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INSIDE BASEBALL

A Thesis

Presented to

The Graduate Faculty

Central Washington State College

In Partial Fulfillment

of the Requirements for the Degree

Master of Education

by

Dell Bethel

July 1964

APPROVED FOR THE GRADUATE FACULTY

Everett A. Irish, COMMITTEE CHAIRMAN

Albert H. Poffenroth

Dohn A. Miller

DEDICATION

I wish to dedicate this book to my wife who is as splendid an assistant coach as a man could find. Any degree of success I have had has been in a large measure due to her.

ACKNOWLEDGMENTS

I wish to acknowledge the great coaches I have had the pleasure to play under or work with. I have learned much of what I have written in the pages to follow from these men, who through their dedication have made baseball the great game it is today. These men are Bill Bethel, Fred Warburton, Ray Gestault, Ray Ross, Dick Siebert, Andy Gilbert, Frank Shellenback, Carl Hubbell, Bubber Jonnard, Chick Genovese, Tom Heath, Ed Burke, Leo Durocher, Don Kirsch, Cliff Dorow, John Kasper, Dave Kosher, Jim Fitzharris and Rosy Ryan.

I wish to express my sincere appreciation to Dr. Everett Irish for his encouragement and assistance, and Mr. Albert Poffenroth and Dr. Dohn Miller, committee members.

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CHAPTER I

INTRODUCTION

I. STATEMENT OF THE PROBLEM

Many things have been written on the development of the skills and fundamentals of baseball. Some are not very well written and to get complete coverage you must go to widely scattered sources. Many of these sources are of questionable value in particular to the high school coach, who is confronted by the boy who can't hit a curve ball, or the boy who steps in the bucket. How do you help this boy? It is the purpose of this study to compile all the intricate series of skills in the game of baseball into one concise volume. In addition the paper will include the remedial ways to correct faults in baseball technique which are unique in this field.

Some of the best information, knowledge and techniques of inside baseball, has not been written for the reason that many managers and players do not communicate well or simply do not want to give away their tips while still active.

II. PURPOSE OF THE STUDY

The purpose of this study is to offer some remedial methods for correcting individual weaknesses or faulty techniques, using specific suggestions of experts in the game of baseball.

III. PROCEDURES TO BE USED

The procedures to be used are reviews of literature interspersed throughout the study and use of methods which have proved most satisfactory. This will include a breaking down of the game of baseball into its component skills utilizing expert opinions and my own views in teaching and developing these skills. Suggestions will be given for technique and developing of the most satisfactory skills and abilities.

CHAPTER II

FUNDAMENTALS OF PITCHING

I. DEFINITION OF A PITCHER

The pitcher is the answer to whether or not a team wins the ball game. He is the bulwark of defense of his entire team, he alone comes in direct contact and competition with every member of the opposition. He carries the big burden, as much as 75% (15:81).

A high school coach can well afford to spend fifty per cent of his time with his pitchers because if his pitching is tough he can battle any team on any given day.

There is no great secret to pitching. The basic problem in pitching is control. Control means not only being able to throw the ball in the strike zone, but being able to have hairline control in order to master the corners and to throw the low strike.

The low strike is the fundamental factor in the technique and philosophy of pitching. It is the closest to being the unhittable pitch. This point can be taught to a pitcher by having him stretch his arm out and asking him which point is easier to reach--high and outside or low and outside. This illustrates the point of where to pitch to the average hitter.

Another point to stress with young pitchers is not to throw the ball on the inside half of the plate for a strike. Make it bad inside--about six inches. This coupled with the ability to consistently pitch low and away would enable one to get almost all hitters out.

II. ANALYSIS OF GREAT PITCHERS OF TODAY

Before going through the mechanics of pitching let us analyze three of the great pitchers of our time and their thinking and methods of pitching, Whitey Ford, Carl Erskine, and Ed Lopat.

Whitey Ford

Whitey Ford's thinking on pitching is very simple. The pitcher attempts to put the ball where he wants it and where, he hopes, the batter doesn't want it. He throws the curve inside, the fast ball outside, then brings the fast ball in, sends the curve out. He moves the ball around, changes speeds. He does not try to throw strikes over the middle of the plate.

The difference between pitchers and throwers is control. One should be able to get the first pitch over with good stuff on it and then one has an edge. Hitters then have to go chasing, especially with two strikes.

As long as a pitcher is on the mound he should feel that he is the boss. Only the pitcher knows what he is throwing and where he is throwing it. Even when the batter guesses right he still has to hit the ball. A craftsman will stop him three out of four times. We have just looked at the philosophy and thinking of one of the greatest portside pitchers in the game of baseball (26:4).

Carl Erskine

Let us take a look at Carl Erskine's ideas on pitching. Until last year Carl held the World Series record for strikeouts in a single

game. His ideas vary somewhat from Ford's but are very fundamental and sound.

Carl believes an outstanding pitcher must have very intense concentration. As an example, if someone were to come out to the mound and ask the pitcher his phone number, the good pitcher wouldn't be able to tell him as he would be concentrating on his job of pitching.

A pitcher's greatest achievement comes when he acquires knowledge. A pitcher must understand that finger pressure affects pitching speed and different spins mean different curves. The angle of the spin explains the direction of the curve.

Tilting the angle of spin to one side (on a fast ball) makes it rise or sail to that side and this happens as it reaches the plate. The slower the pitch the harder it is to hit for distance. Erskine found that by pressing more with one finger than another the angle of the back-spin was affected. Then he noticed that shifting the pressure points--pulling the first finger back a bit and then pulling the second finger back--tilted the angle of the spin of the thrown ball to either side, causing a pitch to either take off inside or outside.

The main thing to learn about a hitter is whether he is a low ball or high ball hitter. This will enable the pitcher to determine how to pitch to him (5:Ch. I).

Ed Lopat

The next pitcher on the list is one of the all time Yankee greats, Ed Lopat, who became great even though he had short fingers and couldn't

throw very hard. Ballplayers have said he is one of the greatest thinking pitchers of all time. When it was announced he was to pitch, hitters ran to the bat rack. He looked so easy to hit but they came back to the bench after popping up or grounding out.

A young pitcher would do well to pattern his thinking and methods of pitching after Lopat. Lopat is a man who rose to the top of his field with none of the physical attributes needed to make it in the "biggs". He was a short pitcher with short, stubby fingers and no hummer for a fast ball.

Lopat feels, "But you take four pitches, take the fast ball, the curve, the slider and the screwball." He related that throwing any one of those at any one of three speeds gives you twelve pitches. If you throw each of those twelve pitches with a long-armed or short-armed motion you have twenty-four pitches. This means that batters never can dig in against Lopat. Facing the average pitcher who has fallen behind and into a situation where he must get the ball over the plate, a batter can depend on seeing one or two pet pitches. Batting against Lopat they may get any one of an assortment of two dozen.

Taken individually, none of these pitches is what the ballplayers call a "big pitch". Each of them separately looks easy to hit but their strength and efficiency lie in numbers.

"My main object," Lopat says, "is to keep the batter hitting that ball off stride. If you can do that you've done your part. They'll get a lot of plunkers, but that's about all" (11:139).

In discussing pitching Lopat speaks often of the "power zone".

This is the point over the plate where the batter's swing reaches the peak of its power. Lopat, employing his deceptive motion and varying the speed of his deliveries, can draw batters into meeting pitches as much as three inches in front of or behind that point of maximum power.

Lopat throws between 90 and 130 pitches a game. He believes he is bound to throw a few bad ones out of this number and works hardest to keep from throwing them in situations where they would do the most damage or to hitters who can hit the ball into the seats.

In Lopat's mind pitching comes down to a battle of wits between the pitcher and the batter in which a single mistake can cost a game.

"You have to find out a hitter's way of thinking as well as his way of hitting," Lopat says. "The way a batter shows you his way of thinking is by his reflexes in relation to the ball. If I throw a batter a fast ball and he just ticks it, he wasn't looking for a fast ball. Then I may throw him another fast ball but that depends on where that first ball was. Now, if you get a smart hitter out with a pitch and you give it to him again with less than two strikes on him you're crazy. After two strikes your chances are better because he has to protect the plate and can't take the full swing" (11:139).

Two or three hours after he has pitched a reaction sets in; he finds that he is mentally exhausted and doesn't even want to talk.

Is hard work the big story in pitching growth? Yes, and no, if by hard work you include concentration, then hard work it is. Labor is not enough. Ed Lopat is an excellent example of a thinking pitcher.

III. MECHANICS OF PITCHING

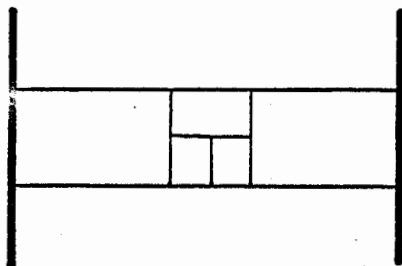
I. Be relaxed at all times, both mentally and physically.

- A. A pitcher knows what pitch is called for and where it should be thrown. If his mind can make his body throw that pitch in that spot, the odds are greatly in his favor. If he can do this one hundred or more times a game he should be consistently a winner.

II. Aids in gaining control.

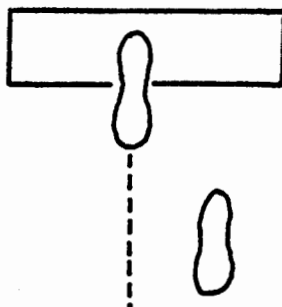
- A. Try to split the heart of the plate with your first pitch (low). By doing this if you have your good stuff the ball will take off and catch one of the corners.
- B. Always throw at a target (intense concentrated effort).
1. Satchell Paige developed control by throwing at a safety match box for a plate (19:41).
 2. Another famous big leaguer learned control by throwing baseballs through a small can.
- C. Try to visualize the path (groove) the pitch is going to take to the plate before throwing the ball.
- D. Start from the middle of the rubber (pivot foot), then if he becomes wild inside or outside simply move over on the rubber and use the same motion.
- E. When wild high you are letting go of the ball too soon. If wild low you are holding on to the ball too long.

- F. Develop a groove so the foot (left for righthanders) lands in the same spot every time.
1. Carl Hubbell could warm up for twenty minutes and leave only one foot mark with his striding foot.
- G. Throw from the same angle (a pitcher's natural throwing motion with all his pitches).
- H. Start working with one pitch at a time, first the fast ball, then the curve ball, until you can throw it anywhere in the strike zone.
- I. Learn to throw at the catcher's mitt, then move to the shoulders and knees and finally to lettering on the catcher's uniform.
- J. Use the plate itself and throw at the corners.
- K. Have a purpose and idea where every pitch is going.
- L. Keep pitcher's head up and still.
- M. Throw to the pitching strings using only the bottom half of the strings.



use just bottom half

- N. Learn to step over a line drawn in dirt through the middle of your body so you don't throw across your body.



Pivot foot

Other foot should land here, on this side of line from pivot foot.

- O. Use a Johnny Sain spinner to teach boys proper rotation.



Ball free spinning

Handle

- P. Control yourself mentally. A pitcher must keep control of his mind--to be angry destroys concentration.
- Q. Throw the ball hard, don't aim it.
- R. Teach pitchers that the index finger is the fast ball finger and the second finger is the curve ball finger.
- S. Run and run some more. Lack of control late in a game is usually due to poor physical condition.
- T. Check wind conditions as soon as you arrive at the ball park.

1. Wind at a pitcher's back helps his fast ball.
 2. Wind directly at pitcher helps curve ball.
- U. Don't try to pitch too fine or in and out until ahead of the hitter.
1. Put something on the ball and get it over.
- V. Pitchers should talk to themselves on the mound, such as saying "low and outside" over and over.
- W. When ball is coming in higher than the pitcher would like, aim at hitter's shoe tops. To relax take a deep breath before pitching (fill the lungs with fresh air to preserve stamina).
- X. Dip the back knee (the leg that is on the rubber); this gives pitcher a chance to push off as he starts his forward motion.
- Y. In order for the tall pitcher to consistently keep his pitches low, he must dip his back knee to lower the line of projected trajectory of his pitch.
1. That will make pitcher's arm and back follow through better and keep him from being high with all of his pitches.
 - a) Lazy back leg makes pitches high.

III. The pitcher's motion.

- A. One teaching method is to examine closely the pitcher's motion, for it is here that good control starts. Motion consists of: (1) wind-up, (2) roll or lay-back, (3) the delivery itself, and (4) the follow through.
- B. Bob Shaw insists the roll shouldn't bring the righthander's shoulder farther around than in a direct line with home plate (21:Ch. III). Johnny Sain felt that it can be almost to second base. This should be something you experiment with; in general the farther the roll the longer a pitcher must lay back by holding his left leg up (righthanders). Try to teach boys to put their hip pocket in the hitter's face.
- C. Be certain the pitcher's elbow extends far beyond his hand just before release of the ball.
- D. The average pitcher's stride should be between $4\frac{1}{2}$ to $5\frac{1}{2}$ feet.
- E. If the pitcher is consistently high, shorten up his stride.
 - 1. This enables him to get his arm down faster.
- F. If the pitcher is too low with his pitches, lengthen his stride.
 - 1. This enables him to take longer to whip his arm.
- G. Overstriding is probably one of the most common faults of young pitchers.
- H. All smooth flowing pitchers (Ford, Pascual, Spahn, Roberts,

and Wynn) start with a slow wind-up.

- I. Get the front leg up and hold it there until the pitching hand comes out of the glove.
- J. The good pitcher pulls the ball from the glove just after he raises his front leg.
- K. As the front leg begins its descent the back one should be arched (almost tight).
- L. Next the pitching elbow thrusts out, then as the leg comes down in front of the mound the whole body begins to uncoil.
- M. With the ball in the pitching hand the arm is ready to begin its swing forward while the leg starts downward.
 1. A pitcher cannot throw the ball properly (unless the reach-back is good) unless the arm is back there ready to come forward.

