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The Major Factors That Have Affected the Game of Basketball since Its Inception

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THE MAJOR FACTORS THAT HAVE AFFECTED THE GAME OF BASKETBALL
SINCE ITS INCEPTION



A Thesis
Presented to
the Graduate Faculty
Central Washington State College



In Partial Fulfillment
of the Requirements for the Degree
Master of Education



by
Robert Charles Werner
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THE MAJOR FACTORS THAT HAVE AFFECTED THE GAME OF BASKETBALL
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CHAPTER I
BASKETBALL HISTORY

Basketball, whose origin is one of the most interesting in all the major sports today, is strictly an American invention. It had its beginning in a town called Springfield, Massachusetts. The head of the athletic department at the Springfield YMCA Training School, Dr. Luther Gulick, was under pressure to devise a game to keep his students interested in the gymnasium during the winter evenings between football and baseball seasons. His students were very disinterested in the activities of the day, such as marching and apparatus work, Indian club twirling, bar chinning, as well as the Swedish and German forms of calisthenics.

By the summer of 1891, Dr. Gulick was convinced that some acceptable indoor game had to be invented, so he issued a virtual ultimatum to a certain young instructor to come up with the answer. Dr. Gulick immediately noticed this young teacher's exceptional traits as an instructor as well as a fine athlete. This first year teacher was named James A. Naismith, a graduate of McGill University and a student of Presbyterian Theological College.

Borrowing certain features from other sports he had played, Naismith in early December, 1891, sat down and wrote thirteen rules for a game to be played indoors under artificial light which would be interesting and would not be too difficult.

Basketball's Original 13 Rules (21:6):

Ball - association (round) football. Basket - basket or box about 15 inches across and 15 inches deep. Number of players - three to forty but positions for nine. One goalie, two guards, three centers, two wings, and one home man.

1. Ball may be thrown in any direction with one or both hands.
2. Ball may be batted in any direction with one or both hands. (Never with the fist.)
3. Player cannot run with the ball. He must throw it from the spot on which he catches it, allowance to be made for a man who catches the ball when running at a good speed if he tries to stop.
4. Ball must be held in or between the hands, not by the arm or body.
5. No shouldering, holding, pushing, tripping or striking in any way the person of an opponent shall be allowed; the first infringement of this rule by any player shall count as a foul, the second shall disqualify him

until the next goal is made, or if there was 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, or 5.

7. If either side makes three consecutive fouls, it shall count a goal for the opponents (consecutive means without the opponents in the meantime making a foul).

8. A goal shall be made when the ball is thrown or batted from the ground into the basket and stays there, provided those defending the goal do not touch nor disturb the goal. If the ball rests on the edges 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 of play by the person first touching it. In case of a dispute, the umpire shall throw it straight into the field. The thrower-in is allowed five seconds; if he holds it longer, it goes to opponent. If any side persists in delaying, the umpire shall call a foul. When three consecutive fouls have been made, he has the power to disqualify.

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

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 time. He shall decide when a goal has been made, and keep account of the goals with any other duties which are usually performed by a referee.

12. The time shall be two 15 minute halves, with five minutes rest in between.

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

James Naismith's original plan was to hang a 15 inch square box from each end of the gymnasium balcony. Mr. Stebbins, at that time the school janitor, was unable to come up with any boxes but offered Naismith two half-bushel peach baskets. Perhaps if it were not for Mr. Stebbins the game might be called "Box Ball" today. The height of the balcony that Dr. Naismith and Mr. Stebbins tacked the first peach baskets happened to be 10 feet above the gymnasium floor and to this day the rim of the basket continues to be 10 feet above floor level, one of the few rules of the game that has remained completely unchanged.

So rapid was the growth of basketball that gymnasiums in different parts of the country merely adopted the basketball principles of the game and never waited to get the detailed rules from James Naismith. This eventually led to confusion in inter-sectional play because

colleges, high schools, YMCA's, AAU and military teams all had their own set of rules throughout the country. Today, rules are standardized throughout the United States and Canada, and the game is played throughout the world perhaps due in part to the world famous Harlem Globe Trotters who, beginning in 1917, amazed the basketball world with their display of talent.

There are five major factors that have affected this game of basketball since it had its beginning back in 1891 and the writer will attempt to cover these in the next five chapters of this publication.

THE MAJOR FACTORS THAT HAVE AFFECTED THE GAME OF BASKETBALL
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CHAPTER II
RULE CHANGES

Eleven of the original thirteen rules that Dr. James Naismith laid down still are basic today, although the game itself has changed tremendously. There were times when as many as five sets of rules, not counting those for girls were in effect and there were many variations to fit local conditions. To add further confusion, there was no uniformity of interpretation so basketball was a wrangling game, accompanied by charges that even the referees were biased.

With the growth and development of basketball after 1891, the need for an organized group with authority to change, interpret and enforce the rules became evident. In 1894, the first of these groups, known as the Basketball Cooperating Committee, first set the weight and measurements of an official basketball. Since at that time basketball was played chiefly by YMCA groups, this committee was composed of representatives of YMCA's in the eastern states.

The Springfield YMCA was the chief arbitrator of the rules for the games first two years. Then the YMCA was joined by the AAU. The colleges weren't satisfied and in

1908 the NCAA assumed charge of the college rules. The NCAA and the AAU formed the Joint Basketball Rules Committee in 1915. This group existed until 1933 when, due in part to the efforts of the National Federation of State High School Athletic Associations and certain Canadian groups, the Committee was again reorganized and now called itself the National Basketball Committee of the United States and Canada. This Committee is still the official rules making body for basketball and is now composed of representatives of the NCAA, the National Federation, National Junior College Athletic Association, the YMCA, the Canadian Intercollegiate Athletic Union and the Canadian Amateur Basketball Association.

The National Basketball Committee meets each year, usually just after the close of the basketball season. Much of the Committee work, however, is done before its annual meeting. Several standing sub-committees are at work, certain state or administrative groups may be experimenting with possible revisions in the rules, and a wealth of game statistics is being recorded on numerous phases of the game.

Of major significance in the annual Committee deliberations are the opinions expressed in the annual rules questionnaire. This questionnaire, prepared under the direction of the Committee, is mailed near the end of

each playing season to thousands of coaches, officials and athletic administrators, representing each of the six bodies whose representatives make up the National Committee. Approximately 15,000 completed questionnaires are returned annually to committee headquarters. Those who fill out the questionnaires are asked to express their views and opinions regarding the existing rules and to vote on a list of possible rule changes for the following season. The results of the voting and the opinions expressed are then tabulated and made available to members of the Committee at the time of the annual meeting.

