

## "DUCK ON THE ROCK": THE ORIGINS AND MYSTERIES OF BASKETBALL

Kenneth L. Swalgin

*The Pennsylvania State University, PA, USA*

Original scientific paper  
UDC 796.233(091)

### Abstract:

The sport of basketball in the past 110 years has grown to be one of the most exciting and popular games in the world. Despite the game's popularity, I would venture to guess that few coaches, fans, or students of the game have a thorough understanding of the game's origin, the rationale for its creation, or the genesis of the concept of tossing a ball through a raised goal. This article will attempt to shed some light on these issues and trace the game's development from its inception in 1891 to its more modern form in 1939, the year James Naismith died. The article will also trace the significant equipment and rule changes that have brought the game into its modern form, and investigate the origins of some of the game's most unique terminology. Through this process of exploration into the history of the game, it will become clear that although the game has changed significantly over the years, the fundamental structure of the game has remained intact, a tribute to its inventor Dr. James Naismith.

When studying the history of sport, and ball sports in particular, there are very few sports whose origins can be traced with any certainty. Basketball however, is one sport whose origin is known but to many coaches, fans, and students of the game its origins are still shrouded in some mystery. It is the purpose of this article to take a look back to 1891, the year James Naismith an instructor at the Young Men's Christians' Association (YMCA) International Training School in Springfield, Massachusetts invented the game of "basket ball."

The above picture of Dr. James Naismith holding a modern day basketball may at first seem out of place.

However, the picture is a metaphor representing how little the actual structure of the game has changed since its inception in 1891. This article will trace the origin and development of the game from 1891 to 1939, the year of Naismith's death. The article will also describe the rationale for the new game, trace the origins of some of the game's unique terminology, trace the essential rules and equipment changes that brought the game into its modern form, and most importantly, describe the genesis of the game's most defining characteristic, that of shooting a ball into a raised goal.

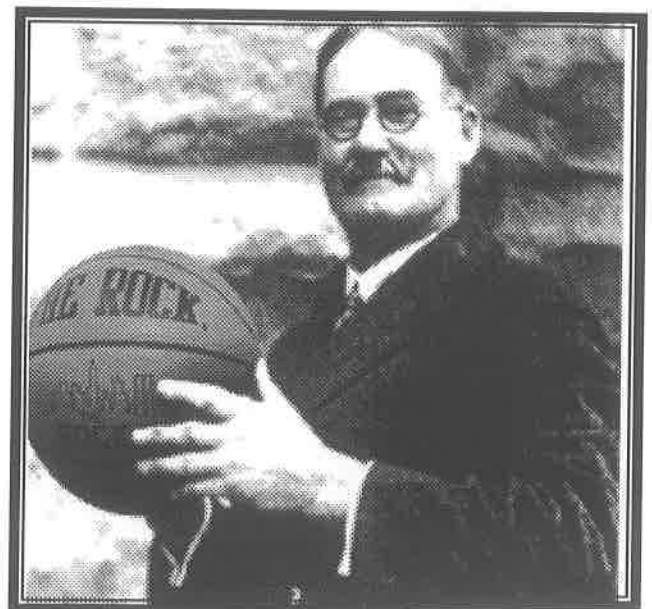
**Key words:** history of basketball, development of the game, James Naismith

### "DIE ENTE AUF DEM FELS": URSPRUNG UND GEHEIMNISSE DES BASKETBALLS

#### Zusammenfassung:

Die Sportart Basketball ist in den vorigen 110 Jahren ein der aufregendsten und populärsten Spiele in der ganzen Welt geworden. Trotz dieser Popularität wage ich behaupten, dass wenige Trainer, Anhänger oder Spielgelehrten ein vollkommenes Verständnis über den Ursprung dieses Spiels, die Gründe dessen Erfindung oder die Schöpfung der Idee, den Ball durch ein erhöhtes Tor einzuwerfen, haben. Diese Arbeit versucht etwas Licht auf diese Fragen zu werfen und die Entwicklung des Spiels von den Anfängen in 1891 zu seiner moderneren Form in 1939, dem Todesjahr von James Naismith, darzustellen. Es werden auch bedeutende Änderungen der Ausstattung und der Regeln beschrieben, die das Spiel zu seiner modernen Form geführt haben sowie die Wurzeln einiger der einzigartigsten Basketballausdrücke erforscht. Unsere Untersuchung der Basketballgeschichte zeigte, dass die Grundstruktur des Spieles trotz bedeutender Umwandlungen im Laufe der Jahre intakt geblieben ist, womit seinem Schöpfer, Dr. James Naismith einen Tribut auferlegt ist.

**Schlüsselwörter:** Geschichte des Basketballs, Entwicklung des Spiels, James Naismith



James Naismith

## **A Canadian by birth**

To better understand Naismith's unique contribution to the history of sport, it is essential to look back to Naismith's formative years in an attempt to understand the career choice that took him from preparing for a life in the ministry to preparation to be a physical educator at the YMCA International Training School. It is also useful to look further back to Naismith's childhood and the play spirit he developed as a boy to determine the roll this factor played in leading him to choose the most essential structural element in the game "new game".

