}$ (actually, 6 in a row twice!) providing a master class on how to use Pioneer-Balls and Helper-Balls. The $2^{\text {nd }}$ game was much more interactive. Here the maximum number of Peels in a turn was five and there were several turns involving just 1,2, and 3 Peels. Sadly, for Matthew, he hampered himself and was unable to Scatter-Peel at h(11). Steve took over and notched a well-deserved win.

## Game Stats

| Games | 1 | 2 | 3 | total |
| :---: | :---: | :---: | :---: | :---: |
| Score: | 13-2 | 13-10 | 13-1 |  |
| Winner: | Essick | Morgan | Essick |  |
| Point totals: | 15 | 23 | 14 | $52^{154}$ |
| Opening: | near h(1) | near h (1) | made h (1) |  |
| Turns: | 8 | 32 | 8 | 48 |
| Time (mins): | 40 | 126 | 34 | 200 |
| Balls used completing a Peel | 3 | 3 | 2 | 8 |
|  | 2 | 3 | 0 | 5 |
|  | 9 | 16 | 11 | 36 |
| Helper Balls: | 8 | 9 | 12 | 29 |
| Pioneers: | 11 | 20 | 11 | 42 |
| Jawsed Peelees: | 6 | 5 | 3 | 14 |
| Failed Peels: | 4 | 14 | 4 | 22 |
| Runs - (\# hoops: \# times): 1 |  | 2: $6 \quad 4: 1$ | 5:2 2 : 1 | 10: 1 |

[^110]
## "PEELING"

## RULES

This game is our version of the basketball-based game "HORSE". It involves the seven letters "PEELING" but can be shortened to PEELS, PEEL, SxP, TP, etc. It is a good conclusion to any day of croquet, especially with the addition of appropriate libations...

1. All players start with a clean slate - no letters.
2. Players take turns as the "Puzzle-Maker" (the PZM). The PZM is responsible for proposing a puzzle. A puzzle must involve at least one Peel, cannot use more than two hoops, and must satisfy AC Rules.
3. The PZM lays out four ball markers so that the puzzle can easily be replayed by others. Then the PZM attempts the puzzle.
4. If the PZM fails to complete the puzzle, then he gets a letter, and it is the next player's turn to define a new puzzle.
5. If the PZM successfully completes the puzzle, then the other players each take a turn attempting it
a. If all of the other players are successful, then the PZM gets a letter.
b. If one or more of the other players fail, then each player that fails gets a letter.
6. A player accumulating his last letter is out of the game.
7. The game continues until there is only one player left standing.

## NOTES ON "PEELING"

Rule 4 is a problem for the PZM if his puzzle is too difficult, while rule 5 a is a problem for him if the puzzle is too easy. Balancing these two concerns keeps the design of puzzles interesting. Here are some possibilities we thought of:

## Puzzle Examples



Figure PE.1: $r$ plays with a lift-to-position with $u$ in $c 3$. The puzzle is to rush $r$ to $h(1)$ and Peel it - where a Scatter-Peel is allowed.

Figure PE.2: $u$ has just made $h(1)$ and is for $h(2) . k$ is for $h(12)$. The puzzle is to complete a Transit Peel by making $h(2)$, Peeling $k$ at $\mathrm{h}(12) \mathrm{W}-\mathrm{h}(3)$ and escaping to, and making, $\mathrm{h}(3)$.

Figure PE.3A and PE.3B: $u$ and $k$ are both for $h(2)$. $u$ has a Dolly-Rush on $k$. The same ball positions can generate two puzzles: (i) Peel $\mathrm{k}, \mathrm{S}-\mathrm{h}(2)$, or make $\mathrm{h}(2)$ and then Peel $\mathrm{k} \mathrm{A}-\mathrm{h}(2)$. In either case, make $\mathrm{h}(3)$.

Figure PE.4: $u$ and $k$ are for $h(12)$. $u$ has jawsed $k$ attempting to Peel $k, S-h(12)$. The puzzle is to finish.

Figure PE.5: $r$, for $h(7)$, set a sextuple leave for $y$, for $h(1)$. $u$ shot and missed. $y$ will play. The puzzle is to Peel $r$ at $h(7)$ and at $h(8)$ while having y make no more than two hoops, $\mathrm{h}(1)$ and $\mathrm{h}(2)$. Scatter-shot Peels are allowed...


Figure PE.6: u has just made $\mathrm{h}(11)$. Both u and k are for $\mathrm{h}(12)$. The puzzle is to have u play and finish.
Figure PE.7: $u$ is for $h(2), k$ is for $h(11)$. The puzzle uses only three balls and calls for $u$ to make $h(2)$, Peel $k$ at $h(11)$, escape with $y$ to $h(3)$ and make $h(3)$.

Figure PE.8: $u$ has just made $h(2)$ and is for $h(3)$. $u$ has a Dolly-Rush on $k$ to $h(11)$. The puzzle is to Peel $k$, then $r$ at $h(11)$, escape to $h(3)$ with $y$ and make $h(3)$. This is an example of a Linked-Peel that was defined in Chapter 1.

Figure PE.9: This puzzle is drawn from a 4-Turn COAC Finish. Here k ran 9 hoops and set a DSL for u with a rush directed to $\mathrm{h}(1)$. $y$ lifted to B-Baulk, shot, and missed. It is $u$ to play. The puzzle is for $u$ to rush $k$ to $h(1)$, make it, send $k$ to $h(10)$ going to $y$ in $c 4$. Then $u$ roquets $y$ and goes to $r$ (i.e., $u$ maintains CO!). u makes $h(2)$ with $r$, roquets (leaves) $r$ at $h(2)$, goes to $k$, and peels $k$ at $h(10)$.

We are sure you can/will make up better puzzles on your own!

Cheers.


[^0]:    ${ }^{1}$ This statue is on display at the NCC in Palm Beach, Florida. It shows Alice playing Croquet - hitting a hedgehog with a flamingo. The quotation is from Jeanette Winterson, Written on the Body and is thanks to Campbell Morrison who referred it to us from Private Eye, a satirical magazine in Britain.

[^1]:    ${ }^{2}$ Word Version: (21-12-09). We chose "he" as our universal pronoun. Please read in whatever works best for you. We understand that errors may be discovered. Please send suggestions to Howard@Sosin.net.
    ${ }^{3}$ We want to thank the Croquet Foundation of America for supporting the many iterations of "Croquet Innovations" that were trialed and filmed at the NCC.

