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MOORE, JUDITH A. An Instructional Manual for High School and Beginning Curling. (1971) Directed by: Dr. Celeste Ulrich. Pp. 100

The purpose of this study was to construct a manual for the teaching of curling to high school and beginner curlers.

A questionnaire was sent to expert curlers to determine the appropriate content for the manual. Three evaluators who were recognized authorities on curling reviewed the manual on completion. These three persons were selected because of their qualifications which include teacher-coach, drawmaster, competitor, and Ontario Curling Association executive. Some of their suggestions were incorporated into the manual.

The manual includes skill descriptions, basic strategies, conditioning activities, bonspiel structures, the rules and etiquette, and teaching techniques. Instructional procedure was suggested. The text suggests how to lay the foundation for the novice curler and aids the instructor with the teaching of curling.

AN INSTRUCTIONAL MANUAL  
" "  
FOR HIGH SCHOOL AND  
BEGINNING CURLING

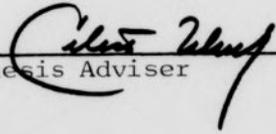
by

Judith A. Moore  
" "

A Thesis Submitted to  
the Faculty of the Graduate School at  
The University of North Carolina at Greensboro  
in Partial Fulfillment  
of the Requirements for the Degree  
Master of Science in  
Physical Education

Greensboro  
June, 1971

Approved by

  
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APPROVAL PAGE

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Sincere gratitude is extended to the three evaluators Mrs. H. R. Armstrong, Mr. R. W. Pauli, and Mr. R. J. Heartwell for their assistance.

The author also wishes to acknowledge the enthusiasm and encouragement of her parents throughout the study. Their faith in the writer was constantly inspirational.

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## CHAPTER I

## INTRODUCTION AND STATEMENT OF PURPOSE

Curling is an extremely popular sport in Canada, attracting over 750,000 participants. The number of curling participants in the United States and Canada is increasing steadily, especially in the northern states.

Curling is a social game attracting people of all ages and both sexes. Many times a whole family curls. There are no professionals in curling; however, the Scotch Cup competition provides an excellent and highly competitive situation as seven countries bid for the curling world championship.

Many high schools offer curling as an extracurricular activity. With the present surge of interest, this life-time sport is beginning to appear in physical education classes in both the United States and Canada. Such increased interest suggests a need for instructional methods and techniques. There is a paucity of literature for the teacher to utilize as a guideline for the teaching of curling. The instruction of curling has been left largely to the experienced curlers who teach the new enthusiasts. Often a curling club member volunteers to do the instruction. As curling is found more and more in the physical education setting, teachers will be called upon to teach curling. Thus, this manual was constructed to present the skills, the basic strategies and teaching techniques as an aid to the instructor.

### Statement of Purpose

The purpose of this study was to write a manual for the teaching of curling to secondary school students who are beginning curlers. The manual includes skill descriptions, strategies, conditioning activities, types of bonspiels, drills and teaching hints. Instructional procedure was suggested. The understanding of these basic fundamentals should facilitate meaningful participation in the sport before advanced proficiency is developed.

## CHAPTER II

## HISTORY AND DEVELOPMENT OF CURLING

Curling is an activity with a long history. The Scottish origin of curling has been partially challenged by those that say that many of the words such as "bonspiel," "hack," and "hog," display a continental flavour. However, it is firmly believed that curling had its greatest impetus from the Scots people. In the early sixteenth century, evidence of curling was ascertained by the discovery of a curling stone dated 1511. A crude form of curling was followed until 1760 when the first curling club was established. This was the Edinburgh Cannonmills Club, Scotland. In 1838 the Grand Caledonian Curling Club, Scotland, was established to standardize the rules of the game. In 1843 Scottish royalty commissioned this club as the Royal Caledonian Curling Club.

It is believed that curling found its way to Canada at the beginning of the nineteenth century. The Scottish regiments were stationed in Quebec, along the St. Lawrence River. During the winter, they initiated the game by melting down the cannon balls or using the stones from the river which had been worn down by the water. By 1807 there was a need for the Royal Montreal Curling Club to organize in order to set up and administer the curling activities. Today, this club has the distinction of

being the oldest club for any sport on the North American continent.

Curling crossed the Canadian-United States border into the New England states and northern bordering states of Michigan and Wisconsin about 1830. Curling did not, however, enjoy the popularity that it did in Canada. Not until 1958 did the United States Curling Association organize itself.

The levels of curling competition have included recreational bonspiels through the national and international challenges. The Scotch Cup (1959) annually hosts seven countries of the world, who compete for the "world championship" in curling.

An increasing number of 'pay-as-you-play' facilities are drawing more participants to the sport. Recreational institutions have organized curling. The curling boom appears to be well established.

## CHAPTER III

## PROCEDURE IN DEVELOPMENT OF THE MANUAL

The construction of this manual has employed a questionnaire to ascertain what should be involved in the text. After recognizing a need and purpose for a manual on the techniques of teaching beginning curling, a questionnaire was constructed to ascertain important game components and to come to some consensus among expert curlers with regard to items to be included in teaching curling to beginners. Accompanying the questionnaire was a personal data sheet and a cover letter. The personal data sheet was constructed to substantiate the credentials of the experienced curlers from whom information was solicited. Their experience was further verified by their bonspiel participation. Copies of the questionnaire, the data sheet, and the cover letter may be found in the Appendix.

The author then selected thirty-eight Ontario Curling Clubs to which the questionnaires were sent. The secretaries of the clubs were the persons with whom the correspondence was exchanged. It is a rare thing that the executive of a curling club is not a curler himself so there was reason to believe that the author was corresponding with persons who had some curling experience.

Of the thirty-eight questionnaires sent out, five were returned because of an incomplete or incorrect address and

twenty-seven were returned completed. This represents an 82 per cent return. Question number one of the form requested that fundamental skills be ranked in order of importance for the beginner. The results suggested the skills in the following order: the delivery, the turns, the grip, the shots, strategy, and sweeping. Question number two revealed that the respondents believed that accuracy, a balanced slide, and proper weight for delivery were especially important for the beginner in curling. Question number three asked about the greatest problems with teaching curling to beginners. The answers suggested taking the eyes off the broom, pushing the shots, and obtaining draw weight were most common. Failure to stay with the rock when sweeping seemed of minor concern for beginning curlers when further suggestions were requested for number three. Some respondents suggested exercises for strengthening upper arm, shoulder, and leg muscles. Broom positioning during delivery is a very individual characteristic of the sport. Of the twenty-five answers to the question regarding broom placement during the delivery, fifteen advocated holding the broom away from the body during the delivery while ten people responded that it might be better to use the broom for stabilization during the slide. Twenty-six questionnaires advocated the use of the straw broom over the newer push broom. In determining the shots to be taught to beginners, four shots were given priority. These, in order, included the draw, the take-out, the raise, and the guard shot. Other shots were either considered too advanced for the beginner or not necessary for the beginner's

repertoire. There was the suggestion that the remaining six shots were considered variations of the above four. Question number eight asked for any further observations or techniques that the person completing the questionnaire might have that would aid the beginner. Etiquette, films, and clinics were suggested as possible aids for learning curling.

The American Curling Foundation furnished the author with the following publications:

Curtis, Dar. Curling . . . Fun for Everyone, 1959

Buck, Thomas. Curling is Catching (mimeographed article).

The Ontario Curling Association sent the following pieces of information:

Curling, The Canadian Curling Association, compliments of The Bank of Montreal, Montreal, Quebec.

Curling Handbook 1970, Ontario Curling Association, 1970.

Ontario Curling Association 1971 Annual,  
MacLean-Hunter Ltd., Toronto, Ontario, 1971.

Ontario Curling Association 1967 Annual, "The History of the Ontario Curling Association" (mimeographed article), MacLean-Hunter Ltd., Toronto, Ontario.

Watson, Ken. Curling at a Glance, MacDonald Tobacco, Inc., Montreal, Quebec.

Mr. R. W. Pauli, Ontario School Curling Committee member was contacted to ascertain the extent of high school curling, its structure, popularity, and organization. He made some observations regarding beginning curlers from his coaching experience on the high school level. Mr. Pauli stated that just a few schools had incorporated curling into their physical education

classes. The problem of facilities and traveling to the ice area was the biggest problem to solve for the schools. Mr. Pauli reported that over 8,000 school curlers participated in extra-curricular curling that was of a club nature sponsored by the school, but not part of the regular physical education program. School curling had a committee representation within the Ontario Curling Association. Curling is the only sport in high schools in which a Canadian champion is determined.

When the manual was completed, it was sent to three authorities to be reviewed and evaluated. These people included Mr. R. W. Pauli, Ontario School Curling Committee member, teacher, coach, and participant of curling; Mrs. H. R. Armstrong, Southern Ontario Ladies Curling Association Executive Secretary-Treasurer and competitor; and Mr. R. Heartwell, competitor, ice-maker, draw-master, and coach. The form letter sent to the reviewers may be found in the Appendix.

## CHAPTER IV

## GLOSSARY

The following terms were used in connection with the manual construction and are terms which a beginning curler should understand. The terms are taken from Richardson's book, Curling. (6:176-180)

- Back-boards - The boards behind the hack at either end of the playing area.
- Back-ring - That portion of the eight-foot and twelve-foot rings behind the tee-line.
- Big end - Any end where four or more stones are counting.
- Biter - A rock just barely counting, i.e., just touching the twelve-foot ring.
- Black Jack - Type of broom with central straws reversed so as to produce a heavy slapping sound during sweeping.
- Blank end - An end that is scoreless. May be an intentional attempt by skip with the last rock advantage to retain that advantage in the succeeding end.
- Bonspiel - A series of competitions comprised of a number of individual events in which each event declares a winner.
- Bumper - The foam plastic or rubber backstop behind the hack which rests against the backboards to protect them from fast rocks.
- Burned rock - A delivered rock that is touched by a member of the same side or by the broom of a sweeper or any object belonging to a sweeper.
- Bury a stone - Place a shot behind a guard or guards so that it is impossible to hit it directly.
- Button - Area enclosing central ring.

- Center line - A line drawn from one hack to the other, passing through the tee at either end of the ice, and which terminates at the near hog line.
- Circles - Rings, synonymous with 'house' or 'head'.
- Close the port - Block an opening between two stones.
- Coming home - The final end of regular play.
- Counter - A stone that is in a scoring position.
- Cross handle - Placing the stone before delivery so that the handle is at right angles (or very nearly so) to the center line.
- Cup (of the rock) - The concave portion of the bottom of the stone.
- Double - Removal of two stones from play with one shot.
- Draw - The distance between the skip's broom and the final resting place of the stone.
- Draw weight - Sufficient momentum that the stone will stop of its own accord within the rings.
- End - A division of the game when all eight players have played their two shots apiece.
- Extra end - An additional end played to break a tie at the end of regulation play.
- Fall - A portion of the ice surface whose affect on a delivered rock is opposite to what might normally be expected.
- Freeze - A stone that comes to rest touching another stone so that the other stone is behind (or very nearly so) the played stone.
- Front rings - That portion of the eight-foot and twelve-foot rings in front of the tee line.
- Give ice - The placing of the broom by the skip as an indication of aim for the curler in the hack. For amount of ice given, see 'Ice'.
- Goose neck - The curved part of the handle joining the grip to the center bolt.
- Guard - Any stone that blocks the path to another.

- Hack - Foothold at either end of ice from which a player delivers his stone.
- Head - The rings, synonymous with 'house' or 'circles'.
- Heavy - A stone that is delivered with more than the desired weight.
- Heavy ice - Ice that requires a stone to be thrown with more than normal weight to reach the house.
- Hog line - Line 105 feet from the hack and past which the stone must come to rest in order to remain in play.
- House - Synonymous with 'head' or 'circles'.
- Ice - When referring to the skip's direction means the distance between the broom and the desired resting place of the stone (in a draw); or (in a take-out shot) the distance between the broom and the stone to be removed.
- In-turn - A stone to which a rotation is imparted by turning the hand towards the body. Thus, an in-turn for a right-hand curler rotates clockwise; for a left-hand curler, the rotation is counter-clock-wise.
- Last rock - The last rock to be thrown in an end.
- Lead - First man to curl in an end.
- Light - A stone that is delivered with less than the desired weight.
- Lost turn - A stone which has stopped rotating with the desired turn.
- Narrow - A stone delivered inside the imaginary line connecting the stone at rest and the broom, and the imaginary line the stone at rest and the final desired position.
- Off the broom - A stone delivered away from the imaginary line connecting the skip's broom to the position of the stone at rest.
- On the broom - A stone delivered along the imaginary line connecting the skip's broom to the position of the stone at rest.
- Out-turn - A stone to which a rotation is imparted by turning the hand away from the body. Thus, an out-turn for a right-handed curler rotates counter-clock-wise; for a left-handed curler, the rotation is clock-wise.