Naismith was born in 1861, grew-up an orphan after his parents died when he was eight years old. Naismith was raised by his uncle in Almonte, a small town in the northern part of Ontario, Canada. Like the other boys in the town, Naismith worked the farm with his uncle, but when it was time for leisure he would gather with the other boys at a place called Bennie's Corners to play at all manner of contests. Many of the made-up games were created on the spot and soon forgotten. However, the creative play instinct Naismith developed as a youth at Bennie's Corners would serve him well later. One of his most favorite games played with his boyhood friends was called "Duck on the Rock". "One boy guarded his 'duck' from the stones of the others; and the fun began as the boys gathered their stray shots." (Naismith, 1941 p.14) This game would later play an important role in the origin of basketball and will be described in detail later.

## **A turning point, the college years**

In 1883 Naismith left Almonte to study for the ministry at McGill University in Montreal. One evening, Naismith, was watching the football (rugby) team scrimmage and was recruited to join the team when one of the players was injured. Due to the Puritan influence of the time (a medieval Christian doctrine of hatred of the flesh, high religious purity, and a work ethic that prohibited any form of play or dance), the ethos created a moral conflict for Naismith as football was thought to be the devil's tool. However, his play instincts, developed as a boy won out

over the Puritan taboo. He then made the decision to join the team; never missed a game while at McGill, and this decision to play, lead to the career choice that would eventually change the course of sport history.

The turning point that changed Naismith's life's work came in a football game in his last year at college when one of his teammates who used profanity during a game, later apologized to him for the indiscretion. Naismith reasoned that his teammate's reaction was caused by the control he exercised over himself while still playing the game with great intensity. He concluded from this experience that there could be another way to do-good and to serve his fellow man other than preaching. (Naismith, 1941 p.28)

From the director of the local YMCA, Naismith learned of the YMCA International Training School in Springfield, Mass. Its mission was to train instructors in physical education. He decided that after graduation he would go to the Training School to investigate the possibility that through sport and physical education, he could have a positive Christian influence on his fellow man.

## **The Springfield years**

After graduating from McGill, Naismith spent most of the summer visiting YMCA's in the eastern part of the United States, and spent a few days at the summer school in Springfield. There he had the opportunity to meet and talk to Dr. Luther Gulick, Dean of the Physical Education Department. Dr. Gulick was a young and dynamic man who shared with Naismith the doctrine known as Muscular Christianity, a belief that "proper cultivation of the body could further, rather than hinder, proper mental and spiritual growth". (Young, 1996 p.30)

At this point Naismith decided to enrol and study to become an instructor. After a year of instruction, Dr. Gulick offered Naismith a position on the faculty at the Training School.

## **Rationale for the new game**

In the late 1870's and 80's sport and

athletics (track) began to flourish as college sports became popular. The former college graduates who would later become the leaders of communities in which they settled, remembered the thrills of playing games like football and baseball in college and became increasingly dissatisfied with mass and squad gymnastics as a means of exercise which were offered in the winter months at local YMCAs. This public dissatisfaction threatened the whole concept of physical training in YMCA's. Realizing the great need for a new indoor game that would satisfy the public's desire for a more exciting activity between the football and baseball seasons, Gulick brought his faculty together in the fall of 1891 to discuss the matter.

During the meeting, Dr. Gulick stated, "there is nothing new under the sun. All so-called new things are simply re-combinations of the factors of things that are now in existence." Naismith's reply to the statement was, "if this is so, we can invent a new game that will meet our needs. All that we have to do is to take the factors of our known games, recombine them, and we will have the game we are looking for." (Naismith, 1941 p.33)

At this point it may be useful to identify the games known to Naismith at the time, determine which games may have influenced Naismith's structural scheme, and also discount a number of ball and raised goal games whose origins or discovery would seem to discount any claim of influence on Naismith's new game. In 1891, the games most familiar to Naismith were the games he had played, or games that he had been exposed to due to his Canadian heritage. Rugby football, American football, association football (soccer), baseball, ice hockey, and lacrosse were the games Naismith knew best. With the exception of baseball, all the games had a similar objective, to move the ball or puck over a goal line or into a goal. Ice hockey, soccer and lacrosse, games that don't have a scrimmage line but have a free flow of both player and ball movement would appear to be the games he drew upon most.

Two other ball and raised goal games had their origins around the time Naismith invented basketball. Both however, would appear to be adaptations of the Naismith game. Netball was first played in England in

1887 primarily by women. Because the earliest version basketball was played without the use of the dribble, this made the game much more playable for women, whose formal Victorian dress made it easier to play a game that only allowed ball movement via the air. Basketball never caught on with English men due to the overwhelming popularity of rugby, soccer, cricket and a climate that allowed rugby and association football to be played in the winter months. Korfbal was another game adapted from basketball. The game was developed as a co-ed version of basketball and was first played in Amsterdam in 1901. The game required men to match-up and women to match-up within zones that divided the court. This structure allowed interaction between men and women without direct contact. It is interesting to note that the modern version of these games is played without a backboard, as was the case in the original form of basketball.