[^2]:    ${ }^{4}$ Not to worry, there are also games devoted to Triple Peeling in Traditional AC.
    ${ }^{5}$ We have collaborated on two other books: (i) Color Order Association Croquet. Here we analyze in detail a game that makes Traditional AC more challenging by, among other things, forcing the Escape-Ball to follow Peelee in Color Order; and (ii) Variations on Golf Croquet. As you might expect, we present new GCbased games but also variations on how to think about and handicap all such games.

[^3]:    ${ }^{6}$ We have chosen to capitalize the " $P$ " in Peel throughout.

[^4]:    ${ }^{7}$ I (Howard) am grateful for comments on a precursor document to this chapter that I received from David Bent, Jenny Clarke, Bob Kroeger, and lan Plummer.
    ${ }^{8}$ Technically the notation should be $R[h(i)]$, etc.

[^5]:    ${ }^{9}$ This notation may seem cumbersome at first, but it is intentionally precise, and with use, it becomes natural and liberating.

[^6]:    ${ }^{10}$ There are games where the Peel must be done at a particular time but in Traditional AC, Striker can abort a Peel attempt and, if necessary, rush Peelee to the next hoop instead of using the Escape-Ball.
    ${ }^{11}$ These Peels now go by the name "Roll-Peels" instead of "Death-Rolls". While end-of-turn is always a possibility, done thoughtfully Roll-Peels can be easier to execute and are often more effective than using Escape-Balls. Increasingly, better players are using a continuum of positions for the ball they will use to get to position at their next hoop. At one end is an old fashion Escape-Ball, close to the Peeling-Hoop, and at the other is a ball in the perfect pioneer position at their Next-Hoop. In the middle are "remote pioneers" that placed between Escape-Ball position and Pioneer Position. The location can be by intent/necessity. An excellent discussion of remote pioneers can be found in Beyond Expert Croquet Tactics, "The Sextuple Peel", Robert Fulford, starting at page 71.

[^7]:    ${ }^{12}$ One way this can happen is if Oppos take the "short shot" after u runs a first break to h(10) and sets a diagonal spread leave for his Partner k. Another is after a Hogan-Roll if y shoots at $\mathrm{u} / \mathrm{k}$ and misses into c 4 .

[^8]:    ${ }^{13}$ A similar analysis applies the $h(7)$ Peel $W$-h(2) that can be part of a sextuple.
    ${ }^{14}$ In a Straight-Peel, Striker manufactures an adjustment on Peelee, whereas, in a Back-Peel, Striker gives up control of any adjustment on Peelee.

[^9]:    ${ }^{15}$ Jawsing a Peel and then finishing it as a Rush-Peel after the next hoop virtually guarantees that Peelee will make it through the Peeling-Hoop sufficiently far to simplify the follow-on croquet shot. But completing the Peel (not jawsing) can be problematic if Peelee barely squeaks through the Peeling-Hoop, as can happen at $\mathrm{h}(11)$ or $\mathrm{h}(10)$. This identifies the "better" aspect of Rush-Peels.

[^10]:    ${ }^{16}$ This tactic is described by Paddy Chapman, BECT, page 66.
    ${ }^{17}$ It is helpful if Peelee remains in the vicinity of the Peeling-Hoop when the Peel failed. But it is not manditory as there will be time for an adjustment.
    ${ }^{18}$ If $u$ had bounced off of $h(11)$ on the initial attempt and was far from the hoop, then $k$ might not be successful adjusting $u$ to Peel position and may have to wait another hoop or two for the attempt.

[^11]:    ${ }^{19}$ If the Peel had been at $h(3)$ instead of $h(10)$, then it could have been done as a Roll-Peel eliminating the need for an Insurance-Ball.

[^12]:    ${ }^{20}$ We call this an "Either-Or" Peel because the ball used to be $P(6)$ can be sent either back to the Peeling-Hoop, or as an escape from the next Peeling-Hoop. We first came across it in the context of the game Color Order AC where this particular type of L\&H is often used.

[^13]:    ${ }^{21}$ Just as sending an Insurance-Ball can be thought of as starting a new 2 HP cycle in the middle of a previous one, one way to think of HP is that it is 2 HP with a new Peeling cycle started after each hoop rather than after every other hoop.

[^14]:    ${ }^{22}$ Some readers may find the order of the Peels "jarring". Remember there may be tradition, but no pre-ordained order for Peeling.

[^15]:    ${ }^{23}$ This can be accomplished as follows: $k$ makes $h(2)$ with $r$, sends $r$ to $E(4,11)$ as $k$ goes to $u$. $k$ Peels $u$ and then roquets $y$ - which is a long way away, and makes his way to $\mathrm{h}(3)$ with y , which is also problematic.

[^16]:    ${ }^{24}$ While theoretically a reasonable play for the best players in the game, the Authors have not confirmed if Fulford (or anyone else) has attempted or completed this specific play.

[^17]:    ${ }^{25}$ The Appendix compares the Peels Wylie analyzes to those used in these drills. Not shown, a $\mathrm{h}(10)$ Drill is also possible for those interested in Sextuples. It can be structured to allow attempts on the $h(10)$ Peel as early as $W-h(2)$ and as late as running a straight quad.

[^18]:    ${ }^{26}$ The drills do not distinguish between situations when pegging-out only one ball is logical and when it is not.
    ${ }^{27}$ It is sometimes possible to execute a Peel posthumously but convert it into a successful Straight-Peel. For instance, if Peelee sticks in $\mathrm{h}(12)$ and Striker jumps and makes the hoop, but fails to drag Peelee with him, it may be possible to use Opponent balls to bombard Peelee through, with Striker gaining a rush Peelee to the peg and then finishing. This is discussed by Paddy Chapman, BECT, page 66.

[^19]:    ${ }^{28}$ The blocks are returned to the bag after all have been drawn. Then, they are mixed and used again.
    ${ }^{29}$ An alternative is to use the second block without adjustment producing distances between 1 to 12 feet. This procedure was rejected because it can put Peelee at a distance from the hoop where, in real play, it may be logical simply to skip the Peel attempt - a rational action but not one that is commensurate with the goals of these drills.