- Over-draw weight - Sufficient momentum that the stone will stop of its own accord just behind the rings.
- Pebble - A spray of water that freezes on contact with the ice to form a 'blistered' playing surface.
- Playdown - A series of games in a curling competition leading to a winner.
- Pocket - A cluster of stones forming a U-shaped target or a modified U-shaped target.
- Port - An opening between two rocks sufficiently wide to allow a stone to pass through.
- Quiet weight - A take-out delivered with just enough weight to pass an opposing stone out of the rings.
- Raise - The action of bumping a stone from one position to another position closer to the tee.
- Rock - Stone.
- Roll - The change in direction of the one stone after it has hit another stone off center.
- Rub - A stone that barely grazes another.
- Run - A portion of the ice surface where a delivered stone behaves in a manner different from what might reasonably be expected.
- Runner - A fast-moving stone.
- Second - Player on a side who delivers the second pair of stones.
- Second shot - Stone that is second nearest to the tee.
- Sheet - Area of ice on which the game is played.
- Short - A stone that comes to rest in front of the desired position.
- Shot rock - Stone that is nearest the tee.
- Skip - Player on a side who directs the strategy of the game. Normally (though not necessarily) the player who delivers the final pair of rocks.
- Slide - Follow-through of the delivery.
- Stone - Rock.

- Straight handle - A stone where neither in-turn nor out-turn is imparted during the delivery.
- Striking - Hitting.
- Sweeping score - See 'Tee Line'.
- Swingy ice - Ice where a rock draws more than normal.
- Take-out - A stone delivered with sufficient momentum to remove another stone from play when the latter is hit by the delivered stone.
- Tee line - Line passing through the tee at right angles to center line, and behind which the opposing stone may be swept.
- Third - The player on the side who delivers the third pair of stones.
- Vice-skip - An Eastern Canadian synonym for 'Third'.
- Weight - The amount of momentum imparted to a stone in delivery.
- Wick - To strike another stone off center.
- Wide - A stone delivered outside the imaginary line connecting the stone at rest and the broom, and the imaginary line connecting the stone at rest and the desired final position.
- Wobbler - A stone delivered so that it rocks from one side to another as it progresses.

## CHAPTER V

## INSTRUCTIONAL MANUAL

## SECTION A - GAME INTRODUCTION AND EXPLANATION

Curling is a sport played on artificial or natural ice. The sheet of ice is 138 feet in length and 14 feet in width. A goal in the form of a 12 foot circle, at the end of the sheet, is called the 'house'. The house is further divided into three concentric circles of 6 feet, 4 feet, 2 feet and one-half foot radii. The object of the game is to slide a  $42\frac{1}{2}$  pound rock or stone of polished granite along the ice and attempt to get the rock to come to rest as near to the center of the house as possible. All regulation curling stones are standardized in size and weight and, therefore, are interchangeable.

At either end of the sheet, the players assume a position to deliver the rock from the hack, which is a rubber foothold fastened to the ice to prevent the player from slipping during the delivery of the rock.

A rink (team) consists of four players each delivering two rocks apiece during an end. An end is completed when everyone has delivered all their rocks. The score is tallied at this time, the rocks removed from the playing surface or house and another end begins. It is similar to the inning in softball or the period in hockey. The four players have titles to denote

their positions. The person who throws the first two rocks for his team is known as the 'lead'. Then the 'seconds' from both teams deliver their rocks, followed by the 'thirds' or 'vice-skips'. Usually the 'skip' throws last but this is not a rule or necessity. He is the leader of the team. It is the skip's responsibility to plan the strategy for his team and to direct the throws of each member of his rink. When everyone has thrown his rocks, a total of sixteen rocks have been delivered to complete an end. Ten ends complete an official game for women, twelve ends for men. The stones are played alternately with the opposition. During an end, all rocks are thrown toward one end of the ice.

An additional facet of the game is sweeping. The objective of the sweeper is to clean the ice in front of the stone. As the rock is delivered along the ice, two team members sweep, with curling brooms, in front of the rock to reduce the amount of lateral deviation of the rock and/or to make the rock go further. A team may sweep its rocks between the tee lines while the opposing skip may begin sweeping as soon as the rock crosses the tee line of the scoring house. When a player finishes delivering his rocks, he will change places with one of the sweepers usually and proceed to do his share of the sweeping. The skip usually remains in the house so that he can determine what strategy is best for the team. Each time the skip calls for a shot to be made by his rink members, he places his broom on the ice so that the player will have a target to aim for at the other end of the

ice. When it becomes the skip's turn to throw his rocks, the third will hold the broom for him. The curling broom is long and thin with a concentration of the straws shaped to a narrow rectangular form. The straws are approximately twice the length of a regular house broom.

The curling stones are released with either an in-turn or an out-turn. These turns cause the rock to curl clock-wise or counter-clock-wise respectively. The winner of the game is the team with the greatest number of total points at the completion of ten ends. At the finish of each end, the team having the closest rock to the tee (the point where the center line crosses the tee line) scores for that end. If the scoring team has two, three, or four rocks closer than any other one of the opposing rocks, then the team scores as many points as there are rocks close to the tee before an intervening opposing rock. The rock must be touching any part of the rings to count. If, before the last rock of the end is thrown, there are four rocks around the edge of the house, from the same team, and the opponent's last rock comes to rest nearest to the tee, then the score for that end shall be 1-0 for the team with the last rock.

The vice-skip shall post the score at the completion of each end. The scoreboard consists of three long lines. The top and bottom lines are the teams competing and the middle line is numbered. The center line is the score of the game. The team who won the end places the number of that end on his line, above or below the number of points scored for that particular end.

After each end the score is added to the previous score. The number that is placed on the scoreboard is the number of the end.

Hence from Figure 1-1, the score at the end of the first end is 2-0 for the white team. At the end of the sixth end, the score is tied 4-4. The white team is the winner, after ten ends, with a score of 9-6.

WHITE		1	5	6			8	9	10	
SCORE	1	2	3	4	5	6	7	8	9	10 →
BLACK	2	3		4		7				

Final score 9-6 (white)

FIGURE 1-1

Scoreboard

The markings of the rink help to limit the game. Sweeping can take place between one tee line and the opposite back line. A stone must cross both hog lines to be in play. Once the rock goes beyond the side line or back line it is out of play and is removed from the playing area. A rock coming to rest with any part of it touching the end or side line is still in play. The tee line and center line intersect to mark the tee or centermost spot. The center line aids the player for placement of his rock and for guidance during the delivery. In Figure 1-2 (10:8-9), a straight shaded line represents 72 feet of playing surface.

#### SECTION B - SKILLS

All descriptions throughout the manual are for right-handed persons. The left-handed person should make the necessary mechanical adjustments.

##### Hack Position

The importance of a good hack position is to ready the body for delivery of the rock. The ball of the right foot should rest against the back of the hack thus being on a slightly downward angle. The left foot should be beside the right foot on the ice. Both feet are also quite close together and under the body.

When a proper standing hack position has been assumed, the player should squat down. The feet are still directly and comfortably under the body. An upright body position should be

# THE RINK DIMENSIONS

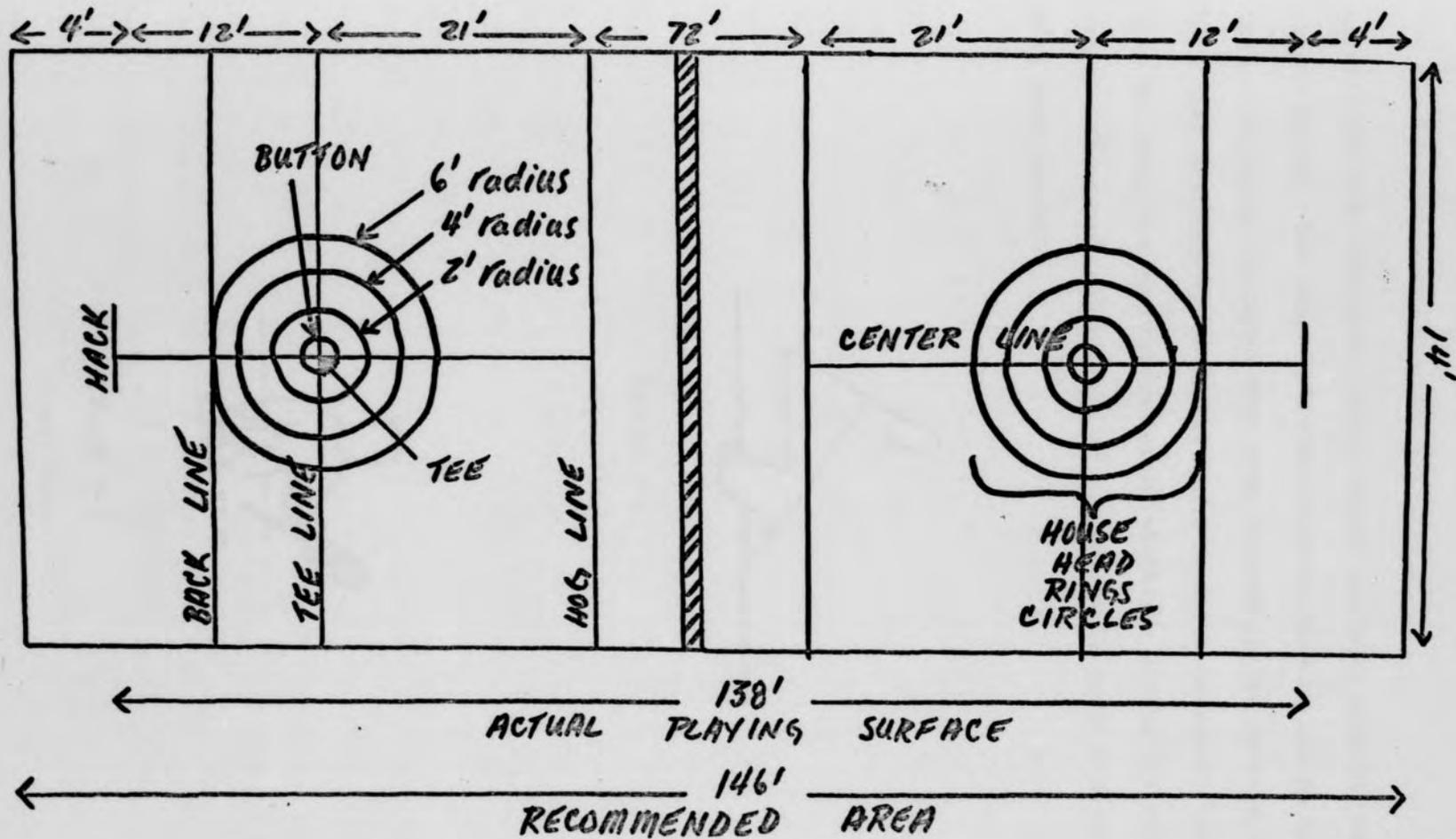


FIGURE 1-2

maintained with shoulders, hips, knees, and feet pointing to the skip's broom. The weight will be slightly forward and on the toes. It should be noted that some curlers prefer to have the left foot slightly ahead of the right foot for an easier balance. This may help the beginner maintain stability during the back-swing. Stress should be laid on a comfortable squat position with good balance.



FIGURE 2-1

Side View



FIGURE 2-2

Front View

Problems that might occur. (1) Allowing the weight to rest on the heels throws the body out of alignment with the intended delivery angle. The thighs should be parallel to the ice and the knees pointing ahead to the skip's broom. If a position of backward lean is assumed, the player will find difficulty in proceeding smoothly into the delivery of the rock. (Figure 2-3)



FIGURE 2-3

Weight on the Heels

(2) With the weight too far forward, the shoulders and knees drop toward the ice, tending to thrust the player forward causing him to lean heavily on the rock. Such a position also will present a balance problem during the backswing of the delivery. The body alignment will be too far forward to accommodate the weight of the rock which is posterior to the gravitational line of the

body. This can cause shortening of the backswing and impairing the co-ordination of the forward swing. (Figure 2-4)



FIGURE 2-4

Weight Too Far Forward

(3) Aiming only with the rock and throwing arm will turn the body away from the target. The whole body should aim at the skip's broom. If the rock is too far forward, the body may turn away from the target. In this instance, the body must turn slightly to the broom side in order to reach the rock. Good backswing pendular action will be difficult to control.

#### Grip and Stone Placement

The grip of the stone is light and is executed with only the fingers. The thumb rests lightly on the handle. Some curlers prefer not to allow the thumb on the handle but instead

use the fingers only and allow the stone to hang from them. This facilitates easy release of the stone.



FIGURE 3-1

Fingers Only

The palm of the hand should never touch the handle of the stone. The grip is a delicate finger-tip control. As soon as the palm rests on the handle, the wrist abducts, which would probably result in pushed shot delivery. The wrist should be firm and adducted. A common error of beginners is to ride the rock by allowing the hand to clutch the rock handle and bring downward pressure on it.

The stone should be resting just in front of the right shoulder, arm's distance away. The stone will be lifted during the backswing and any position other than the above would have the pendular motion deviate from a straight line path to the intended line of delivery.