Finally, an important thing in control is the pitcher's state of mind. Let us examine the professional attitude of Frank Sullivan, pitching ace of the Boston Red Sox and Minnesota Twins (Frank is 6 feet 7 inches tall).

I must get rid of tension before going out to pitch. Thinking is the key to winning. You may know how to do the right thing in the box but you won't be able to do it unless you have command of your think-apparatus. For instance, I free my mind of all worry about whom I am pitching against, where I am playing, or how many are in the stands. I concentrate on the job I am doing which is to get the ball over the plate. Now this job is complicated, especially for a tall fellow like me. Relaxation, mental and physical, helped me concentrate on control (18:71).

The following is the routine for San Francisco Giant pitchers

between pitching assignments.

First day. The first day after pitching the pitcher does nothing but run and run, foul line to foul line.

Second day. The pitcher runs, throws easily on sidelines or pitches batting practice for ten minutes.

Third day. He throws for about ten minutes (optional).

Fourth day. Pitches again.

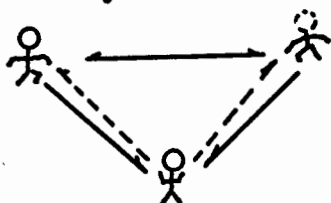
IV. PITCHING DRILLS

Pick-ups--two balls one man rolls.

20 first day.

40 second day.

100 third day and rest of spring training.



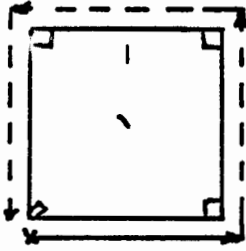
10 feet to left of other man then to right 10 feet.

This is a good conditioner for fielding or bunts or topped grounders.

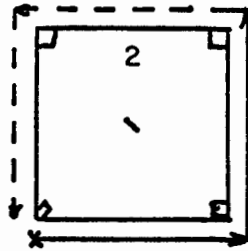
Grass Drill--pitcher reaches as far back as possible in wind-up and follows through and tries to pick up grass on field or a ball lying on the ground.

1. This teaches reach back and follow through.
2. 50 repetitions.
3. Pitcher takes ball out of glove on backswing during windup, 25 repetitions.

Burma Road--this is one of the very best conditioning drills.

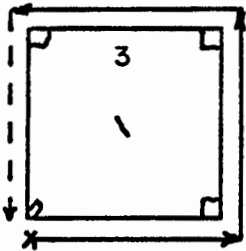


SPRINT

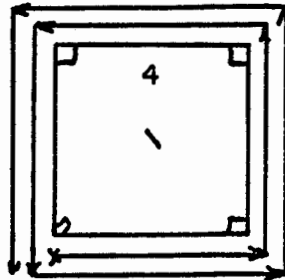


WALK

Six pitchers at once

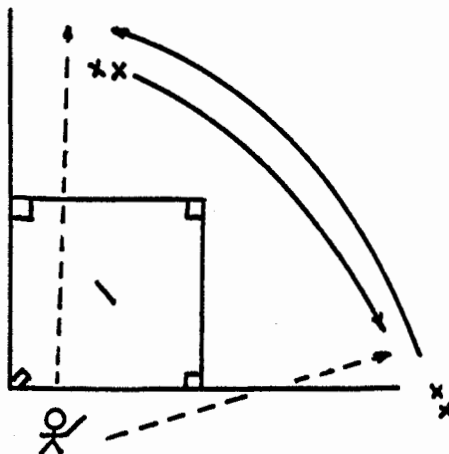


3



4

1. Pitchers sprint to first and then form single line and walk around bases until first man touches home.
 2. Sprint to second and walk to home.
 3. Sprint to third and walk home.
 4. Sprint entire bases twice.
 5. Optional method: use sprint of entire bases up to four times.
- Boys don't really realize how far they are running. They like the competition of this drill and it gets them in splendid shape.

Fungo Drill

1. Hit ball just beyond pitcher's reach. When all pitchers finish they go to the end of line, turn and hit the other way.

2. Use a tape from pivot foot on the rubber and make pitcher throw his leg across the line. This is so pitcher isn't throwing across his own body.

3. Pitcher should pick up a ball on the ground after releasing a ball. This helps with follow through.

Use your pitchers as fungo hitters where ever possible. This is good for their shoulders.

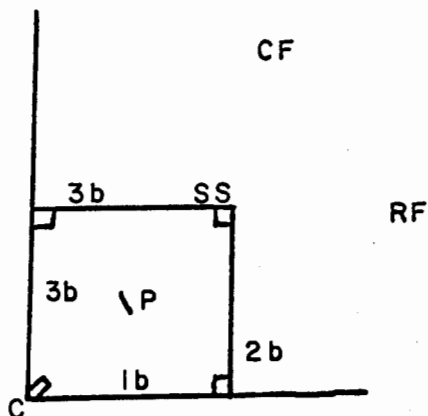
Pitchers must learn to cover first base at all times when a ball is hit to their left. Early in the season make pitchers take infield practice with the team and hit the ball to them every trip around the horn. Practice on first base and pitcher team work.

The pitcher must also learn to charge the third base foul line with men on first and second and none out.

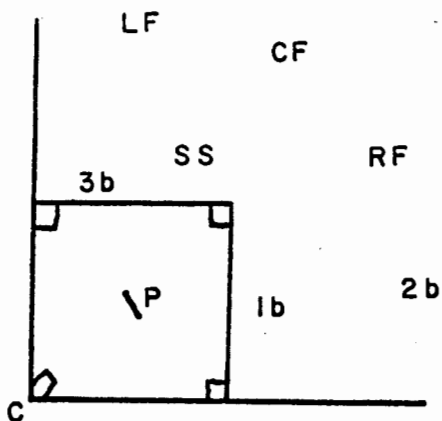
The pitcher must learn how to work the double play on balls hit back to him.

The following illustration is one that has proved very successful in high school and American Legion baseball.

Seven Man Infield--runners on first and second and none out.



Power Shift--great long ball hitter, no one on (four man outfield).



V. TYPES OF PITCHES

The following are the various types of pitches and the teaching of each pitch.

Fast ball. The overhand pitcher generally grips the ball with his fingers across the seams where they are widest so as to get the seams rotating against wind resistance. This will add hop to the fast ball. The same applies to a three-fourths overhand delivery but the ball will rise and go in on a right hand hitter from a right hand pitcher. A side arm pitcher's fast ball should go in and sink if gripped with the seams. It is important for a fast ball pitcher to reach back as far as possible as this makes the arm go through a larger arc and increases leverage. The proper follow through will increase speed by ten per cent. The wrist must be cocked back to get the maximum speed on the fast ball; a pitcher's hand should be eighteen inches from his head when the ball is released. The fingers and wrist must impart the last force to pitch and pitcher must have a real good snap to increase velocity. Pitchers must know how to push off the rubber (especially from the stretch position) as this will increase speed. The pivot foot rests against side of the rubber and the pitcher launches his body from side of the rubber. This makes up for loss of wind-up. Teach pitchers to buggywhip arm to get that extra snap on the ball; tell your pitcher to whiplash his arm. The index finger is the one that controls where your fast ball will go.

The next pitching type is the most difficult for a pitcher to learn.

The curve ball. Although the curve ball is difficult to learn it pays the greatest dividends. The curve ball should be gripped with the seams. The second finger plays an important part in pitching this ball as it imparts the spin. (A spinner should be used to show your pitchers the proper spin.) Throwing a curve is like holding a baseball and trying to snap your second finger and thumb through the ball. When not pitching snapping fingers and letting ball come out of the top of hand is excellent practice. Try to throw the curve as if trying to part the hair down the middle. In throwing the curve ball the side (narrowest part of forearm) of the pitcher's forearm should be facing the hitter. This is a much neglected point. The motion of the forearm and the curve is like pulling down a window shade in front of you. Try to have pitcher imagine he is driving nails into his foot or throwing the ball at the bottom of the mound. Pitcher's elbow should be pulled in slightly, whereas his hand is eighteen inches away from head on a fast ball it should be close to four inches when throwing a curve. Shortening up his stride is important and not trying to throw the curve too hard. A pitcher must have excellent wrist action--sharp not lazy. Rosy Ryan, one of the greatest curve ball pitchers of all time, believed that the snapping of two pitcher's fingers must be done by his cap as he came down with the arm. (Ryan threw the ball in the dirt on the 3-2 count with the bases loaded to strike out Babe Ruth in the World Series.) A pitcher should jerk his hand down in front of him sharply as if pulling down an object. A curve ball will destroy the batter's eye level because of the ball's plane of

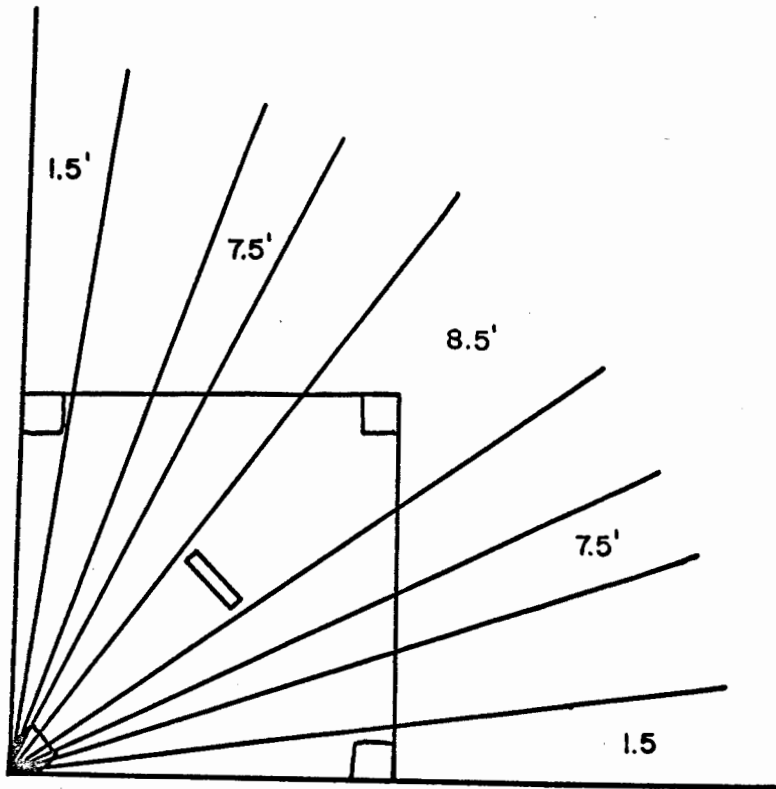
flight. Pitch a batter with glasses low as he may have to try to look through the frames. A curve ball should be kept low and away. With a slight adjustment or rotation of the ball in pitcher's hand, the middle finger can be placed along the seam so that when the wrist is snapped for the curve ball the ball will come off the side of the index finger with such a rotation that the four seams will be rotating downward. The middle finger must grip the ball firmly in this situation. When a pitcher has trouble getting stuff on the curve ball he may be gripping it too tightly.

The change of pace. One way of throwing a change of pace is simply to jam the ball all the way back in pitcher's hand; this will force something off the pitch. Another way is to let your two fingers off the ball just before releasing the ball. This acts just like a brake on the ball's action.

Pitching is an endless study and to become a master of the art thousands of hours must be spent in practice and study. The San Francisco Giants have figured it takes 12,000 hours of practice to make a real pitching prospect.

Some people don't realize the difference in caliber of ball and the extra support a pitcher receives the higher up he goes in baseball. The five grooves is a statistical study based on one complete season compiled by the San Francisco Giants; figures apply to no one on base with someone on the hitting areas naturally becoming larger.

The Five Grooves.



180 feet to hit a fair ball.

26½ feet of base hit territory.

A ground ball travels 100 feet in 1½ seconds.

Based on players taking 6 seconds to run 50 yards.

High School--1 out of every 6 ground balls will get through infield.

College--1 out of every 8 balls will go through infield.

Class B Professional--1 out of every 11 balls will get through infield.

Triple A Professional--1 out of every 12 balls will go through infield.

Major Leagues--1 out of every 15 balls will get through infield.

CHAPTER III

THE ART AND SCIENCE OF HITTING

I. THE FUNDAMENTALS OF HITTING

The most important single thing for a potential hitter to do is to watch the ball at all times. One should try to see the ball either hit the bat or watch the ball as it goes into the catcher's mitt.

The hitter must keep his head still. This is the second most important aspect of the art and science of hitting.

The best way to describe hitting is to say that it is comparable to swinging an axe at a tree. A man who swings an axe at a tree does so naturally because he has no worries about the tree doing anything to him. He is certain he is going to hit the tree, and he must learn that he could replace the axe with a bat and have a sound baseball swing.

Most hitting faults come from fear, uncertainty, and lack of knowledge. Lack of knowledge can be removed as an obstacle to good hitting by simple teaching. Fear can only be conquered by a batter gaining confidence in himself. That brings us back to the tree. It is not as easy to hit a baseball, which is a rapidly moving object capable of being made to do a lot of tricks, as it is to hit a large and stationary tree. However, if hitters could swing a bat as easily and as naturally as a woodsman swinging an axe they would make life much more unpleasant for pitchers.

In hitting, it is necessary to have good form. As in other sports swinging a bat well means having smoothness, rhythm, timing and balance. There is no question that there are some hitters, just as there are some athletes in all sports, who have these qualities without the need of teaching. There are some men who are better co-ordinated than others, who have fast reflexes and who have a better sense of timing. This does not mean that hitting cannot be taught, nor that hitters cannot acquire the smoothness of a man swinging an axe easily in a full arc at a tree.

Good form in hitting has certain essentials. One of the most important factors that all great hitters (including Joe DiMaggio, Ted Williams and others) have in common is this--keep your head still. If you keep your head still, you will take the first step toward acquiring the smoothness, rhythm and timing you want.

In nearly all forms of sport, even in fancy diving, the head is the key. The diver depends upon his head to lead the way and guide his body through the air. If he moves his head he automatically shifts his body.

In golf, the professionals teach that keeping the head still is a primary requisite for having a good swing.