When considering various proposals for rule changes, the vote tally on the questionnaire is given prime consideration. The Committee also considers other guidelines and principles during its deliberations. Among these are the criteria for rules revision and rules writing (8:13) and questions like the following: (1) is the proposed rule readily enforceable, (2) what might be its effect upon spectator interest, (3) will it severely penalize any acceptable and legal skill, (4) can it be fitted into the existing rules structure, (5) does it limit the development of legal and effective coaching strategy, (6) will it encourage questionable skills or player tactics, (7) does it entail too much expense, and (8) has it received the benefits of experimentation?

Some of today's stars would shudder at the thought of playing the game under the rules and practices of those early seasons. For example, when the ball went out of play it went to the side whose player was the first to touch it out of bounds. Hence, there was much knocking of heads and falling all over one another as all eighteen players on the court raced for the ball. When the ball landed in the balcony, the contestants battled each other up the narrow stairway or devised some means of hoisting themselves into the balcony. The number of players on a team was not always limited even to nine as was the number Naismith had in his early gym class. It can be well imagined what a difference there is between the game as played today and a contest once staged at Cornell University with fifty students on a side.

The first actual college basketball game with five players on a side was played between the University of Chicago and the State University of Iowa, who met on January 16, 1896, in Iowa City. In fact, only ten players participated in that historic contest since neither team used a substitute. Chicago won 15 to 12.

Some of the early rules were quite severe. When a player committed a personal foul, he received a warning. Upon the second infraction, he was side-lined until the other team scored a basket, whereupon the penalized player

could then resume play. Later, to reduce roughness in the play, if a team committed three personals before the opposition scored a basket, the latter was given a point. Indeed, this was a serious penalty, for a field goal likewise counted but one point.

In the second year of the game, a foul line was drawn 20 feet from the basket, the next winter it was shortened to 15 feet, and it has so remained to this day. If a player committed two personals in any game, he was disqualified, and after two disqualifications he became ineligible for further play for the balance of that season.

Many other changes have greatly improved the game. For example, one man used to shoot all of the free throws for his team. Now the man fouled shoots the free throws which is logical as it compensates him for the foul and it also gives all players a chance to shoot free throws. Another important change made it compulsory to move the ball from the back court to the front court within ten seconds. This helped to eliminate stalling. Under the old rule teams would hold the ball in the back court indefinitely when they were ahead and if the defensive team did not force play there were actually cases where the team in the lead would sit down in the back court, thus ruining the game for the spectator. The elimination of the center jump was perhaps the change that has done more than any other to

speed up the game. There used to be a center jump after each field basket and successful free throw. While some say the elimination of the center jump was done possibly to curb the big man, it actually popularized the fast break and made a much faster and higher scoring game.

The following pages will list rules changes that the writer feels have had an amplifying affect on the game of basketball. But, it must be kept in mind that changes in the rules have been and probably always will be a part of the game. Rules change only because the game changes. It would be difficult to imagine that the rules might some day become so completely stabilized that no changes will even need to be considered.

Most accounts of the first years of basketball in the YMCA's as well as colleges are rather vague because of insufficient information in the files of newspapers that served the communities, as well as lack of publications on the new game. The rules will be listed by years, beginning in 1891 to the present modern day era of basketball. Many years will be left out for the simple reason that there were no changes at that time, or if there were, it was not major enough to mention.

1891 As previously mentioned in this publication, the original thirteen rules were laid down at this time.

The field goal and foul shot were both worth one point.

The boundaries in these early gymnasiums were imaginary lines 3 feet from the walls, fences, or any pieces of equipment which happened to be lying around. The courts were often narrower at one end than at the other end.

1893 The free throw line was marked 20 feet out from the peach basket.

Two fouls were now a disqualification.

1894 The goal values for a field goal and a foul shot were set at three points each.

The free throw line was moved to 15 feet from the basket, where it stands today.

The first basketball was a round football, then a soccer ball was used, but the first rule committee in 1894 recommended that a basketball should be between 30 and 32 inches in diameter. This is compared to the 30 inch ball of today.

The air dribble became an official part of the game during this time.

1895 The field goal was changed from three to two points, and the foul shot from three points to one point. This rule still stands today.

1897 The dribble was slowly coming into use.

The player with the ball could not use two hands on the ball more than once.

1898 The dribbler could use only one hand.

1899 This was changed to say that the dribbler can use alternate hands.

1900 The dribbler could not shoot for a field goal.

1903 The boundaries were to be a painted straight line instead of an imaginary line 3 feet from all obstacles. The court was to be rectangular.

This was the first year that suction cup tennis shoes were introduced.

1908 The minimum size of the playing court was declared to be 3,500 square feet.

Five personal fouls would disqualify a player.

The dribbler was now allowed to shoot.

The double dribble was prohibited.

1909 The rule was again changed to say that four personal fouls would now disqualify a player.

Glass backboards were introduced so spectators behind the backboards could see.

1913 The bottom of the net was officially left open. However, this was first introduced in 1906.

1915 The recommended width for all courts was 50 feet. No recommendations for length.

1916 All regular backboards, including glass must be painted white.

Only one air dribble allowed.

1918 End zones were added making recommended

court dimensions to be 50 feet by 94 feet.

A player may re-enter the basketball game only once.

1920 The backboards were moved 2 feet from the wall of the court. (Previously, players used to climb up padded walls to sink the baskets.)

1921 Running or traveling with the ball formerly a foul, now a violation.

1922 The illegal dribble penalty changed from a technical foul to a violation.

1923 Each player must now shoot his own free throw after being fouled. (Previously, each team usually had one player who was designated to shoot all the free throws.)

1924 The dribbler must drop the ball before lifting his pivot foot.

Three time-outs allowed per game, each one being two minutes long. Intermission between quarters are one minute long. The clock is stopped for a substitution but not for a foul unless two free throws were involved, in which case the clock started when the ball left his hand.

A substitution was permitted whenever the ball became dead. A player can re-enter only once. He can't communicate.

A player also cannot go in or out during the same dead ball. He can't substitute for a designated free thrower.

1929 The double referee system introduced.

The jumper in a jump ball situation could tap the ball only once.

The National Federation petitioned for a $29\frac{1}{2}$ inch ball (instead of 31 - 32 inches) for high school.

1930 The jumper can now tap the ball twice, but can't touch the ball again until it is touched by a non-jumper. Leaving the circle too soon is designated as a foul.

Minimum circumference of 30 inches authorized for the ball.

The clock shall be stopped for any foul. The clock could not be requested to be stopped after the ball is placed in position for the free throw.

1931 The high schools authorized the $29\frac{1}{2}$ inch ball through mutual consent.

Almost any act in blocking and screening was claimed by the opponent to be an illegal block.

1932 The three second lane rule was adopted but made to apply to the ball holder with his back to the basket.

The ten second rule was adopted, which meant that a team had to move the ball beyond the midcourt line within ten seconds after gaining possession of the ball. In gymnasiums 75 feet or less, the midcourt line was moved back on both sides allowing more room in the offensive court.

Any player could return the ball to back court after a jump ball.