Another ball and raised goal game which one author claims may have influenced Naismith's thinking was a game played by the Maya, and preceded basketball by a thousand years. The ritual ball game called Pok-ta-pok was played by attempting to propel a large solid rubber ball with only the use of the shoulders, thighs, and hips through a stone ring mounted vertically on a stonewall 25 feet high. For a more complete description of the game, see (Sharer, 1996, p. 126). Brash 1970, states, "It was possible Naismith was influenced by the ancient game. As a student of religion, he must have been aware of the ritual game". This however, would not seem likely, as the great ball court at Chichen Itza located in the Yucatan of Mesoamerica was not excavated until 1900, nine years after Naismith invented the game.

In the winter of 1891, Naismith was assigned to teach a class of secretaries (adult students training to become administrators), who were not very interested in formal gymnastics as the medium for physical training. Naismith came to the conclusion that this class could only be motivated with a new form of indoor activity that was as exciting as many of the outdoor sports. He concluded that this indoor activity must meet the need for physical training and due to limited indoor space would not emphasize

physical contact. Naismith then set upon the task of instituting his and Dr. Gulick's philosophy that there is nothing new under the sun, and all apparently new things were merely combinations, modifications and adaptations of elements already present that could be recombined to create a new form of play.

For the purpose of historical accuracy, an indoor game had been played as early as 1887. The game was called indoor baseball and was developed for the same reasons as basketball, to provide a healthy non-contact activity between the end of football season and the start of baseball season. The Chicago game (named after the city where it was invented) was played with a large soft ball originally crafted from a boxing glove with a circumference of sixteen inches. The ball is sometimes referred to as a "mush" ball. The size and softness of the ball limited the range the ball could be struck and therefore the game could be played in large halls or armories. The game later moved outdoors and became known as softball. (Dickson, 1994, p. 46)

### **Fundamental elements of the new game**

A set of fundamental elements, the generaliz-ed structure Naismith used to develop his new game were listed by John Bunn, later the Springfield College basketball coach (1946-56) who had played for "Phog" Allen the great University of Kansas coach who succeeded Naismith. The following list was published in 1949 in the *Preface to The Rules of Basketball, 1894*.

- Two teams.
- A ball to implement play.
- A play area.
- Movement of the ball to the goal, or some implement under limited offensive play conditions.
- Provisions to attempt to prevent the other team from reaching its objective.
- Penalties for violation of the rules.
- A plan for scoring.

With this set of fundamental elements for a new game in mind, Naismith analysed the

games that used a ball and extracted the characteristics that fit the needs of his new game. One of the first considerations was the type of ball to be used. Here, it was important that the ball be large enough so that it could not be concealed during play. The need for a larger ball limited the choices between a rugby ball that was oval in shape and designed to be carried, and a soccer ball that was round. The soccer ball was chosen because carrying the ball as in Rugby would cause tackling, making the game too rough for indoor play. It then followed that if tackling was not permitted, running with the ball which lead to tackling would also be eliminated. The inability to run with the ball led to the concept of passing or throwing the ball in any direction in an attempt to position the ball to achieve the scoring objective.

Passing the ball in any direction was a radical change from the rules of rugby and American football that allowed the ball to be passed laterally and backward, but not forward. The forward pass was not legal in American football until 1906. It was little used partially because until 1910 it had to be thrown from five yards behind the line of scrimmage and five yards to either side of where the ball was put in play. Fields were ruled off in checkerboard patterns to aid officials. The pattern looked like a gridiron, thus the origin of the term gridiron which became synonymous for American football. (Flexner, 1982, p. 246)

The next and most important structural element needed for the new game was an objective of play. Existing games of the time all had some form of goal as the objective of scoring. The problem was that all the goals were at ground level, i.e., the goal line in football, the soccer goal, the lacrosse goal, etc. All these goals Naismith concluded would make it difficult to avoid rough play. The breakthrough to eliminate the problem of rough play would come from a game Naismith played as a child back at Bennie's Corners.

### **Duck on the Rock**

The breakthrough concept or idea for the objective of the new game (to shoot a ball into

a raised goal), came from the game "Duck on the Rock" which was played by Naismith as a child at Bennie's Corners next to the blacksmith shop. Here, a large rock or bolder, shaped like a washtub stood about knee high and was the centre of play. Naismith 1941, recalled the game as follows:

Each of us would get a "duck", a stone as large as two fists. About twenty feet from the rock we would draw a baseline, and then in various manners we would choose one of the group to be guard, or 'zit'. To start the game, the guard placed his duck on the rock, and we behind the baseline, attempted to knock it off by throwing our ducks. More often than not, when we threw our ducks we missed, and if we went to retrieve them, the guard tagged us; then one of us had to change places with him. If, however, someone knocked the guard's duck off the rock, he had to replace it before he could tag anyone.