In football, the placement kicker glues his eye on the ball and holds his head steady throughout the kick--just as a batter watches the ball until it meets his bat. A hitter who keeps his head still, and by that it is meant that he does not move it forward toward the pitcher during the swing, or up or down, will naturally have better results.

One who knows the secret of keeping his head in one position will not stride too far. He will keep his back foot anchored securely to the ground. His hips will move out of the way so that the bat can come around. He will not dip his hips or his body lowering his center of gravity so that the ball will slide over his bat and cause a pop-up. He will hit the ball out in front and he will hit it hard and full.

Other factors besides keeping the head still during the swing enter into the form of hitting.

Batting Stance

The hitter takes a natural stance. Everyone who discusses hitting uses the term natural. It means something different for every one who steps up to the plate. Each hitter finds the position in which he feels comfortable. The problem is that some try so many positions or develop habits which come to feel natural to them which are really not comfortable and which prevent them from swinging easily and naturally.

Bat Position

The feet should not be too far apart. The bat should be held neither too erect nor too flat. Joe DiMaggio carries his bat in a position of the happy medium between the vertical and the horizontal (8:110). The bat should be held as high as possible with comfort. DiMaggio is in a position to hit from the instant he puts his bat over his shoulder. He does not move.

Babe Ruth held his bat in a vertical position and for that reason was a low ball hitter; try hitting at a high pitch after the bat has

been originally held pointing directly to the heavens. Speaker held his bat very flat in an almost horizontal position at the shoulder and looked over his elbow at the pitcher. The result was that he was a high ball hitter. Try this, too, and notice why the position of the bat at the top of the swing is important.

It is easy to see why Speaker, holding his bat almost parallel with the ground, was a good high ball hitter. Only at the shoulder does there exist the so-called level swing. It is only there that the bat can be swung without dipping or sliding, in a plane actually level with the ground. Ironically, that position being such the pitch is not in the strike zone, so there really is no such thing as the level swing.

At every other position, above and below the shoulder, the ball must be hit with the bat at an angle to the ground.

It is possible, of course, to try to level the swing by dropping the hips, pulling back or otherwise shifting, but these movements mean shifting the head, lowering the center of gravity, and spoiling good form. The result of this spoilage is loss of power and timing.

After the hitter has taken his stance, feels comfortable, has his bat back and wrists cocked--with his right wrist on top and his left underneath the bat, he is, if a righthander, looking at the pitcher over his front shoulder and his body is generally parallel to the expected flight of the ball.

The Stride

The hitter is going to keep his head still, the pitcher pitches,

the first thing the hitter does is stride. Because his head is still, he can't stride too far. Have someone hold a batter's head and then ask him to stride; see how far he can go--about twelve inches at the most and there the foot is braced.

What else happens? The hips move out of the way! There is a turning of the body at the hips so that when the hitter actually puts his bat on the ball, his body is almost, but not quite, squarely facing the pitcher.

With his hips out of the way, what happens to his arms? They are completely free to swing the bat in a wide arc and it is at the peak of this arc that the ball is hit.

Note the position of the body in relation to the bat the instant the ball is hit. The body is entirely behind the bat, and, of course, the ball, which is actually hit as much as a foot in front of the body. This is what is meant by getting it out in front. It really means hitting the ball out in front of the hitter and not reaching far out across the plate or getting far away from the ball, but swinging at it after the ball has come to a point opposite the body. One can still see the bat hit the ball in this position. Each hitter should try to see the bat hit the ball.

Magic Hands

At the point of contact of bat and ball, the wrists will uncock as the ball is hit. This is the last action and gives the bat its final speed. Both arms will be straight and reaching as far out as they

comfortably can to provide a wide arc which increases power. This is where Ted Williams gets his power--from the wide swing of his arc.

The follow through will find the wrists rolling, the right wrist of the right hander rolling over on top of his left, and vice versa for the left handed hitter. The head still does not move; for this reason the back foot remains anchored until the follow through finally puts it slightly off the ground at the finish. By that time the hitter is on his way to first base. The whole swing is a spinning action--not a slide or shift forward. The swing is really a spin on an axis which has the head at its top.

Hitting Faults

Dipping. There are several common faults in batting. One is dipping the body. When these hitters swing, they bend their knees, pull back their hips and then wave at the ball as it goes by. By taking their bodies out of the swing they lose power. To hit, a hitter should stay erect. A little flex at the knees is all right, but only a little. A hitter should not go deep down. That lowers his head.

Sliding forward. Others slide forward and drag the bat behind when they stride. It is not necessary to take a long stride to hit a long ball. The contrary is true. Hitters who slide forward, taking a long stride, lock their hips and fail to turn. This locks their arms. The bat, instead of swinging in an arc, is actually sliding forward. There is little wrist snap and the sliding bat goes under the ball and produces a pop-up. They brace against their front leg but otherwise their power is completely locked up.

To go back to the beginning, nobody ever swung an axe at a tree by pulling back away from it or by sliding his body beyond the tree and dragging the axe after it.

Hitching. It is obvious any jerk of the hands, up or down, costs time. The swing must start from above the shoulder; if one swings from below his shoulder or from his waist, which nobody does if he originally holds his hands low, one would have to hit up at the ball. Remember that tree. Nobody moves his hands up and down before swinging the axe.

II. MECHANICS OF HITTING

Here is a formula for the mechanics of hitting. The head should be kept in one position while the hitter gets a comfortable, well-balanced erect stance, holding the bat as high as he comfortably can. Then he swings the bat at the ball, getting the hips out of the way during the stride. He hits against the braced front leg, being sure he hits the ball in front of his body where he can see it, at least a foot ahead of his body on the big part of the bat. The swing is at arm's length to get a full arc. The hitter's front arm will guide the bat and the bent back arm, when it straightens with his uncocking of the wrists, will provide the power. The swing is all done in one motion. One can't be thinking of all these things when he is at the plate, so it takes practice to put them together.

Plate Coverage

There is more than form to hitting. Good hitters must guard the

plate. A hitter must be close enough to cover the plate with his bat. Good hitters don't swing at bad pitches--balls over their heads or too wide or too low. They make the pitcher come into the strike zone.

The good hitter, too, will always look for the fast ball. If he is ready to hit the fast ball, he can adjust his timing for the slower curve and the change of pace. If he is looking for the curve, the fast ball will be thrown right by him.

Batting Tips

Many players use a long, lightweight bat, but a bat of 34 inches, weighing 35 to 36 ounces is better suited to most hitters. It is the hitting form and not the length of the bat which will bring results.

When a hitter has two strikes the plate immediately becomes bigger, his strike zone is larger and he must protect the plate and swing on any pitch that is close. Protecting the plate is done by choking up on the bat and shortening the swing.

Roger Hornsby said, "A hitter with his buttocks stuck out will never be a great hitter, forget him. A fast bat is the hallmark of a great hitter" (12:Ch. IV).

When meeting the ball out in front there are three different positions: (1) way out in front to pull, (2) half way out in front to hit up the middle, and (3) barely in front to hit to right field.

When fooled by a curve ball with less than two strikes, one should take the pitch; the percentages show it will be a weak ground ball or pop-up. A hitter should try to pick up the spin of the ball

as the pitcher releases it, training his eyes to do this as an over spin (like a top) means a curve and a reverse spin means a fast ball.

It is a wise procedure for a hitter to use a patch over one eye and then over the other to find out which one is focusing for him. With one eye patched the hitter should stand at the plate, take the pitches, and follow the ball all the way to the catcher's mitt, practicing observing the spin of the ball.

Reading A Pitcher

When one is in the batter's circle one should watch the pitcher's fast ball, if possible, with the stride of his feet and hands and one should then be able to time it. Also, in the batter's circle a weighted bat should be used to swing and try to read the pitcher. Does he do anything different on his curve and his fast ball? Observe if he has his hands together higher over his head, if his legs do a different type of kick, if his fingers grip the ball differently, or if he winds up harder than for a normal pitch when he throws a change-up. It is also important to just watch the ball; does he show the hitter the white of it at any time?

An observation of the position a pitcher takes on the rubber will show the following: (1) what type of pitch he will throw, (2) if he takes something off the pitch to get it over when behind, (3) if he relies on a fast ball or curve when he is in a hole in a dangerous situation, or (4) if he is a high ball or a low ball pitcher. It will also tell one if he pitches side-arm or straight overhand, which way his pitches will break, and if he varies with a left hand hitter up if he is a right hand

pitcher. Additional things one can determine are if he throws as well from a stretch position as with a wind-up and if he tries to get the first pitch over. The infielder and outfielders may give away his pitch by their moves such as: (1) do they move a step or two to the power field on a curve ball? (2) do they move a step or two to the opposite on a fast ball? or (3) do they give one wide spaces? Also the catcher may shift his target on certain pitches, so he is a player to watch too.

When taking a position in the batter's box one should stand deep; it will give one a longer look at the ball.

Filming Hitters

Movies may improve hitters. There is an old saying that a camel thinks he is the most beautiful animal in the kingdom because he can't see the humps on his back. In the same vein a hitter should be filmed when in a good hitting streak and also when in a slump. This will enable him to watch both sets of movies and see just exactly what he is doing differently so that he can improve his hitting.

The art of hitting a curve ball is improved by practice, by stepping into the pitch and learning to hold the shoulders in. The art of hitting a baseball is perhaps any player's most desired trait. As a result of many observations and instructions that have been issued, following is compiled information from some of baseball's greatest hitters to help high school hitters.

III. PSYCHOLOGY OF HITTING

The biggest difference between major leaguers and minor leaguers is the attitude of the hitter when he steps in the box and when the pitch is on its way.

The hitter must have a positive approach--I'm going to hit this pitch! The hitter is ready and set, cocks his wrists ready to swing, and starts forward on the pitch. Then if the pitch is out of line, the hitter eases off and lets the pitch go. The wrong approach is if it is in there, I'll hit it (5:156).

George Sisler, former major league great and authority on hitting, felt each hitter is an individual case, and a hitter may have been perfect form-wise and still not hit the ball. He felt some are too form conscious and forget what they are up at bat for, to hit the ball. The primary thing that should be in the mind of every player who gets up to the plate is to hit the ball. All outward thoughts should be erased from a hitter's mind (23:9).

The batter must be confident and not tense. He should be in the frame of mind to look for any pitch. He should not try to guess but be ready to hit the pitcher's pitch and adjust his timing for hitting from there.

Paul Richards, manager of the Baltimore Orioles, stated the following relative to moving the back foot:

"Hitting means being able to stand up to the plate on close pitches. Against pitchers who throw hard and are somewhat wild, if you can't stand up there to the pitch, you surely can't hit it. The fear of being hit is what brings your back foot up, or off the ground.

"A good eye is the ability to swing at a ball that you know you can hit. Say the hitter has two balls and no strikes--he looks for

a sign--he gets the sign. Well, why should he swing the bat at the ball unless he has it timed perfectly? Suppose it is a big change of pace ball coming up and he is all off balance, yet he goes ahead with his swing and pops it up. That is the difference between a good hitter and a bad hitter. The good hitter sees that he can't hit it well, so he holds up, but the bad hitter goes on and swings and is out. That goes even up to 2 strikes. Why should you swing unless you have the ball timed? If you can't have the pitch timed, take it, because you certainly can't do much with it.

"When you get right down to it, the pitcher is in a rather tight spot when he is 2 and 0, 3 and 1, or 3 and 0. He not only has to throw the ball over the plate, but the umpire also has to call it a strike, and the latter is not always automatic. Now figure it out--where is your percentage then? Let the pitcher pitch. That is where the hitter has an advantage, if he will make the most of it. If not, then the pitcher, with all the other percentages in his favor, certainly has it over the hitters" (20:20-21).

A hitter should never assume a defeatist attitude anywhere on the field, especially at the plate. He should have confidence in any situation, regardless of how tough, and dare the pitcher to try to get one past him. Determination makes up for batting faults or a general lack of great ability.

Batting is an individual art, and it is up to the hitter to develop a style which is most suitable to himself.

George Sisler felt there are two basic things to hitting:

(1) balance, and (2) timing. Everything about hitting relates to those two things.

The perfect way to hit is to have your weight equally distributed on your feet and the bat at the greatest acceleration at the time the ball is hit.

There is one fundamental that I have observed in minor league ball players that all good hitters have and that is their back foot

stays in place from the start of the swing to the end. If you are a right hand hitter, your back foot stays in one place, and after your swing is completed it stays there (20:22).

The hitter should hit the low pitch up, down on the high ball and swing nearly level on balls down through the middle. One should follow through after hitting the ball. The wrists of the hitter should roll or break and he should meet the ball out in front. His arms should be back and well away from the body at the start of the swing and the bat should be steady. Unnecessary motions often cause movement of the head and arms which are hindrances to good hitting.

Hip Action

The hip action is important in hitting properly. One should not lock his hips and cramp his follow through by failing to pivot on the front foot after the stride. If one rotates or opens up before the pitch is met all power in his swing is lost.

Batting Slumps

Ty Cobb has given the following advice on helping a hitter out of a batting slump:

Whenever you get in a slump, you are taking your eye off the ball and you are looking at the spot where it is going to land after you hit it. When you are in a hitting streak, you are trying to hit every ball right back at the pitcher, and when you are in a slump, just forget everything else and concentrate on driving that ball right back down that pitcher's throat. That will bring you out of the slump quicker than anything else (6:Ch. II).

Hitting the Ball Out in Front

Assuming the striding foot lands even with the front edge of the plate, the outside corner ball should be hit directly at the far corner

of the plate; the middle plate ball should be hit about five inches in front of the plate; and the inside corner ball should be hit about ten inches in front of the plate.

There is no such thing as a natural hitter. One learns hitting by being taught or by the imitative method of copying a certain model.

There are natural attributes which help one become a good hitter such as:

(1) quick reflexes, (2) nerve control, (3) good eyes, (4) strong wrists, and (5) strong forearms.