[^20]:    ${ }^{30} y$ sends $u$ to $h(7)$ while going to $k$ and $r$ (in whichever order is most convenient). $r$ is put in Peel position, $k$ in Escape-Ball position and $y$ in position to make $h(6)$. $y$ makes $h(6)$. Next, $y$ roquets $r$ and then Peels $r$ hard, such that $r$ ends near $h(12)$ and $y$ has a rush on $k$ to the north.

[^21]:    ${ }^{31}$ It is possible to start by giving y a dolly rush on $r$ from $h(2)$ to $h(3)$, allowing practice of this important shot.
    ${ }^{32} y$ croquets $r$ to Peel position at $h(10)$ while going to $u$ at $h(3)$. y makes $h(3)$ with $u$ and then $y$ roquets $r$. $y$ Peels $r$ at $h(10)$ and escapes with $u$.

[^22]:    ${ }^{35}$ Yes, that is minus (-) 6 . In fairness to Charlie, this was his first exposure to my games, while Sherif has helped me many times before.
    ${ }^{36}$ The rules for these drills as games aren't perfect! Both players took single point peg-outs that, most likely, they would not have taken in real play. And we found a way to "game the game", redoing rushes in Straight-Peels to allow another attempt for one point rather than giving up on the Straight ... Clever, technically allowed, but not realistic.

[^23]:    ${ }^{37}$ A Note on Similar Games: Triple or Bust is similar to the Australian game "Easy 9 " (other games like it exist elsewhere). Here Partner's clip goes to $\mathrm{h}(10$ ) as soon as Striker makes $\mathrm{h}(1)$. The rules of "Easy 9 " do not have a restriction on the first 3 turns of the game (which brings the 3 -ball Triple into play!), and only includes the regular lift hoops from AC. If a player completes their TP, then in the next game their Partner clip can be moved back one hoop to $\mathrm{h}(9)$ for an attempted Quad (and so on) for an extra challenge.

[^24]:    ${ }^{38}$ Pocketing Partner Clip at the start of a turn is new - in the videos it was placed on $h(10)$ before play of a turn started.

[^25]:    ${ }^{39}$ Summing the hoop numbers of the SCs (peg assigned a value of 7) and then subtracting one, identifies the Current-Hoop.
    ${ }^{40}$ Deadness does not carry over to the next turn as it does in A6W.

[^26]:    ${ }^{41}$ The lift option is reinstated if the Next Striker is wired from all other balls by the actions of the previous team and the previous team is responsible for the Next Striker ball's position.
    ${ }^{42}$ After a hoop is made two clips are moved, the CHC, and the SC. A Peel moves the same two clips and a $3^{\text {rd }}$, the PLC.

[^27]:    ${ }^{43}$ Spent and Danger are names for Oppo-Balls from A6W. Spent has just played before Striker. Danger plays after Striker.

[^28]:    ${ }^{44}$ A ball left on an OS is marked-in 1 yard at the end of the turn that put it there. The next Striker can re-mark it to 4-yards during his turn.

[^29]:    ${ }^{45}$ An opening when there is a PR is discussed later.
    ${ }^{46}$ Remarking in 4 yards is an option and not a requirement and can be done at any time during a turn, but not after a turn has ended.

[^30]:    ${ }^{47}$ Of course, there can be perceived benefits to setting an otherwise unwise tice ...
    ${ }^{48}$ Suppose the tice is indeed $50 / 50$ and, given the positions of the balls on the lawn, $k$ is more likely to make $h(1)$ by hitting $u$ than by hitting $r$. Here $k$ shooting at $u$ gives $k$ the upper hand: If $k$ misses $u$, then $u / k$ are still $50 \%$ likely to win the opening (i.e., $y$ misses and $u$ is close to $k$ for an easy start). By shooting at $u$ on turn three, $k$ gets an extra chance of making $h(1)$, that may, at the distances shown, have a $30 \%$ chance of success. Note that the analysis could change if $k$ shooting at $u$ and missing gives $y$ a double-target that is easier than $50 / 50$ to hit.

[^31]:    ${ }^{49}$ Here $r$ has played the 50/50 game to his advantage. Given that a lawn has borders, it is inevitable that eventually one team or the other will get a slight edge and gain the innings.

[^32]:    ${ }^{50}$ For example, $u$ as Striker starts his turn in position at $h(3)$ with $r, y$, and $k$ as Reception-Balls at $h(4), h(6)$ and $h(8)$ respectively. Then $r$ makes $h(3)$ and $h(4)$ in one shot, uses $r$ to gain position at $h(5)$, makes $h(5)$ and $h(6)$ in one shot, uses y to gain position at $h(7)$, makes $h(7)$ and $h(8)$ in one shot, rushes $k$ to the peg and pegs-out.
    ${ }^{51}$ One important thing to note is that, in making $h(1)$, Striker did not croquet $y$ to the standard Reception-Ball position on the non-playing side of $h(1)$. Instead, y was left on the playing side, further from the WOS. Not creating/having traditional Reception-Balls takes some getting used to, but it is important because it keeps balls away from the OS's.

[^33]:    ${ }^{52}$ Here is another good (but slightly more difficult) play starting from Figure 00-24: $k$ roquets $y$, takes-off to $r$, rushes/rolls with $r$ to $u$ (the difficult shot), makes $h(2)$ with $u$, and proceeds to $h(3)$ - scoring and setting the Basic Leave.
    ${ }^{53}$ The Super Advanced version of the game, which limits mark-in to one yard instead of four, may create instances where finessing has value.

[^34]:    ${ }^{54}$ We say this in spite of the fact that, when asked at the start of this final game, Steve said he would not be changing his strategy!

[^35]:    ${ }^{55}$ In lieu of a single ball shot, $k$ can take croquet from anywhere around $r$ if $r$ ends its turn on the 4 -yard line. Similarly, $y$ can take croquet from $r$ or $k$ if either of them end on the 4 -yard line. But in no case is there a continuation shot.

[^36]:    ${ }^{56}$ Peeling Oppo at the Peeling-Hoop (or elsewhere) is possible but is of no consequence in this game.