It came distinctly to my mind that some of the boys threw their ducks as hard as they could; when missed, the ducks were far from the base. When they went to retrieve them they had farther to run and had more chance of being tagged. On the other hand, if the duck was tossed in an arc, it did not go so far. If the guard's duck was hit, it fell on the far side of the rock, whereas the one that was thrown (tossed) bounced nearer the base and was easily caught-up before the guard replaced his. When the duck was thrown in an arc, accuracy was more effective than force. ( pp. 49-50)

With this boyhood game in mind, Naismith envisioned a game where players would toss a ball in the shape of an arc into a goal.

Naismith's next thought was to place a box at each end of the floor and each time the ball entered the box it would count as a goal. He later recognized a major flaw in the concept. If the defensive players gathered around the box, it would be difficult or impossible to score a goal. To solve this problem he came up with the idea of placing the goal above the player's heads. This would force the defenders to move away from the goal in an attempt to get the ball before the offensive team had a chance to shoot for the goal.

Naismith now had nearly all the major elements of his new game. He needed a means to start the game and again looked at

other sports for guidance. Rugby used a method of putting the ball back in play by having an official toss the ball high above two opposing lines of players, the line-out. From this concept he derived the jump ball. Again, because of the need to curtail rough play, he decided to restrict the jump ball to one opposing player from each team.

Naismith now had all the major elements of his new game. All he needed were two wooden boxes about eighteen inches square for the goals. He asked the superintendent of the building, a man named Stebbins, to find him two boxes. Stebbins, stated that he did not have any boxes at the time, but he did have two old peach baskets in the store room, "if they will do you any good". (Naismith, 1941 p. 53) The game of basketball was born, born from the creative genius of a man, the play spirit of a boy, and a set of happy coincidences, a peach basket instead of a box, and most importantly a balcony surrounding the playing floor which made it possible to hang the two peach baskets at the height of ten feet. The game has actually lived and grown to its present proportions on that one element alone. (Bunn, 1949 p. 5)

### **The first game**

Naismith states that in his own mind he was sure the new game would be successful. However, the real test would take place when he presented the new game to his class and they accepted it. (Naismith, 1941 p. 55) He divided his class of eighteen men into two teams of nine players. Naismith positioned each team by dividing the players into three forwards who played near their own goal, three centers who played the middle section of the court, and three backs who defended the opponent's goal. Naismith chose two of the centers to jump and threw the ball between them to start the first game of "basket ball" on December 21, 1891.

The name of the game actually came from one of the players, Frank Mahan. Mahan suggested at first to call the game Naismith Ball. Naismith's response was to laugh and say "that name would kill the game". Mahan's next suggestion was, "why not call it basket ball, we have a basket and a ball, and it seems to me that would be a good name for

it". Naismith agreed and the name of the new game became "basket ball". (Naismith, 1941 p. 60)

### **The original thirteen rules**

The rules were first published in The Triangle, the school newspaper in January of 1892 under the heading, "A New Game". After reading the original rules, it is clear that despite the many changes in the game over the years, the original rules of basketball have not fundamentally changed with the exception of the dribble rule that was instituted formally in 1889. All other expansions have been the result of refinements, clarifications, and explanations necessitated through problems and perfections in play due to coaching emphasis (Bunn, 1949 p. 6).

The ball to be an ordinary Association football (soccer ball).

1. The ball may be thrown in any direction with one or both hands.
2. The ball may be batted in any direction with one or both hands (never with the fist).
3. A player cannot run with the ball. The player must throw it from the spot he catches it; allowances to be made for a man who catches the ball when running at a good speed.
4. The ball must be held in or between the hands; the arms or body must not be used for holding the ball.
5. No shouldering, holding, pushing, tripping, or striking in anyway the person of an opponent shall be allowed; the first infringement of this rule by any person shall count as a foul, the second shall disqualify him until the next goal is made, or, if there is evident intent to injure the person, for the whole of the game, no substitute allowed.
6. A foul is striking at the ball with the fist, violation of Rules 3, 4 and such as described in Rule 5.
7. If either side makes three consecutive fouls, it shall count a goal for the opponent. (Consecutive means without the opponent the meantime making a foul.)

8. A goal shall be made when the ball is thrown or batted from the grounds into the basket and stays there, providing those defending the goal do not touch or disturb the goal. If the ball rests on the edge and the opponent moves the basket, it shall count as a goal.

9. When the ball goes out of bounds, it shall be thrown into the field and played by the person first touching it. In case of a dispute, the umpire shall throw it straight into the field. The throw-in is allowed five seconds. If he holds it longer it shall go to the opponent. If any side persists in delaying the game, the umpire shall call a foul on them.

10. The umpire shall be the judge of the man and shall note the fouls and notify the referee when three consecutive fouls have been made. He shall have power to disqualify men according to Rule 5.

