TOUCHING SECOND: Inside Play of Big League Base Ball

By John J. Evers, King of Second Basemen, and Hugh S. Fullerton, Famous Writer

PIVOTAL POSITION OF THE CATCHER— PITCHING AS A FINE ART.

CATCHING is the pivotal position and the most important in baseball. The catcher is the director or transmitter of all messages, the keyboard used by manager or pitcher to flash orders to all others, and the chief wigwag station on the battlefield in the defensive game.

Oddly enough, this important position is the only one in which the players have failed to improve mechanically, and keep pace with the physical development of the national sport. The statement in no way is meant to reflect upon the catchers themselves. The game has changed so much in the last decade that the heavy increase in the duties thrust upon the catchers has not only diminished the supply but overtaxed the physical capacity of all except the extraordinary men. The position has become so vital to the game, and its duties so numerous and trying, that it is difficult for one man to carry them all with any degree of success.

There are not 10 really first-class catchers in America and the team which lacks one of these 10, no matter how great its strength may be in other departments, is doomed to failure before it starts. A weak, uncertain, erratic or brainless catcher can ruin the best pitching corps in the land in a few weeks, and break up a perfectly organized team in even less time. The number of passed balls, muffed flies, failures to touch base runners at the plate and other mechanical mistakes form no criterion by which to judge a catcher. His greatest errors are those of judgment, his worst blunders are the ones the spectators never see. For not only must he direct the pitching and signal for each ball, signal for each play made with runners on the bases, watch runners and signal the pitcher to make throws, but also he has innumerable opportunities to throw or not to throw when the slightest hesitancy or uncertainty will mean defeat. He can make a pitcher "wild," force the best pitcher to give bases on balls, break up all the teamwork and infield play, by a moment of excitement or panic. A cool, brainy pitcher sometimes can steady a catcher, or take the control of the game out of his hands and, changing signals, hold the team steady and save the catcher, but the majority of pitchers prefer to pitch to orders, rather than assume responsibility of changing them.

To understand the manifold duties of the catcher requires not only brains, coolness, generalship and good memory, but also the mechanical ability to catch balls of any speed, to judge distances accurately, throw from any position on the line and with a short, snap motion of the army, to throw off the shoulder towards first base with scarcely a glance in that direction, to direct team work, observe the positions of every player before every ball pitched, signal fielders before making a throw, watch runners closely and signal the pitcher when they venture too far off the bases, to know which men will steal, and on what ball, to win the friendship of umpires, and above all to know the tricks and habits of batters.

Because of the intimate knowledge of batters and baserunners required in successful catching, experience is the greatest factor in the position, and it is impossible for young catchers to meet with great success. Usually three years of experience with a major league team is needed to make a catcher competent. As the catcher's throwing must be done with a jerky motion of the arm and from unnatural positions, as the position is the most wearing one in the game, and the most dangerous, only a minority who begin as catchers continue long enough to gain the experience. The catcher who can go through two seasons without crippling injuries from spikes of base runners, foul tips or wild pitches is lucky.

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The number of times a catcher is injured in a season is surprising. At one time in 1909, George Gibson, in spite of chest protectors, shin guards, and heavy pads, had black and blue spots imprinted by 19 foul tips upon his body, a damaged hand, a bruise on his hip six inches square where a thrown bat had struck, and three spike cuts. Yet he had not missed a game and was congratulating himself on his "luck." Pat Moran, of Chicago, in four games was hit seven times on or near the knees by fouls, struck once on the throwing arm, and once on the shoulder; yet he stuck to it until a foul broke through his mask and tore his face. Under such conditions of wear and tear the wonder is that the supply of catchers even approximates the demand and it is small wonder that the men who might make really great catchers prefer some other position where the risk is not so large.

Chance, while a catcher, had the record for getting hurt. He was injured five times in one game at New York and that night, lying in his berth lamenting his ill luck, with a torn ear, a bruised arm, and with a finger stuck into a lemon, he was struck by a disc of tin sailed up the aisle by a roisterer and suffered a severe cut on his upper lip.

The first and most important duty of the catcher is to know batters, and the power of observation and quick judgment necessarily involved is enormous. Veteran batters, of course, are known by all, as their weaknesses and strength are matters of common gossip. The catchers must remember what kind of balls they hit, and in what direction they are likely to hit any special kind of ball. Also they know that batters change gradually and must be on the lookout for signs of such changes. Occasionally batters who always have hit to left field and are "easy" on slow balls, suddenly begin to hit slow and low balls hard and to right field.