Finding the Hitters

Psychologically, it is possible to determine whether or not a boy will become a good hitter. If the boy displays any of the following weaknesses, he will not be a good hitter: (1) a tendency to think negatively--that is, fearing the worst, (2) constantly underestimating the ability of the pitcher, (3) constantly visualizing the hazard of the ball hitting him, (4) refusing to believe in the percentages, (5) lack of faith in the fundamental mechanics of hitting, (6) bad eyes--which show lack of depth perception and weakness in stereoscopic vision, and (7) a desire to be let alone and do it his way. His way will be okay, however, if he hits well.

I. Basic mechanics of hitting.

A. Balance.

B. Proper strokes.

C. Plate coverage.

D. Controlled stride.

- E. Wide stance.
 - F. Proper hip action.
 - G. Sharp hand action.
 - H. Control of the swinging speed of bat.
 - I. Positive mental attitude.
 - J. Proper use of arms to create the two arcs--the short arc and the long.
 - K. Proper grip to prevent premature rolling of wrists.
- II. Body balance is predicated on the proper stance.

A. Stances.

1. Open.



2. Closed.



3. Square.



- B. A player may select his own stance.
 - C. The width of the stance is based on the height of player and type of hitter he is. The power hitter must use a wide stance; the hand hitter can adopt a narrow stance.
 - D. The secret of body balance is in the stride. Without body balance, it is impossible for a hitter to stroke all balls properly.
 - E. Weight must be on the balls of the feet.
- III. The shifting of the weight.

- A. The transference of weight from the back leg to the front leg is a matter of argument. One school of hitting contends that there is a definite transference of weight; a second school maintains that all balls are hit off the back foot--and that there is a minimum of weight transference to the front foot.

IV. Hitting corrective drills.

A. The head turner.

1. Use shadow drill.

- a) A hitter has sun to his back throwing shadow on the ground; he takes stride and can see if his head moves.

2. Keep chin behind front shoulder.

B. Arms close to body.

1. Hitter should use a 36 inch bat which weighs 53 ounces and pitcher should lob 50 pitches to him.

- a) Heavy bat will make hitter get arms away from body to hit the ball.

C. Stepping in the bucket or bailing out.

1. A low bench should be put behind hitter so every time he steps out he will fall down; he will soon get the message.

Ted Williams, one of the game's finest hitters, felt that there are four musts to be a good hitter. They are: (1) a still head, (2) the weight must be on the balls of the feet, toward the toes; if the weight

rests on ones heels he is wasting his time in baseball, (3) developing strong quick hands and wrists which whip the bat through the ball at the instant of impact, and (4) being certain the hitter has plate coverage-- he should stand so that he can hit any ball that is pitched in his strike zone (7:137).

CHAPTER IV

FUNDAMENTALS OF BUNTING

A batsman should never fail to bunt when called upon to do so. One should take pride in his bunting and sacrifice himself when the occasion demands. A good bunter can deceive his style and add many points to his batting average even though he may not be exceptionally fast.

I. Position for a sacrifice bunt.

- A. As the pitcher is in the act of pitching the batter brings his back foot up about even with his front foot, in a comfortable spread stance, facing directly toward the pitcher. This should be attempted as the pitcher releases the ball.
- B. The bat is absolutely level, the top hand is at the label, with thumb and index finger forming a "V", and the bat is held loosely in both hands.
- C. The bat should be extended in front of the body as the ball approaches, then angled and drawn back toward the body, depending on whether the batter wants to bunt down the first or third base line.
 1. With a man on first, try to bunt down first base line.
 2. With a man on first and one on second, try to bunt hard enough down third base line that the third baseman will

have to field the bunt.

- D. Make certain the ball you bunt is a strike. An intelligent pitcher would try to make the hitter pop up a high pitch.
- E. Do not attempt to leave the plate too quickly; ascertain that the ball is bunted first.
- F. The bat must be under perfect control, but held loosely.
- G. The batsman should let the ball hit the bat and should not push at the ball.
- H. The knees of the hitter should be bent and the hitter should follow the pitch just as in catching the ball.

II. Bunting for a base hit.

- A. As the ball leaves pitcher's hand, right hand batter drops rear foot back on a line at a right angle to flight of ball.
- B. At the same time, hitter slides right hand slightly up the bat and drops the bat down approximately to hip level, angling the bat so as to drop the ball down the third base line. Movement of feet and dropping of bat all comes in one motion.
- C. It is important on this bunt not to turn and face the pitcher. The hitter should keep the same relative body position as in original stance.
- D. Don't try to leave until the ball is bunted on ground. Well placed bunts are easier to beat out than poorly placed bunts resulting from a fast get away.

- E. A change of pace is an ideal pitch to bunt if it comes in low. A low fast ball can also be bunted for a base hit.
- F. Another type of bunt a right hander can use to advantage is a push bunt in which, from normal batting stance, the ball is pushed just beyond the reach of the pitcher toward the second baseman. This is also a good bunt to use for a sacrifice against a team whose pitcher and first baseman charge in rapidly to cover the bunt, and whose second baseman leaves his position entirely unguarded to cover first base. This is an excellent maneuver in high school baseball.
- G. The left hand batter makes a bunt very similar to this only it is called a drag-bunt.
- H. On the drag-bunt the left hander uses a cross-over step with rear foot coming forward and slightly toward the first base as the ball leaves the pitcher's hand.
- I. The hands need be moved only slightly up the bat and the ball is literally dragged past the pitcher toward the second baseman.
- J. Again, it is important not to run away from the pitch in trying to get a fast start.
- K. To beat out a bunt down the third base line, the left hander leans forward with bent knees and without moving his feet from original stance to any great degree, and angles bat so

as to drop ball down toward third baseman. Bunt the ball, then run.

III. The suicide squeeze play is executed by having the runner on third break for the plate as soon as the pitcher begins to wind up. Hitter must bunt the ball no matter where it is pitched.

- A. An excellent play for high school and young ball players.
- B. Practice it every day with every hitter and a baserunner on third.
- C. Pitcher should work from stretch and wind-up position both.
- D. Hitter must hit ball, preferably at the first baseman.
- E. Hitter must learn to jump-shift just after the pitcher releases the ball.

IV. The double squeeze.

- A. Runners on first and second, both break with the pitcher's motion to the plate.
 - 1. Runner on second should be rounding third by the time bunt is being fielded.
 - 2. If fielder makes play for first, he continues home from third and so does other runner, thus two runs score on a bunt.

V. The fake bunt.

- A. Excellent play for stealing.
- B. Bunter moves back in box, keeps catcher back with fake.

1. If catcher moves forward hitter puts bat out.

It has been determined that cold, muddy days when it is impossible to hold regular practice are a good time to go outside and hold bunting practice.

The players needed in the infield are the third baseman and a man to pitch (preferably a coach so as to not risk sore arm of pitchers). The rest of squad are hitters. The third baseman cannot commit himself down the baseline until it is known what the batter will do. The batter must always beat out the bunt if possible. It is general practice to drag bunt on the first pitch even when sacrificing.

In practice of the squeeze play the batter should bunt toward the first baseman. A good bunter can add 160 points to his batting average (22:140).

The following is a list of bunting tips which should help prospective bunters.

1. Keep the angle of the bat level with the ground. Some are using angle at forty-five degrees for the bat figuring that it is easier to keep the ball on the ground. It is generally accepted that the bat level is best for young players.
2. Bunt only strikes.
3. Gripping the bat one must have the hands apart. The top hand should slide along the barrel to the trade mark. The bottom hand slides to player's comfort or remains stationary. Grip bat lightly.

4. A slight break of the knees at impact will aid in deadening the roll of the ball.
5. Bend the knees on low strike ball.
6. It is best to bunt down the first base line to advance a runner to third. Rarely is a runner forced at third when the pitcher fields the ball on first base side.

CHAPTER V

FUNDAMENTALS OF BASE RUNNING AND SLIDING

I. Base Running.

A. Fundamentals

1. Touch or tag every base; never miss a bag.
2. Learn to be quick starter.
3. Know how long a lead you can take and still return to the bag safely.
4. As a general rule, be in the habit of learning or starting with a walking or running step to the next base as the ball is pitched. Don't be going back as the ball is pitched. This mistake is often made at third base.
5. Be on the base while looking for signals.
6. Watch the pitcher and take your lead as he steps on the rubber and starts up with his arms.
7. Take your lead with a sliding step as is done in good defensive footwork in basketball.
8. Take your lead in almost a direct line to the next base. Don't drop behind the base line. The shortest distance between bases is a straight line between them.
9. Get away fast at the plate and don't watch the ball. Keep your head down in good running form and tag the base as you come to it.
10. Don't jump with a long stride--slide into first when trying

to beat out a hit.

11. The only time to slide going into first is when first baseman has been pulled off the bag by a bad throw and he attempts to tag you. In this situation, if a slide will avoid the tag, use it.
12. In rounding any base, pivot to the right by using a crossover step with the left leg about four strides from the base. Then bring the right leg back on a line toward the base you are approaching. You should be going in almost a straight line toward the succeeding base as you round the first base. Do your pivoting in a natural stride. Don't shorten up the last two or three steps trying to make the pivot. This takes practice.
13. It is best to stride the bag with the left foot on the inside corner as you round it, but don't break stride to do it. Hit the bag with right foot if necessary to maintain stride.
14. A rule of thumb to follow in taking a lead at first is to be two steps and a slide away from the bag.

B. Strategy and Psychology

1. Be alert and aggressive on the bases, ready to take advantage of any bobble, or mistake, by the opposition. However, don't take foolish chances when you are behind. Always play the percentages.

2. Study the pitcher and catcher. Know what their habits and capabilities are. For example: a pitcher may have a high leg kick in delivering his pitch, which may give you an advantage in making a steal.
3. Never loaf while running to a base. Go hard no matter how the ball is hit. There is always a chance for an error. Nothing can be taken for granted in baseball. Nothing looks more stupid to players and fans than to see a batter loaf to first on a pop up or weak ground ball and then have the ball dropped.
4. Do your utmost to reach the next base.
5. On a base-hit to the outfield, make an aggressive turn at first base and force the defense to hurry the throw, but don't loaf coming back to the bag.
6. Always advance a base when the lead runner advances.
7. The runner on third always tags up with his left foot when a fly ball is hit to the outfield with less than two down. The coach should not have to tell the runner when to leave after the catch. Runner can see this for himself.
8. Take your lead from third in foul territory to avoid being hit by a fair batted ball.
9. There is no excuse for a runner being doubled off third on a line drive to the infield or outfield. In the first place with less than two out, the runner should not lead off any

farther than the third baseman plays from the bag. In the second place, on any ball hit into the air, the runner should tag up immediately. If the ball is caught, the runner will not be doubled then. If the ball gets through the infield or bounces in the outfield, the runner can always score from third anyway.

10. On fly balls, runners on first and second should go half-way, unless they can tag up and advance after the catch.
11. It is not advisable for a runner to attempt to steal second base when a pitcher or a weak hitter is at bat. Failure to make the steal may cause the pitcher or weak hitter to become the first batsman in the following inning. This is not good baseball.
12. On a double steal (with men on first and third), the first base runner makes a regular steal of second, watching the defensive players at that base. If the ball coming from the catcher passes the player who is in the cut off position and is caught by the player at second base, the runner never deliberately gives himself up for an easy put-out, but stops and runs back a few steps toward first. The reason for this is to allow the runner on third time to score before the put-out is made.

The runner on third should break for the plate as soon as he knows the catcher's throw is on its way to second, if

he has a good lead and a good start. Or, if he did not break with the catcher's throw, he should break when the defensive player running the man down at second gets in a poor throwing position.

Don't get caught off third by the catcher on a bluff throw to second.

13. If you try to score from third on a ground ball and are obviously going to be thrown out at home, or are trapped between second and third with other runners on base, hold up and stall off being tagged as long as possible. This will give runners behind you time enough to advance into scoring position.
14. Always try to advance as far as possible when a teammate is trapped between bases--but don't get caught between bases yourself.
15. Always slide going into second, third, or home if there is any possible play on you. Never take for granted the throw might go elsewhere. Sliding avoids overrunning the base.
16. Paul Richards: "On the baseline, a good base runner never needs help from a coach--never--if he is a good base runner; but there are not very many really good base runners. For instance, on determining whether to score from second on a base hit, or to advance on a passed ball, make up your own mind. By the time the coach is able to decide, the oppor-

tunity may be gone. Going from first to third is a play where a lot of base runners want to have help, and I can safely say that in all the years I played baseball, I never looked to the coach for help on that particular play. I decided on the way from first to second how the ball was hit, where it was hit, and who was throwing it, and that dictated to me whether I was going to try to get to third or not. Of course, the number of outs also had something to do with it. You never want to take a chance, if it is just a chance, with two out; with one out, yes; with no outs, that's great if you can make it."

17. When leading off at third base, don't race halfway to home during the pitcher's windup and then be running back to third as the batter swings. Be leaning or moving toward home, so you can get the jump on the ball.

C. Base-running Problems

1. An important rule--A base runner should make every possible effort to reach third base when there is one man out, but he should never take the same chance to reach that base when no man is out or when two men are out.
2. With a runner on second; a ball is hit to third base. The runner on second should have a safe lead. A safe lead would be three steps and the length of the body, or three steps and a slide. He goes to third as third baseman throws

to first for the attempted out on the batsman.

3. With a runner on first; a base hit to the outfield. Just before the runner reaches second base, he looks at the ball as it is fielded. If the fielder is caught in a non-throwing position, the runner attempts to advance for an extra base. The batsman, rounding first, follows the runner ahead of him, unless he sees a defensive player in a cutoff position whereby he, the batsman, might be retired.
4. With runners on first and third bases. The first thought of the runner on third base should be to attempt to score on any ball hit to the infield, in order to stop a double play, if such is possible. If the ball thrown by the infielder reaches the catcher before the runner crosses the plate, the runner stops and runs back and forth until the runner on first has reached third and the batsman has reached second.
5. With runners on second and third bases.
 - a. The runner on third should try to score on any ground ball hit to the infield. If he sees that the throw beats him to the plate, he gets caught in a rundown, as in 4 above.
 - b. With runners on second and third and a fly ball hit to the outfield with one out, the runner on second must be

careful in tagging up and trying to advance after the catch. The throw may go to third and the runner there could be retired before the other runner crosses home plate.