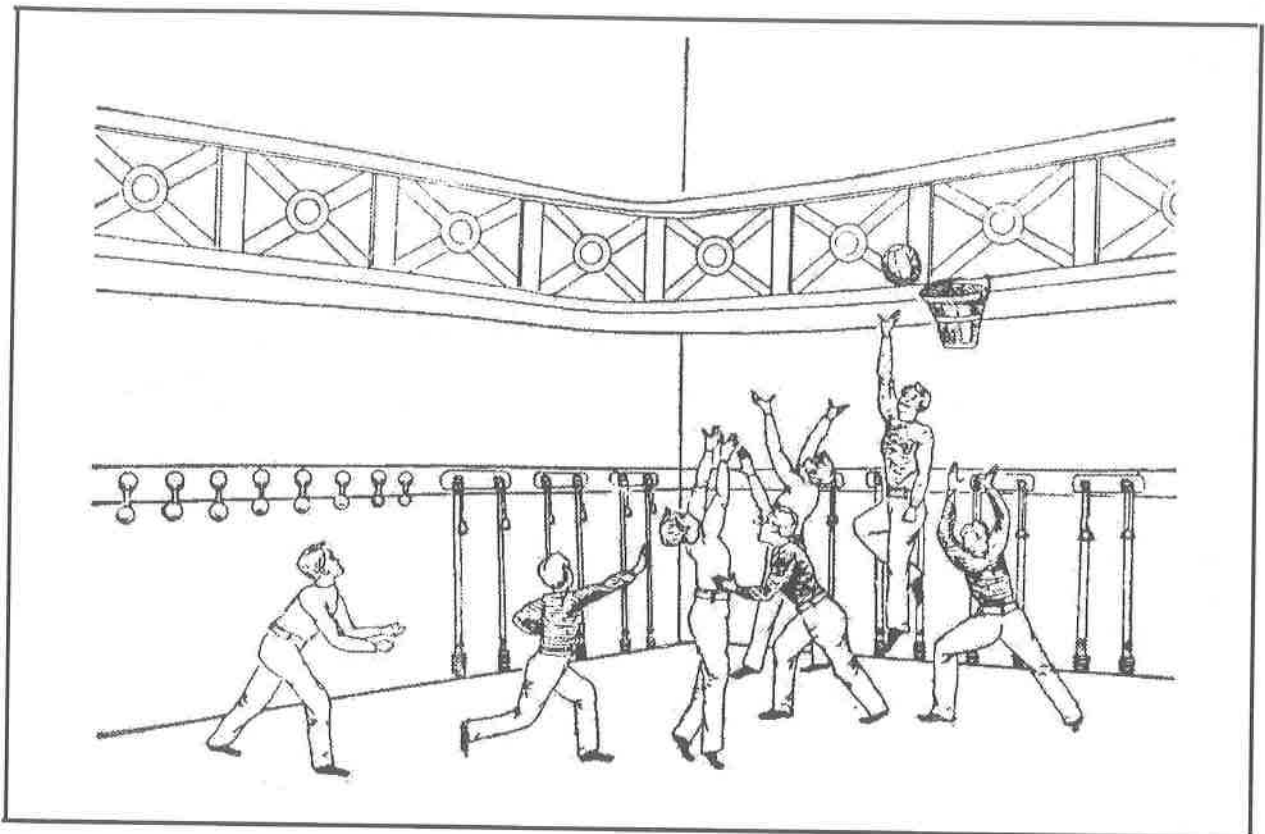
11. The referee shall be the judge of the ball and shall decide when the ball is in play, in bounds, to which side it belongs, and shall keep the time. He shall decide when a goal has been made, and keep accounts of the goals, with any other duties that are usually performed by a referee.

12. The time shall be two fifteen minute halves, with five minutes rest between.

13. The side making the most goals in that time shall be declared the winner. In case of a draw, the game may, by agreement of the captains, be continued until another goal is made.

### **Evolution of the game**

As was stated above, the only fundamental rule change to the game was the addition of the dribble rule. The origin of the dribble came about as a means of creating space when players were closely guarded. Because players were not allowed to run with the ball, as a tactic to create space to pass, shoot or maintain possession of the ball, players would either roll or bounce the ball away from their opponent in such a way to recover it again. As is often the case in the development of any sport, especially those without governing bodies, the rules were often adapted in relationship to innovations of both players



*Figure 1: Basketball Print – Springfield YMCA in the January edition of The Triangle*

and coaches. By 1896, Yale University was employing the dribble as a standard means of attack. The dribble was officially adopted in 1898. For seven seasons, 1901 - 1908, the dribbler was not allowed to shoot. In 1915 this restriction was permanently removed. (Isaacs, 1975, p. 24)

One of the most important objectives of Naismith's new game was the elimination of rough play. Because possession of the ball then, as it is today, is one of the most important aspects of successful play, the out-of-bounds rule had to be changed. The original out-of-bounds rule gave possession of the ball to the player who touched it first once the ball went out-of-bounds. This created rough and sometimes dangerous play due to the lack of room between the court and wall and other obstacles. In 1913 that the rule was changed to reflect its current status of giving the ball to the team not touching it last before the ball touched out-of-bounds.