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Besides first hand knowledge of a batter's possibilities, the catcher must look closely each time he comes to bat, first to see what kind of a bat he carries; second, to observe the position of his feet and body, upon which positions the direction of his hit depend, and third to see how he is gripping his bat, in order to guess his designs. Frequently the catcher, after observing the position of the batter, must order the pitcher to pitch straight and fast toward the batter's head, the object being to force the batter to shift position quickly and destroy his plan of attack. Batters never before seen are judged by the position of their feet and their grip upon the bats and then the catcher must experiment to discover the weakness of the batter. Frequently players watching during batting practice find the weaknesses of new men before the game starts. Boston brought a young outfielder to Chicago who had a reputation for being able to hit. Kling and Brown watched him closely during batting practice.

"He'll fish," remarked Brown.

"Anything low—in or outside," whispered Kling.

Brown pitched low curves outside the plate and low fast straight balls inside during the game and the new man "fished," i. e., swung at balls he could not reach. Brown, when asked to explain how he knew this said:

"He showed nervousness and pulled his left foot. I knew he would swing at anything that broke quickly."

"He held his hands with the wrists turned too high," added Kling, "and finally an inch too far apart to get a good swing at a low ball inside."

The slightest shift of position of hands, feet or body of a batter must be noted by the catcher, and interpreted. The first nervous motion to bunt, the first impulsive step forward, reveal the intention of the batters and the catcher can order the ball pitched exactly where the batter is not expecting it.

Spectators are not aware that one of the greatest and most effective balls pitched is the "bean ball." "Bean" is baseball for "head" and pitching at the batter's head, not to hit it, but to drive him out of position and perhaps cause him to get panic-stricken and swing at the ball in self-defense is an art. Even hitting batters is advocated by many pitchers. Tony Mullane, in his day one of the greatest pitchers, owed much of his success to the fact that he hit batters who tried to crowd the plate. One of the Chicago pitchers, at the start of his career, was timid, and the batters kept encroaching upon the plate and hitting his curve ball. Chance instructed the pitcher to hit one batter in the first inning of every game he pitched until the batters were driven back. The pitcher followed orders and after he had pitched once against each opposing team the batters were driven back until he became a success.

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After experience has brought to the catcher a knowledge of batters and an intimate familiarity with his own men, their capabilities and their mode of play, the catcher begins to be valuable. Being the only player facing all the others he must either originate or transmit all orders. He must know every signal used, either by manager or men, and have courage enough to assume responsibility for issuing orders when in positions where it is impossible to get them from the manager. In this respect the playing manager has the advantage of the bench manager again, as he is in position to signal the catcher constantly, and afford much assistance, especially to a weak man.

The catcher must conceal carefully every signal, not only hiding his signals and "covering up" to prevent coachers, batters or baserunners from seeing them, but frequently when he observes he is being watched he must give false signals to mislead the opposition. In the scheme of attack of all teams the detection of signs and signals of the opposing team is the great strategical principle, and the alert eyes of the attackers often detect signals and compel quick changes, so that the catcher constantly is on the alert to outgeneral the men who are watching him.

Possibly the most intricate part of the catcher's work, as well as the most important, is throwing to catch runners, not when they are stealing, but while they are leading off the bases. The number of runners actually caught matters little, but the throwing has for its principal object the prevention of stealing, and holding the runners close to their bases. The catcher watches the runner edging away from first base. He knows to an inch how far the runner can go and return in safety. The catcher signals, by turning his mitt over and back rapidly, that on the next pitched ball he will throw to first. As the ball is pitched the first baseman dashes behind the runner to the base, and the catcher, without looking, grabs the sphere and hurls it at first base, where the baseman meets it on the run. If the runner has hesitated an eighth of a second in diving back, he is blocked off the base and put out.

Catchers like Archer, who throw with a snap of the arm while standing flat-footed, catch scores of runners each season, and practically stop the stealing of second base by preventing the runners from getting a flying start. After a catcher once establishes a reputation for throwing, he has few throws to make.