[^37]:    ${ }^{57} \mathrm{~h}(4)$ is an outward hoop and requires Escape-Balls for the transits. Identifying $\mathrm{h}(4)$ as the primary hoop makes $\mathrm{h}(9)$ (the same physical hoop but an inward hoop instead of an outward hoop) the secondary hoop. If the PH were h(9) instead of $h(4)$, then the Peels going to $h(1)$ or $h(2)$ discussed in the text would still be Transit-Peels but could be accomplished using Roll-Peels in lieu of Escape-Balls.

[^38]:    ${ }^{58}$ Now consider the Pair (1,2). Here the $\mathrm{SH}=\mathrm{h}(1)$ is an inward hoop. After a successful Straight-Peel at $\mathrm{h}(1)$, it is possible that Striker gains a rush on his Partner (the Peelee) to $\mathrm{NH}=\mathrm{h}(2)$, further simplifying the turn!
    ${ }^{59}$ It would be smart to send a second ball to $h(2)$ as a Helper-Ball, just in case....

[^39]:    ${ }^{60}$ Sadly, $\mathrm{h}(11)$ was an internal hoop, or it would have been the perfect choice - providing a pioneer at the $\mathrm{SH}, \mathrm{h}(6)$.

[^40]:    ${ }^{61} \mathrm{k}$ might have attempted to put itself in the jaws of the Peeling-Hoop. If successful, then y should shoot at k , hoping to knock it through (Peel it). Since Opening Turn Peels do not score points for either team, a successful Peel by $y$ on $k$ at the Peeling-Hoop would prevent $u$ from completing a simple Rush-Peel of the jawsed $k$. The difficulty with this strategy for team $u / k$ is that if $k$ fails to go into the jaws, then it will most likely bounce off the Peeling-Hoop and not be in Rush-Peel position. But if $k$ does jaws, and $y$ does not dislodge, then $u$ has an easy Rush-Peel.

[^41]:    ${ }^{62}$ For some unknown reason both games started with the initial $\mathrm{SH}=\mathrm{h}(6)$ but then they took different paths.
    ${ }^{63}$ There is usually more than one reasonable way to play a turn. As a teaching/learning matter, we would encourage you to consider where you would have placed Striker and how you would have played the turn, perhaps using a magnet board.

[^42]:    ${ }^{64}$ During a tie-breaker, pairs of turns are run, until, at the end of a pair, one team is ahead and is declared the victor.
    ${ }^{65}$ Sherif also could have exploited the 4 -yard rule by moving all the balls in 4 yards, taking a 1 inch rush on Partner from near C2 to the south boundary, lining back in for a 3 yard straight position at $h(9)$. Then he could have attempted to go PHH by Peeling partner going to north of $u$, then either rush that towards $k$ or $h(6)$.

[^43]:    ${ }^{66}$ Again, a good opportunity to exploit the guaranteed 3-yard Peel - just smack the dolly rush off the lawn so it won't hill off!

[^44]:    ${ }^{67}$ I want to thank Russ Dilley for coining the term, "Bonus-Event" and for editing the video of Jeff Soo playing five Collect the Clips puzzles.
    ${ }^{68}$ The first 9 use the 3 non-Striker-Balls: each is Rush-Peeled, croquet-Peeled and hits the peg in the croquet shot. The $10^{\text {th }}$ is pegging out Striker: Suppose $k$ finishes his turn south of $h(6)$ with both $r$ and $y$ close by, and $u$ just north of $h(12)$. Theoretically $k$ can rush Peel each ball, follow with a reversing croquet Peel that results in the ball hitting the peg ( $k$ does this first on $r$ or $y$, goes to $u$, does it with $y$, returns to the unused ball, does it again and then pegs-out.

[^45]:    ${ }^{69}$ Remember, no points are earned unless all four clips are collected.

[^46]:    ${ }^{70}$ The odd-numbered corner hoops [h(1), $h(3), h(7)$ and H9)] are essentially inward and the even-numbered hoops $[h(2), h(4), h(8)$, and $h(10)]$ are essentially outward. The middle hoops can go both ways - being inward to some hoops and outward to others - e.g., $h(11)$ is inward to $h(6)$ as well as the pairs $[h(1)$, $h(8)],[h(5), h(12)]$, and $[h(4), h(7)]$, but essentially outward toward $[h(2), h) 7)]$ and $[h(3), h(10)]$.

    It is possible to Roll-Peel from an outward hoop to some locations on the lawn. For instance, Peeling a ball at $h(2)$ while going to a ball at [ $h(3)$ or $h(10)$ ], etc. Deciding what is "inward enough" involves risk/reward choices that are key to this game.

[^47]:    ${ }^{71}$ Note that if Striker chooses, to use h(1), his only inward hoop, as a Striker-Hoop (SH), then, the available patterns revert to ones that begin with a hoop.

[^48]:    72 Although an Escape-Ball is not needed at an inward hoop, if it is decided to pre-send a ball to be Peeled to an inward hoop, then sending an Escape-Ball along with it can be advantageous - having two balls at the Peeling-Hoop means that one can be used to facilitate the positioning of the other to make the Peel, or, if it is not needed to facilitate the Peel, then the $2^{\text {nd }}$ ball can be used after the Peel to limit the difficulty of the Roll-Peel back to the break. This can happen if Striker has early Peeling possibilities but chooses to ignore them while setting up for a more conservative collection of the clips.

[^49]:    ${ }^{73}$ This table ignores the possibility of Peeling the third ball of the turn while taking position at hoop for striker. For example, Striker could have two Peel attempts fail before approaching their hoop off the third ball. The third ball may be for the same physical hoop in the other direction. Striker could Peel the $3^{\text {rd }}$ ball while going to hoop running position and then run the hoop through to one of the other balls. That would theoretically allow 3 attempts at Peeling before h1...? Theoretically possible, if impractical.
    ${ }^{74} \mathrm{~A} / \mathrm{M}=$ Attempts/Must makes. Recep $=$ Rush Reception-Ball and Peel. Scatter $=$ Scatter-Peel

[^50]:    ${ }^{75}$ This sounds wonderful, but it turns out to be an option with relatively small benefit. Experience suggests that, unless it happens to fall into place, PPHH is probably not the best initial pattern to pursue.

[^51]:    ${ }^{76}$ But there may be times late in a game when collecting the two Basic-Points is good enough to win the game or puts tremendous pressure on Oppo. In this case, starting with HPHP may be advantageous.