FIGURE 3-2

Incorrect



FIGURE 3-3

Incorrect

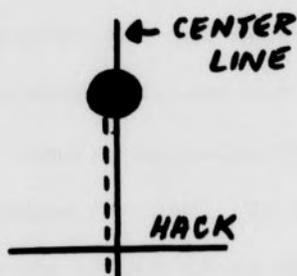


FIGURE 3-4

Correct Position

#### Broom Position During the Delivery

The position of the broom during the delivery is an individual characteristic of curlers. During the delivery the broom tends to serve as a counter-balance to the forward lean of the body during the backswing. Many curlers hold the broom away from the body while others place it on the ice during the slide. If, during the slide delivery, the curler places the broom on the ice,

then the broom serves as a stabilizing factor. The curler should decide for himself the way which he feels most comfortable and balanced. The results of the questionnaire favored holding the broom away from the body out to the side.

There are guidelines to the two usual broom holding positions. If the broom is held away from the body, the hand should never be above the shoulders. This would lift the left shoulder and that, in turn, would tend to make the knees rotate toward the broom side, away from the intended line of delivery. The broom is held at the junction of the straws and the handle. The arms should not be rigid but easy.

The other possibility of the broom placement is to allow part of the straws to rest on the ice surface during the delivery. The hand position is the same as above but the end of the broom handle is placed in the armpit, allowing the arm to be on top of the broom handle. The elbow is easy. As the forward delivery of the stone begins, the broom slides along the ice in front of and to the side of the body. Here the broom may help to provide greater balance especially during the sustained slide. The broom will usually be forward on the ice, shoulder distance away from the rock.



FIGURE 4-1

Broom Forward on the  
Ice During the Slide

Caution should be used by beginners when starting with this method. Beginners have a tendency to lean too heavily on the broom and to slide with the broom perpendicular to the body. This exaggerated lean on the broom destroys the possibility of a smooth slide with the eyes looking over the rock and to the skip's broom. It should be emphasized that the beginner should use the broom for added balance only. Attention should not be focused on leaning on the broom, instead bringing the broom forward should be stressed. Bringing the broom forward will eliminate a lean to the left. The position that is assumed should be one with which the individual feels comfortable and one which does not interfere with the backswing or forward slide. It is a position which augments counter-balance. The broom will draw up and back throughout the backswing as a natural reaction to the forward lean of the body.

#### The Slide Delivery

The player should be in a good hack position. Eye focus from this point is on the skip's broom at the other end of the ice. Concentration on the proper force to impart on the rock is now considered. The slide delivery should become automatic so that the curler does not need to concentrate on anything but the skip's broom and the shot to be made.

A. Backswing. The purpose of the backswing is to provide the appropriate momentum for the forward swing and delivery of the rock. There must be a pre-determined tempo throughout the entire delivery, pre-determined by the type of shot to be delivered. The

delivery is one of continuous flow but for purposes of analysis it will be broken into component parts.

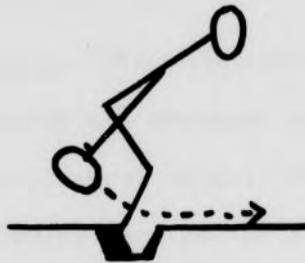


FIGURE 5-1

Backswing

The start of the backswing begins as the extensor muscles of the knees and hips lift the body upward. The upward momentum is transferred to a backward drawing motion. The legs do the work, not the back. The head, shoulders, hips, and the stone all are elevated in a flowing phasic movement. The lift is a blended motion. The 'throwing' arm is straight and easy, allowing the rock to swing smoothly.

As the body moves upward and back, the left leg will swing in the same motion. The right leg, or the leg in the hack, should never lock throughout the backswing. Most of the weight is taken on the right leg. A common fault many beginners have is to lift vertically and then swing the rock backward. If this is done, the rock instead of being swung is lifted, making contact with the ice

during the forward swing clumsy. The continuity will have been broken. Further, the shot will undoubtedly be pushed if the rock is lifted in a vertical fashion. In stressing the pattern of the backswing, the beginner should be clearly directed to SWING the rock. The rock should not be turned in any way during the backswing.

B. Forward swing. When the end of the backswing is reached, the stone begins its downward path to the ice. During the forward swing many changes occur. The stone should return on the identical backswing path as the arm retraces the path. As the stone comes back onto the ice, the body begins to stretch forward. The sliding foot must tuck in behind the rock while the right leg, the trail leg, follows directly behind the body, leaving the hack when the body is fully extended. The right arm and the left leg must move in coordination so that when the stone meets the ice, the left leg is following. If this right arm-left leg coordination is not achieved, the stone and the sliding foot will be either too close together or too far apart causing a balance problem.

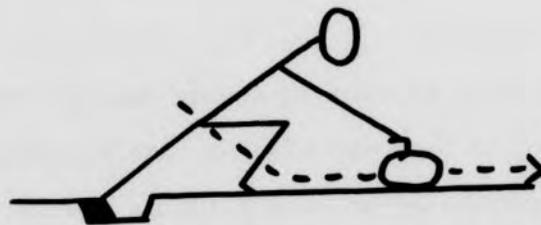


FIGURE 6-1  
Forward Swing

C. Sliding follow through. After the rock reaches the ice, the follow through results. The eyes are focused on the skip's broom, very little body weight is supported by the curler's broom; the body is squarely behind the rock stretched out with the sliding foot flat. If the rock is not out in front of the head and body, the beginner has a tendency to ride the rock under his shoulder. This results in pushed deliveries. The body is very low, maintaining good balance; also allowing the eyes to focus down the ice to the skip's broom from behind the rock. The rock is released at about the middle of the rings of the house.



FIGURE 7-1

Good Follow Through Position

Some caution should be exerted to prevent the long slide out to the hog line. To hold the rock too long during the slide may facilitate a slight degree of inaccuracy because the longer the rock is held, the longer the curler must maintain excellent balance so that he is able to release the stone on target. When the rock is on target, the rock should be released. As the curler

becomes more skilled with his delivery, to hold the rock longer will allow him to adjust the speed of the rock. The long slide is controversial since there is no rationale to support the idea that the longer the rock is held, the greater the accuracy. Holding the rock too long may also suggest to the beginner that he must push his shots. The sliding foot should be kept under the body and flat during the delivery. If the curler has a tendency to rise up on his toes, trying to get lower, weight is placed on the broom and the left knee. This is a very heavy load on the knee. With only three points of contact, the broom, the rock and the sliding foot, the left knee must support most of the body weight while in a prone position. Some curlers will use the rise onto the toes as a braking mechanism for stopping at the hog line, thrusting more weight forward and downward bringing the body to a halt.

The follow through is merely the end to a good delivery. It is a continuation of the momentum already initiated. The slide is too long if the curler must worry about stopping. The beginner may be intrigued with the graceful appearance of the long slide as it is one of the aesthetic satisfactions of the delivery in curling but should be warned that a good natural delivery is a prerequisite to the long slide. With increased practice of a good delivery, a satisfying slide will be a natural consequence. The rock must always be released when the body is balanced and controlled and the rock is on target at the skip's broom.

### Turns

There are two turns used in curling. The in-turn and the out-turn, rotating in a clockwise and a counter-clockwise pattern respectively.

For the in-turn, the handle of the rock is straight, pointing at the skip's broom. The curl is imparted to the rock by a wrist action. The release should be natural with finger-tip control. When the rock is released for an in-turn, the palm of the hand will face upward on completion of the delivery. This imparts a clockwise motion to the stone and forces it to curl. An in-turn is signaled to the curler when the skip raises his right hand and arm.

To effect an out-turn, the handle of the rock is commonly turned about 45 degrees to the right from the center line. When the rock is released, the palm of the hand is facing to the left, not down. The wrist will impart the curl through 45 degrees only, thus releasing the rock when the hand moves back to the center line. An out-turn is signaled by the skip with the left hand being raised. The left-handed curler must reverse the turns because of his position in throwing the rock. When the skip calls for an in-turn with his right hand, then the left-handed person must throw an out-turn to get the desired curl.

All stones should be released when a very slight amount of curl has been imparted to them. This should be just enough for the rock to hold its 'handle' (turning effect) throughout the entire shot. A common fault of the beginner is to push forcefully

a turn on the rock. Too much curl is harmful and defeats the purpose of the turning action, which is to have the stone travel a curved path. The rock will have less lateral deviation from a straight line if it is thrown too fast or with too much curl. The maximum number of complete revolutions desired is three or four. The curl of the rock is easy and natural with no exaggerated twist. The Swiss Test conducted in 1924 showed that a rock rotating slowly gained more lateral deviation from the center line than did the rock rotating rapidly. (8:41)

The wrist must be adducted when releasing the rock. If allowed to bend downward or abduct, an even greater tendency to push the release is present. The body position during the turning release is low and the curler's eyes are looking at the skip's broom, down the throwing arm to the other end of the ice. The rock is released as the hand is pointed to the skip's broom.

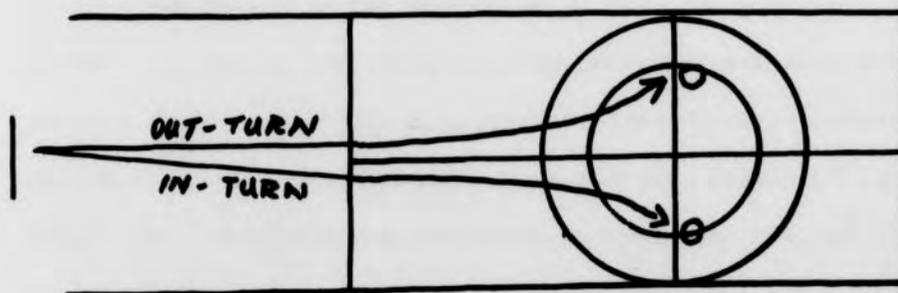


FIGURE 8-1

In-turn and Out-turn

### Sweeping

Sweeping is a very important part of the sport. Beginners, especially, will use sweeping to achieve a sense of satisfaction with the activity involvement. The Swiss Test of 1924 had eleven rocks slide down an inclined plane, sweeping three and not sweeping the other eight. Each time the stones were swept, the distance the rocks traveled was better than any unswept rock. In the second part of the experiment, four pairs of rocks were propelled down the ice with different amounts of rotations; that is one rock had three turns from the one end of the ice to the other and its pair had thirteen turns. In each case the rock that had the greater number of turns, curled less; that is had less lateral deviation from the center line. (8:39-40)

The Canadian Test of 1961 had several stones propelled by a machine down newly pebbled ice. The research concluded that those rocks that were swept traveled farther and deviated less from the center line. (8:41-42)

Sweeping has two objectives. One, to clean the ice in front of the delivered rock and, two, to reduce the friction between the running surfaces of the rock and the ice; thus increasing the distance of the rock and also reducing the amount of lateral deviation. Reducing the friction between the ice and the rock removes part of the pebble, smoothing the ice, therefore, allowing the rock to continue on a straighter path than if the rock were to continue over the pebble. The skip will call on his players to sweep in front of the rock when it is going very fast

and it is on target so that the stone will not curl too much and will stay on a straighter course, thus facilitating take-out shots. Sweeping is called for when a rock is traveling too slowly. Generally speaking, almost all draw shots should be swept. Hit and roll shots usually depend on good sweepers.

It is very difficult to sweep effectively with a broom that is too long. Such a broom cannot be manipulated to exert enough pressure and the sweeping is awkward. With a broom that is too short, the individual must exert too much effort to bend low enough to sweep. This is very tiring on the sweeper. The broom handle should be approximately as long as the arm. There are different weights of the brooms so that each curler should make a decision as to the amount of weight with which he can effectively sweep. The heavier the broom which he can manipulate, the better.

The upper hand is held at the top of the broom while the lower hand will grasp about half way down the handle. Two styles have been developed for the lower hand position. Some prefer to place the palm up and some prefer to place the palm against the handle. The style chosen is determined by personal preference.

The strokes of sweeping for the beginner should start with the forward stroke slightly stronger than the back stroke. The back stroke is the recovery phase. Eventually both parts of the stroke will be equal in strength and effectiveness. The stronger stroke can help the beginner get into a rhythmical sweeping pattern. The lower hand acts as a pivot point and is held as stationary as possible while the upper hand and arm pump the broom handle forward and backward.

The co-ordination of the stroke and the feet may appear awkward for the beginner at first. The feet should never cross one another. One method of moving with the rock is to have the trail foot slide to the lead foot then the lead foot slides on ahead and this is repeated the length of the sweeping area. It is not a hopping effect but rather a sliding motion that must be co-ordinated with the broom strokes. There is yet another way to move along with the rock. The sliding foot should be the forward foot so that it will slide along the ice while the trail foot pushes the body along in a propelling fashion. The sliding foot never leaves the ice. This may be an easier way for the beginner to find a smooth rhythm for his sweeping.

To determine which side of the stone to sweep on, the beginner should try both. Then if there is no preference, he may want to sweep on the right side of the stone if he is right-handed, that is, the right hand is the lower hand on the broom. This position also forces the curler in the direction of the traveling rock.