6. With a runner on third base only.

- a. When no one is out and the ball is hit toward an infielder, the runner should be sure the ball goes through to the outfield before attempting to score.
- b. If there is one out, the runner should try to score, and if the throw beats him, get caught in the run-down so the batter may advance to scoring position.

II. Sliding.

A. Fundamentals

1. Remove spike shoes so as to prevent injury while learning and practicing.
2. Run in stocking feet or tennis shoes.
3. Use a dry lawn or short lawn as a sliding pit.
4. Use practice pants over clean uniform to prevent soiling and annoying strawberry (skin burning on side from sliding too much on side and not on calf of bent leg).
5. Use sliding pads as a must. Pad made of light and slick material such as nylon.
6. Slide only on calf of bent leg which must be the bottom leg. Bend them both if you like in learning. You have as

a rule only one good side, just sit down and nature will put the right leg under for you.

7. Tag with the top leg, which is held loosely and relaxed.
8. Hook with top leg when sliding. Shove top leg straight when going straight. This is quickest way to get to base.
9. Leg can be damaged by trying to hook on both sides. Be sure you can slide good on both sides before doing so. Most broken legs are caused by sliding on bad side.
10. To slide, runner should start out at short distances to be sure that legs can be bent. Lengthening distance when sure and increasing speed will follow, as all good slides are done well only with speed. Keep low to the ground, neither leaping or jumping. Sliding is like gliding.
11. Throw your head back as you bend both legs. This will prevent knees from hitting the ground first.
12. Start slide at least six to eight feet from the bag. Do not slide late. Keep bag loose for this reason until slider can space himself. If one keeps sliding late just raise body up as one hits the plate. This will take the jar away. This is only temporary; a slider should learn to do it right.
13. To do a pop up slide and run, one should sort of lift up as sliding along with speed. A slight push of ones hand will bring body up. It is the speed that does it.

14. Learn the straight in, the hook, the pop up slides first.
15. Clever slides will come later.
16. Practice every day.
17. One should just ride the calf at the bottom leg at all times (33:78).

Aids that may be helpful in the art of sliding are as follows:

1. Grass in each hand--so runner will not reach back with hands and injure himself.
2. Rope to teach keeping body low--stretch a rope about four feet above ground and have two boys hold it as players slide under it to keep low. Holders release rope if player slides too high.

CHAPTER VI

FUNDAMENTALS OF CATCHING

The catcher needs to have a good arm and rather strong hands. A catcher who can get the ball to a base quickly with great accuracy is an extremely valuable asset to the team. It is not how hard a catcher can throw, it is how fast he can get rid of the ball, and the accuracy of the throw. He should be able to coordinate feet, hands, and body. He must be strong enough, whether large or small in stature, to stand the strain of catching. The catcher needs to be agile, must have sound judgment in calling pitches and cooperate with the pitcher in this important function. He studies the batsman's style, stance, stride, and swing in order to discover his weaknesses. The game is always in front of him and he needs to be mentally alert, and is the director of plays, and inspires confidence in the whole team.

Experience has taught that the ideal position for a catcher's feet is to have the left foot extended in front of the right foot by a matter of inches--not to exceed six inches. This position of the feet allows the catcher to be in a better position for throwing and balance.

Now, having assumed the position of catching--with the left foot in front of the right--and having bent to catch, the one most important feature of all remaining is to be sure that your pitcher--when looking in--sees a target squarely facing him, with four outstanding characteristics, and these are: the left shoulder, the right shoulder, the left knee, the right knee.

The comfort angle in catching is a personal angle. The target angle in catching is for the pitcher's benefit. Daily practice of short, quick side-steps, which may be taken either on a dance floor, in a gym, while walking on the street, or in your own room, are the greatest assets that a young catcher can use in developing his ability to shift. The shift is practiced by assuming a catcher's position--moving the left foot to the right, and stepping to the side with the right. When practiced rapidly, it may be done to the left, to the right, forward, or sideways, switching the foot which is used first to correspond to the direction in which one is going. In this position, it is best for a catcher to catch as close to the batsman as possible without interfering with his swing. The catcher should keep his bare hand in a half-closed relaxed fist position in order to avoid finger injuries.

As a final reminder to all young catchers, let me say that anybody can catch a pitch which is thrown high. The distinguishing mark between a catcher and a great receiver is the ability to catch low balls, and balls in the dirt, to save strikes or to keep men from advancing. Practice catching low-thrown balls constantly.

I. Catching Position

- A. Gives signal in sitting position, feet moderately spread, knees out, mitt covering the signal hand from the left side.
- B. Give pitcher target with glove.
- C. Don't be a moving target.
- D. Catch the ball closest to throwing shoulder.

- E. Always step toward ball with closest foot.
- F. Be as close to batter as possible.
 - 1. Bothers batter.
 - 2. Umpire will call plays and balls better.
 - 3. Shortens throwing distance.
- G. Ball into the dirt, drop directly in the path of the ball, body acts as a barrier.
- H. Catcher steps toward the place where the ball is to be received.
- I. A high pitched ball should be caught with a downward motion, and a low pitched ball with an upward motion.

II. Shift and Signals

- A. Shift, never cross the feet.
 - 1. Rocker step.
 - 2. Double shift.
 - 3. Step and hop.
- B. Signals.
 - 1. Three signals are all that are necessary.
 - 2. Should have a more complicated sign with runner on second.
 - 3. The catcher who is to catch the game should warm up the pitcher in the latter part of the warm-up.
- C. Waste ball on pitchback.
 - 1. Double shift out--about fifteen inches.
 - 2. Make throws back to pitcher shoulder high.

3. Use for pick-off plays.
4. Use to break up hit and run.

III. Defense Throwing

- A. With runner on first, catcher is ready to throw and is alert at all times.
- B. With runner on second, no random throwing.
- C. With a runner on third, he can rarely get the runner, ball thrown on inside of baseline.
- D. With runners on first and second, usually don't throw to first.
- E. With runners on first and third in double steal, catcher throws directly to second. Catcher may fake and throw to third.
- F. With bases full, catcher stands with left foot on third base line and in front of the plate. Completion of double play to first, throw to inside of bag--easier for first baseman to see.
- G. Runner stops and goes back to third, catcher chases runner toward third base and obtains the out--don't throw too hard.
- H. Runner in scoring position, catcher doesn't leave post, otherwise backs up, throws second to first, double plays, and pitcher covering first.
- I. Bunts.
 1. If toward third, turn one-quarter.
 2. If toward first, don't turn; throw to inside of bag.

3. The mitt is placed in front of a bunt, ball is taken from the ground with both hands. Stopped ball is same. Keep eyes on the ball.

IV. Calling Plays

- A. Bunted balls.
- B. Infielders cut offs.
- C. Slow or hard ball to pitcher with man on first.
- D. Runner on third is attempting to score on a fly ball to the outfield.

V. Fielding Plays

- A. Catcher lets infielders catch all fly balls when it is possible for them to do so.
- B. Foul fly--get nose under the ball.
 1. When mask is removed, it should be grasped firmly and quickly by the bare hand and thrown aside.
- C. Judging foul fly.
 1. If ball to right handed batsman comes to inside corner, catcher should whirl to left and as body is turning take off the mask.
 2. If ball is to outside corner, catcher turns to right.
 3. Reversed for left hander.

VI. Catcher's Material

- A. Glove broken in well, good pocket.
- B. Sheepskin or sponge prevents sore hands.

VII. General

- A. Keep your club alive--Be Field General.
- B. Know strength and weakness of your own pitcher as well as opposition.
- C. Trouble in throwing can be attributed to balance of feet and stride.
- D. Catch a winning game--uppermost thought.
- E. Talk to pitcher--settle him down.
- F. Accuracy in throw--not how hard you can throw.
- G. Throw off right foot.
- H. Talk over game with pitcher between innings.
- I. Let coach know when pitcher is losing stuff (3:85).

CHAPTER VII

FUNDAMENTALS OF GENERAL INFIELD PLAY

1. Never leave a base uncovered.

2. On all fumbles, look for runners over running bases.

3. On tagging runners, the second baseman, shortstop and third baseman should, whenever possible straddle the bag, taking throws, always tagging the runner, never going out to meet him, dropping the ball and glove to the bag, letting the runner tag himself out. Always use back of wrist as front of wrist can be kicked and you automatically let go of ball.

4. Baseball is a team game, each infielder should know the strength and weakness of his mates, the ground they can cover, the strength of their arms, their speed, and be willing to make up for any lack in these qualities in his fellow players by doing more than his share in covering ground, calling plays, back up throws, and yelling necessary advice, like "take your time".

5. Infielders must learn to keep their hands close to the ground facing the ball while fielding it, hands well in front, feet apart, but always on balance. Do not fight the ball with rigid hands, but be relaxed.

6. Accuracy in throwing is most essential. Be sure to step as the throw is made.

7. Always anticipate a coming play or situation. Make up mind

before the play, where one will throw the ball if hit to him; make sure one man is out on all attempted double plays.

8. The entire infield should play close in, to cut the runner off at the plate, if it is the tying or winning run in the late inning of the game. Never play your infield close in during early innings or in a lopsided game.

9. Do not throw the ball if there is no chance of getting your man. Bluff the peg, you may catch someone else trying to take an extra base on the expected throw.

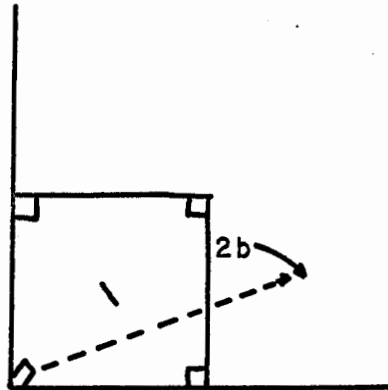
10. On extra base hits to the outfield, the second baseman goes out to act as the relay man on balls hit to right and right center, with the shortstop covering second base. The shortstop goes out to act as the relay man on balls hit to left and left center with the second baseman covering second base. On balls hit directly to centerfield, the infielder with the best arm acts as the relayman. The first baseman acts as the relayman on all extra base hits along the right field foul line, whenever there is a possibility of a man scoring. The infielder's throw should be the short accurate throw, and he must not go too deep in the outfield beyond that point where he cannot make the short accurate throw, to start the relay.

11. The most important thing to be taught and stressed is to keep the wrists loose and bring every ball into your body. Stiff wrists make fielder stab at balls.

12. Learn to charge the ball but slow up last twenty feet and

widen your base so you can change directions if the ball goes to one side or the other of you. It is important for feet to be wide apart on this play.

13. Playing the arc on hard hit ground balls.



14. Infielder's glove should be short fingered and flat like a pancake, for the following reasons: (1) so ball won't get stuck in webbing as he must get rid of it, and (2) so glove hand can be used to slap ball into bare or throwing hand.

15. Be certain the glove is on the ground as you can pull hands up quicker than they can be dropped.

16. A good drill for infielders is to have them field ground balls with just their glove hand and bare hand behind back.

17. Starting position for infielders should have arms and hands off knees, watch the ball from the pitcher's hand all the way to the plate, with weight being equally distributed on balls of feet.

18. Both hands together for fast get away in throwing ball.

19. Baserunners must touch base.

CHAPTER VIII

FUNDAMENTALS OF FIRST BASE PLAY

I. First baseman should be of medium size or height, with a good reach, and he must have extraordinary ability in making pick-ups of low-thrown balls from the infielders. He must, at all times, maintain a perfect balance on his feet, with the ability to shift easily. He should be able to throw sidearm for the force-out at second base. He can be either right- or left-handed, with the left-hander having the advantage on tag plays and the throw to second base.

II. Position of Play

A. Normal (no one on)

The first baseman takes his position in the infield in such a spot that there is no extra effort on his part to reach the bag in time to receive the throw. If the hitter is exceptionally slow, the first baseman can play deeper than usual, but if the hitter is fast, he must play in closer, anticipating a bunt or pushed ball.

As soon as the ball is hit to any other infielder, he should break immediately for the bag, take a position in front of the bag with his feet stationary, astride the bag, before the throw reaches him, and be ready to shift instantly in either direction if the ball is thrown wide. On balls thrown wide to the left side of the bag, the first baseman shifts the position of his feet so that his right foot is in contact with the bag, and his left foot is

extended as far as possible away from the bag. On balls thrown wide to the right side of the bag, the first baseman shifts his feet so that his left foot is in contact with the bag and his right foot extended as far as possible away from the bag. Always remember the most important thing is to catch the ball.

On all throws that are not wide of the bag, the left-hand first baseman keeps his left foot on the bag and extends his right foot; the right-hand man keeps his right foot on the bag and extends his left foot.

On good throws, the first baseman should stretch as far as possible to meet the ball on anticipated close plays. The hardest play to first base is the ball thrown on the left side of the bag, directly in the path of the base runner. If there is time to step completely off the bag and catch the ball and then touch the runner, do so. On high-thrown balls, the first baseman should, if there is plenty of time, take a step back into foul territory keeping his left foot, if a left-hander, and his right foot if a right-hander, on the bag, reaching high into the air for the catch.

First baseman should try for every ball that it is possible for him to reach. It is the duty of the second baseman to chase him away if he attempts to field a ball more easily handled by the second baseman. The second baseman does this by shouting, "I've got it." Then the first baseman immediately returns to his bag for the putout.

Whenever the first baseman goes for a ball, the pitcher covers first base. In making throws to the pitcher covering, the first baseman should make all throws so they can be caught shoulder high, at least two steps from the bag. These throws will be made with an underhand toss motion while striding toward the bag. When the ball is fielded deep, and when the pitcher has time to cover first base and come to a stop, ready to catch the throw like a first baseman, the throw should be made overhand "with something on it".

B. With man on first base

The first baseman stands with inside edge of the bag between his two feet. When pitcher throws to catch the runner, the first baseman catches the ball, puts it on the runner with a sweeping motion. The instant the ball is pitched, the first baseman takes two or three steps toward second base, floats and comes down set on both feet, and gets set for the ball hit to either side of him.