[^52]:    ${ }^{77}$ There also exists the other valid option of taking the lift to position at $y$, rushing it to $h(4)$ as a really good escape ball and taking off back to $k$, croqueting $k$ to $h(4)$ going to $r$. This prioritizes the Escape-Ball position over the Peelee position, which we recommended in previous chapters.

[^53]:    ${ }^{78}$ It may be possible and better (!) to rush $y$ to $h(8)$, perhaps making it easier to gain a final rush on $r$.

[^54]:    ${ }^{79}$ If $r$ was well positioned at $h(8)$ then $u$ could try to rush $k$ to Peeling position at $h(8)$, Peel it and then rush $r$ to the peg and take two Bonus-Points.

[^55]:    ${ }^{80}$ If the Peel is made, then the order does not matter. The clip for the inward hoop will be collected (the TAP will disappear). Striker will have a $2^{\text {nd }}$ TAP (either because he established early or because he creates it after the Peel). Striker can go off and complete the rest of the pattern, the HPH.
    ${ }^{81}$ This is true if Striker establishes a $2^{\text {nd }}$ TAP before attempting the Peel - after a failed Peel Striker will use the $3^{\text {rd }}$ ball to make a hoop, thus abandoning PHPH. But this is also true if the Peel is attempted with the $1^{\text {st }}$ ball and fails. Yes, a $2^{\text {nd }}$ ball could be sent to the single TAP and another Peel attempt made (and perhaps succeed), but it would be a futile effort. This is because the $3^{\text {rd }}$ ball must be used to make the $1^{\text {st }} \mathrm{SH}$ and therefore a $2^{\text {nd }}$ TAP cannot be created before making the $1^{\text {st }}$ SH and PHPH will no longer be possible!

[^56]:    ${ }^{82}$ Sending the Reception-Ball as specified in (d.) leaves a second ball at the $2^{\text {nd }}$ PH. If the Peel fails, then this second ball can facilitate a subsequent Peel attempt at the $2^{\text {nd }}$ PH. This arises if the $1^{\text {st }}$ Peel attempt fails, and Striker is forced to transition from PHPH to PHHP - that is, Striker comes back to the $2^{\text {nd }}$ PH for the final Peel after making the $2^{\text {nd }} S H$.

    Note that in (d.) the Reception-Ball at the $1^{\text {st }}$ SH is used to gain access to the ball that is sitting at the $1^{\text {st }}$ PH and that ball is rushed and Peeled at the $2^{\text {nd }}$ PH. Hence the same ball is Peeled at the $1^{\text {st }}$ and $2^{\text {nd }}$ PHs! Alternatively, and usually less satisfactorily, the Reception-Ball from the $1^{\text {st }}$ SH can be rushed from the $1^{\text {st }}$ SH and Peeled at the $2^{\text {nd }}$ PH. This requires a rush on the Reception-Ball which may not be forthcoming after the $1^{\text {st }}$ SH is made.

[^57]:    ${ }^{83}$ See Appendix 1 for details.

[^58]:    ${ }^{84}$ An added benefit to a Single-Double, one that was not used in this example, but is discussed in Example 4 in the HHPP section, is the possibility of making the hoop with one leg of it, say $h(8)$ and then immediately Peeling at the other, in this case $h(1)$ - as a Back-Peel.

[^59]:    ${ }^{85}$ Balls left near hoops can facilitate play during the next turn if those hoops happen to become Chosen-Hoops, or if the position of the balls are useful as Escape-Balls. Here y was Peeled through h(10) and left in position at $h(3)$, which, by chance, became one of the new Chosen-Hoops. This suggests that keeping a mental note on which hoops have yet to be chosen may be beneficial, and ceteris paribus, Striker ending his turn should avoid leaving balls near them.
    ${ }^{86}$ Others are possible: starting with an initial Peel of $u$ or $k$ at $h(6)$ or even $h(11)$, or even (albeit more difficult) with an initial Peel at $h(7)$.

[^60]:    ${ }^{87}$ It is perhaps an understatement to say that there is only one possible Bonus-Event. Striker hasn't used the $1^{\text {st }} \mathrm{PH}$ ball again since it made the $1^{\text {st }} \mathrm{SH}$, so could complete the $3^{\text {rd }} \mathrm{PH}$ going to the $1^{\text {st }} \mathrm{PH}$ ball and then Peel it somewhere or peg it out too.

[^61]:    ${ }^{88}$ The order of execution is important. The Rush-Peel needs to be the last Peel, allowing Striker to use a croquet shot to gain position at the hoop, $\mathrm{h}(10)$. If the Rush-Peel occurs earlier, then a Peel-and-hold would be required.

[^62]:    ${ }^{89}$ Here is a possible modification to Jeff's attempted line of play, We have him he send $y$ to $h(11)$ when going to $u$ before making h3). That way he can roll-Peel $y$ through $h(11)$ going to $k$ at $h(4)$. Here it is in full: Lift $r$ to $k$, rush $k$ closer to $y$. Send $k$ to $h(4)$ [perhaps have a speculative attempt at jawsing it in $h(9)$ !] while gaining a rush on $y$ south-east of $u$. Send $y$ to $h(11)$ while gaining a rush on $u$ to $h(3)$. Make $h(3)$, " $H$ ", croquet $u$ to Escape-Ball position north of $h(4)$ while going to $y$, Peel y thru $h(11)$ going to $k$ at $h(4)$, " $P$ ". Make $h(4)$ with $k$, " $H$ ", and Back-Peel it at $h(9)$, " $P$ ". Try and ensure that Striker gains a rush on the EscapeBall back to in front of $\mathrm{h}(9)$ so he can bombard a jawsed-Peel through while going to y . If the initial Back-Peel attempt had succeeded, you could get a bonus Peel on $u$ going to $y$. Then peg out $r$ and $y$ for 5 bonus points.

[^63]:    ${ }^{90}$ Perhaps a more logical name for these Peels would be Team-Peels, TP's, but TP was taken!
    ${ }^{91}$ Giving each team a DPT ensures that the initial turns by each team can include a Reverse, as defined below.