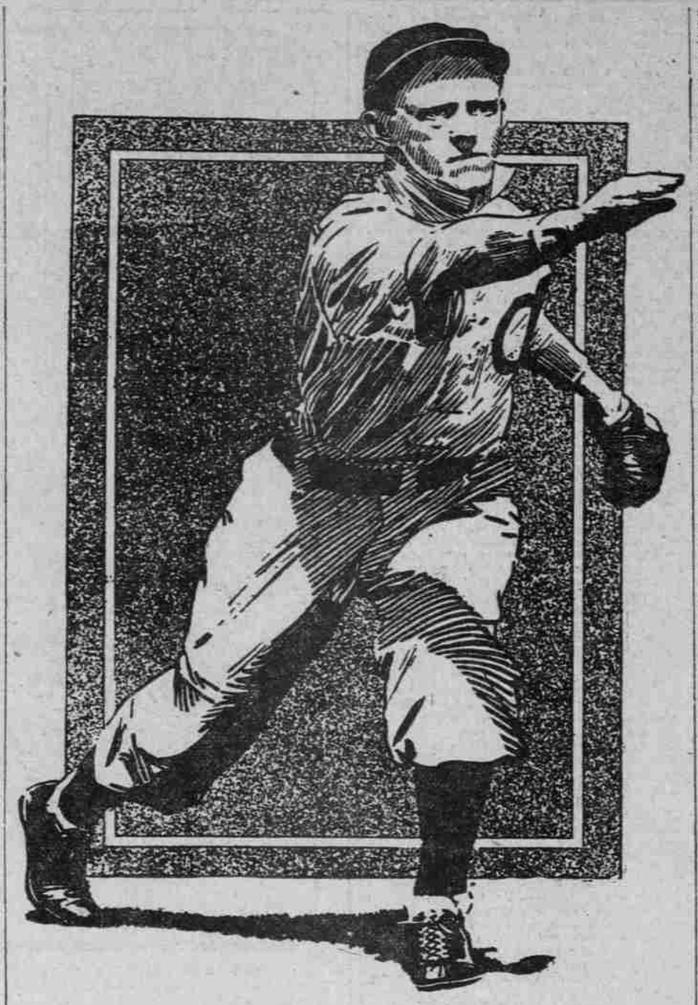
A throw of that kind made by Kling that caught Herzog off first base in the famous game between New York and Chicago when they played off their tie for the championship gave Chicago the pennant in 1908. Two men were on bases, Bresnahan was striving to bunt. Kling caught the bunt signal, the ball was pitched out and like a flash Kling hurled the ball to Chance. Herzog was caught, hesitating eight feet from the bag, and New York was stopped in the midst of a rally that ought to have netted half a dozen runs.

The Cubs worked a variation of the same play with great success one season until Evers was sent to hospital by it. The play was planned to kill the sacrifice bunt. With a runner on first base, and the intent of the batter to sacrifice self-evident, the pitcher curved the ball far outside the plate. Chance would desert his position and dash forward as if to field the bunt, giving the baserunner freedom to move away from the base. Evers then came at top speed behind the unsuspecting runner, and Kling threw to first base. Evers taking the ball and catching the runner. The play proved effective until one of Kling's throws went wild. Evers attempted to block the ball, and Blankenship, of Cincinnati, who was the runner, collided with Evers and sent him to hospital for six weeks.

The play when made to catch a runner off second base requires the unerring co-operation of the shortstop and second baseman who, jockeying around the base, appear to be striving to hold him close. The object of this is to spur the runner to an added effort to take a few feet of ground. The shortstop tries to get behind the runner again and again, apparently without success. The instant the catcher signals his intention of throwing, the shortstop apparently ceases his efforts to hold up the runners, and, retiring to his natural position, speaks to the runner in an effort to divert his attention. When the catcher throws, the second baseman takes the ball on the run and crosses the bag to block the runner. Frequently the catcher will change the plan quickly during the jockeying and signal the pitcher to whirl and throw to the base.

In the attempted double steal, which is used by all teams almost without fail when runners are on first and third and two out, the decision of the catcher as to where to throw is vital. He must decide whether to throw to second base, to third base or to the pitcher, whether to throw clear to third base, or throw short, in order that one of the fielders may come forward, meet the throw and return the ball to him. His decision must be made after the runners start, and it is dependent upon the way in which they act, or upon their speed or peculiarities.

In this the veteran catcher has much advantage, as he knows from experience just how certain runners make the play. With Leach on third base, for instance, every catcher throws fast to third base, because it is well known Leach has a habit of making a false start for the plate. If Wagner is the runner at third, the catcher will throw short, and the shortstop or second baseman will dash forward, meet the ball and throw back to the plate. They know Wagner will start at the right instant, and that he will come home fast and slide to the finish. With a bad baserunner on third, the catcher will make the long throw to second base, and head off the runner going from first. Every variation of the play depends for its success upon the quick thinking of the catcher, and the least delay means a run scored.



There always has been much argument and contention regarding the relative abilities of the great catchers. The best authorities agree that Mike Kelly, Buck Ewing and John Kling were the best of their respective eras, but conditions have changed so much, comparisons between them are impossible. Ewing and Kling were men of much the same type—quiet, cool and calculating; Kelly was different, being a volatile, brainy, inventive Irishman. Kelly, who played back and took the ball on the first bound most of the time, had twice as many passed balls in a month as Kling would have in a season, but his armor was lighter, and he faced different styles of pitching. He caught in the days when great powerful, often wild, pitchers, took a five-foot run through the box and hurled the ball 50 feet. Ewing, who really came between Kelly and Kling, was cool, studious, steady, helpful to pitchers, and threw with rare judgment and ability. Kling is a brilliant general, who worked perfectly with pitchers and the infield, and his throwing was as near perfect as could be. How much Chicago's wonderful infield helped in making Kling a great catcher is hard to calculate. One Eastern catcher remarked:

"I would catch for half the salary I am getting if I had that infield to throw to and work with."