Another interesting adaptation of the personal foul and disqualification rule was changed early on in the game's development. The original rule disqualified a player temporarily after two fouls until the next

basket was scored. The rule also stipulated that a point was given to the opposing team if three consecutive fouls were committed. The disqualification rule had little effect due to the large number of players, nine-a-side. The three consecutive foul-rule, however, was a very serious penalty as this violation gave the opposing team a goal, and goals in the early days of the game were difficult to achieve due to the large number of players playing at one time and lack of skill associated with shooting the ball as opposed to throwing the ball at or into a goal. In many games no more than two or three goals would be scored between the two teams. Due to the severity of this penalty, the value of a field goal was increased to three points and the three consecutive foul-rule continued to count as one point. We can see here that the concept of the three point shot has its roots early in the game's development.

The next major change allowed the fouled team to make a try from a line twenty feet away and was worth the same as a goal. You may recall that in Naismith's description of the "Duck on the Rock" game the original safe line was twenty feet away from the target as well. In 1895 the free throw line was

moved to fifteen feet. The following year the points were changed to two for a field goal and one for a free throw or foul goal.

The original rules had no restriction on the number of players on a side or the size of the playing area. Because dribbling was not part of the original game, the game could be played outdoors as well as in. Naismith writes in 1894 when describing the conditions for the new game, "that if a very large group wishes to play at the same time, then two balls may be used. (Naismith & Gulick, 1894 p. 3) In 1893 it was agreed that when the game was played for recreation, any number could participate. In fact, at Cornell University, an attempt to play the game with 50 on a side took place. For match games however, a definite number should be limited to each side. For small gymnasiums five-a-side, and for large gymnasiums nine-a-side was recommended. By 1895, the number had been fixed to five. (Naismith, 1941 p. 73)

Diagrams 1 & 2 illustrate the original drawings for the positioning of players for both the nine-man game and the five-man game. The drawings were first published in *Basketball, 1894*, Spalding Athletic Library. The diagram for the nine-man game as we will see later had a profound effect on the development of the women's game.

One of the most significant and disappointing rule changes in Naismith's eyes was a rule that in his view changed the character and flow of the game for the worst. This was the elimination of the center jump after free throws in 1936, and then field goals in 1937. Naismith, was opposed to this change as he felt the centre jump gave each team an equal chance to get the tip. He wrote, "there was never any objection to a team that had an exceptional jumper and could secure the tip every time; but today there is an objection to the team that gains this same advantage by the use of a very tall man." (Naismith, 1941 p. 85) Naismith, felt that the center jump is to basketball what the kick-off is to football, both thrilling parts of the game. It would seem however, that although thrilling, the kick-off after a score in football is principally the same as giving your opponent the ball after scoring in basketball. At the age of 75, Baker (1996 p. xvi) suggests that Naismith's objection to this rule change that brought the game into its more modern form was a sign that the game had passed him by.

### The women's game

There is a long, interesting, and complex history of the women's game that is not within

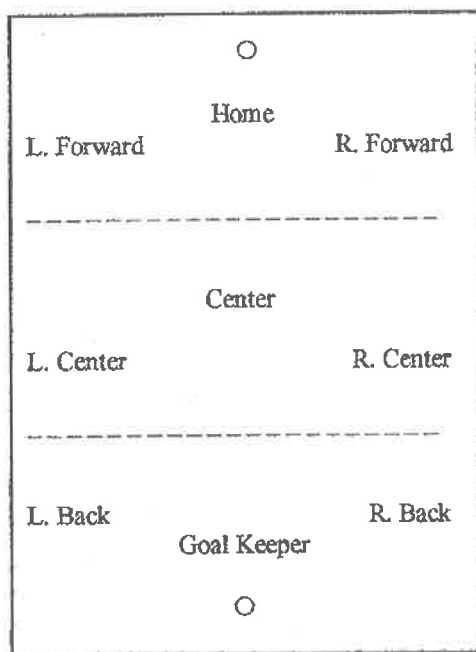


Diagram 1: Diagram of Basketball with Nine Men Positions of Players

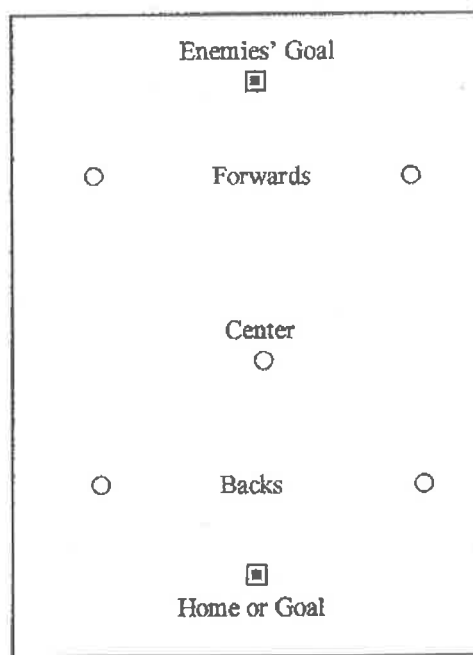


Diagram 2: Diagram of Basketball with Five Men Positions of Players



the scope of this article. The intent here is only to touch on the origins of the women's game and how it developed its own unique identity.