[^64]:    ${ }^{92}$. For example, if $u / k$ 's clip is on $h(3)$, $u$ is Striker, and $u$ Peels $k$ at $h(3)$, then the $u / k$ Team-Clip is immediately advanced to $h(4)$ and $u$ will need to make $h(4)$ with whatever remaining balls he has access to in order to clear deadness and continue his break.

[^65]:    93 The 12 DPT Hoops and their Reversal Hoops are: $(1,8),(2,7),(3,10),(4,9)(5,12),(6,11),(7,2),(8,1),(9,4),(10,3),(11,6)$, and $(12,5)$. A team that reverses one of its own DPTs suffers the consequences.
    ${ }^{94}$ The 3 Reversal Limit makes it so that the bag of 12 blocks never needs to be refilled. That is, each team starts with one DPT. It and two other can be Reversed and then the team still needs 3 more to win. If both teams use their full complement of Reversal and accumulate 3 net DPTs, then all 12 blocks will be used.
    ${ }^{95}$ A Leep does not take place at the physical hoop holding a Team-Clip but at its previous physical hoop. Thus, Leeping a ball when its Team-Clip is on $\mathrm{h}(5)$ is achieved by Peeling it backward through h(4), namely through h(9). The "Leepee" can only be an Oppo-Ball. Here is a list of starting clip positions, Leep-Hoops, and resulting clip positions after a successful Leep: (1,not possible), ( $2,8,1$ ), ( $3,7,2$ ), ( $4,10,3$ ) ( $5,9,4$ ), ( $6,12,5$ ), ( $7,11,6$ ), ( $8,2,7$ ), ( $9,1,8$ ), ( $10,4,9$ ), ( $11,3,10$ ), (12,6,11), (Peg,5,12).

[^66]:    ${ }^{96}$ Note that monitoring the game this way forces both sides to see a DPT and convert it into the needed reversing Peel.

[^67]:    97 Simon Williams deserves credit for adding "Team Peels" to an AC game. In his version, each team has an extra team-clip that starts on $\mathrm{h}(10)$ and can only be advanced by Peels on Partner. This clip can be moved at any time during a turn and needs to be on the peg before a game can be won. While giving Simon appropriate credit, I (Howard) alone accept responsibility for this game. In fact, upon receiving an earlier version, Simon wrote: "What a fiend you are for complications!", and worried that they "will prolong a game that may already be too long". It is my hope that, with play, Simon (and others) will agree that Peel and Reverse has been structured such that the intrigue it creates justifies the time and effort involved.

[^68]:    ${ }^{98}$ While generally not strategically desirable, we have identified two instances where this can be beneficial:

[^69]:    ${ }^{99}$ Another game, Peel and Peg, not presented in this collection, tries to capture the drama of Quick Peels. As in Peel and Reverse, all turns in Peel and Peg start with a lift-to contact and are limited to breaks of no more than 4 hoops. Additionally, each turn starts with 4 randomly drawn Peeling possibilities, that are augmented as Peels are completed. Players alternate turns attempting to accumulate 17 points where points earned are a function of how many Peels are completed in a turn - 1 point for 1 Peel, 2 for 2 Peels, 4 points for 3 Peels, 8 points for 4 Peels, and an automatic win for 5 Peels. However, there is a caveat Striker must peg-out Striker and another ball at the end of his turn, or none of the Peels give rise to points! Peel and Peg was played in 2019 during CIT I, an interesting sample game is the one between Sherif Abdelwahab and Danny Johnston that is in the video collection. Sherif won with turns of $3,4,3$, and 1 Peels.
    ${ }^{100}$ A final Scatter-Shot can ameliorate this situation...

[^70]:    ${ }^{101}$ As a purely theoretical matter, it is possible to advance a team-clip 10 hoops, with Striker making only four! Suppose $u$ starts jawsed in h(3), which is also $u / k$ 's starting hoop. However unlikely(!), it is possible for Striker (k) to Rush-Peel $u$ at $h(3)$ and then immediately croquet-Peel $u$ at $h(4)$ while $k$ escapes to $h(5)$ with Oppo. $k$ makes $h(5)$ - his $1^{\text {st }}$ Striker hoop. Then $u$ is jawsed in $h(7)$ as $k$ goes to $h(6)$. $k$ makes $h(6)$ - his $2^{\text {nd }}$ hoop - and goes to $u$. $u$ is Rush-Peeled at $h(7)$ and then croquet Peeled at $h(8)$ while $k$ escapes to $h(9)$. $k$ makes $h(9)$ - his $3^{\text {rd }}$ hoop. Then $u$ is jawsed in $h(11)$ as $k$ goes to $h(10)$. $k$ makes $h(10)-h i s 4^{\text {th }}$ hoop and goes to $u$. $u$ is Rush-Peeled at $h(11)$ and then croquet Peeled at $h(12)$. This is where $k$ 's turn would be forced to stop - having moved the $u / k$ clip 10 hoops but not having a hoop left out of the allotted four to facilitate the two required peg-outs. For those who care about such things, if u starts jawsed in $\mathrm{h}(5)$ when $\mathrm{u} / \mathrm{k}$ is for $\mathrm{h}(5)$, then $\mathrm{u} / \mathrm{k}$ can progress to the peg and peg-out for the win, with only 4 Progress Peels needed!

[^71]:    102 On a more aggressive turn, $r / y$ could have tried to Reverse two of $u / k$ 's PTs at $h(6)$ before $h(2)$ and Straight-Peel at $h(3)$.

[^72]:    ${ }^{103} \mathrm{k}$ was too far from the hoop for a Rush-Peel, and nothing would have been gained by doing it that way!

[^73]:    ${ }^{104}$ On their first turn both $u / k$ and $r / y$ Progress-Peeled their clip to $h(6)$. Then each made four hoops on their next turn to reach $h(10)$.

[^74]:    ${ }^{105}$ This discussion presumes that $u / k$ did not engage in a Leep on $r / y$ to return it to $h(4)$ nor did $u / k$ engage in a Progress-Peel to advance the $u / k$ Team-Clip.
    ${ }^{106}$ Obviously, focusing on Progress-Peels limits the amount of time a team can devote to CPTs and Reversals.