FIGURE 9-1

Palm Up



FIGURE 9-2

Palm Down

In positioning the curlers about the rock to follow the rock into the house, some curlers prefer to sweep next to the rock. Effective sweeping is done in unison. The person closest to the rock will sometimes find it easier to be partially over the rock when sweeping. This allows him to see the house and it also facilitates the movement of the second sweeper and offers him more room. A common error is to sweep to the side of the rock. The beginner should get a good position in relation to the rock so that he is sweeping directly in front of the rock. Sweeping too far in front of the rock or to the side of the rock has no value and is wasted motion. This may happen if the beginner finds difficulty in keeping up with the rock. Practice of a rhythmical, fast stroking pattern should be employed and such action should be co-ordinated with the footwork.

#### SECTION C - SHOTS

Some curling authorities will list as many as ten different shots which are used in the total game picture. For the beginner this manual will present only four types of shots; the draw, the take-out, the raise and the guard. All other shots are variations of these shots. The beginner would do well to master these basic shots. Later, the variations could be added to his repertoire.

##### The Draw

The draw shot is any shot that comes to rest in the house of its own accord and momentum. A draw shot may be to any part

of the house depending on the strategy involved. This shot is the basic shot of the game. It is an offensive shot. The lead of the rink will be called upon to throw this shot many times, but any member of the rink should be able to execute the draw. The third and the skip may have their draws complicated a little by having to 'draw the port'. To 'draw the port' the thrown rock must slip between two placed rocks. (See Figure 10-1)

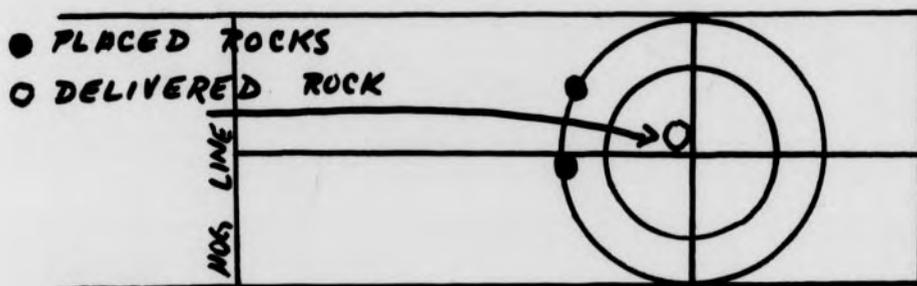


FIGURE 10-1

Drawing the Port

The other type of draw shot is to throw the rock so that it has just enough weight to come to rest in front of a placed rock. (See Figure 10-2) This can be a protective device. This is called a "freeze." If the opposition tries to remove the rock in throwing a take-out, only his rock will be removed. Instead the opposition will probably be forced to draw to the thrown rock.

ALL curlers must master the draw shot.

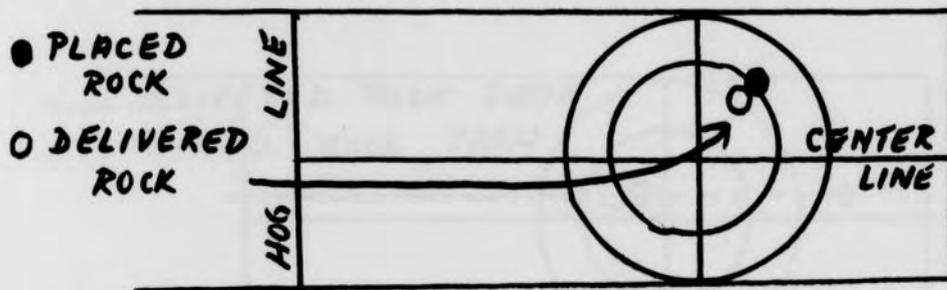


FIGURE 10-2

Drawing to a Rock

### Take-Out

This defensive shot removes another rock from play. It is used to remove the opponent's stones from the scoring area or to remove several rocks from out in front of the house that are plugging up the paths to the house. If, for any reason, a rock or group of rocks is undesirable to the opposition's strategy, the take-out shots may be called for by the skip to remove those rocks which are hindering other possible shots. Usually the seconds and thirds will be required to throw the take-out.

There are several variations to the take-out. The chap and wick shots are shots that require the delivered rock to hit a rock off center causing it to run one way and the delivered rock

to go another. These are different from the straight take-out that hits another stone squarely so that the rock is removed while the delivered rock stays where it hits.

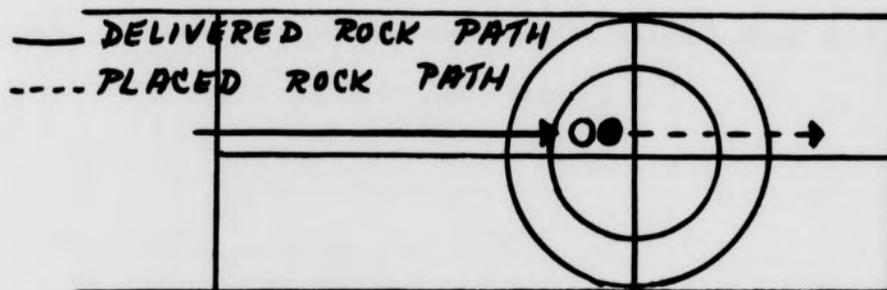


FIGURE 10-3

Straight Take-Out

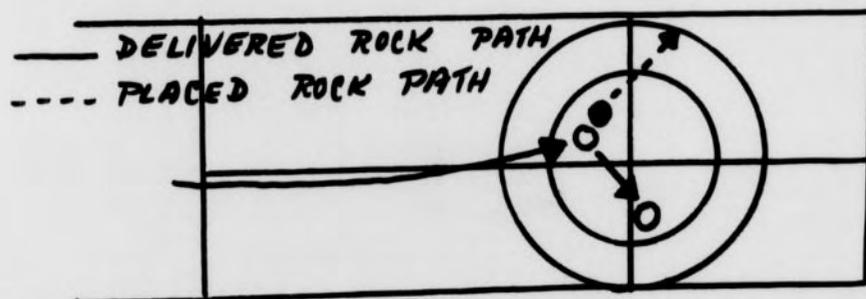


FIGURE 10-4

Take-Out with a Roll

### Raise

The raise is an offensive shot. It merely taps one of the same team's stones closer to the scoring area. This is a more difficult shot and one that is used most often by thirds and skips because the shot is called for near the completion of the end. Many times the same weight with which a draw shot is thrown is enough weight to throw the raise.

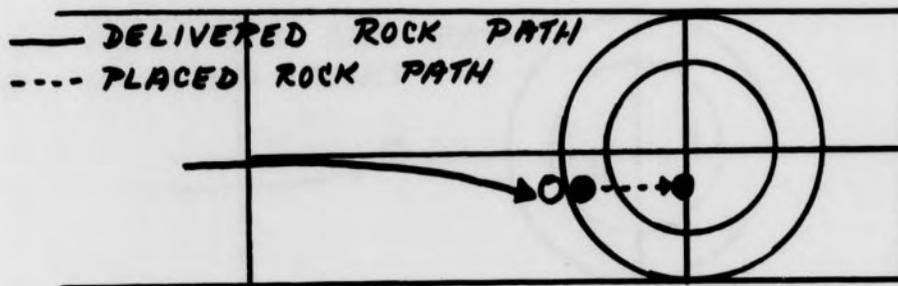


FIGURE 10-5

Raise Shot

### Guard

This shot guards other rocks, protecting them from being taken out. When a guard is placed out in front of a rock then the opponents are forced to draw around the guard to get at the buried rock or they must waste a rock to take-out the guard that has been

placed there. This makes the path clear for removing the stone that was buried. The beginner should remember that when called upon for a guard, he should never be heavy with his rocks. Any place the guard rock rests in front of the house, even if it is not exactly where the skip called for, presents a physical and psychological threat for the opposition. Throwing the rock too heavy sends the rock through the house and nothing is gained.

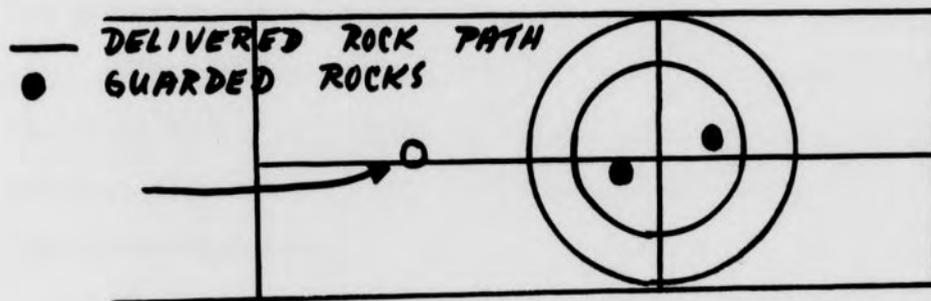


FIGURE 10-6

Guard Shot

Depending on the strategy of the game, different shots will be used. The beginner should understand what is expected of his rock before he gets into the hack. Practice of all four shots will give experience in effecting the proper weight, for each shot has a different force associated with it. The beginner must

practice these shots in the proper simulated set-up, time after time, in order to gain proficiency.

#### SECTION D - PLAYER POSITIONING AND STRATEGY

##### Player Positioning

The sport of curling lends itself to a hierarchy of experience in determining the position that each player will play. In all but highly advanced teams, the lesser skilled person is the lead. The skip is the experienced strategist of the team and during his turn is expected to make any shot deemed necessary by the situation.

The lead must have a keen sense of weight and will probably throw mostly draw rocks to any spot in the house. Many times the placement of the lead's rocks will govern the strategy of that particular end.

The second will use the draw shot predominately, but in various ways. The second may be called upon to make a raise (weight slightly heavier than a pure draw), draw to a rock, or a guard shot (weight slightly lighter than the draw weight). The second must also be able to throw a consistent take-out.

The third should show a knowledge of strategy, be able to judge the ice conditions to determine the sweeping requirements, and to be able to make any shot necessary. The third will serve as an assistant to the skip when the skip is throwing his stones. The third will assist by doing all the measuring in case of two opposing tied rocks. He also is responsible for the scoreboard.

A player such as the third who can help determine the amount of sweeping necessary for a particular rock is a valuable asset as a sweeper. The first three players should be good sweepers since, theoretically, all draw shots should be swept.

The skip of the team must think ahead trying always to determine the possibilities after the next shot. He must be able to build on his team's strengths and to capitalize on the opposition's weaknesses. This entails knowing the individual's abilities as well as his own. The skip is usually the most accurate player of the rink and will attempt whatever shot necessary for the particular strategy for that end. Using good judgement as a skip includes knowing when to avoid an impossible shot and attempting to count as the second shot. When the end is lost, the skip must try to cut down the possibility of a large end being scored against him by throwing for the second shot. When dealing with beginners, the skip must remember to be explicit with his directions and mannerisms, making sure the beginner knows exactly what he is supposed to do. Being able to adjust the game strategy with the change of events is the mark of a good skip.

### Strategy

The strategy of the game is determined by many things; such as, the individuals involved, the ice conditions, first or last rock advantage, the score, the end being played, and other components of the game. Certain generalizations regarding strategy may be beneficial to the beginner. There are two basic schools of strategy - the draw game and the take-out game.

In the draw game, when in doubt about a particular situation, the skip, as a basic strategy, should decide to draw. All the stones should be spread out within the house. Rather than throw a guard rock to protect a rock, the rocks should be drawn to the other side of the house. This forces the opponents to be challenged by two scoring rocks instead of one. Guards are usually thrown later in the end to protect the shot rocks or to plug up the front of the house. The opponents then must waste rocks in getting rid of these guards in order to get at the protected rocks. The guard may prove to be detrimental if thrown too early in the end.

When a take-out is called for and there is more than one opposing rock in the house, the closest rock should be hit first. Hitting the closest rock offers a possibility to hit and then roll to hit the next rock or just roll into the house and be a shot rock.

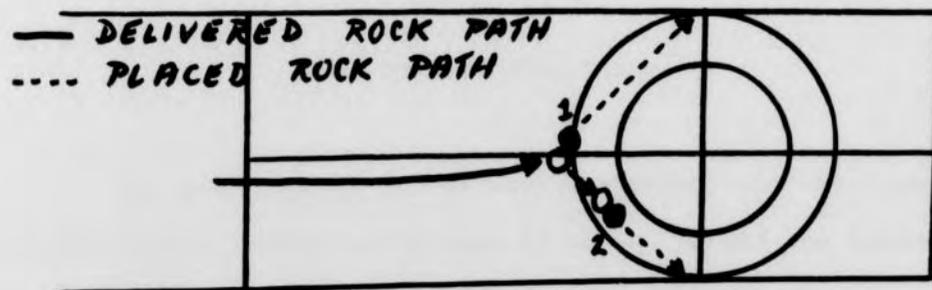


FIGURE 11-1

Hitting the First Rock for  
Greater Possibilities  
(Double Take-Out)

When the opponent's rocks are in the back of the house, it is better to draw to them rather than removing them. These already placed rocks will provide backing for the delivered rock, that is, the placed rocks will hold the delivered rock within the scoring area. Also, if the opponent chooses to remove the delivered rock by a take-out, only the backing rock will be removed.