Soon after the game was introduced and was being played on a regular basis, a group of young women grade school teachers passing by the Springfield YMCA gym were drawn inside to investigate a loud commotion. From the balcony they watched the new game with great enthusiasm and after a few weeks decided to ask Naismith if they could try the new game. Naismith agreed, and after their first try at the new game in which the women showed little skill but great enthusiasm, they practiced on a regular basis. Later other teachers were brought in to play and two teams were formed. A game was played and from that point the women's game grew rapidly.

The first college women's game was played between teams made-up of freshman and sophomore girls at Smith College in 1893. The game was reported the next day in the Springfield Republican. The report stated that no male spectators were allowed at the game as the girls wore bloomers to compete. The dress for men in those days were long trousers, so it would appear that the women were the first to wear a form of shorts to play the game. In public however, more formal attire was the standard for many years to come.

In the evolution of the women's game, a critical event took place in 1895. Clara Baer, of Newcomb College in Louisiana misinterpreted a published diagram (see diagram 1) in which dotted lines appeared to separate the court into three zones. The lines were meant to describe the positions of the players at the start of the game. She modified the boy's game by restricting the girls within what appeared to be three zones. This restriction was later modified to two zones the front and backcourts. The restriction continued until 1972 when the NCAA lifted the restriction allowing players to play a full court game. (B. Jaynes, 2000, personal communication, March 17, 2000)<sup>1</sup>

## The ball, rim, backboard and court

The original description of the game called for an ordinary Association (soccer) football. By 1894, a larger ball was adopted as the official ball and was produced by Overman Wheel Company of Chicopee Falls, Massachusetts. The specifications for the new ball were listed in the 1894 rules as being no less than 30 inches or more than 32 inches in circumference.

By 1898 the weight of the ball was specified at a minimum of 18 ounces and a maximum of 20 ounces. The manufacturers complained that the weight was too light to produce a lasting ball and in 1909 the weight was increased between 20 and 22 ounces. The current circumference for the men's ball is between 29.25 and 30.0 inches. For the women's ball it's between 28.5 and 29.0 inches. The men's ball now weighs between 20.0 and 22.0 ounces and the women's ball weighs between 18.0 and 20.0 ounces.

The original rule that required the ball to stay in the peach basket to count as a goal and saved the game from being called "box ball" also initiated a series of changes in the basket. The first change was precipitated by the problem of how to retrieve the ball after each goal was scored. In courts where balconies were unavailable to attach goals, allowing spectators to retrieve the ball, a ladder was brought out to retrieve the ball. To solve this inconvenience, a hole was drilled in the bottom of each basket and a pole was used to pop it out. The peach basket used was larger at the top than at the bottom. When nailed to a flat surface, this caused the basket to tilt downward. To address this problem, a cylindrical basket was soon developed made of heavy woven wire. This may be why the basket is still often referred to as the cylinder. The term bucket, as in "score the bucket" originated from the use of wood or metal buckets that were often used as baskets in the first ten years of the game. (Flexner, 1982, p. 50)

In 1893, the Narragansett Machine Company of Providence, R.I., constructed a metal ring with a net that was closed at the bottom. A system, which fastened a chain to the bottom of the net, then passing over a pulley on the brace that was fastened to the

<sup>1</sup> Betty Jaynes, Executive Director of The Women's Basketball Coaches Association. (WBCA)

ring and then to the basket support was devised to retrieve the ball. A referee could simply pull a handle attached to the chain and the ball would roll out. Shortly after the net that was enclosed at the bottom was introduced, impatient players cut a hole in the bottom of the net to speed-up the flow of the game. The open bottom net basket became the only one allowed in the rules by 1912.

The use of the backstop or backboard came into existence quite by accident. As the popularity of the game grew, spectators often watched from galleries or balconies where baskets were attached. Overzealous spectators, eager to see their team win, would often reach over and guide the ball to enter or miss the basket. To protect the game from the spectators, in 1895 a rule was instituted stating that there should be a backstop made of screen or other solid material. The size should be six feet by four feet. (Current dimensions 6 x 4 or 6 x 3.5 for college) In courts with a balcony, a heavy metal screen was used so that spectators could see shots-on-goal which presented a problem with the use of wooden backboards. In 1909, plate glass backboards were introduced allowing spectators behind the goals to see.

For the first two years of play, the court had only an imaginary boundary line. In 1894, the rules specified that there must be a well-defined line around the playing area at least three feet from any wall or fence. Because the boundary lines could follow the contours of the gym, this led to irregular court sizes that often created a disadvantage for one team or the other. In 1903, the rule was changed to make the lines straight and the court a rectangle.

After the five-man game became standard in 1896, the maximum size of the court was later set to 90 feet by 55 feet in 1909. In 1915 the width was cut to 50 feet. At the time, the goal was set at the end line. This created difficulties for officials in determining whether a player was in or out-of-bounds when shooting. To solve this problem, E.C. Quigly, the dean of basketball officials came up with the idea to create a two-foot end zone in which players would be free to shoot.