1933 Only the first player to touch the ball after a jump could return it to backcourt.

1934 High school groups around the country moved the jump ball away from the basket.

The 29½ inch basketball was legalized for all groups.

1935 The center jump after a successful free throw was eliminated.

The free throw circles made restraining circles for a jump ball at the throw lines.

Blocking was reduced to a contact situation except for face blocking.

The three second lane rule made to apply to any player of a team in control and in the entire circle and lane.

A fumble was not considered a part of the dribble.

A player may re-enter a game twice.

1936 Four time-outs were allowed per game, each one being one minute long. Free throwers team could request a time out.

A substitute may not communicate. He cannot run on the court until the official signals.

1937 This was the year that all center jumps after any successful goal was eliminated. The ball is put in play by the opposition under the basket where the last

score was made.

Any held ball that was held in the lane or in the 6 foot circle was moved to the center of the circle.

State high school associations and some college conferences authorized the end line to be 4 feet behind the backboard by mutual consent.

Face blocking was eliminated so there is no block without contact.

Five time outs allowed for high school and four for college.

Any defensive player was prohibited from interfering with the ball if his arm or a hand touched his opponent's basket.

The laceless ball was made legal.

1938 The 4 foot end line was made legal at option of home team.

Five time outs allowed for any game.

By mutual agreement in high school games, an officials intermission of two minutes might be taken in the middle of the 2nd and 4th quarters.

Substitution is permitted when the ball is dead, except after a goal.

1939 All backboards moved from 2 feet to 4 feet from the end line to permit more movement under the basket.

One extra time out was allowed for each over time

period.

The center jump after an unsuccessful free throw or technical foul was eliminated.

1940 The fan shaped backboards were made legal.

Officials intermission was made mandatory. The length was reduced to one minute in 1948 and it was eliminated in 1950.

1941 A player can now substitute any time the ball is dead.

The three second rule was made to apply only in the lane between the free throw line and the end line.

A questionnaire was sent out this year only to show a small percent were in favor of returning to the center jump in basketball.

The small backboard was designated as standard.

1944 A player is now permitted to re-enter a ball game any number of times.

The goal-tending rule forbade the defensive players from touching the ball upon its downward flight above the hoop.

Personal fouls increased from four to five.

1945 Leaving the jumping circle too soon changed to a violation and the official may withhold whistle.

A player who withdraws after officials intermission cannot re-enter.

1946 Official's intermission in both college and high school is about four minutes before the end of the game, and the clock will be stopped for each dead ball after official's intermission.

1947 Official's intermission removed for college and the clock was stopped for the last three minutes and at the first dead ball after five minutes in high school games.

A player who withdraws after officials intermission can now re-enter anytime.

1948 All jump balls now moved to the nearest circle to jump.

The coaches were now allowed to speak to their players during a time out.

The clock is stopped during the last two minutes of college games.

It was not necessary to report to an official in substituting.

Official's intermissions were now one minute long.

1949 The leather-covered molded type ball was made the official ball.

In the last two minutes, the penalty for any foul was one (or more) free throws plus an award of the ball to the thrower out of bounds at midcourt.

A substitute may not replace a designated jumper.

The glass backboards were now mandatory for college

games.

1950 A substitute may enter only when the ball is dead and the clock is stopped.

All special rules for the last two minutes were eliminated. However, two throws were awarded all foul shots. These were called "profit fouls."

The clock is stopped for all jump balls through out the game.

1951 All short intermissions are one minute long.

1952 The right to waive a free throw was taken away, but in the last three minutes each personal foul not involving a field goal draws two shots. Prior to the last three minutes, each draws one free throw and a second if the first is not successful.

Properly constructed rubber-covered ball may be used by agreement.

1954 Prior to the last three minutes, each personal foul draws one free throw and a second if the first is successful.

Reference to any court smaller than 50 feet by 84 feet was deleted from the rules.

1955 The free throw lane was widened to 12 feet for college and AAU courts.

Bonus penalty of 1954 used through out the game, not just prior to the last three minutes.

Delayed whistle for the jump ball violation eliminated.

Rubber covered ball was made legal for high school and YMCA.

1957 The common foul has one throw penalty until the given team has been penalized for at least four personal fouls (six for a forty minute game) in the given half of the game. No free throws awarded for any double foul.

Technical foul if the team responsible for action refused to be reasonably active after a warning.

Twelve foot wide lanes specified for all basketball courts.

1959 The ball color specified as tan. Yellow or orange may be used by agreement.

1960 Only balls of approved orange shade or natural tan are legal.

1961 No free throws awarded when the member of the team on offense commits a foul. Opponents awarded the ball out of bounds nearest to where the foul occurred.

Substitutions permitted during a dead ball following a violation as well as when the ball is dead and clock is stopped.

The jumper may have one or both feet on or inside his half of the jump circle.

1962 Excessively swinging of the arms and elbows without contact is a violation.

1963 The official must hand the ball to the thrower except when throw-in is made from beyond the end line after a score.

The clock is stopped for all violations.

In summarizing the game as it has changed over the years, we can be assured that the game will be changing, and the rules will be changing along with the game, to meet the challenge of this bigger and better game of basketball. Many "radical" changes are being suggested all over the country today. Henry Iba, Oklahoma State basketball coach, predicted in 1967 that the game's rules makers will raise the height of the basket and outlaw the dunk shot (30:1) to make it a little more difficult for the king-size players who are dominating the sport more and more. Both these rules might have seemed "way out" a couple years ago but the rules makers have already outlawed the dunk shot in college.

Hank Kusserow of the San Francisco Examiner has come up with a revolutionary idea that excites the imagination. Kusserow proposes moving baskets. His plan is to have baskets electrically powered to move back and forth across the backboard at an even rate of speed (30:1). Thus, like in skeet, the shooters would have to fire at a moving target. Coaches and players might not care too much for the idea, but it sounds as if it would be loads of fun

for the spectators. Kusserow's plan will possibly never go into effect, but it does offer some fascinating possibilities.

The collegiate cage coaches of the United States want no "radical" changes (29:2-4). This fact was borne out in a national poll conducted by Thad Johnson, sport's editor of the Beaumont, Texas Enterprise, in which a three point shot was opposed by 431 to 186 votes with 13 coaches undecided. They also rejected the thought of a 12 foot basket with the cry, "Leave the game alone; we now have the greatest game in the world!" Among the negative votes on the three point play, 234 coaches turned thumbs down on the issue with no comment, but the others offered various opinions for not wanting to go to the scoring system which now is being used in the Professional American Basketball Association.

Press Maravich of Louisiana State, father and coach of one of the nations all time leading scorers said, "It would give the shooters, especially the little men, a break and add color to the game." John Wooden of the UCLA Bruins was against it with this statement: "The game has fine balance now, the offense should be geared to get the good percentage shots and if a player becomes adept at the long shot, he should take it without expecting extra credit."