[^75]:    ${ }^{107}$ The game was structured such that all hoops can be possible Peeling hoops, but none will ever be used twice. To see this, consider a situation where both teams accumulate 3 DPTs, using 6 of the hoops. then both teams use all three of their Reversals to entirely eliminate the six DPTs. Each team can then "reaccumulate" 3 DPTs emptying the bag of 12, but, without remaining Reversals, no additional Peeling Hoops are required to finish the game, just a peg-out.
    ${ }^{108}$ I removed blue Reversals when they should have been red but maintained the correct count. I caught this error toward the end of the video.
    ${ }^{109}$ Two available balls for Reversals makes them easier to complete than CPTs.

[^76]:    ${ }^{110}$ Had Steve failed at $h(8)$, then $k$ would have been left inches north of $h(6)$, easy prey for a rush-Peel Reversal! Moving balls away from their position after successful CPTs is always a good idea.
    ${ }^{111}$ Home-Bases are intentionally neutral and available positions.

[^77]:    ${ }^{112}$ Please notice that Matthew followed established protocol (from the game of Peel Croquet) and moved Steve's Team-Clip back from $h(9)$ to $h(8)$ immediately after completing the Leep and moved his own immediately after completing the Progress-Peel.
    ${ }^{113}$ It is important to remember that a team cannot get to a new CPT without completing its current one. Not to give away the story, but Matthew continued to try and fail at $h(5)$ for the rest of the game.

[^78]:    ${ }^{114}$ Not upper most on Stephen's mind at the time, but u's position was also Pioneer at $h(9)$ for both Stephen and Matthew if Stephen failed at $h(8)$.

[^79]:    ${ }^{115}$ It is always easy for those watching to "know what to do". That said, Matthew's commentary and analysis of Stephen's turn is well done and educational!
    ${ }^{116}$ Matthew took an unusual approach to this attempt - as a bombard peel. I did not understand it then and do not understand it now. From where I sat,
    Matthew could have taken off from $u$ to $r$, rushed $r$ to $h(5)$, peeled and gone to $k$... If the later discussion in the video seems confused, it is because I was!

[^80]:    ${ }^{117}$ For handicap purposes, this requirement can be extended to 3 or even 4 hoops.
    ${ }^{118}$ If Striker and his Partner are both for the peg, then pegging-out Partner is deemed to be a Peel.
    ${ }^{119}$ Here is a list of starting clip positions, Leep-Hoops, and result clip positions after a successful Leep:
    (1,not possible), ( $2,8,1$ ), ( $3,7,2$ ), $(4,10,3)(5,9,4),(6,12,5),(7,11,6),(8,2,7),(9,1,8),(10,4,9),(11,3,10),(12,6,11),(\operatorname{Peg}, 5,12)$.

[^81]:    ${ }^{120}$ If a roquet is not made with the first stroke after a lift-to-position, then the turn ends, and any point scored in the stroke does not count.

[^82]:    ${ }^{121}$ There can be a "PC Triple" - it starts with Striker for $h(7)$ and is equivalent to the final three Peels shown above in the Sextuple. We have not heard of a Sextuple being completed in PC, but hopefully it is only a matter of time.

[^83]:    ${ }^{122}$ Starting in the traditional manner, with all clips for $h(1)$, rules out initial Leeps for all teams as there is no logical way to move an $h(1)$ clip backwards. It also does not create variety in initial Peeling or Leeping-Hoops.

[^84]:    ${ }^{123}$ Throughout Chapter I we were indifferent between u and k and had u run the first break and k the Peeling turn. But here starting with k matters because k 's starting clip position is $h(5)$ while $u$ 's is $h(2)$.

[^85]:    ${ }^{124}$ There was confusion in the game between Burch and Chapman. A Reversal occurred but was not recorded.

[^86]:    ${ }^{125}$ The most consecutive Peels on Partner I have seen involved my (Howard) own game with Stephen Mulliner. I was playing $u / k$ as an $X=3$. Stephen played $r / y$ as an $X=2$. During some initial play, Stephen advanced $y$ from $h(4)$ to $h(8)$. Then I played, but jawsed $h(2)$ with $u$. Stephen came on the lawn with $r$ for $h(3)$ and $y$ for $h(8)$. He played $r$ with a lift-to-position, Rush-Peeled $u$ at $h(2)$ and then ran the 5 final Peels on $y$ in the Sextuple format as outlined above.

[^87]:    ${ }^{126}$ The extended baulk lines make hit-ins easier, but still not easy.

[^88]:    ${ }^{127}$ Paddy Chapman writes: "My own opinion on this is that l'd personally slightly rather have clips of $h(2) \& h(5)$ than $h(3) \& h(4)$, simply because it's a 2-hoop break to get a ball to $h(7)$ and a potential (difficult!) finish. But the videos are 3-1 in favour of red and yellow."
    ${ }^{128}$ Please note that only the standard clips are shown. It is up to the player to imagine the others.
    ${ }^{129}$ Sending y to $h(6)$ may be easier, but that would set up for Peels/Leeps at $h(7) / h(2)$ which would be difficult to complete with $k$ for $h(7)$.

[^89]:    ${ }^{130}$ Another possibility is to place k in c3 ...

[^90]:    ${ }^{131}$ I want to thank David Bent for helpful comments and suggestions on initial versions of this game.

[^91]:    ${ }^{132}$ The discussion herein will focus on the Standard version of AC-3BO.
    ${ }^{133}$ Cannons generated after marking in balls 4-yards must be played from the 4-yard line.

[^92]:    ${ }^{134}$ In a T-AC, the 1-yard line is imaginary. The 4-yard line of an AC-3BO game can also be imaginary. However, it is useful to have it drawn with chalk or string, or to have 2 markers at each corner - designating 4-yard points.

[^93]:    ${ }^{135} 10$ yards is applicable for Standard Play. Note that the GCDA virtually disappears when the CD $=13.5$ yards. Here going first would always be an advantage because no matter where the $2^{\text {nd }}$ ball goes, the $3^{\text {rd }}$ ball will have greater than a $50 / 50$ chance of hitting. Thus, the team going first would always choose to become the $2 B T$. If the $C D$ is less than 6.75 yards it will once again be advantageous to go first and to play to a position is level with the peg. Now the $2^{\text {nd }}$ ball cannot create a $50 / 50$ tice. With advanced players, removing the 4 -yard mark-in and baulk lines will keep the game challenging.