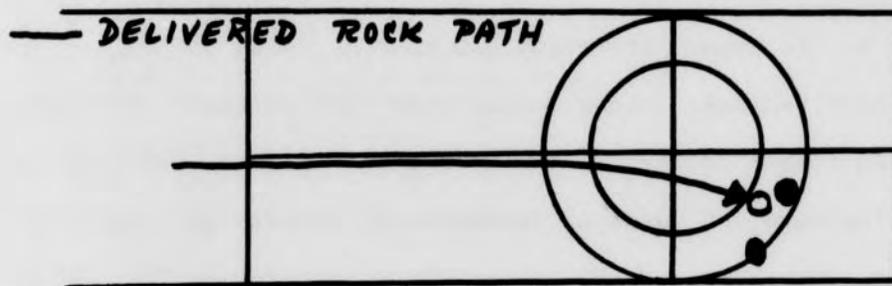


FIGURE 11-2

Draw to Back Ring Stones

The draw shot is the offensive strategy and the take-out the defensive. When the thrower is forced to use the take-out, he is trying to minimize the chances for scoring; whereas, with the draw shot, he is actually playing to score. It would be elementary strategy to try to force the opponent into a hitting game which would compel them to play defensively. When the

opposition misses a take-out on a rock, this puts a team in a position to put another rock in the house. Meanwhile, the opponents have not had a chance to experience draw weight because they have been throwing take-out shots. They are now forced to draw which means cutting down on their weight. It may take one or two shots to adjust to the new weight, again increasing the other team's advantage. The draw game can then be an advantage, if the other team chooses to hit.

The take-out game removes absolutely everything from the house. It is advantageous when a team has a slight lead near the end of the game. A team may choose to remove all of the opponent's rocks so that they cannot score. Another time to use the take-out game comes when the opposition cannot play the draw game. By forcing the opponent to draw, the opponents are put at a disadvantage. Removing all their rocks leaves an open house to which they must draw.

Strategy should be changed only when there is an advantage to be gained. The skip may choose to switch the game strategy in the last two or three ends when he is losing and needs to score points. Change should be made to a points game by trying to overload the house with rocks. Another situation arises when the skip may choose to switch from a hitting game. If the ice is tricky, he may force his opponent to do the hitting while he draws, which is easier on unpredictable ice.

One more general concept for the beginner to remember is to concentrate on the weight that each shot demands. There are

some situations when a curler should never be light when throwing.

They are:

- A. When drawing to a rock for backing - if the rock is left short, then it is open for a take-out. It does not do any serious harm to be heavy in this case. It would just remove the stone, but still maintain the advantageous position.
- B. On a take-out - if the rock is light, the take-out may become a guard for the opponent's rock.
- C. On the first rock of the end - the lead should be heavy rather than light because the team with the first rock does not want the front area between the hog line and the house plugged up. The path must be clear to the house so that near the completion of the end, the curler still has a chance to get into the house in scoring position.
- D. The possibility of hogging (not making the hog line, and, therefore, out of play) the rock arises. Any rock in front of the house presents a threat to the opposition when trying to get at a protected rock.

Perhaps the most pressing situation in determining game strategy is whether or not a team has the last rock of that particular end. It is a defensive game when the opponent has the last rock. The strategy would then be to try to minimize the opponents chances of scoring potential. When one or two shots are missed, a team has the opportunity to change the game strategy.

When a team has the last rock, it can play offensively and has an advantage to throw the last rock for a score. Some general thoughts on strategy in this situation are:

- A. Draw to the side rings - spread out.
- B. Remove all the opponent's rocks in the center of the ice, even in front of the house. Thus, the front will not be plugged.
- C. Draw to any rocks that are in the outside rings (remember that a side take-out is more difficult than a draw).
- D. Sometimes it may be more advantageous to throw the last rocks through the house so that the opposition has nothing to aim at and must draw to an empty house for a score. This would probably occur if a take-out game left a bare house up to the time of the skip's rocks. With last rock, the decision would be to take-out the draw or, if the rock had been missed, draw the rock into the house.

The winner of the previous end throws the first rock of the succeeding end. Again, the strategy of the first rock would be to close the front of the head so that the opponents must waste valuable rocks in clearing the rocks. Anywhere from six to ten feet in front is good placement. These stones provide a psychological disadvantage for the other team until they are removed.

Ice conditions may determine the game strategy if they are atypical enough. The ice may have a slope or fall causing a particular side of the ice to be very difficult to use for certain turns. The skip must watch all shots to determine irregularities. In this way he can foresee necessary adjustments that must be made for individual players.

At the first of the game, on freshly pebbled ice, the skip should give more distance between the broom (point of aim) and the desired rock placement for all shots. With increased ice

resistance, the rocks will curl more. As the game progresses, the pebble will be broken down and the ice becomes keener. Keen ice lends itself to a finer shot-making game with more take-outs and more hit and roll plays. Heavy ice (frosted or newly pebbled) practically eliminates the hitting game because of the force needed to overcome the ice's sluggishness. The sweepers will tire faster if they have to sweep each shot.

Strategy is dependent upon the conditions of the game and the skill of the players. The important thing for a beginner to remember is that he must understand what his shots are supposed to do, thus making it possible for him to better comprehend the total game. In this way he will see the importance of each member's rocks resulting in a team effort.

#### SECTION E - CONDITIONING EXERCISES

There are few competitive activities that do not use warm-up exercises or activity prior to the actual contest. Although very little emphasis is laid on conditioning presently, curling skills suggest that conditioning exercises might be advantageous.

Strength, endurance, and flexibility are the three major concerns for the curler. A high level of general fitness should be attained stressing increased leg strength, upper arm and shoulder strength, hip flexibility, and lower back strength. Overall endurance to sweep for ten ends must be established. The following exercises are suggested to help improve the curlers fitness for curling.

### Strength Exercises

In order to gain in strength, the principle of overload must be observed. To overload a muscle or muscle group, the involved muscles must be required to do more work than what is normally required of them. All strength is gradually developed through this principle. Excessive overload may cause soreness or injury rather than increased strength. Each individual must determine his limits and then gradually increase the minimal requirement either through increasing the number of times that the exercise is done or keep the number of times constant and do the same number of exercises in less time. The following exercises should be done to help develop strength:

1. Push-ups - Assume a prone position on the floor with the hands placed next to the shoulders. The body should be kept straight and rigid while the arms push up to a full extension, only the toes and hands touching the floor. The body should be lowered and raised without touching the floor in between. Women may prefer to do push-ups from the knees. Push-ups develop arm and shoulder strength.
2. Pull-ups - These can be done from a horizontal bar. Extend the arms fully, supporting all the body weight and then pull up to the bar, touching the chest to the bar, then lower to the starting position. Pull-ups will help to increase strength in the upper arms and shoulders.
3. Towel pull - Grasp a towel with both hands. Holding the towel arm's distance away, pull and hold for six seconds. Repeat. This is an upper arm strengthening exercise.
4. Side leg lifts - Lie on the side and raise the top leg as high as possible. Repeat on the opposite side. Side leg lifts will strengthen the thigh muscles.

5. Wall sit - Stand with the back to the wall. Assume a sitting position with the knees at a right angle and the back against the wall. Hold this position for six seconds and repeat. This is a leg muscle strengthening exercise.
6. Bench step - Stand facing a bench or step that is approximately 12 inches high. Place one foot on the bench and bring the other foot up. Step off the bench and continuously repeat alternating the lifting leg. Bench stepping will increase leg strength.
7. Prone back leg lift - Lie prone (face down) keeping the legs together; raise the legs off the floor simultaneously. The chest can be raised at the same time with the arms extended in front of the body. Hold for five or six seconds and repeat. This is a lower back strengthening exercise.
8. Running - This will help to increase leg strength and will augment endurance. This is a good general fitness activity.

#### Flexibility Exercises

Flexibility is the ability to utilize full range of motion at a joint. The muscles need to be stretched beyond their normal resting length. Movement during this stretch period helps increase flexibility. The individual should never be forced into a position by someone or something. Gradually work into a position by bobbing or moving slowly as far as possible. Repeat the exercise increasing the number of repetitions each time. The following are some exercises to help increase hip flexibility.

1. Toe touches - The feet should be placed shoulder distance apart in a stand. The individual bends forward, alternately touching opposite toes. Keep the trunk bent at the waist. Do not shoot the hips backward but rather bend forward with the upper trunk.
2. Stand with feet wider than the shoulder's distance apart. Bend forward and grasp the calves, pull, then release. Bob with the head down. Return to starting position and repeat.

3. Kneel on one knee while the other leg is extended straight in front of the body. Flex to the extended leg. Change legs and repeat with bobbing to try to put the forehead on the knee.
4. Sit on the floor and place the soles of the feet together. Draw the heels into the body. Sit with the hands on the knees and gently push the knees toward the floor in a series of four or five times. Rest and repeat.
5. Lunging - Take a long step forward, bending the knee of the forward leg. Bob up and down keeping the back leg straight. Change legs and repeat.
6. Sit with legs spread apart, trying to move them farther apart each time. Touch the forehead to the knees alternately. Repeat.

Curlers should condition for curling prior to the season and then maintain an optimum level of fitness throughout the season. Warm-ups should be done prior to stepping on the ice to stretch the muscles, tendons and ligaments, lessening the chance of injury.

#### SECTION F - BONSPIELS AND DRAWS

Like all other sports, curling has playdowns in competitive situations so that a winner will eventually emerge from the many contests. These tournaments are known as 'bonspiels' in curling. The type of bonspiel structure is known as the 'draw'. Most draws are single knock-out, double knock-out, consolation or round robin. Anything beyond this capacity is generally a highly structured bonspiel for advanced curlers and is not entertained by beginners.

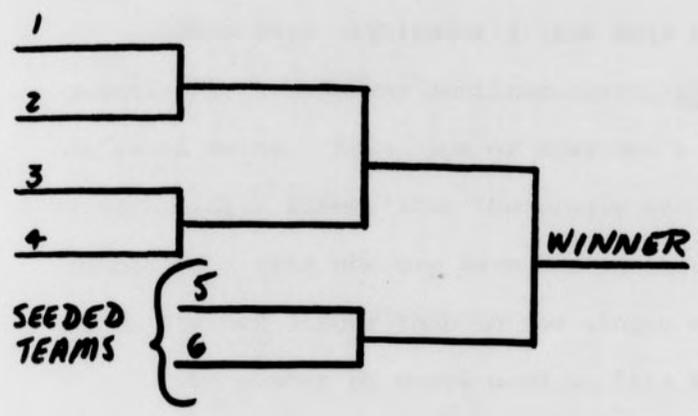
### Single Knock-Out

The single knock-out bonspiel or single elimination is the least desirable of bonspiels because it emphasizes the elimination of the teams. When a team loses one game, it is out of the competition. It is possible that the luck of the draw may not produce the best pairing of teams so as to culminate in the most highly skilled team winner. The winning team may have encountered the lesser skilled of the teams and emerged victorious, but it is also possible for the best two teams to have met initially and such a pairing will automatically eliminate one team that may be stronger than the weaker winner.

The single knock-out bonspiel facilitates the solutions to problems regarding time and a large number of teams. It may serve as a limited competitive experience for beginners during a short learning situation.

The number of games for this type of draw is one less than the number of entries. If the number of teams is uneven, then either randomly, or by seeding, one team shall be given a bye in the first round. Seeding is a process by which the best competitors are not pitted against one another early in the bonspiel. This hopefully will keep the presumably better teams in the bonspiel long enough to determine their worth. If both byes and seeding are used, the seeded team should get the bye, thus permitting a weaker team to play an extra game. See Figure 12-1. (11:43)

FOR 6 RINKS



FOR 9 RINKS

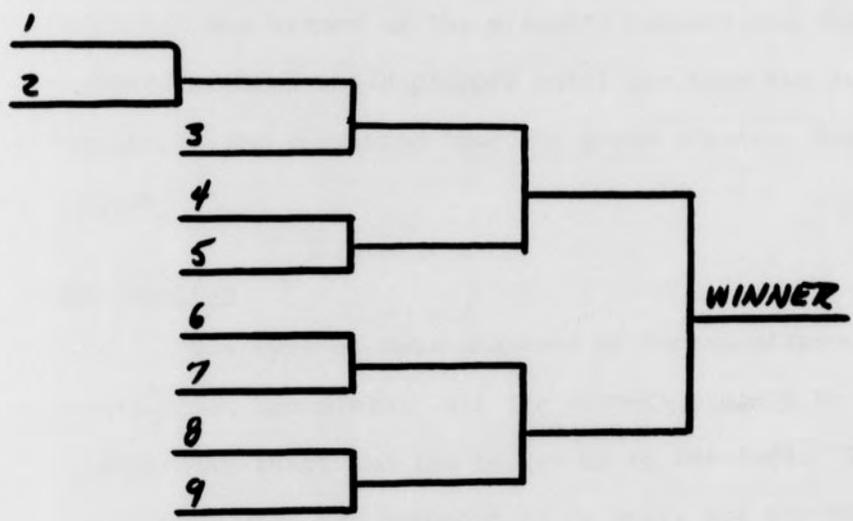


FIGURE 12-1

Single Knock-Out Draw

### Double Knock-Out

This draw eliminates a team only when it has lost two games. The tournament continues until all teams have been defeated twice. This type of draw has a greater sensitivity in determining a winner than the single knock-out and allows a second chance to a team who may have had one bad game. Interest for all is maintained longer than in the single elimination.