Here are some other rule changes which are being

discussed today:

1. The team first to score a certain number of points is declared winner of the game with no time kept.

2. Placing a time limit on the team in control in the team's front court. After an established number of seconds, make them shoot or give up the ball. (This is presently used by the professional teams of today.)

3. No disqualification after five fouls. Instead, make penalty for the fifth and all fouls thereafter more severe.

4. In a personal foul situation, make the offender shoot the free throw. If he misses, it is two points for the offended team. If he makes it, it is one point.

Some of these changes may seem a little radical at this time, but no more radical than Dr. Naismith would have thought if someone would have told him in 1891, that within two to four years, the players would be dribbling the ball instead of standing flat footed and passing it.

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CHAPTER III
PLAYER ABILITY FACTOR

Possibly the second greatest reason for the steady increase in scoring in basketball since 1891, can be traced to the fact that the individual player's ability has greatly improved. The basketball player today is playing an almost entirely different style of basketball as compared to the player at the turn of the century.

A boy growing up in the early 1900's would have to walk miles to find himself a gymnasium or outdoor basket if any were around. The game was so new that most of the people in charge of the gymnasiums just opened them up and let the boys play anything they wanted. When they did play basketball, the only coaching by the instructor was explaining the simple rules of the day and just simply putting the round ball through the basket.

Today basketball is so advanced that they have well trained instructors explaining all aspects of the game to the children. By the time a young child reaches first or second grade, he is already well aware of the rules and regulations of the game. The development of television has also been a contributing factor in popularizing the game

with our younger generation. In most school systems today, a young boy or girl is taught basic fundamentals of the game all through his school years. It is little wonder why the youth of today are playing more basketball and scoring more points than the ball players of years ago.

An experiment was held at Woodbrook Junior High School in 1966 to try to prove this point or clarify it a little more. There were many variables involved in this experiment, but the writer is going to try to prove that a player's ability is one of the leading reasons why the scores are much higher today than at the turn of the century.

The boys participating in this experimental game were all ninth graders with varsity basketball experience.

Two games were played, each lasting the regulation thirty minutes.

The first game was played by James Naismith's original thirteen rules as adopted throughout the country in the late 1890's. The second game, using the same group of fourteen and fifteen year olds, was played by the modern rules (1967 Rules Book) in the same amount of time as the first game.

The boys knew the modern rules, the problem was to teach the old style of play. A brochure was passed out to each participant one week prior to the experimental game.

The list included the type and style of play as well as the official rules. To the boys this was a welcome change, it was something interesting and different, perhaps even a challenge to them. They had to change their whole style of play in a matter of days. An example of the most difficult change was to learn to shoot all shots, and to make all passes with two hands. This was a must for all earlier basketball players until a man named Hank Luisetti changed this theory in 1937 (18:8). All team members had to shoot the two hand set shot. Of course all foul shots were underhand. There were no jump shots nor driving lay-ins. They were allowed one air dribble as a regular dribble was not allowed and was unheard of at that time. There was no center line, meaning no ten second rule. There was no three second key violation and of course there was a jump ball after each basket.

There were many problems encountered after the game got under way. The first being that the players were too offensive minded and probably shot more times than their predecessors did at the turn of the century. The referee had trouble deciding a few rules on occasion, for example; when a player with the ball steps out of bounds, whose ball is it? The ball belongs to the player who stepped out with it, as the rule reads; if the ball goes out of bounds, the ball shall be awarded to the team whose player can get

to it or touch it first.

The boys enjoyed themselves so much that when the game was over they wanted to play again using the old rules. A thirty minute rest was called to discuss the game and to get ready for the second part of the experiment. A leading point in the discussion of this first game was the experience the player received in passing. They had to be constantly looking for a receiver as the boys were unable to dribble. The writer feels this is an excellent teaching philosophy for future coaches.

Part two of the experiment included a regulation game, the same length of time as the first, using the same subjects, but with the modern set of rules.

Results: The same team won both games. The score of the first game in which Dr. Naismith would have partially recognized was 28 to 23. Compare this score to the score in the game between Harvard and Yale in 1898 in which Harvard won 7 to 5. This can also be compared to the first public demonstration of the game which took place at 5:15 p.m. on March 11, 1892, in Springfield, with the secretaries defeating the instructors by the score of 5 to 1 (18:1-3). Many of these early points were not scored by the ball going in the peach basket, but were awarded to different teams because of a violation occurring.

Keep in mind that these were junior high boys

unaccustomed to the methods of old. Most of these earlier scores available are from major college teams.

This somewhat proves the theory that the players of today have more basketball ability as well as being better coached players than their basketball counterparts around the turn of the century.

It also indicates that rules changes play a major role in the changing of the game. This same group of boys played the second game to a score of 58 to 49.

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CHAPTER IV
COACHING PHILOSOPHIES

Coaching strategies did not play a major role in affecting the game of basketball prior to the 1948-49 season (33:6). However, there were many great coaches around the nation before this time, but the rule stated a coach could not talk with his players during the game except during half time (18:1-8).

The basketball coach began making his appearance in the early 1920's. Before the 1920's, most teams did not have a coach, or if one was appointed, he was either the best player, the manager, or in the case of college basketball teams, a faculty representative who knew less of the game than any of the players.

The philosophy of some of our earlier coaches was simple in that usually one offensive and sometimes two defensive strategies or patterns were used by the teams of the early days. For example, Frank Keeney, the late great coach of the Rhode Island Reds (3:5), introduced the fast break to basketball, at the time the only offensive coaching philosophy was a slow deliberate passing, team work type offense.

There were two systems of defense, namely the Close Defense and the Curtain Defense (12:282-284). In the Close Defense each player guarded his own man the instant the opponents got the ball and followed him constantly so that he could neither pass nor shoot. The theory of this defense was if an opponent was so closely guarded he could neither receive the ball, pass, nor throw it, then he certainly could not score.

In the Curtain Defense, a curtain of defenders lined up across the middle of the floor when the opponents secured the ball. The theory of this defense was; that opponents were not dangerous in their own half of the floor even though they have possession of the ball, and therefore it was unnecessary to follow them; that they can be successfully intercepted once they pass the middle of the floor; and that this saved the energy of the defensive team. The reader must keep in mind that there was no ten second rule at this time and the offensive team could stay under the defensive basket as long as they chose. This Curtain Defense was similar to our modern version of the Zone Defense.

It is interesting to note that the Curtain Defense was published in 1923 in the middle west, but the first Zone Defense on record was used in 1914 on the east coast. The game was between the Grafton YMCA and the Briston, West Virginia "Town" team (3:3-4). Cam Henderson, coach of the

YMCA team, came out with this defense the second half, after his team and the opponents were falling all over the court because of an extremely slippery floor. Henderson stationed his entire team in positions under the basket, and they could not leave their assigned area until a basket was attempted.