C. Runner on first base and situation prompts a bunt

First baseman comes from the bag toward the plate, but not too quickly. If the batter bunts down the first base side of the playing field, the first baseman charges quickly toward the plate for a possible force play at second base. If there is no chance for a play at second base, he will throw to the second baseman covering first base. On bunts toward third base, first baseman returns to the bag to make the putout. After the putout, he runs into the infield to help break up any attempt by the runner to

advance to third base. When the pitcher fields the bunted ball, the first baseman returns to the bag, if possible, to make the play. Otherwise the second baseman takes the throw from the pitcher.

D. With runner on second base

First baseman plays his normal position.

E. Runners on first base and second base

If bunt is in order, play close in, halfway between the pitcher's box and first base. If ball is bunted, field the ball and throw to the base called by the catcher. If bunt is not in order, play in the normal position.

Double play starting from first base, field ball always facing the middle of the diamond. Left-handed first baseman, in starting double play from first base to second base, fields the ball facing the middle of the diamond, and throws the ball, with an overhand motion to second base making sure of the force-out at second base. Right-handed first baseman fields the ball, he jump pivots on his right foot and takes a quarter turn with his back to the center of the diamond and throws overhand to second base making sure of the force-out at second base. First baseman must then return quickly to first base to receive the throw which completes the double play. The first baseman should throw to the inside of second base when throwing to the shortstop on all balls fielded while holding a man on first base. On balls fielded deep in the first base position,

throw the ball to the outside of second base when throwing to the shortstop.

F. On throws of all variety first baseman should face all infielders throwing the ball with knees slightly bent so as to be ready if it is a high throw he can immediately jump and snare the ball as a basketball player jumps. Teaching first basemen to come up with throws in the dirt on short hops just open glove wide and hold hand stationary close when ball hits mitt. On balls bouncing far from you have your hands coming into you. The middle hop is the toughest to play and takes a great deal of practice. First baseman must use still open glove--not swipe at the ball, The best drill to teach is to have the first baseman throw the balls into the dirt to each other 100 a day from forty feet away, vary spots and direction. An excellent drill for teaching first basemen needed foot work at first base is to have them cut a cardboard square the size of a base and practice shifting and stretching at home. The first baseman must learn to break full speed to the bag when the ball is hit to other infielders and face where the throw is coming from. Don't watch infielders until you are set in front of bag. Run ball back into infield whenever possible. On cut off plays bluff a cut off; often it will make the base runner going to second hesitate. In tagging a base runner close hand tightly and try to give in the direction the base runner is moving (27:56).

CHAPTER IX

FUNDAMENTALS OF SECOND BASE PLAY

I. The second baseman should be fast on his feet, nimble, agile, possess quick reflex actions, have the ability to get rid of the ball quickly, and to throw accurately from any position. He should be able to throw sidearm, underhand and overhand.

II. Position of play

- A. The second baseman, with no one on base, plays shallow or deep according to the batter's speed, and the condition of the playing field (depending on whether the field is wet and slow, or dry and fast).
- B. Position with runner on first base, contemplating bunt situation, close score, no one out.
1. Second baseman moves in toward the plate and shades toward first base, ready to make the putout at first base in the event the first baseman cannot get back to the bag in time to make the throw, first base gets back, second base backs up throw.
 2. He should not break toward first base before the ball is actually bunted. If he breaks toward first base too soon, the batter might push the ball to the spot left vacant.
- C. Position with runners on first base and second base, no one out, contemplating a bunt. The second baseman plays the ball the same as above.

D. Position with man on first base, none or one out, double play in sight, right handed batter at plate.

Second baseman closes in by taking two or three steps directly toward home plate, in all cases, except when the batter is definitely a lefthanded pull hitter; in that event, he should figure that he will get the ball off the bat and start the play himself.

E. Position with men on first base and third base, attempted double steal in order, righthanded batter at the plate.

In the event when double steal is attempted, the second baseman runs rapidly from his position, after the ball has gone by the hitter, to a spot approximately one step in front of second base, in a direct line with home plate. He must watch for an attempt by the runner on third base to score. If the runner breaks for the plate, the second baseman must charge fast to cut off the catcher's throw and return the ball to the catcher. If the runner on third base does not attempt to score, the second baseman waits in his position, one step in front of second base, for the catcher's throw, and then pivots around to make the tag at second base.

This method of play is recommended, but there is another method to follow in the same situation. In this the second baseman runs rapidly from his position to a spot in the diamond about halfway between the pitcher's box and second base, directly in line with home plate. Coming into this position, he must watch for an attempt on the part of the runner on third base to score. If the

runner breaks for the plate, the second baseman must catch the ball thrown to him by the catcher and return it to the plate for a possible putout. If the runner does not make a break for the plate, the second baseman is in a position to let the ball go through to the shortstop, who is covering second base, for the putout of the runner coming from first base.

Always remember that the score of the game, and the inning, will determine if you should try to cut the runner off at the plate or try to get the runner stealing second base. If the run is the winning or tying run, the play should be made to the plate.

III. Method of Playing Second Base

- A. Second baseman moves in on all hit balls, except hard-hit balls, never waits for the ball to reach him, tries to play the hops. He does not let the ball play him. With the glove and bare hand facing the ball close to the ground, always well in front, he fields the ball with relaxed hands. He should keep his head down and eyes on the ball, feet apart, and be on balance. Most ground balls hit near first base, but fielded by the second baseman, should be thrown to first baseman with an underhand or sidearm throw. On this type of batted ball, the second baseman yells, "I've got it", to inform the first baseman that he can make the play. On an ordinary ground ball hit directly at the second baseman playing in his normal position, the second baseman fields the ball, straightens up, takes a short step as he throws overhand to first base.

- B. On balls hit to his extreme right, he must go full speed for the ball, throw his weight on his right foot as he fields the ball, brace himself on his right foot, and as quickly as possible balance himself for the throw to first base which should be his best over-hand throw for carry and accuracy.
- C. On slow hit rollers, the second baseman has to charge the ball, pick it up barehanded while still on the run, and throw the ball at the same time, in an underhanded motion.

IV. Fielding Fly Balls

Second baseman should field all flies in back of first base that he can reach. He should try for every fly ball hit in any direction, but once another player calls for the ball, he should return immediately to second base.

The sun plays a very important part in pop-ups, and the entire infield must get together as the game goes along as to who should take the pop-ups in the event the ball is hit in their vicinity. The second baseman should, at all times, know where the outfielders are playing, and allow the outfielder to catch any pop-up that he can reach, because it is much easier for an outfielder to catch a ball coming in, than it is for an infielder to catch it going away.

CHAPTER X

FUNDAMENTALS OF SHORTSTOP PLAY

Shortstop should have a strong arm, but if arm is not too strong, he must develop the art of getting the ball away fast on all throws. This is accomplished by not using any motion. He must be loose and limber, and any boy with a stiff back will be handicapped in this position.

I. Position of Play

- A. The shortstop must distribute his territory so that he can go both to the right or left equally well.
- B. Position with runner on first base, none out, contemplating bunt, close score.

The shortstop moves in a step or two directly in line with home plate, and a few steps closer to second base, being ready to go to second base to make the forceout if the play is made to second base. The shortstop tries to make this play like a first baseman, stretching out as far as possible. This is also true on all forceout plays at second base.

- C. Position with man on first base and second base, none out, cinch bunt in order.

Shortstop moves in directly in back of base runner, a few feet off second base, but not leaving his fielding position too vulnerable. His main duty is to keep this base runner close to second base to prevent him from getting too big a lead, with the

idea in mind that there might be a force play at third base by reason of a poor bunt.

- D. Position with man on first base, none out, double play in sight, and a left-hand batter at plate.

The shortstop must move in directly toward home a few steps and a shade toward second base, before the pitcher takes his position on the rubber, in order that he will not lose too much time in getting to second base. It is all-important to get to the bag in time to start a double play.

- E. Position with man on first base and third base, attempted double steal in order and a left-hand batter at plate.

In the event a double steal is attempted, the shortstop runs rapidly from his position, after the ball has gone by the hitter, to a spot approximately one step in front of second base, in a direct line with home plate. He must watch for an attempt by the runner on third base to score. If the runner breaks for the plate, the shortstop must charge fast to cut off the catcher's throw and return the ball to catcher. If the runner on third base does not attempt to score, the shortstop waits in his position, one step in front of second base for the catcher's throw and then pivots around to make the tag at second base.

The method of play above is recommended, but there is another one to follow in the same situation. In this, the shortstop runs rapidly from his position to a spot in the diamond about halfway

between the pitcher's box and second base directly in line with home plate. Coming into this position, he must watch for an attempt on the part of the runner on third base to score. If the runner breaks for the plate, the shortstop must catch the ball thrown to him by the catcher and return it to the plate for a possible put-out. If the runner does not make a break for the plate, the shortstop is in a position to let the ball go through to the second baseman, who is covering second base, for the putout of the runner coming from first base. Always remember that the score of the game and the inning will determine if you should try to cut the run off at the plate, or try to get the runner stealing second base. If the run is the winning or tying run, the play should be made to the plate.

F. Position with man on second base, one out, close score, left-handed batter up, shortstop shortens up in his position, faking the runner back to second base now and then. His main function on this play is to keep the runner close to the bag, preventing an easy steal of third and cutting down on the chances of scoring on a short single.

II. Method of Play

The shortstop moves in on all ground balls, does not let the ball play him, is directly in front of the ball, legs apart so as to be ready immediately to get in good throwing position, straightens up as he takes a short step to regain his balance and throws while stepping in the

direction of his throw. Don't ever lob the ball. Put something on it. Be sure your hands and glove are close to the ground when fielding all ground balls. Do not keep them rigid.

All balls fielded near second base, when a force play at second base is called for, should be tossed to the second baseman in an underhand method, taking a step or two toward second base at the same time. Make sure your throws to the second baseman are above the waist.

The shortstop hardest fielding plays are made (1) when a hit ball bounds over the pitcher's hand, and (2) when a ball is hit to the left of the third baseman and to the shortstop extreme right. In the first case, the ball must be fielded by the shortstop on the run. He throws to first base under full speed, from the position in which he fields the ball. It is impossible for the shortstop to set himself for a perfect throw, but practice will aid him materially in perfecting the play. In the second case, the shortstop must go after the ball at full speed. As he fields it, he throws most of his weight on his right foot and stops. The momentum will cause his right foot to slide some distance in the dirt. He must brace himself for this act. As quickly as possible, he balances his body for a throw to first base. This throw should be overhand because this is the fastest kind of throw.

On hard hit balls directly at the shortstop, field the ball, straighten up taking a short step to regain balance, and if time allows, take step or two in direction of the base, throwing directly overhand with good stuff on the ball, for accuracy and carry. Do not hurry this

throw if time allows, as hurried throws are usually wild.

III. Fielding Fly Balls

The sun plays a very important part in pop-ups, and the entire infield must get together as the game goes along as to who should take the pop-ups in the event the ball is hit in their vicinity. The shortstop should at all times know where the outfielders are playing, and allow the outfielder to catch a ball coming in, as it is much easier for him than for the infielder to get it moving out toward the outfield. The shortstop should take all fly balls, fair or foul, in back of the third baseman that the left fielder does not call for. The shortstop takes all throws from the pitcher on balls hit directly back to the pitcher when the play is to second base. The only exception to this is in the case where the hitter is a definite pull right-hand hitter, and the shortstop is playing to the extreme right of his normal position. The second baseman then takes the throw. The pitcher should be told of this situation before the play comes up.

IV. Double Plays

Double plays made with the second baseman fielding the ball and the shortstop acting as the pivot and vice versa, are perfect examples of proper teamwork and co-ordination.

The main defense in making double plays is to be sure that the man who will make the pivot, depending on whether the batter is right- or left-handed, plays close enough in or near second base so that he can reach second base in the time to receive the throw, tag the bag and get

rid of the ball before the base runner, coming from first base, has a chance to break up the play. Be sure to line yourself up as soon as possible behind the bag to give shortstop a line on throw.

All throws in and around or close to second base should be made underhand. It is well for the shortstop or second baseman to receive this throw an instant before his foot hits the bag.

All longer throws, by either the shortstop or second baseman, should be made by a forearm throw, a modified overhand and sidearm throw. It is done to save time in your throw. All throws should be made above the waist. When the shortstop is to receive the throw from the second baseman on a double play, he should attempt to receive the ball an instant before his foot hits the bag; he then drags his right foot or toe across the bag, throwing the ball in the same motion. When the shortstop is to receive the throw from the first baseman on a double play, he should take the throw inside the bag, coming to a quick stop as he hits the bag with his left foot, making a forearm throw back to first base, giving the first baseman time to retrace his steps. When the second baseman is to receive the throw from the shortstop or third baseman on a double play, he should get to the bag quickly and has then a choice of many methods of tagging the bag.

A great deal depends on the position of the pivot man before the ball is hit, the speed of the runner coming into second base, the speed of the batted ball, the type of throw the pivot man will receive from the infielder.

In all cases, the second baseman quickly makes his break for second base, timing himself so that the instant before he reaches the bag, his feet are spread and he is on balance. If the throw is to his right, he can, if in this position, be able to shift to his right and touch the bag with his left foot; if the throw is to his left, he can shift to his left and touch the bag with his right foot. He should throw the ball in a manner most comfortable to himself, being governed by the type of play and his own ability in getting rid of the ball.

An important point is to be sure both hands are together to receive the throw; it is much quicker to get rid of the ball in this manner. This is the reason some professional second basemen use a pancake for a glove and slap the ball into the bare hand to throw (or deflect ball) (30:179).