The number of games used in this bonspiel is twice the number used in the single knock-out or twice the number plus one; i.e.,  $(N-1)2$  or  $(N-1)2+1$ . (1:365-366) Once a team loses one game, it must continue to win in order to challenge the grand winner. The winner of the winner's bracket and the winner of the loser's bracket would playoff until one team had lost twice, thus declaring the remaining team the grand winner. See Figure 12-2. (11:48)

### Consolation

This type of draw consists of two simultaneous single elimination bonspiels. All the winners proceed to the right side of the chart and the losers go to the left. The two remaining teams, when the competition is over, are the grand winners and there is no interaction between these two teams to determine a single winner. This draw allows each team to play a minimum of two games. See Figure 12-3.

There is a second type of consolation bonspiel that allows all losers, regardless of what round they lost in, to have the opportunity to win the consolation bracket. This can be

FOR 10 RINKS

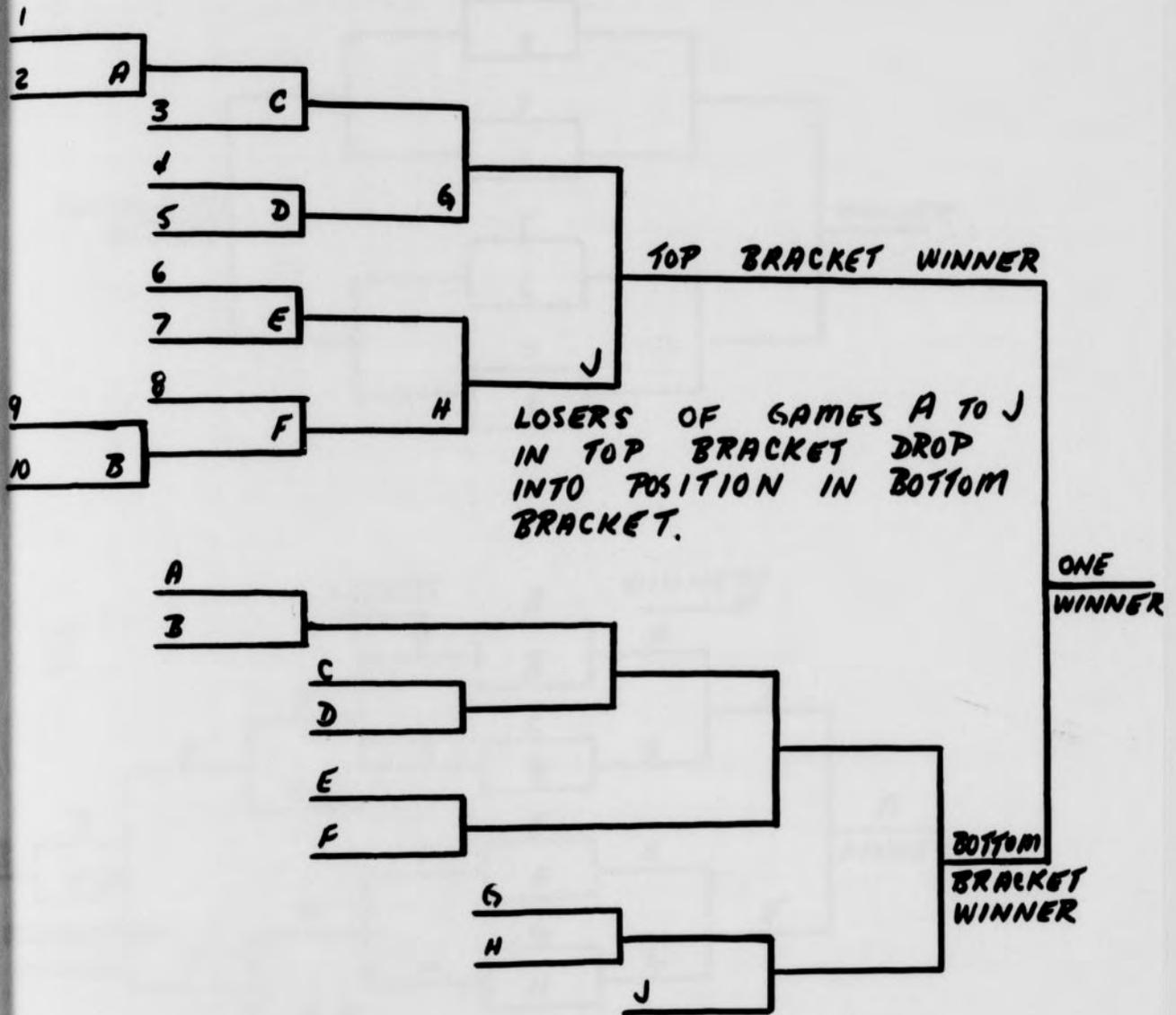
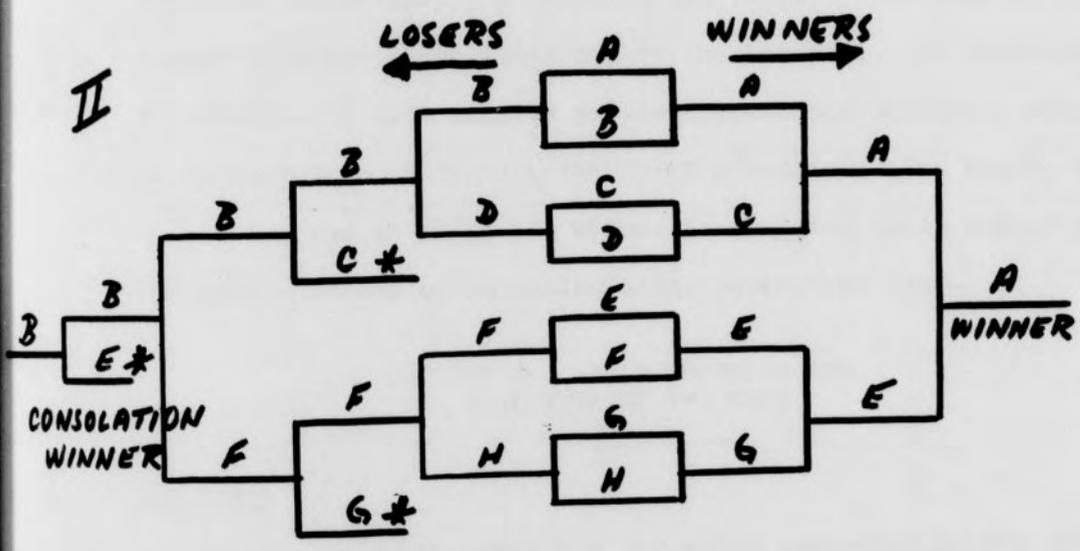
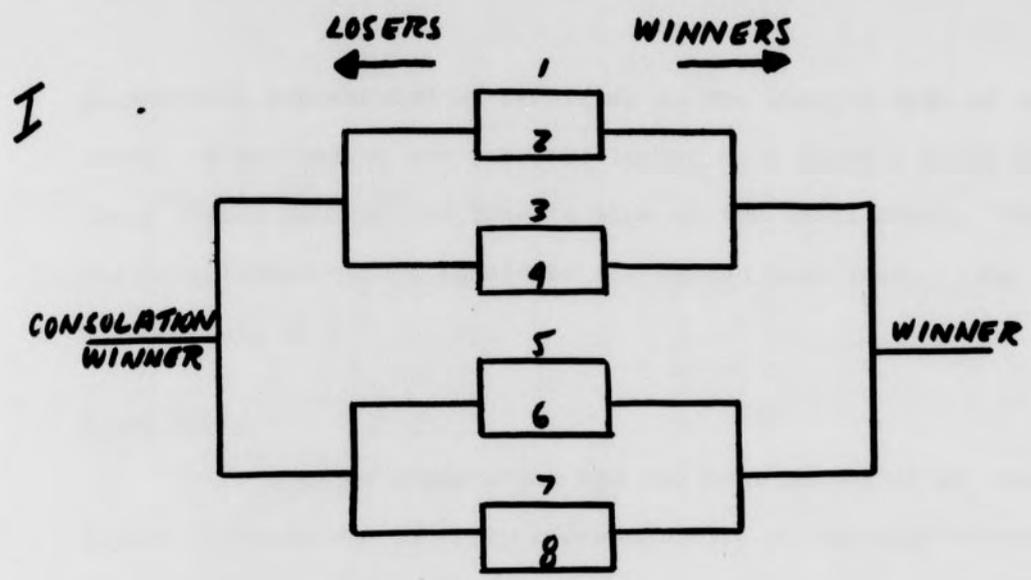


FIGURE 12-2

Double Knock-Out Draw



\* LOSER AFTER ONE GAME FROM WINNERS SIDE

FIGURE 12-3  
Consolation Draws

graphically represented by referring to the loser's side of the chart. After losing one game the losing team finds a place for their second game on the loser's side of the total chart. Thus the consolation winner should be the second best team. (See Figure 12-3, II.)

### Round Robin

This type of competition has the best potential of resulting in a winner who is truly representative of the play evidenced at the bonspiel. Each team plays every other team once in the total competition. If time is not a factor, this type of bonspiel has great advantages. It permits all teams to continue in the competition until the final day of the bonspiel. In addition, no team has to wait until a previous round has decided a winner or loser before continuing the chart playdowns. (See Figure 12-4.)

The way in which the winner is computed would depend on the numerical way of accessing wins, loses, and ties.

## SECTION G - THE RINK RULES AND ETIQUETTE OF THE GAME

### The Rink

The following rules are the rules suggested by the Ontario Curling Association: (11:34-42)

1. The length of the Rink from the hack to the tee shall be 126 feet.
2. The tees shall be 114 feet apart - and, with the tees as centers having a radius of 6 feet - a circle shall be drawn -

## EVEN NUMBER OF RINKS

1 vs 2  
8 vs 3  
7 vs 4  
6 vs 5

1 vs 8  
7 vs 2  
6 vs 3  
5 vs 4

1 vs 7  
6 vs 8  
5 vs 2  
4 vs 3

1 vs 6  
5 vs 7  
4 vs 8  
3 vs 2

1 vs 5  
4 vs 6  
3 vs 7  
2 vs 8

1 vs 4  
3 vs 5  
2 vs 6  
8 vs 7

1 vs 3  
2 vs 4  
8 vs 5  
7 vs 6

## ODD NUMBER OF RINKS

BYE 7  
1 vs 6  
2 vs 5  
3 vs 4

BYE 6  
7 vs 5  
1 vs 4  
2 vs 3

BYE 5  
6 vs 4  
7 vs 3  
1 vs 2

BYE 4  
5 vs 3  
6 vs 2  
7 vs 1

BYE 3  
4 vs 2  
5 vs 1  
6 vs 7

BYE 2  
3 vs 1  
4 vs 7  
5 vs 6

BYE 1  
2 vs 7  
3 vs 6  
4 vs 5

FIGURE 12-4

Round Robin Draw

additional inner circles having a radius of 4 feet, 2 feet and 6 inches may also be drawn.

3. From and in exact alignment with both tees, a line called the center line shall be drawn to a point 12 feet behind each tee. At this point, lines of one foot 6 inches in length shall be drawn at right angles to the center line on which a hack shall be cut or made. The hack shall not exceed 8 inches in length, the inner edges of such hack shall not be more than 3 inches from the center line, so that all stones shall be delivered with their center upon the center line.

Standard molded rubber curling hacks and cast iron cups used to install the rubber hack are recommended for use in all curling clubs.

The hack shall be of such depth and width to permit the insertion of the Dominion Curling Association standard rubber hack.

The upright wooden back of the hack, if possible, should be flush with the ice surface.

4. Other lines shall be drawn across the rink at right angles to the center lines.

- a. a "hog line" distant from each tee, one-sixth part of the distance between the "foot-line" and the farther tee.
- b. a "sweeping line" across each 6 foot circle and through each tee.
- c. a "back line" behind and just touching outside each 6 foot circle.

The Rules of the Game

5. All curling stones shall be of a circular shape. No stone including handle and bolt shall exceed 44 pounds or be of greater circumference than 36 inches or of less height than  $1/8$  part of its greatest circumference.

6. No stone shall be substituted for another (except under rule 7 or rule 17) after a match has started, but the sole of a stone may be reversed at any time during a match, provided the player be ready to play when his turn comes.

7. Should a stone be broken, the largest fragment shall be counted for the end - the player being entitled to use another stone or another pair during the remainder of the match.

8. Any stone which rolls over or comes to rest on its side or top shall be removed from play.

9. Should the handle quit the stone in delivery, the player must keep hold of it, otherwise he shall not be entitled to replay the shot.

10. Every stone which does not clear the "hog line" shall be called a "hog" and shall be removed from play, but no stone shall be considered a "hog" which has struck another stone lying in position. A stone coming to rest after passing the "back line" and being clear of it must be removed from the ice.

11. All matches shall be of a certain number of "ends" or "shots" or "by time" as may be agreed on or as fixed by an umpire at the outset. In the event of competitors being equal, play must be continued by all the rinks engaged for one or more ends as may be "fixed" by the umpire until the match has been decided.