Dr. Naismith intended basketball to be an open game with a minimum of personal contact. Defense in the early days of the game was of the man-to-man type. Each player contacted his opponent as quickly as possible when his team lost possession of the ball.

Confusion arose over this because Dr. Naismith stressed the principle that players should "play the ball" (3:2). This resulted in a school of thought which adopted that phrase as authority for exclusive use of the Zone Defense. Other popularized phrases referred to man-to-man tactics.

In an early publication Dr. Naismith described the play of the game. To quote Dr. Naismith: "When the opponents have the ball, stick to your man like glue. Cover him so effectively that the ball cannot by any manner of means be passed into his hands. Follow him anywhere, prevent his getting the ball. When the ball is thrown then try and get it yourself if it comes your way. If, instead of playing this way, you run off to block the man who has the ball, while you may make it harder for him to make a

good throw, still you have left your man uncovered and the ball can and probably will be thrown to him" (21:16).

The writer finds it most difficult to believe Dr. Naismith's first statement about "playing the ball." To this writer's knowledge, this statement is misinterpreted as further records show that Dr. Naismith definitely opposed the Zone Defense because "it tends to stall a game that was devised to be constantly on the attack" (23:1).

Individualized man-to-man type of offense and defense continued until about 1910. Center and game plays were evident but the offensive and defensive formations common today were unknown. When offensive teams began massing players under the basket such concentration was countered by the massing of defensive players. This was called the "five man" defense. Basketball during that particular period is somewhat humerous today. For example, one of the guards was known as the "standing guard," he stood; the other as the "running guard," he ran; the "center" jumped; the "feeding forward" fed; the "shooting forward" made all the baskets, shot all the fouls, was captain of the team, president of the class, married the banker's daughter, became governor, always believed he should have been President, and what was more tragic, got all the "write-ups." The above is a little exaggerated but players of those days will recognize the description.

Perhaps the biggest change in early coaching philosophies was brought about by a three year All American from Stanford, named Angelo "Hank" Luisetti (18:1-8). This fine athlete, on his own, developed a one hand push shot, during a time when two hand shots were a must. After realizing how effective this shot could be, coaches began a new line of thought in regards to shooting. This eventually led to the popular jump shot of today, which has been a major factor in changing the complexion of the game.

Most of the modern day basketball players and coaches would shudder at the thought of playing the game under the rules and practice of the early days as compared to the present game of today. The thought of never leaving your feet except on rebounds and jump balls. Never shooting unless completely clear of his man. Another interesting thought in coaching prior to 1901 was that the dribbler did not practice shooting, as the rule stated that the dribbler could not shoot. This is similar to the line of thought in pro football today, where the place kicker or punter does not play anything else.

Another coaching philosophy in shooting was to have one man shoot all the foul shots, so there was no need to have the entire team practice their foul shots. This rule was re-written in 1924.

Coaches differed as to the value of the dribble (12:263).

Some did not use it at all, while others built the game around it. The majority considered it a valuable asset if properly used, that is either to approach the basket for a shot when the player has a clear floor, or as a means of getting away from an opponent and making a pass, and the chance to get free. It came into disfavor with many coaches because few players who were good at dribbling knew when to carry their dribble through to a shot and when to stop and pass. Probably the main objection to the early dribble was the plain fact that passing was both faster and more accurate.

The writer has found that many great basketball coaches of the modern era have a sound philosophy of athletics in general which is an important segment of his beliefs. The coach cannot have one attitude toward life and a different one toward athletics, because his convictions and principles in coaching will carry over into other phases of his life. Each coach has had a definite philosophy, whether it be good or bad. However, coaches differ in these philosophies and methods of coaching.

Some coaches will use strictly the fast break method of basketball. The most famous coach to fall into this bracket would be previously mentioned, Frank Keeney of Rhode Island. He stayed with this type of offense for many years, recruiting players that would fit only into his style of play. Many coaches since Keeney have adopted

this style of play.

Other coaches will seldom fast break, always slowing down the game and setting up offensive patterns. A good example of this slow break style of offense was Hank Iba of Oklahoma State. Mr. Iba believed that too many mistakes were made in hurrying the ball down the court. His earlier teams at Oklahoma would work ball control, slowing down play, and working for the good shot.

Other coaches might vary their offenses from game to game or year to year depending on who they are playing or who their personnel is. The late Leo Nicholson, from Central Washington State College, might come under this heading. The writer played under Coach Nicholson for two years, one year winning most of the games by the fast break, the second year winning mostly by the post play.

Some basketball coaches will stress defense, winning basketball games on opponents mistakes. The writer's father might be classified under this heading. Tom Werner, through playing and coaching, took nine AAU teams from the Seattle area to the National Championships in Denver, Colorado during the 1940's and early 1950's. His teams learned that any basketball player could have a bad night on offense, but there was no excuse for a bad night on defense.

Ben Carnevale of Navy, stressed a "pressing

defense." In his words, "one of the best defensive weapons a team can possess is the ability to apply a press effectively" (15:127).

Many coaches vary their philosophies in differences in techniques, and in plan of substitution. An example on variances in team substitutions might be shown in Walt Milroy's philosophy, currently head coach of Ingraham High School, Seattle, Washington. Mr. Milroy uses a two platoon offense and starts many basketball games with his second best team. The philosophy behind this: if the second outfit can hold its own, a fresh first team can come in and combat a tired defense and take a possible "commanding" lead.

Another important philosophy lies in the coaches daily practice plan, where most of the coaching takes place. A coaches philosophy can also be reflected in the conduct on the bench, in his players conduct off the floor, including the teams personal appearance and team dress. This all can be traced in part to the kind of training the different coaches have received.

All of these philosophies and techniques were brought about by one man, this being James Naismith. Back when Naismith was the official arbitrator of basketball there were no coaching philosophies or techniques and strategies. In those days of the thirteen rules, basketball

was such a comparatively simple game as these rules held all the answers. However, the idea was the same, put the ball (an association round football) in the peach baskets or later the bottomless wire baskets.

THE MAJOR FACTORS THAT HAVE AFFECTED THE GAME OF BASKETBALL
SINCE ITS INCEPTION

CHAPTER V
EQUIPMENT AND FACILITIES

Equipment and facilities played an important role in the ever changing game of basketball. The gymnasiums, the baskets, including the backboards, the uniforms and of course the ball, have all gone through a significant change since the beginning in 1891.

The gymnasiums of the early days usually had a running track balcony, and the peach baskets were nailed to it at either end. The boundaries, as set up by the early rules, were imaginary lines three feet from the walls, fences, and pieces of equipment which happened to be lying around. The courts were often narrower at one end than at the other. Some courts, used mostly by professional teams, were surrounded by an 11 foot wire cage, hence the name Cage game. Other courts were surrounded by a net on all four sides. These devices speeded up the game by never letting the ball out of bounds. Since the wire or the net separated the basket from the gallery, it was not necessary to use a backboard. The basket rested at the end of a horizontal support, making it necessary to sink clean shots whether they were lay-ups, fouls or long shots.