CHAPTER XI

FUNDAMENTALS OF THIRD BASE PLAY

Third baseman must have quick hands, very fast reflexes. He must not be afraid of hard hit ground balls, be willing to take tough hops that he misses with his glove, anywhere on his body, jump on the ball like a cat, and have the ability to throw overhand with a strong arm for lots of carry. He must be sure that his hands, when fielding the ball, are down on the ground, with no room anywhere for the ball to go through. The third baseman can knock down balls, pick them up, and still throw out most runners. The third baseman generally has more time to field and throw a batted ball than any other infielder, and should take advantage of this opportunity by not hurrying his throw.

I. Position of Play

A. Normal.

Always depends on speed of hitter, the ball and strike count on the hitter, and the score and inning of the game.

B. Defensive position against a definite pull right-hand hitter.

The third baseman plays deep and protects the line by playing closer to it, making sure that no fair ball can go between him and the line.

C. With a man on first base, no one out, a bunt in order, or with a hitter at bat who has a reputation for laying down bunts or someone who is very fast.

The third baseman plays a step or two ahead of third base into

the diamond, moving in as the pitcher delivers the ball.

- D. With a man on first base or second base, none out, bunt in order.

This is a difficult play for the average third baseman to make.

A great deal depends on the fielding ability of the pitcher, and the teamwork of the pitcher and the third baseman. Ordinarily, when the third baseman and the pitcher try to decide who will field the ball, confusion and wild throws are the only result.

1. Therefore, in high school we recommend that the third baseman play a step or two into the diamond ahead of third base and charge all bunts, and make the putout at first base or second base depending on the catcher's call.
2. If the bunt is directly back to the pitcher, or if the pitcher is an exceptionally good fielder and calls for the play, the third baseman should retrace his steps, and be prepared for the possible forceout at third base.

- E. With a man on first base and a bunt in order.

The third baseman plays a step or two into the diamond ahead of third base and if he fields the bunt and throws to first base for the putout, he should always remember that another play might immediately follow, and that he should be prepared either to cover home or retrace his steps to third base in the event the catcher forgets to cover third base on this play.

- F. With a man on second base, possible bunt in order.

The third baseman should play ahead of third base into the

diamond, and if the hitter fails to bunt, the third baseman should, just as the ball passes the hitter, come back to third base, protecting it from a possible steal.

- G. The third baseman should try to field all balls that he can reach even though some seem to be hit at the shortstop. This is particularly true on slow-hit balls. On these, the third baseman should field those on the run and throw overhand to first base, all in one motion.
- H. The third baseman should always watch the hitter, and not the pitcher, while the ball is being pitched. He will find he can get a better jump on the ball by doing this, and it enables him to get a much better start on the ball if the batter tries to bunt.
- I. On balls hit directly back to the pitcher, the third baseman should always make his break to the middle of the infield in order to be in position to field deflected balls.
- J. The third baseman should take all fly balls between third base and the catcher.
- K. The third baseman should back up the pitcher on all return throws from first base on attempted pick-off plays.
- L. A good drill to teach third baseman to charge slow hopping tapped balls is to line up a string of from eight to ten balls in a straight line from home plate half way to third base and have him play his normal position and charge full speed, picking up the first ball with his bare hand and throwing to first, then return

to his starting position and repeat.

M. Another good play for a third baseman with a runner on second and no chance to get the batter is to fake full follow through and fake a throw to first and wheel and try to catch the base runner who may have taken too big a turn at third.

CHAPTER XII

FUNDAMENTALS OF THE CUT-OFF PLAY

The cut-off of a ball, thrown by an outfielder to the infield, made at the proper time and executed perfectly, is an all-important play in cutting down the number of runners who advance unnecessarily to a scoring position. In high school ball, the average outfielder does not have a strong, accurate arm, and seldom is capable of throwing out the base runner going for an extra base. It is most important that the infielders should be in a position to cut-off all throws to prevent the hitter or another runner from advancing.

The first baseman is the most important man in the infield to make the cut-off play, and very few plays occur at first base on balls hit to the outfield. Therefore, he does not have a play at his own base, and can afford to follow the thrown ball from the outfielder, and get in position to cut it off if he sees the possibility of trapping the hitter or another runner trying to take an extra base. The infielder, who has the possible play in back of the first baseman, should holler "let it go" or "cut it off", depending on his judgment if he has a play or not.

The shortstop acts as the cut-off man on all throws from right or right center when there is a possible play at third base. He should be in direct line between third base and the throw, approximately sixty feet from third base.

On these plays, it is the responsibility of the third baseman to

yell "let it go" or "cut it off", depending on his judgment. However, we recommend that whenever a shortstop knows for certain that he can get the runner trying to advance, he should cut the ball off and make the play. This is all important if this runner is the tying or winning run.

The third baseman acts as the cut-off man only on balls hit to left field, with a man in scoring position.

On balls thrown from right field, intended for the shortstop as a cut-off man, but thrown over the head of the shortstop, the third baseman must make a quick decision, whether it is better to wait at third base for the ball for a possible tag or to run and meet the ball and catch it on the fly or first hop. If the third baseman is sure that by running out to meet the ball, he can make a certain out on another runner trying to advance, he should choose that play instead of waiting for the ball, and chance making the put-out at third base.

CHAPTER XIII

FUNDAMENTALS OF THE OUTFIELD PLAY

An outfielder must be a good judge of a fly ball, must have the ability to "get a jump" on a batted ball, must be fast afoot, and possess a good overhand throwing arm.

The center fielder covers the greatest acreage. Therefore, he should be able to start quick on fly balls, throw well for distance, field in all directions, front, back, left, right, and field ground balls.

The center fielder has best view of the distance the batter is from the plate and can follow the course of the pitched ball over the plate, being beneficial for a quick start; therefore very few need the signal assistance when fast, curve, or slow balls are being pitched.

The center fielder should be the outfield quarterback, should take complete charge and claim every hit ball until taken off by right or left fielder by a mouth yell or physical arm motion.

The left and right fielders should switch with center fielder against all pull hitters.

A. Fly balls

1. Get under ball quickly as possible.
2. a. Be relaxed.
b. Don't reach until almost to the ball.
3. Balls above waist, caught with palms straight out or lifted toward the coming ball.

4. If the ball is over your head, turn and run, turn according to wind, etc. Don't run backwards.
5. Never stop if you have a chance of catching it.

B. Ground balls

1. Get in front of the ball.
2. If there is a play at base, line up with play and try to take it in stride.

C. Throws

1. Always be set and use full arm throw.
2. Use a hop about fifty feet from the plate.
3. Balls pick up speed off the grass.
4. Throw ahead of the runner (one base) unless close to the base.

D. Important defense plays

1. Right fielder backs up first base on all bunted balls.
 - a. He backs up second base on all balls thrown from the left side of the diamond.
2. Center fielder backs up second base on all bunts and also on all attempted outs at the bag.
3. Left fielder backs up second base on all attempted outs from the right side of the diamond and backs up third on all attempted outs at that bag.
4. Straightaway hitter, the outfielders should divide the space between the foul lines equally between them.
 - a. Left field hitter, left fielder plays closer to line, center

moves into left center, right fielder goes to right center but not too deep.

b. Right field hitter, right fielder plays close to line, center fielder right center and left fielder left center field, but not too deep.

5. If a hard wind is blowing toward the infield, fielders play in, hard wind blowing out, play deeper. A cross wind causes ball to curve.

E. Suggestions

1. Outfielder must know where runner is, to throw the ball immediately after receiving it.
2. Throw on a line.
3. When two outfielders are in a position to catch a fly, one making the catch should be one in best position to throw after the catch.
4. Outfielder throws first of a relay through about shoulder high.
5. Get rid of the ball fast. Both hands together when catching ball.
6. If a fielder is weak on running back to get deep fly balls, he should play deeper.
7. On catching a fly ball close to the infield, runners on, immediately run toward infield.
8. Fly balls which can be taken by both infielder and outfielder should be taken by outfielder, who shouts "I have it."

9. Foul fly catch depends on innings, score, and whether outfielder is within safe throwing distance of home plate or base at which the play is to be made.
10. When a fly ball is lost in the sun, outfielder may locate it by taking one step to the right or left; this will bring the ball out of the sun.
11. Outfielders should follow the ball all the way from the pitcher's hand to plate; this will help them to get jump on the ball.
12. Outfielders should take a warm-up ball out with them at the start of every inning, playing catch with each other to keep arms loose.
13. When running after hard hit balls you shouldn't extend glove hand until the last second.
14. When pitcher is being hit hard play deep and cut back across the left center and right center alleys (32:199).

CHAPTER XIV

PRACTICE SESSIONS

It is most important to have the coach organize and plan his practice and pre-game practice. Such things as batting practice--game pitcher--bull pen pitcher and catchers--who will hit fungos--coaches and infield hitters--should be listed ahead of time.

Suggested outline follows on the method of workouts.

I. Methods

A. Pitchers

1. Have ball players loosen up by playing catch for ten or fifteen minutes, or by playing pepper. While this is going on, the pitcher, who is to start throwing batting practice, is warming up with a catcher, and as soon as he is ready to pitch, practice should start.
2. Work out a schedule for your pitchers who are to work batting practice. Do not have pitchers throwing batting practice every day. Allow at least one day's rest between turns on the mound.
3. Allow a pitcher to work ten to fifteen minutes batting practice, and be certain that he works under game conditions. Be sure to have another pitcher loosening up while one is pitching practice, so that he will be available for replacement. The pitcher should stress getting the ball over the plate for the batter's benefit.

4. The pitcher should alternate his stance on the rubber; winding up pitching to one hitter, and holding a man on base pitching to the next hitter. He also should learn the habit of breaking toward first base on all balls hit to his left. On most balls hit this way, he should take a step or two to get into the habit of breaking in direction of first base. Once in awhile, the coach should instruct the pitcher to complete his run to the bag to see how he makes the play and correct any mistakes.
5. The pitcher cannot do hard work the day before a game and be a strong pitcher in the contest. A little pepper and a five-minute loosening-up period is sufficient. This is an individual condition and each pitcher must know how much work or throwing on the day before a game is beneficial to him.
6. When pitchers have completed their turn on the rubber, they should do lots of running. Short sprints (50 yards) of real hard running and return in a walk, will enable them to keep their legs and wind in shape. After the workout, if pitcher is to be kept on the field, he should change his undershirt and don a jacket. After a good workout of pitching practice, doing lots of running, and playing pepper, it is best to dismiss the pitcher for the rest of the day if conditions allow it.

B. Batters

1. Once batting practice has started, there should not be more than two men around the cage awaiting their turn. The players

should know their batting turn from the posted list. All other players should go to their respective positions.

2. The batter should be made to bunt one and hit three, and run on the last hit at top speed, taking his turn slowing up or stopping before reaching second base, and then returning to his position. As the next batter steps in to hit, another player runs in toward the cage immediately and starts to swing bats so that he will be ready to take his turn.
3. By constant hustle, this should enable your club to get in several rounds in the time allotted for batting practice.

C. Infielders and outfielders

1. Infielders and outfielders are in their respective positions, and this will accustom them to field balls hit into their territory and make throws from their positions. All players can greatly improve their defensive technique by playing each ball as if they were in a ball game.
2. The coach stands near the batting cage which enables him to watch and instruct the batter, pitcher and catcher. He can be hitting ground balls to one or two infielders, who can complete throw to first base or practice the double play.
3. Another player can be at the opposite side of the cage hitting to an infielder who makes the play and rolls the ball back to him. He concentrates on learning to field ground balls properly.

4. The infield hitters should time their batting so that it comes immediately after the batter at the plate has just taken his swing. This is to avoid having the infielder watch two balls at the same time.
 5. Second base and shortstop should constantly practice handling the ball and making pivots.
 6. Two other players can be used, one on the left field line, and the other on the right field line, fungoing balls to outfielders, both fly balls and grounders.
- D. Windup the practice session by devoting fifteen minutes to outfield and infield practice. The outfielders should practice making throws to second base, third base and home plate, always being in position.
- E. An additional fifteen minutes could be spent on any other individual or team weaknesses; such as base running, pitching, covering first base, fielding bunts, etc.
- F. The day after a game, the coach should discuss all the possible errors of judgment that occur during the game. Always remember that the lack of experience is the cause of most mistakes. The coach should not make any public criticism of the players' mistakes on the field.

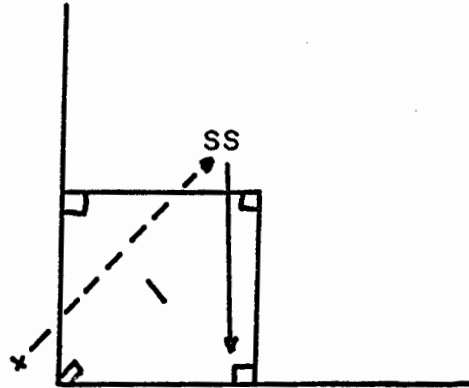
CHAPTER XV

INFIELD AND OUTFIELD DRILL

Take each player one at a time and hit fungos of all types to him for fifteen minutes. Good conditioner and skills teacher.

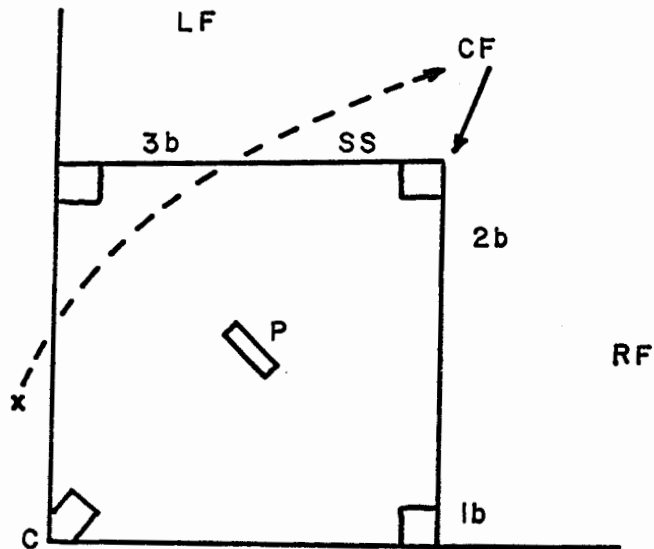
Example:

Hit grounders at him to his left, right, and in front of him and have him throw to first.