[^94]:    ${ }^{136}$ Remember, an optional lift-to-baulk is granted to the $1 B T(r)$ by Rule 5 . That is, by missing, $u / k$ (as the $2 B T$ ) would not have made a hoop on their last turn, which, in this case, is also their first turn as the 2BT.

[^95]:    ${ }^{137}$ Suppose the second ball (r) runs a 2-ball break, makes $h(8)$, the Trigger-Hoop, and stops. $u / k$ will still have the choice of playing $k$ or forcing $y$ to $p l a y$. If $u / k$ designate $r / y$ as the 2BT by keeping $k$ out and forcing y into the game, then, in the Standard Version of AC-3BO, y could finish in a single turn that would involve a quadruple Peel using just three balls!

    One interesting possibility is for $r$ to make the Trigger-Hoop and then set up a leave like the one shown in Figure 3BO-5. Normally $k$ would take the free shot at $u$, and $u / k$ would become the $2 B T$. But $u / k$ may decide that they do not want $r / y$ to be the 1 BT and be able to immediately to bring in the BKO to attempt the 4 -ball quad. This may motivate $u / k$ to become the $1 B T$ instead.

[^96]:    ${ }^{138}$ Cannons generated on the 4 -yard line can be played from the 1 - or 4 -yard lines.

[^97]:    ${ }^{139} \mathrm{u} / \mathrm{k}$ can also bring in k at this time. This is discussed below and shown to be premature.

[^98]:    ${ }^{140}$ Progressing Both Balls to $h(11)$ without Triggering the Possible Entry of the BKO: Getting both balls of the 2BT through the Trigger-Hoop with Peels is also doable. However, adopting this strategy complicates the 2BT's efforts to complete a Double-Peel and finish because $r$ and $y$ will start the Peeling process with both balls for $h(9)$, which leaves very few hoops within which to accomplish the Peels and finish.
    ${ }^{141} r$ can be more adventuresome, The first opportunity to Peel $y$ at $h(11)$ depends upon the action of $u$. If $u$ shoots at $r / y$ but misses, then $r$ can send $u$ to $h(11)$ as the escape to $h(2)$ while getting a rush on $y$ to $h(1)$. After making $h(1)$, $r$ rushes $y$ to $h(11)$, attempts the Peel, and escapes to $h(2)$ with $u$. $r$ makes $h(2)$ with $u$ and then considers its options. If the Peel at $h(11)$ fails or was not tried, then it can be tried over (and over!) again by sending $u$ back to $h(11)$ as the Escape-Ball to $h(3), h(4), h(5), h(7), h(8), h(9)$ and $h(10)$, and the Peel re-tried after $r$ makes $h(2), h(3), h(4), h(6), h(7), h(8)$ and $h(9)$. After making $h(10)$ the $h(11) P e e l$ can be tried yet again, this time as a Straight-Peel. If the Peel at $h(11)$ succeeds, then $u$ can be sent to $h(12)$ [as an Escape-Ball], the next hoop, whichever one it is, can be made by $r$ with $y$, and then $r$ can rush $y$ to $h(12)$ and attempt that Peel. The earliest this Peel could be completed would be $W$ - $h(4)$; the latest is as a Straight-Peel at $h(12)$.

[^99]:    142 If $k$ cannot enter the game (because $r$ and $y$ both passed through the Trigger-Hoop with Peels) then pegging out is not a good idea. Better to give $u$ a lift-toposition and force him to run the Trigger-Hoop for himself and see what happens thereafter!

[^100]:    ${ }^{143}$ I was surprised when Matthew sent his Escape-Ball to $h(10)$ to the west of $h(11)$ rather than to the east. He explained in a post-play conversation on the video that he did this intentionally to have a wider pass-roll shot from near $h(4)$ !

[^101]:    ${ }^{144} \mathrm{k}$ could have pegged-out leaving two balls on the lawn with y able to come in (via rule 4) with a lift to contact, even if the Trigger-Hoop had not been made.

[^102]:    ${ }^{145}$ While not a frequent occurrence, in AC Striker can score the Current-Hoop as part of the croquet shot, which is then followed by a single continuation shot.
    ${ }^{146}$ In PO Striker can complete a Scatter-Peel, which also causes Striker to go out of bounds. Striker's turn continues, but he is not ball-in-hand. This is the PO equivalent of scoring a hoop in AC and having Striker go out of bounds in the process.

[^103]:    ${ }^{147}$ The choice of $u$ here is arbitrary. As in AC, each turn by each team can played with either ball. In this example we ignore the Bamford Opening.

[^104]:    ${ }^{148}$ Consider the ball we roquet after completing a Peel. In AC this is fondly known as an Escape-Ball. We could have adopted that terminology here for PO, but we chose a fresh name to "help" highlight the function of this ball.

[^105]:    ${ }^{149}$ In game 2, Stephen Morgan faced this choice twice. The $1^{\text {st }}$ time he tried for two bites, and failed, the $2^{\text {nd }}$ time he focused on the last ball and succeeded.

[^106]:    ${ }^{150}$ Steve Morgan did this successfully from the east boundary at the start of the first videoed game.

[^107]:    ${ }^{151}$ So much so that a game may seem to stall at the very beginning!

[^108]:    ${ }^{152} \mathrm{r} / \mathrm{y}$ could be for $\mathrm{h}(8)$ in which case the physical hoop that is shared is the Current-Hoop for both teams.

[^109]:    ${ }^{153}$ In this example, $r$ could hit the 4-yarder at $u$ and still incorporate $y$ into the break before going to $k$. Or hit the 5 yarder at $y$ and send it to $h(3)$, going to $u$, then $k$. u might consider different leaves, for example: (i) it may be off just leaving $r$ where it is 3.5 yards from c1 and taking take off to $h(4)$, and trying to nestle $u$ onto the wire, or perhaps a spot south-east of $h(4)$, so u cannot be rushed anywhere useful. r/y won't have any dolly rush and will have a hard job getting really tight control approaching $k$. Or, (ii) if $u / k$ wanted to try harder to and tempt r/y into the initial line of play highlighted (i.e., ignoring y) then do Figure PO. 36 but with the $r$ and $u$ pointing the other way around. So still a 3-4 yarder for $r$, but in the direction of $k$, which makes it harder for it to incorporate y into the break before going to k .

[^110]:    ${ }^{154}$ Of the 52,49 were Peels, and 3 were peg-outs.