Another variation of court structure, found in New England, was one surrounded by a 3 foot rail with nets extending up from the top of the rail. It is not difficult to imagine the effect on the players' hips and legs when they crashed into this rail after a lay-up drive.

In 1903, it was decided that the boundaries should be painted straight lines, and a later rule provided that the court be rectangular. There has never been a definite size for basketball courts. The 1898 Spaulding Catalog suggested that basketball could "be played on an ordinary football field," thus defeating the purpose of an indoor game. In 1908, the minimum size of the court was declared to be 3,500 square feet, and in 1915 the width was reduced to 50 feet. End zones were added in 1918 making the court 50 by 94 feet. Few professional teams, to say nothing of college or high school, could produce a court to meet these specifications.

The first baskets ever used in basketball were the two Mr. Stebbins, the school janitor, and Mr. Naismith, the inventor, tacked up at each end of the balcony to begin the game which derived its name from these two items, "basketball." Certain archaeologists have endeavored to show that the basic idea of basketball stems from Pok-Ta-Pok, a game played by the ancient Maya Indians of Central America. The Aztecs, who succeeded the Mayas in power, inherited the

the game and called it Tlachtli. From ruins of the courts and from writings of Spaniards who saw the Aztecs play, it appears that the game was contested on an I-shaped court, a long main court connecting two smaller courts. Playing surfaces unearthed were as large as 480 by 120 feet and as small as 65 by 20 feet. The courts were enclosed by high walls on top of which the spectators gathered. The size of the teams varied. Some games were played with only one on a side but the favorite number seemed to have been three, one man in the center of the main court and one at each end. In each side wall of the main court, about 8 feet 4 inches above the ground, was set a stone ring. The hole in the ring was just large enough for the passage of a solid rubber ball which was estimated as half the size of a human head (32:4).

It is interesting to note that when a goal was scored back in the days of the Aztecs, there was a wild rush among the spectators to get off the walls and away before the arrival of the collectors because the fortunate player who scored the goal was entitled to the cloaks and jewelry of the spectators.

If Dr. Naismith ever heard of the ancient Aztec game, he claimed no inspiration from it. There have been other attempts to take this invention away from the inventor, but granting all possibilities, the facts seem

irrefutable, that the scientific game of basketball, in its entirety, originated in Dr. Naismith's fertile brain.

These peach baskets, as previously mentioned, were soon replaced by metal baskets, but it wasn't until 1906 that anybody thought of the open basket.

Lew Allen, of Hartford, Connecticut (18:4), is credited with inventing a cylindrical basket of heavy wire that replaced the original peach baskets. By 1893, the Narragansett Machinery Company of Providence, Rhode Island, was selling a special hammock basket. The ball had to rest in the netting before it counted as a score. At first a ladder was used to retrieve the ball, then a pole, and finally a cord was attached to the bottom of the hammock so that when the referee pulled it the ball was ejected.

From the early track balconies, a spectator could reach down and remove the ball after a goal, and also prevent the ball from going in the hoop in the first place. A rule definitely stated that spectators must be at least 10 feet from the basket, but it was seldom obeyed. It was for this reason that backboards were introduced, to fend off over zealous spectators. At first a wire backboard was used, but as players began to depend on carom shots, the unsubstantial wires had to be replaced with wood. This change in the use of the backboard is mirrored in the word "bankboard" which many coaches still refer to today. In

1909 glass backboards were used so spectators behind the baskets could see, but players who were used to carom shots complained that they couldn't judge their throws against a glass backboard. In 1916, the rules stated that backboards must be painted white, which ruled out glass. Since then glass has been reintroduced.

Basketball uniforms have varied from the early days to the present. The members of Naismith's original team appeared in long gymnasium trousers and full sleeved jerseys. Other pioneers played in baseball or football pants or in full or knee-length gymnasium tights, frequently with short velvet trunks. Sleeveless or quarter sleeve jerseys were adopted almost immediately, and in a few years teams were garbed in uniforms roughly similar to those in present use. The suction cup, rubber-soled shoes were not introduced until 1903. Knee guards were soon found to be necessary. In the early days padding was essential, especially among the professionals who played in the wire cages. Numbers were required to be worn on the back of the shirt in 1912, and on both the front and the back in 1933.

The ball, the basic unit of basketball equipment, has undergone little change during the years. Naismith's first ball was a football, followed by a soccer ball the next year. In 1894, the rules stated the ball should be

between 30 and 32 inches in diameter. In 1896, the maximum weight of the ball was set at twenty-two ounces which has not changed since. At first the rules specified that the ball should be inflated tightly, but today an air pressure of thirteen pounds is suggested. In 1949, teams were given their option in the use of a molded rubber ball in place of the standard laced leather ball. In 1950, the molded ball was universally adopted for all basketball, scholastic, collegiate and professional. An experiment was tried in 1959 on the use of a yellow ball, however, this was on the high school level and only lasted one year.

The following are the modern rules pertaining to the basketball:

1. The ball shall be spherical.
2. Its color shall be the approved orange shade or natural tan.
3. For college games, it shall have a leather cover unless the teams agree to use a ball with a composition cover.
4. For high school or YMCA games, it shall have a leather or composition cover.
5. It shall be of the molded type as adopted in the 1950 rules.
6. The balls circumference shall be within a maximum of 30 inches and a minimum of $29\frac{1}{2}$ inches for adults and

within a maximum of $29\frac{1}{2}$ inches and a minimum of 29 inches for players below senior high school age.

7. Its weight shall be not less than twenty or more than twenty-two ounces.

8. It shall be inflated to an air pressure such that when it is dropped to a solid wood floor from a height of 6 feet, measured to the bottom of the ball, it will rebound to a height, measured to the top of the ball, of not less than 49 inches or more than 54 inches when it strikes on its most resilient spot (22:7).

THE MAJOR FACTORS THAT HAVE AFFECTED THE GAME OF BASKETBALL
SINCE ITS INCEPTION

CHAPTER VI

BODY SIZE

The height of the rim in basketball is 10 feet tall. It would be a common fact to state that the closer a player can get to the basket, the better opportunity he would have of putting the ball in the hoop. This is the object of basketball, to put the ball through the basket more times than your opponent.

The average number of points scored in basketball games today is many times that of points scored in games when James Naismith was a young man. There are many factors involved in the reason for this, one of them is body size.