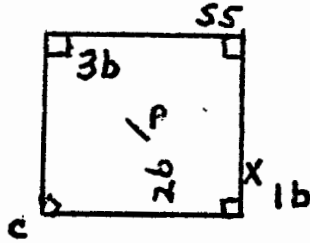
Defensive Drill

All players at positions hit fungos anywhere in defense. Three outs clears bases; have four base runners. Set inning, score and situation.



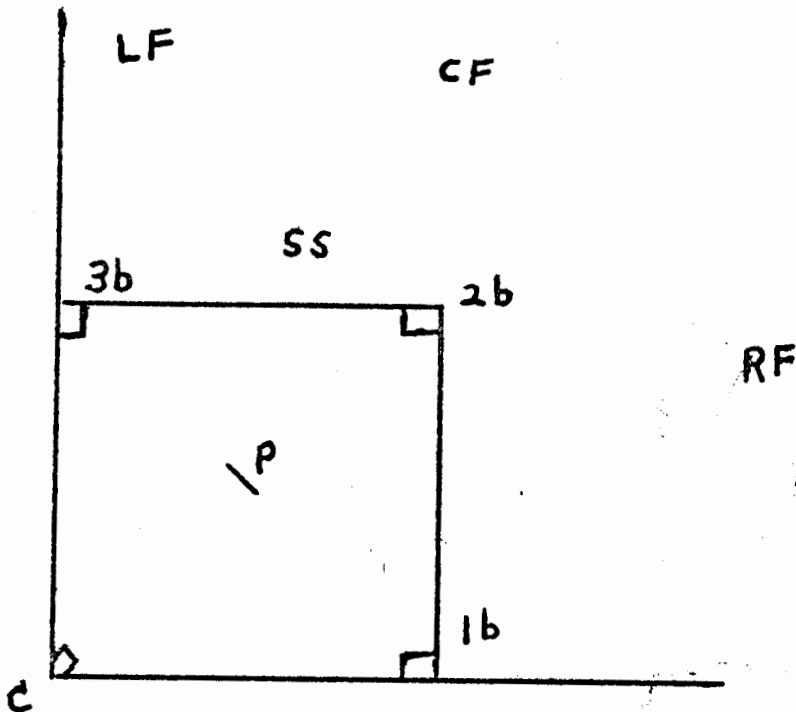
This drill allows you to work out all possible defensive situations, bunts, hotboxes, cutoff plays, double steals, squeeze, relays, and hit and run.

Bunt Defense--with only runner on first base, none out:



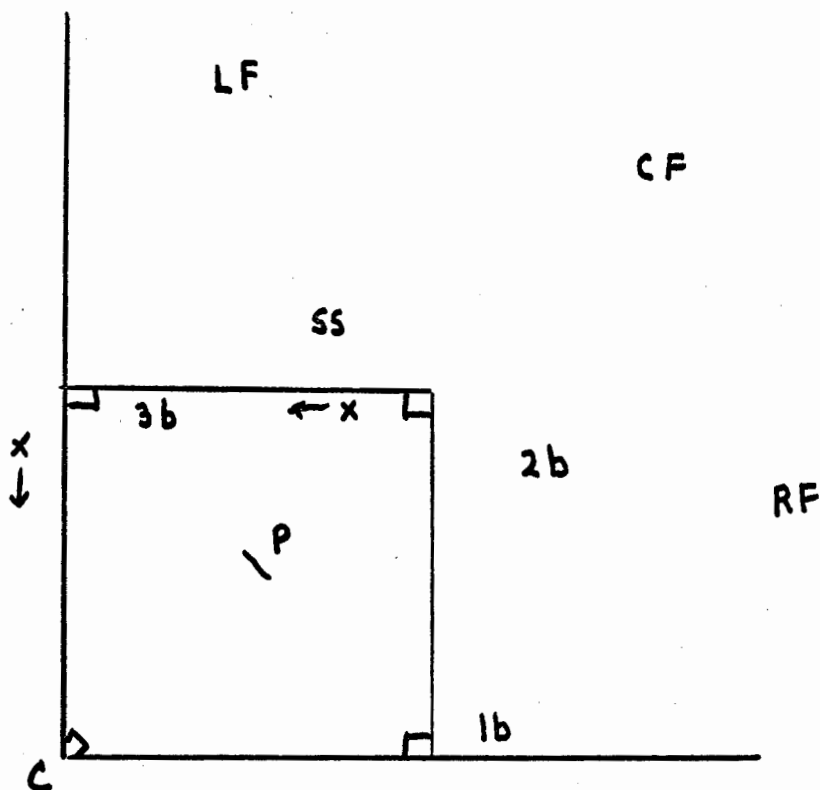
It is advisable to have second baseman charging and in position between first base and home because first baseman is generally taller and much more adept at catching thrown balls.

Defense for an extreme pull hitter (righthanded--opposite for lefthander):



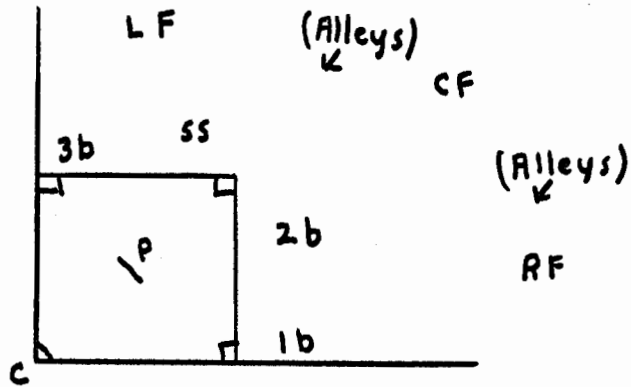
Must be pitched inside and tight.

Double Squeeze and Single Squeeze--have pitcher work from stretch and wind-up position:



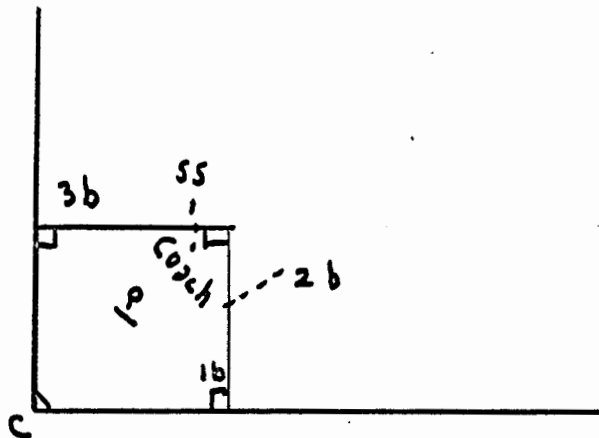
Both runners go with pitcher's start to the plate; runner on second must be sure infielder is going to first--when he is, he continues on to plate.

Defense Late in the Game--one run ahead, nobody on base:

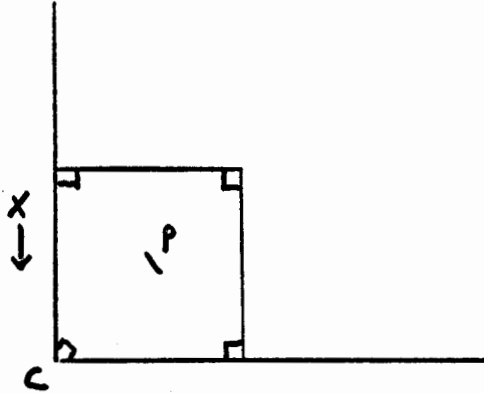


Outfielders play deep and cut off the alleys; don't give up the extra base hit if possible.

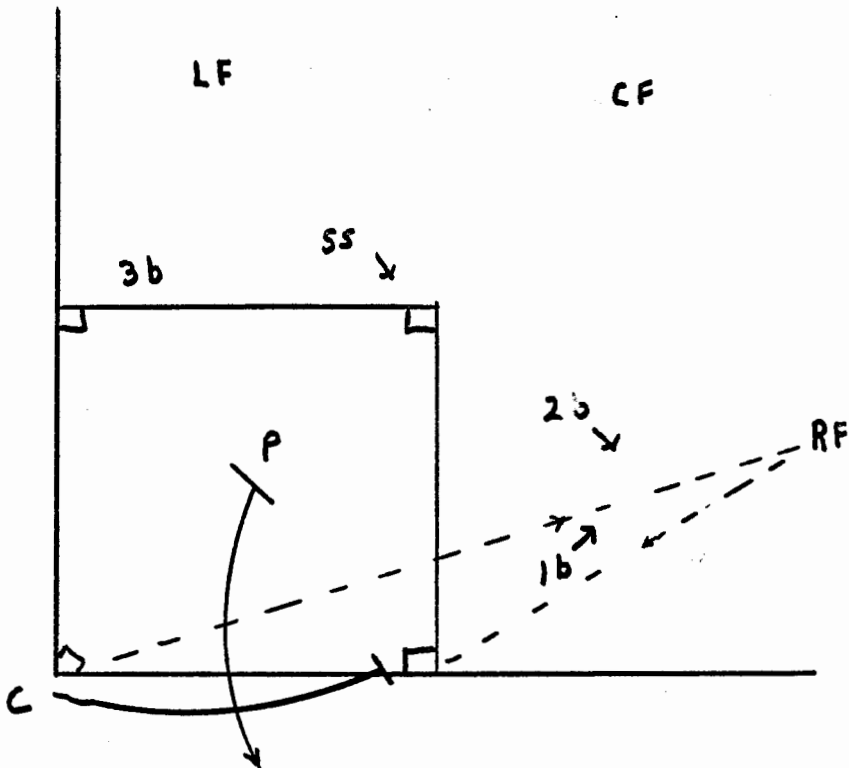
Double Play Drills--Coach rolls ball to shortstop and second baseman so they can work together:



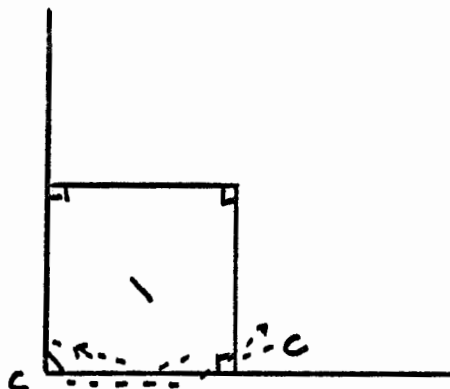
Stealing Drill--Have base runners time pitcher's move; 3 to 4 seconds for the ball to reach the plate is time enough to steal home if runner is fast.



Defense--single to right with man on first; play at first.



Defense--catcher's drill for throws from outfield.



Both catchers wear shinguards and gear, throw erratic one hop pegs to each other for 15 minutes to get the timing of ball bouncing off the ground.

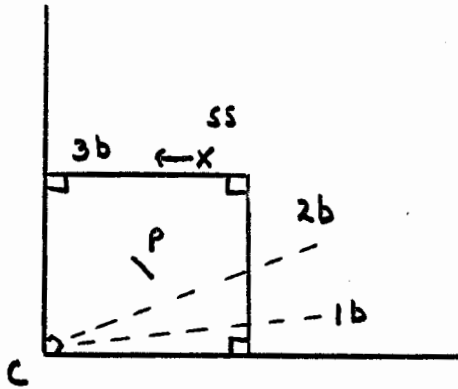
Hitting Drills

- I. Put rope around waist of hitter who is a lunger and use it as a leash.
 - A. Will help to keep weight back.
- II. Have hitter hit one fair ball and hook slide at second.
 - A. Have hitter just take one swing.
 - B. Have hitter choke up and protect plate as if he had two strikes.

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Aids in Hitting Practice

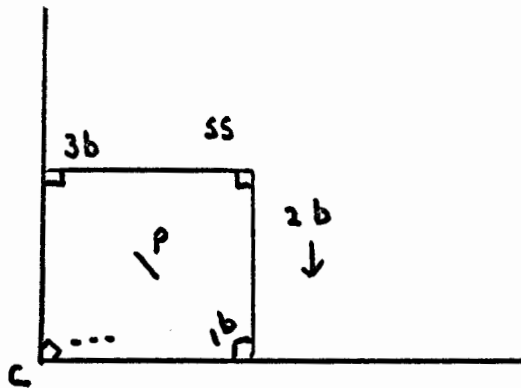
- I. Work on sacrifice fly.
- II. Hitting ball to left side of infield to move base runner from second to third.



Bunting Drills

With men on first and second you must make the third baseman field bunt to advance runners.

With runner on first you must make first baseman field ball.



CHAPTER XVI

SUMMARY AND BASEBALL PHILOSOPHY

By following the fundamentals of baseball and with a great deal of hard work and real desire a boy should be able to mold himself into a splendid baseball player. In the foregoing paper baseball has been broken down into its component parts--pitching, hitting, bunting, base running, sliding, and general defense. Then an analysis of positional play as executed by each member of the team was undertaken. Many drills and correctional procedures have been included to show the how of real inside baseball. A real effort has been made not only to show the proper way of executing a fundamental but the thing to do to correct an improper one.

In closing, a look at the philosophies of two splendid coaches is appropriate. Either of these states of mind will help a boy be a better player. First, an outstanding American Legion baseball coach wanted his team to be relaxed while playing. He guided them toward applying the pressure on the other team, making the other fellow blow up, then winning on his mistakes. He used the bunt a great deal to apply this idea. Also, he called the steal even when his team was trailing. His teams have won many games on the squeeze play by forcing the other club to throw the ball away. Through hours of practice on fundamentals and stress on poise within the ranks he has prepared his teams to take advantage of these situations.

A look at the philosophy of a professional manager reveals that he believes relaxed play is the key, both mental and physical relaxation. If an error is made it must be forgotten immediately. The team member plays baseball the best he knows how and the pro learns quickly that the difference between victory and defeat is so small it really doesn't seem worth while to be upset over losing and excited over winning. The problem is to win, and victory gives satisfaction to the winner.

While writing this paper the author has gained many new insights on baseball and how it should be taught. Many of these techniques will help him to become a better coach.

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