12. Every rink of players shall be composed of four on a side, each player using two stones, and playing each stone alternately with his opponent. No player shall wear boots, tramps, or sandals with spikes or other contrivance which may break or damage the surface of the ice. The rotation of play observed during the first end of the match or game or competition shall not be changed. Any rink not having its full complement of four players shall be disqualified, except in the case of illness or accident during the competition. If the skip, the vice-skip or the second player is absent, the lead shall play four stones in the proper rotation as lead and second player. If the lead is absent, the second player shall play four stones in the proper rotation as lead and second player. Thus, no rink may continue play with less than three players, and no sweeper will be allowed.

13. The skips opposing each other shall settle by lot or in any other way they may agree upon, which party shall lead at the first end, after which the winners of the preceding ends including extra ends, if any, shall do so.

14. The skip shall have the exclusive direction and control of the game for his rink, and may play last stone, or any position in the game he pleases, but he shall not be entitled to change his position when that has been fixed. When his turn to play comes, he shall select one of his players to act as skip in his **place**, and take the position of an ordinary player. No other player may act as skip except the one so designated at the

start of the match. The skip may return to the tee for brief consultation with the acting skip. Any consultation or discussion by the skip, other than with his vice-skip, shall not be conducted in or behind the rings.

15. Players during the course of each end shall be arranged along the sides, but well off the center of the rink, as the skips may direct, and no one except the playing party and his sweepers shall go upon the center of the rink. Skips and/or vice-skips may stand within the circle. The skip of the playing party shall have the choice of place, and shall not be obstructed by the other skip or vice-skip in front of or behind the sweeping line, but behind the sweeping line the privileges of both shall be equal. No other player than the skips acting for the time being may stand behind the circle while play is proceeding.

16. Each player must play from the hack and in the delivery of his stone, no part of the curlers body or his equipment shall go beyond the nearest hogline during the uninterrupted motion in the delivery of the stone. He must come to a complete stop and shall not be permitted to leap over, slide over on the other foot or even put his hand over to check his slide.

Left-handed players shall play from the hack placed on the right-hand side of the center line and right-handed players shall play from the hack placed on the left-hand side of the center line.

Stones delivered from the wrong hack or by a player not complying with rule 16 shall be removed from play by the playing side immediately after the player has delivered his stone. Should

the playing side not remove the offending stone, then the umpire shall have the power to order the removal of said stone. However, if the stone so played has come to rest or struck another stone, the played stone shall be removed and the displaced stone or stones be placed as nearly as possible where they originally were to the satisfaction of the opposing skip. Both skips should agree upon the position, but failing agreement the umpire shall decide. No player may hold his stone and return to the hack for another delivery, once the stone has crossed the nearest sweeping line; in the event of an infraction, the stone shall be removed from the ice by the playing side.

17. Each player must be ready to play when his turn comes and must not take more than a reasonable time to play. Should a player play a stone belonging to the other side of the stone which ought to have been played shall be put in its place.

18. If a player should play out of his turn the stone so played may be stopped in its progress and returned to the player. Should the mistake not be discovered until after the stone has come to rest or has struck another stone the end shall be continued as if it had been played properly from the beginning, but the missed stone shall be played by the player missing his turn as the last stone from his side for that end. If after consultation with the rinks and the umpire or a neutral curler thoroughly conversant with the rules, it has been agreed that a stone has been missed and it is impossible to decide which player has missed playing the stone, the lead shall play the last stone for his side for that end.

19. The sweeping shall be under the direction and control of the skips. The player's party may sweep the ice from the sweeping line next to the player playing to the sweeping line at the other end and any stone set in motion by a played stone may be swept by the party to which it belongs in front of the sweeping line but behind the sweeping line both skips shall have equal rights as per rule 15. Only the skip or vice-skip of each rink directing play at the time shall be allowed to sweep behind the sweeping line. When snow is falling or drifting, the players party may sweep the ice from hack to hack. The sweeping shall always be to a side and all sweeping shall be removed from the rink. At the conclusion of the end either of the skips may call upon all players to clean and sweep the entire rink. If objected to, this shall be subject to the approval of the umpire.

20. a. If, in sweeping or otherwise, the course of a running stone be affected by any of the party to which it belongs, it shall be removed from play by the playing side; but if by any of the adverse party, it shall be placed where the skip of the party to which it belongs shall direct. Should the position of any stones be altered by such affected stone the skip opposed to the party at fault shall have the sole right to replace them.

b. Should any played stone be displaced before the end is reckoned, it shall be placed as nearly as possible where it lay, to the satisfaction of the skip opposed to the party displacing. If displaced by any other party, both skips should agree upon the position to which it is to be returned, but if they do not agree, the umpire shall decide.

21. All games shall be decided by a majority of shots of points. A rink shall score one shot or point for every stone which is nearer the tee than any stone of the opposing rink. Every stone which is not outside the outer circle shall be eligible to count. All measurements shall be taken from the tee to the nearest part of the stone. Disputed shots shall be determined by the acting skips, if they disagree by the umpire; or when there is no umpire, by a neutral curler chosen by the skips. No measuring of stones shall be allowed previous to the termination of the end except by the umpire when necessary for the umpire to decide whether or not a stone is alive.

22. On appeal from any competing skip in any competition, the umpire or the committee appointed for the purpose shall have the right to declare whether or not the ice is playable. In every case of postponement to another day the match, game, or competition when renewed must commence "de novo."

23. The duties and powers of an umpire shall be the general superintendence of a match or competition, the power of settling disputed shots, enforcing these rules and other questions that may arise in course of play.

#### Etiquette

The game of curling is a gentle game requiring very few written rules. The umpire makes final decisions only when called upon to do so, otherwise the players conduct the game themselves. Like all sports, there are some courtesies which are afforded the opponent and one's own team members. The game begins with the

vice-skips tossing a coin. The winner of the toss has choice of first or last rock of the end. The loser of the toss shall have a choice of rocks, that is black or white handles, or whatever is the distinguishing characteristic of the stones.

Before the game and after the game, it is customary to greet the opponents with a handshake. Before stepping onto the ice, the soles of the shoes are cleaned. All sliding surfaces of the rocks should be thoroughly cleansed before each shot. Brooms should not be dragged, but rather carried. The opposing skip should not place his broom on the ice during the opponent's delivery since this may be distracting for the player in the hack. The skip should move away from the opposing skip during the delivery and then move into an advantageous spot to sweep the opposing rock when it crosses the tee line.

All players should be alert to their game throughout the entire game. When it is a curler's turn to throw, he should be prompt. The skip tries to decide upon the shots without undue hesitation. While receiving instructions from the skip, the player should stand in the hack until it is clear what instructions the skip has given. When the player is in the hack, all other players should stay to the sides of the sheet so as not to distract the player. It is not considered proper etiquette to rush to the center of the ice to watch the path of the stone. It is customary to place the opponent's rock next to the opposite hack in preparation for his next throw. A good shot is signaled by raising the broom over the head.

Leads and seconds should avoid going into the house. Many times the third will confer with the skip at the back of the house, but not with the other members of the rink. Many of the courtesies of any sport, including curling, involve common sense and consideration for the other person. The beginner should be especially alert to the total situation and should be attentive to all shots. Such observation will help him understand the total game.

#### SECTION H - SUGGESTED PRESENTATION PROCEDURE

All sports demand endless hours of practice time to increase the skill performance levels. Curling should be no exception. A practice session should always be meaningful and should be game-like. It is best to practice with two or three other curlers whenever possible. The novice should always have a target to aim at when developing his delivery. His partner should hold the broom and help make the throwing of the rock a game-like situation. If the curler is in a team competition, it is important that the team try to practice together. Such practice will aid the skip in determining the strengths and weaknesses of the team and the individuals. It will also allow the members to understand each others abilities. The value of continuous practice cannot be over-emphasized.

The most desirable style in curling is a flowing, rhythmic delivery. The novice should begin his practice session with free sliding from the hack without the rock. This will help the beginner to adjust to the effect of sliding on the ice. After a

few trials, the novice should progress to a slide with the rock, sliding no further than the hog line, without releasing the rock. Here a partner should stand about 40 or 50 feet from the curler, holding the broom for a target. Concentration is on the smooth delivery, maintaining balance and control. Proper weight control of the delivered rock is not important at this point. The slide practice will aid the beginner in producing a delivery that is automatic and stylish for the novice.

Releasing the rock should be exercised only when the slide and the push from the hack has become automatic and controlled. First the rock should be delivered and then stopped by the partner who is standing approximately 40 or 50 feet away. Instead of concentrating on the end result regarding where the rock comes to rest, concentration on the mechanics of the throw will help the beginner understand his delivery. Too often the beginner wants to hurry his initial practice in the delivery and he wants to be concerned with the end result of his skill. By taking away the end result, the novice can concentrate on his form. It may be helpful at this point to have the curler slide between extra rocks that form a narrow pathway. (See Figure 13-1) Here the curler must maintain a balanced, straight slide. The rocks should be about 4 feet apart. Continuous drill emphasizing the delivery of the rock to the broom stationed at the center of the ice is imperative.

To practice the above techniques only half the sheet of ice is necessary. The instructor may have groups of two or three working from both ends of the sheet. After attaining success and



FIGURE 13-1

## Sliding Pathway

gaining confidence with this half delivery, the curlers should be encouraged to deliver the rocks the full length of the ice. Again, there should be a person holding the broom at the other end of the sheet. The slide and full delivery should be learned and controlled so that the beginner can begin to concentrate on the proper weight for the rocks. Draw shots should be practiced. The curler should throw the same shot with the same turn and weight time after time. In doing so, adjustments can be made on the shot which the curler can determine himself. A drill of throwing several rocks, with the draw shot, to the same place each time is beneficial because the drawing to another rock can be utilized at the same time. It would be wise to work in a team of three or four so that the curler

does not become fatigued which might result in sluggish rock delivery. The delivery of draw shots to different spots in the house with different turns is an essential technique on which to drill.

When the instructor feels that the novice has mastered the delivery and the draw shot, then the next session may include a review in the form of films or chalk talks. Prior to going on the ice, the instructor may wish to explain further shots and their strategy. The actual practice session would take the form of simulated game-like situations. The person holding the broom would place the rocks for situations of the take-out, the raise, and the guard shots. These basic shots should be practiced over and over, increasing the difficulty with increasing the practice. Accuracy and weight control are the problems to be solved by the beginner.

If the instructor is dealing with a large number of beginners, he may wish to introduce the sweeping skill before this time. Possibly when the beginners are throwing the full length of the ice, the sweepers could work on sweeping. Sweeping is an individual technique. The novice should try both styles of grip while practicing sweeping in a stationary position. Whichever style is most efficient and most comfortable for that curler is the one that should be used.

The beginner should practice sweeping on the draw shots and slow moving rocks first. Beginners should be encouraged to

sweep as close to the rock as possible and directly in front of the rock. When sweeping in pairs, each curler must decide on what side of the rock he will sweep and who will sweep next to the rock. The instructor may work with the sweepers during the actual sweeping by calling a cadence to aid the sweepers in the sweeping strokes and the footwork. Co-ordination of the strokes and the footwork will only be learned through repeated practice. One curler should practice the take-out shot, which is a much faster moving rock, and at the same time the sweepers will have the experience of sweeping at a faster pace.

As the novice becomes more skilled, simple plans for competition should be introduced. This may take the form of individual against individual, that is shot for shot, or team against team.

## CHAPTER VI

## EVALUATION

The following suggestions were incorporated into the manual as a result of the evaluation by the three experts. A full text of the suggestions of the experts can be found in the Appendix.

Mrs. H. R. Armstrong, Southern Ontario Ladies Curling Association Executive Secretary-Treasurer, pointed out the advantage of placing the byes early in the competition for both the single and double knock-out draws. She contended that the draw would continue with maximum participation if the byes were made as early as possible. Thus, a rink would not receive a bye late in the competition when such could result in a marginal advantage late in competition. Mrs. Armstrong also pointed out that an official game for men in twelve ends. This evaluator felt that the manual was complete for the beginner curler and that it would be a great aid to both the novice curler and the instructor.

R. J. Heartwell, ice-maker, competitor, and one-time coach, felt that the manual content was accurate and complete. He commented that the drills, the etiquette, and the strategy were excellent for beginners. The evaluator made several added observations that can be found in the Appendix.

R. Pauli, coach and teacher, responded that all information was appropriate for beginners. It was pointed out that a rock coming to rest with any part of it touching the end or sidelines is still in play. He cautioned that the rock must be completely over these lines to be taken out of play.

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## APPENDIXES

LETTER TO CURLING CLUB MEMBERS

Canadian Curling Association  
1000 University Avenue  
Ottawa, Ontario  
K1N 6L5

APPENDIX A

Letter to Curling Club Members

I am writing to you today to discuss the current state of the curling scene in Canada. It is my hope that this letter will provide you with the information you need to make informed decisions about your club's future. The curling community is facing many challenges, and it is up to us to address them together. I encourage you to stay active and engaged in your club's activities. Your input is valuable, and I would like to hear from you. Please contact me if you have any questions or suggestions. Thank you for your support and dedication to the sport of curling.