From early times, oversized boys had played the game and occasionally starred, but as a general rule they were considered too slow and clumsy for the high speed game of that period. More of them were in evidence in the years immediately preceding the war. During the conflict, when coaches eagerly utilized whatever manpower was available, the boys too tall for military service really came into their own. Rebounding became a science and a big man on the pivot to shoot or feed was the most important cog in

any machine. "Goons" (32:143), as certain jealous individuals called them, were sought by every school, college and club. Many veterans returned to college after the war but there was no return to "normalcy;" the premium was on height and plenty of it. To offset this advantage to some extent, experiments were conducted, as mentioned earlier, with baskets 12 feet high but the big fellows still had a decided advantage and it looks as though they will forever control the game.

Two of the top teams in the nation each had their giant leading the way. Hank Iba's Oklahoma Cowboys won the NCAA Championship in 1945 and in 1946, having as team captain 7 foot tall and 220 pounds, Bob Kurland.

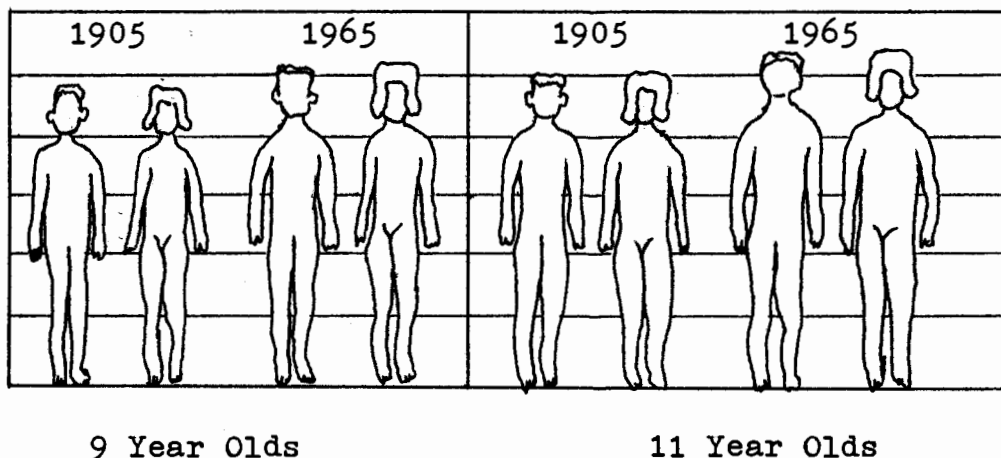
DePaul boasted another fabulous giant in 6 foot 9 inches tall and 230 pounds, George Mikan, winning the NIT in 1945.

It was because of the likes of Mike Novak, from Loyola of Chicago, at 6 feet 9 inches tall, along with the two previously mentioned giants that the goal tending rule was written. This meant that the defensive player could not touch the ball on its downward flight above the hoop. Novak, Kurland, and Mikan would just stand in front of the defensive basket and literally slap shots away as the ball headed for the basket.

There are many more tall boys available to the

basketball coach today than there were fifty years ago (see following figure).

Figure 1



Increased size of children stems mainly from earlier maturation. A boy and girl aged nine in 1965 and of average economic circumstances, were taller by about 3 inches than their counterparts of a half century ago and eleven year olds averaged nearly 4 inches taller. The figures are based on measurements made in the United States and Europe (36:21).

Nutritional experts will also bear this point out. A prime example on how better diets increase body size is sighted in how the Japanese people have grown. They were generally regarded as short people, but statistics point out that post war Japanese teenagers are often as tall as

their American counterparts (25:63).

Dr. T. D. Stewart agrees completely along the thought that nutrition is definitely the leading cause of our king size Americans. He states, "Vitamins are just poured into children these days and along with the many enriched foods, is just pushing the boys up and up" (28:3).

In addition to the obvious factors of improved diets, hygiene, and medical care, other factors are possibly playing a part in this tremendous "growth" spurt in Americans today. Dr. Seltzer of Harvard (27:130) is inclined to believe there has been some sort of evolutionary spurt that has accelerated growth. The observed warming of the earth's climate, or an increase in cosmic radiation could all be influencing factors. Many geneticists see the possibility that as-yet-unknown external forces have caused our "growth" genes to become more active.

Mr. Paul Moody mentions that one of the secretions of the pituitary gland is a growth controlling hormone. Over production of this hormone during infancy and childhood results in giantism (19:178). Wade Halbrook of Oregon State is a prime example of a man with an over productive pituitary gland. He is possibly one of the tallest men ever to play college basketball at 7 foot 3 inches tall.

Genes do not act alone, however, environment plays a significant role in determining how tall a person will

become; without a doubt, as previously mentioned, the most important environmental factor is diet (19:178).

A few other examples have been cited in the study of height in the United States today. One of these studies was made by Dr. Newcomer and Dr. Meredith of a group of fifteen year old boys in Eugene, Oregon. With much of their growth still to come, these boys averaged 5 feet 8 inches in height, one half inch taller than the average full grown American soldier of World War I (27:129).

The author found that the average male student at Harvard University is $3\frac{1}{2}$ inches taller today compared to the Harvard students of 1906. Another finding in regards to height was that American men of today are on the average 4 inches taller than their ancestors in colonial days (9:69-72).

A final study by Laurence Galton showed that boys now average well over an inch taller than their fathers (11:116).

Today the big man is dominating basketball, keeping the Rules Committees busy devising new rules trying to make way for the little man again in the game. Widening the foul line helped the little man. Eliminating the dunk shot in college basketball is designed to help the smaller man.

These "King Size" athletes are going to play a major role in controlling the game, but through present and

future rule modifications, the smaller individuals are also here to stay, as it still takes a team to win basketball games. Hank Iba will be the last to admit he didn't need 7 foot Bob Kurland back when he became the first college team ever to win back to back NCAA Championships, but during one of those important games "Big Bob" fouled out in the first half only to see his team go on to win the game without him (32:141).

BIBLIOGRAPHY

BIBLIOGRAPHY

1. Ackerson, Forest, Basketball Techniques Illustrated, New York: A. S. Barnes and Company, 1952. 95 pp.
2. Auerbach, Arnold "Red," Basketball for the Player, the Fan and the Coach, New York: Pocket Books, Inc., 1953. 207 pp.
3. Bee, Clair, Zone Defense and Attack, New York: A. S. Barnes and Company, 1942. 117 pp.
4. Bee, Clair, and Norton, Ken, The Science of Coaching, New York: The Ronald Press Company, 1959. 126 pp.
5. Bunn, John W., Basketball Techniques and Team Play, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964. 256 pp.
6. Curtis, Helena, Biology, New York: Worth Publishers, 1968. 853 pp.
7. Dean, Everett S., Progressive Basketball, Methods and Philosophy, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1950. 271 pp.
8. Fagen, Clifford B., 1966-1968 Basketball Hand Book, 7 South Dearborn St., Chicago, Illinois: National Federation of State High School Athletic Associations.
9. Farmer, Laurence, "People Are Getting Taller," Harper's Magazine, 205:1:69-72, August, 1952.
10. Fay, Paul J., and Messersmith, Lloyd L., "The Affect of Rule Changes Upon the Distance Traversed by Basketball Players," Research Quarterly, 9:2:136-37, May, 1938.
11. Galton, Laurence, "Are We Growing Into Giants," Popular Science, 175:6:114-115-116-228, December, 1959.
12. Hammett, Charles Edward, Lundgren, Carl Leonard, How to Be An Athlete, Boston, New York, Chicago, London: D. C. Heath and Company, 1923. 307 pp.
13. Hobson, Howard A., Basketball Illustrated, New York: A. S. Barnes and Company, 1948. 86 pp.