By 1933, these end zones were recognized as part of the court and the maximum length became 94 feet as it is today. (Naismith, 1941 p. 98)

The original free throw lane was only six feet wide. The lines of the lane connected with the jump circle giving the appearance of a "key hole". This area on the court has historically been referred to as the key. In a move to prevent "big men" from dominating the lane area, the width of the lane was expanded to 12 feet, its current width in 1955.

In the early years of the game, one of the perceived negative aspects of the game being played at YMCA's was that it monopolized the entire gym floor for only 10 players. This monopoly of the floor in the days when few gymnasiums existed caused the Philadelphia YMCA Association to drop the activity in 1897. This caused many members to withdraw and form their own teams, finding space in warehouses and even dance halls. Due to spectators crowding the floor, many teams constructed "cages" made of wire or nets to protect the ball from going out-of-bounds. Basketball players who played in these cages were referred to as cagers, a term sometimes still used to describe players.

## Spread of the game

The early spread of basketball can largely be attributed to its association with the YMCA. This came about in two ways. First, through the school's newspaper *The Triangle*, which printed a description of the game and the rules in January of 1892. *The Triangle* was the primary publication of the YMCA and was distributed to branches throughout the country. A second means by which the game was spread was through the graduates of the school, both domestically and internationally. A number of foreign countries were introduced to the game early on due to the international character of the school.

It is interesting to note that colleges and universities were slow to adopt the game. The game became an important part of the college sport program around 1900. This was due to the lack of familiarity of the new sport by coaches and physical educators at most universities. The game became more widely accepted once boys who learned the game at YMCA's and high schools started to enter colleges. Once established however, much of the game's growth in relationship to skill,

technique and strategy can be attributed to its development in college. (Naismith, 1941, p. 109)

Naismith was especially pleased that the game was taken up and spread by theological colleges around 1905. Promoting Christian values through sport was always the underlying vision for the new game. Students from those colleges would help fulfil that vision.

### Immortalized his name

The purpose of the article was to reacquaint the reader to the origin of the game, its development and unique terminology, significant equipment and rule changes, and most importantly the genesis of the game's most significant structural element, shooting a ball through a raised hoop. By following the game's growth, it was also possible to observe Naismith's intellectual creativity and to see how important his religious and play spirits were to the development of the game.

John Bunn 1949, the former Stanford and Springfield college coach spiritualises Naismith's contribution to the game when he wrote the following:

Style of play, both offence and defence have developed to unimaginable heights. Emphasis has changed from defence to offence. Scoring is the thing. Specific phases of rules have undergone many changes. In many cases, the changes have been cyclic. But with it all, the fundamental basis of the game has remained impregnable, a living monument and testimonial to its originator, the kindly Christian doctor, minister and physical educator, James N. Naismith, and 'instructor' at Springfield College. (p. 6)

As was stated earlier, the game of basketball is one of the few games in which its origin can be traced. Dr. James Naismith an instructor in the International Y.M.C.A. Training School, but a minister by training, saw the value in athletics and sport as a means to promote the good in mankind. Solving the problem of developing a new indoor game put forth by Dr. Luther Gulick, illustrated Naismith's logical approach to solving the problem based on sound theory (reformulating the best of the old into the new), then applying the constructs to fit the need, and finally drawing upon his creative play spirit developed as a boy to invent the game that immortalized his name.

### References

1. Baker, W. J. (1996). Introduction in Naismith, J.N., *Basketball, its origin and development*. Lincoln and London: University of Nebraska Press (Originally published: Association Press, 1941).
2. Brasch, R. (1970). *How did sports begin? A look at the origins of man at play*. New York: David McKay.
3. Bunn, J. W. (1949). *Preface, a background for the rules of basketball*. And, Naismith, J. N. & Gulick, L.H. (1894). *Basket ball*. (Spalding Athletic Library) New York: American Sports Publishing, 2(17), 1-6.
4. Dickson, P. (1994). *Softball*. New York: Fact On Line.
5. Flexner, S.B. (1982). *Listening to America*. New York: Simon and Schuster.
6. Isaacs, N. J. (1974) *All the moves, a history of college basketball*. Philadelphia: Lippincott.
7. Naismith, J. N. (1892). Basketball. In: *The Triangle*, (pp. 144-47). Springfield: Triangle

Publishing.

8. Naismith, J. N. (1941). *Basketball, its origin and development*. New York: Association Press.
9. Naismith, J. N., L.H. Gulick, (1894) *Basket-ball*. (Spalding Athletic Library) New York: American Sports Publishing, 2(17), 1-10.
10. Sharer, R.J. (1996). *Daily Life in Maya Civilization*. Westport, Conn. and London: Greenwood Press.
11. Young, D.C. (1996). *The Modern Olympics: A Struggle for Revival*. Baltimore: The Johns Hopkins University Press

Received: February 12, 2001

Accepted: April 16, 2001

*Correspondence to:*

**Kenneth L. Swalgin**  
Penn State York  
1031 Edgecomb Avenue  
York, PA 17403-3398 USA  
Tel: (717) 771-4037  
Fax: (717) 771-4062  
*e-mail: KXSI@PSU.EDU*