## LETTER TO CURLING CLUB MEMBERS

Coleman Gymnasium  
University of North Carolina  
Greensboro, North Carolina  
27412  
December, 1970

Dear

I am presently working toward my Master of Science degree at The University of North Carolina - Greensboro. My major is Physical Education and I have a special interest in the sport of curling. As partial fulfillment of my degree, I have chosen to write a thesis which is to be an instructional manual for beginner curlers. There are few teaching aids for curling and I am hopeful this manual will serve a need and be of worth.

Enclosed please find a personal data sheet and a survey questionnaire. I would greatly appreciate your advice and invite comments that may be of some informational aid to my study. Please feel free to add thoughts and suggestions that I may have overlooked. The personal data sheet is to be used to categorize your curling experience.

I am very appreciative of your help. As I have started my study already, would you please attempt to return the information to me by January 20, 1971.

GOOD CURLING. . .

Sincerely,

(Miss) Judy Moore

## PERSONAL DATA SHEET

NAME \_\_\_\_\_ AGE \_\_\_\_\_

OCCUPATION \_\_\_\_\_ CLUB \_\_\_\_\_

CURLING EXPERIENCE ENTRANTS: \_\_\_\_\_  
(Bonspiels)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Have you ever taught any group of people any sport skill?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

Have you ever been involved with teaching curling? To what  
extent? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## CURLING QUESTIONNAIRE

1. Rank, in order of importance, the following skills by placing a number beside the skill. Number one being the most important.

_____ Grip	_____ Shots
_____ Delivery	_____ Strategies
_____ Turns	_____ Sweeping
_____ Other (please specify) _____	
_____	

2. Rank, in order of importance, ONLY 3 of the following game aspects that you feel are the most important to the beginner.

_____ Accuracy
_____ A balanced swing delivery
_____ Proper weight
_____ A rhythmical sweeping pattern
_____ Game strategy
_____ Other (please specify) _____
_____

3. Rank, in order of importance, the problems that you might foresee in teaching the beginner to curl.

_____ taking their eye off the broom
_____ 'pushing' their shots
_____ sliding on their knees
_____ artificial lift in the backswing resulting in a wobbly stone delivery
_____ failure to stay with the stone while sweeping
_____ obtaining draw weight
_____ Other (please specify) _____
_____

4. Do you know of any "off the ice" exercises or practice drills that are used to prepare the beginner for curling? If so, please explain.

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5. Which do you find easier for beginners to learn during the delivery?

When delivering the stone, the beginner should:

a. hold the broom away from the body and out to the side.

b. use the broom as support and stabilization on the ice while sliding

c. Other (please specify) \_\_\_\_\_

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6. Which broom do you feel most efficient for the beginner?

regular American broom

Scottish brush or the push broom

7. Rank, in order of importance, the following shots for the beginner's learning. Rank only those shots applicable to the beginner.

Draw

Raise

Take out

Guard

In-wick

Chap and roll

Out-wick

Chap and lie

Chip the winner

Wick and curl in

Other (please specify) \_\_\_\_\_

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8. Any further comments that you feel may have some importance and be helpful for the presentation of the game of curling to the beginner or the teaching of curling. Please feel free to add any observation of beginners that you feel are important to teach for.

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APPENDIX B

Letter to Evaluators

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## LETTER TO EVALUATORS

Coleman Gymnasium  
University of North Carolina  
Greensboro, North Carolina  
27412  
January 30, 1971

Dear

I am presently working toward my Master of Science degree at The University of North Carolina-Greensboro. As partial fulfillment of my degree, I have chosen to write a thesis that is to be an instructional manual for beginner curlers. As literature in this field seems so scant, I am hopeful that this will serve a need.

In order that I have a validated study, I must have my manual reviewed and evaluated by experts in the field of curling. Your reputation is well known throughout the province and you come highly recommended. For these reasons I would like you to evaluate this manual for me. You are under no obligation but I would be very grateful if you would consent to do this. I anticipate having this ready for your review by mid April. At this time I would have some pertinent questions for you to answer and the critique of the manual would be clearly stated.

I would be honoured if you feel that you could do this. If, for some reason, you feel that you will be unable to do this, could you possibly recommend someone else that may be able to and who is a highly skilled player. The only other thing that I would ask of you is that you include a personal data sheet of your curling experiences such as bonspiels and honours.

As a Canadian here at school in the South, curling represents a new sport to many of my colleagues.

Thank you for your time and consideration and I hope that I will be hearing from you very soon. If you have any other questions then feel free to send them along.

GOOD CURLING. . .

Sincerely,

(Miss) Judy Moore

Coleman Gymnasium  
University of North Carolina  
Greensboro, North Carolina  
27412  
February 15, 1971

Dear

I am pleased that you are willing to append your observations to my manual. I am anticipating having this ready for your review by mid-April as I stated previously. I will be in touch with you just prior to that time and will inform you of any changes that may occur. I am looking forward to your assistance.

Thank you again.

Sincerely,

(Miss) Judy Moore

THE UNIVERSITY OF MICHIGAN  
 LIBRARY  
 ANN ARBOR, MICHIGAN  
 48106-1000

I have just received the manual for the...  
 which is a...  
 I have...  
 I will study the manual and...  
 I am...

APPENDIX C

Letter Regarding Evaluation of Manual

I have just received the manual for the...  
 which is a...  
 I have...  
 I will study the manual and...  
 I am...

## LETTER REGARDING EVALUATION OF MANUAL

Coleman Gymnasium  
University of North Carolina  
Greensboro, North Carolina  
27412  
April 24, 1971

Dear

Please find enclosed the manual for instruction for beginning curlers, which is a part of my thesis. I have included a format of the total thesis to illustrate how the manual fits into the completed manuscript.

If you will study the manual and answer the questions on the second sheet, I would be very grateful. Please feel free to suggest improvements or comments in any way.

I would be very grateful if you responded to this as soon as possible. I would like to have it back by May 14, or sooner if possible. As always, time is at a premium. I appreciate your co-operation for your evaluation is very significant to my study. I wish to thank you for your time and efforts. I hope that our paths will cross other than through our correspondence. I sincerely thank you for your help.

Yours truly,

(Miss) Judy Moore

1. Do you find this manual complete for the beginner curler?  
(Glossary references and the rules are part of the total thesis.)

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2. Is the content accurate in description? If not, please elaborate.

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3. Do you feel that everything is clearly and concisely stated?

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4. Do you have any suggestions or comments that might enhance the manual?

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615 Fifth Avenue  
Greensboro, North Carolina  
27405  
May 11, 1971

Dear

I received your evaluation sheet today and find that you have been very generous with your remarks and review. Your help has been very much appreciated. Thank you again.

I remain . . .

Yours truly,

(Miss) Judy Moore

APPENDIX D

Evaluators Remarks

## EVALUATORS REMARKS

H. R. Armstrong

This evaluator felt that the manual was complete for a beginner and that the material was clearly and concisely stated. She pointed out that 10 ends constitutes an official game for women but not men. She pointed out the advantage of the draw structure, proposed by the Ontario Curling Association, for the single and double knock-out competitions. The evaluator thought the manual was thoroughly done. She felt that the manual would be of great help to both the new curler and also to anyone teaching curling.

R. W. Pauli

This evaluator felt that the manual was complete for a beginner and that it was accurate with the exception of a rock coming to rest on the end or side lines. If a rock comes to rest with any part of the rock touching the end line, it is in play. A rock may touch the side lines and still be in play. Mr. Pauli thought that more life-like illustrations would help the appearance of the manual but assumed they were not economical. He felt actual photographs could "brighten" the manual.

R. J. Heartwell

This evaluator presented most of his remarks as further suggestions which might enhance the manual. He felt the manual was accurately stated and appropriate for beginners. He stated

that all ice exudes moisture and the friction of the broom against the ice breaks down the moisture build-up and the pebble, making the rock travel faster due to less ice resistance. The tee line is also called the sweeping score (an old term). Mr. Heartwell pointed out that both turns are imparted with the wrist. When delivering an out-turn, the handle of the rock may point toward 3 o'clock and at the end of the delivery the fingers are pointing at the broom. It is important not to bend the elbow out of position during the delivery.

When placing the broom on the ice during the delivery, it is important to remember that the three point contact (foot, rock, and broom) is for added balance. The weight is principally on the sliding foot. The curler should not "ride" the rock or the broom. Some curlers find it helpful to use a count system during the slide and rock release. It is thought that this helps create a smoother delivery and a more definite weight control. R. J. Heartwell points out that many of the more highly competitive curlers are using a forceful push from the hack during the delivery for more accurate weight control. The evaluator made the observation that proficient curlers are using the long slide more predominantly each curling season.

This evaluator felt that a good defense was a wide open offense. Personally, Mr. Heartwell felt that each end should be played for a large score except when the game is tied or when playing for position for the last rock in a very close game. Here the advantage of the last rock is more significant than a large score in that particular end.

Mr. Heartwell remarked favourably concerning the inclusion of the etiquette and exercise sections. He felt that curlers tend to become neglectful of these two important parts of the game.



## RESULTS OF THE QUESTIONNAIRE

Question #1

Rank, in order of importance, the following skills by placing a number beside the skill. Number one being the most important.

		Total <u>Rank</u>
(lowest number receives greatest emphasis)	Grip	78
	Delivery	50
	Turns	76
	Shots	90
	Strategies	105
	Sweeping	114
	Others	-rules and etiquette -compatibility -finger-tip control -proper weight -"hit the broom" -balance

Question #2

Rank, in order of importance, ONLY 3 of the following game aspects that you feel are the most important to the beginner.

	Total <u>Rank</u>
Accuracy	54
Balanced swing	33
Weight	56
Sweeping rhythm	13
Strategy	7
Others	-

Question #3

Rank, in order of importance, the problems that you might foresee in teaching the beginner to curl.

		Total <u>Rank</u>
(lowest number receives greatest emphasis)	Taking eye off the broom	51
	Pushing shots	60
	Sliding on knees	85
	Artificial lift in back- swing	88
	Failure to stay with rock when sweeping	104

Question #3 (continued)

	<u>Total Rank</u>
Obtaining draw weight	69
Others	-sportsmanship -release the rock in front of body -square posture in the hack -lack of balance

Question #4

Do you know of any "off the ice" exercises or practice drills that are used to prepare the beginner for curling? If so, please explain.

- Harvard Step test
- squeeze rubber balls
- 10 pin bowling
- push ups and chin ups
- jogging
- deep knee bends

Question #5

Which do you find easier for beginners to learn during the delivery?

	<u>Total Responses</u>
Hold the broom away from the body and out to the side.	15
Use the broom as support and stabilization on the ice while sliding.	10
Others	-most comfortable -use a three point delivery for greater balance

Question #6

Which broom do you feel most efficient for the beginner?

	<u>Total Responses</u>
Regular American broom	26
Scottish push broom	1

Question #7

Rank, in order of importance, the following shots for the beginner's learning. Rank only those shots applicable to the beginner.

	<u>Total</u> <u>Rank</u>
(lowest number receives greatest emphasis)	
Draw	29
Take-out	55
In-wick	
Out-wick	
Chip	
Raise	74
Guard	77
Chap and Roll	
Chap and Lie	
Wick and Curl In	

Question #8

Any further comments that you feel may have some importance and be helpful for the presentation of the game of curling to the beginner or the teaching of curling. Please feel free to add any observation of beginners that you feel are important to teach for.

- day long clinics
- films
- teach the turning effect as an end refinement of the delivery. To teach the turn first may result in an exaggerated twist
- discussion with all members of the rink so that all understand the skip's strategy for the game
- explain different ice conditions
- be comfortable
- strategy will depend upon the capabilities of the players
- finger-tip control
- watch the top of broom handle
- eyes should be fixed throughout the delivery
- take plenty of time in the hack

TABLE I  
Results of the Personal Data Sheet

Occupation	Age	Bonspiel Experience	Taught Curling		Subjects Taught
			Yes	No	
Sales manager	45	7 yr.	X		Juniors
Real estate Manager	48	7 yr.	X		
Food broker	60	Quebec/Ontario	X		Beginners
Insurance	45	11 yr.		X	
Engineer	30	7 yr.		X	
Engineer	29	8 yr.	X		Beginners
Drawmaster	70	30 yr.	X		New members
Florist	42	20 yr.	X		
Judge	41	10 yr.	X		New members
Salesman	50	25 yr.	X		High school students
Accountant	52	20 yr.	X		Beginners
Accountant	49	5 yr.		X	
Manager	60	40 yr.	X		School boys
Construction Proj. mgr.	46	7 yr.		X	
Manager	49	12 yr.	X		New members
Army officer	60	15 yr.	X		New members
Engineer	45		X		New members
Retired	44	15 yr.	X		
Store keeper	52	7 yr.	X		New members
Industr. rep.	43	4 yr.		X	
Engineer	55	16 yr.	X		New members
Office clerk	37	7 yr.	X		Business girls
Engineer	40	6 yr.	X		
Teacher	42		X		Coach of school boys
Civil servant	33	17 yr.	X		New members
Principal	43	4 yr.	X		