14. Holman, Nat, Holman On Basketball, New York, N.Y.: Crown Publishers, Inc., 1949. 242 pp.
15. McLane, Hardin, Championship Basketball By 12 Great Coaches, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1965. 202 pp.
16. Meanwell, Walter E., Basketball For Men, Madison, Wisconsin: Democrat Printing Company, 1922. 200 pp.
17. Menke, Frank G., The Encyclopedia of Sports, New York: A. S. Barnes and Company, 1960. 172-194 pp.
18. Mokray, William G., Ronald Encyclopedia of Basketball, New York: The Ronald Press Company, 1964. 645 pp.
19. Moody, Paul Amos, Genetics of Man, New York: W. W. Norton and Company, Inc., 1967. 444 pp.
20. Murphy, Charles C., and Others, The Book of Major Sports, New York: A. S. Barnes and Company, 1938. 388 pp.
21. Naismith, James, Basketball, Spaulding's Library, January, 1894. 16 pp.
22. National Basketball Committee of the U.S. and Canada, Official 1965-66 Basketball Rules, National Federation of State High School Athletic Associations.
23. New York World Telegram, January 31, 1939.
24. Newell, Pete, Bennington, John, Basketball Methods, New York: The Ronald Press Company, 1962. 320 pp.
25. "Nutritional Effects On Size," Science Digest, 64:3:63, September, 1968.
26. Ruby, J. Craig, How To Coach And Play Basketball, Champaign, Illinois: Bailey and Himes Publishing Company, 1926. 268 pp.
27. Sheinfeld, Amram, T. F. Janes, "Our Changing Bodies," Cosmopolitan, 140:4:128-31, April, 1956.
28. Shuster, Alvin, "We're Growing King-Size Americans," Science Digest, 47:1:1-5, January, 1960.

29. Tacoma News Tribune, March 3, 1968, p. 19, cols. 2-4.
30. Tacoma News Tribune, January 9, 1967, p. 12, col. 1.
31. Tanner, J. M., "Earlier Maturation In Man," Scientific American, 218:1:21-27, January, 1968.
32. Weyand, Alexander M., The Cavalcade of Basketball, New York: The MacMillan Company, 1960. 251 pp.
33. Wilson Sporting Goods Company, "Original Basketball Rules Make No Provisions For Complexities of Modern Game," The Coach, 43:1, September - October, 1966.
34. Wind, Herbert Warren, The Realm of Sport, New York: Simon and Shuster, 1966. 102-109 pp.

APPENDIX

DR. NAISMITH'S STORY

Here is Dr. Naismith's own story about the origin of basketball, written in 1937, while he was a professor at the University of Kansas in Lawrence:

"In the fall of '91, the physical directors of the country had come to the conclusion that maybe neither the German, Swedish nor French system gave us the kind of work that would hold our membership in the Y's.

"We decided that there should be a game that could be played indoors in the evening and during the winter season. Dr. Gulick assigned me the task of inventing a game to fill this particular part of our work. He was led to assign this work to me because of a couple of statements I had made that it was possible to invent such a game and that mature individuals did not desire physical development but some enjoyable form of recreation.

"I first tried to modify some of the existing games so that they would meet the requirements, but failed to make any game suitable for indoor work. I then left out the idea of any individual game and began to think of the fundamental principles of all games. I discovered that in all team games some kind of a ball was used.

"The next step was to appreciate the fact that football was rough because you had to allow the defense to tackle because the offense ran with the ball. Accordingly,

if the offense didn't have an opportunity to run with the ball, there would be no necessity for tackling and we would thus eliminate roughness.

"This is the fundamental principle of basketball.

"The next step was to secure some kind of a goal through which the ball could be passed. In thinking of upright goals, the fact was brought out that the more force that was put on the ball, the more likelihood there was of having it pass through the goal. It then occurred that if the ball be thrown in a curve it would not be necessary nor advisable to put too much force on the ball.

"I decided that by making the goal horizontal the ball would have to be thrown in a curve, minimizing the severe driving of a ball. In order to avoid having the defense congregate around the goal, it was placed above their heads, so that once the ball left the individual's hand, it was not likely to be interfered with.

"Then rules were made to eliminate roughness such as shouldering, pushing, kicking, etc. The ball was to be handled with the hands only. It could not be drawn into the body and thus encourage roughness.

"The manner of putting the ball into play was then considered. Two individuals were selected and took their stations in the middle of the floor. The ball was thrown up so as to land between them, giving as nearly equal

chance as possible. The nearest approach to the ball needed was the soccer ball, which we selected.

"To get goals, we used a couple of old peach baskets, hanging one at each end of the gym. From this basketball developed.

"In my estimation, there are four fundamental principles in basketball:

1. That the player in possession of the ball must not make progress while it is in his possession.
2. The goal is horizontal and above the heads of the players.
3. Roughness is eliminated so far as possible by making it a no-contact contest.
4. The ball belongs to the player at any time that he can get it without making personal contact.

"These four I consider fundamental and a necessary part of basketball. They persisted from 1891 to 1937. There has been a tendency of late to modify the last of these principles to develop a stronger offense, somewhat at the expense of the defense.

"It is rather interesting that 12 of the original 13 rules were, in 1937, still in the game. I am enclosing a copy of the first rules which were posted on the bulletin board in the gym at Springfield before the game was actually played" (17:164-165). (These exact rules can be

found on pages 2-4 of this paper.)

DR. NAISMITH DIES

On November 28, 1939 Dr. James Naismith, the inventor of basketball, died at his home in Lawrence, Kansas after suffering a heart attack. He had just passed his seventy-eighth milestone. Dr. Naismith was a quiet man who sought ways to help his fellowman. He preferred to think of basketball as a game to be played for recreation and to improve the physical condition of the participants rather than as a competitive sport. While admitting to a certain degree of satisfaction in its tremendous popularity, especially when he was a guest at the Olympic Games in 1936, he never became unduly excited about it. At the University of Kansas, where he loyally served for forty years, it is said that he preferred watching fencing and tumbling to basketball and that he was never heard to cheer at a game. As chaplain of the First Kansas Infantry, he served on the Mexican Border in 1916 and he engaged in YMCA work in France during World War I. The Naismith Memorial Hall of Fame for Basketball, erected at Springfield, Massachusetts in 1962, is his shrine.