Kling is a past master of the art of working umpires on balls and strikes, which is one of the duties of a catcher that is not suspected by the spectators. The importance of "getting the corners" is realized by all players, and the catcher who gets this advantage is invaluable to his club. Some umpires call strikes on both corners, some on the outside, some the inside and some force the pitcher to put the ball squarely over the plate. Many and varied are the schemes worked by catchers to "get the corners." The best tactics, however, are those employed by the catchers who seldom kick, and who win the friendship and confidence of the officials. The other players may kick, or rage and shoot shafts of sarcasm at the umpire, but the catcher knows he must be diplomatic. Sympathizing with the umpire, or openly rebuking his own teammates for kicking, assuring the umpire he was right, or speaking his objections in a low tone, serve many catchers in their effort to get a "shade the better of it" on ball and strike decisions. The umpire does not care much what the players say to him, or how much they kick, if they do not arouse the crowd to anger. Kling's method was to be friendly with all umpires, siding with them, telling them they were right, and frequently whispering to them to be on the guard for a certain curve that was coming. He urged them not to pay attention to other players, and while never openly criticising umpires, he occasionally whispered that he thought the ball might have been over the corner.

Roger Bresnahan, one of the greatest of catchers, works on exactly opposite lines. He seldom says much to an umpire (that any one save the umpire can hear), but he invites the crowd to sympathize with him against the official by looking pained and grieved. When an umpire calls a ball which Bresnahan thinks was a strike, spectators have the impression that Bresnahan has just lost his dearest friend. He can assume a look of outraged, grieved and hurt surprise that would win a fortune for him on the stage. Even the batter who knows that the ball was a foot outside the plate feels sorrowful when he sees Bresnahan's look of woe. Louis Criger, another marvelous catcher, adopts another method. He talks all the time he is catching, forcibly expressing his opinion of the umpire on every ball and strike, and he keeps up a running fire of argument and criticism. The long-suffering umpires have grown so accustomed to him that they merely allow him to rave. "Red" Dooin, the hardest-working and one of the best catchers in either league, always talks, smiles and fights at the same time. He is in deadly earnest and when he does quarrel with an umpire it is not for effect. One day in 1909 an umpire threatened to put him off the field.

"Put me off. Put me off," he screamed, "put me off, then I won't have to associate with a fellow like you."

Of all methods, Kling's is the most effective, for after all umpires are human and one kind word helps.

PITCHING is the most highly developed, most skillful and most important part of baseball, requiring more thought, more strength and more brains than any other position demands. Good pitching is the absolute essential to victory, and, considered in relation to the "inside game," is vital, for unless the pitcher understands every move of his fellow players, and adjusts his pitching to the plan, the "inside game" becomes worse than useless.

The development of the science of pitching has, from the inception of the game, been in advance of the development of the other departments of play and to such an extent that the rulemakers from the first have found it necessary to legislate to handicap the pitcher to prevent him from becoming absolute master of the game. In spite of the rules the pitchers have by persistent work and thought kept in advance of the progress of the National sport.

Involving the study of wind pressure, dynamics, physics, and mathematics, in addition to the principles of the game itself, pitching is an art demanding closest attention at every instant, the concentration of every energy upon the game, so much so that in almost every game the pitchers lose all track of the number of innings played, of the score itself, forget the crowd, and neither hear the cheers nor hisses, because their minds are so focused on the batters.

The story of the development of the art of pitching from the days of the straight-arm, underhand pitch to the present is one of constant discoveries and triumphs, until, in the educated fingers of the great masters of the art, the ball seems endowed with life.

The days of the underhand pitch were the kindergarten days of the game, and with the coming of overhand pitching the science began to develop. The discovery of the curved ball marked another era, and gave the foundation for modern pitching. Pitchers use, primarily, two kinds of pitches, the "straight one," and the curve. They are the basis of all pitching, but there are all kinds of "straight" balls and as many varieties of curve as there are pitchers. The majority of pitchers begin their careers with no other varieties than speed and a curve, and the strength of youthful arms to win success. The "straight" ball is a misnomer, for there is only one kind of ball a pitcher cannot throw and that is a "straight" one, as every ball curves, regardless of the will of the pitcher. It is the study and development of these curves that make great pitchers.

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The fast ball is sheer speed, its success depending entirely upon its velocity and the control the pitcher has of it. It is pitched with the sphere gripped with the thumb underneath and the first two fingers on top, and is thrown either underhand or overhand with full force. Pitched directly overhand, with the fingers held directly on top, the ball goes as straight to the plate as it is possible to make it go, the speed and the downward angle make it difficult for the batter to hit, unless it comes in "the groove," which is the natural angle. Pitched with the hand held sideways, the ball, taking friction from the finger tips, swerves slightly from its course and breaks in towards a right-handed batter. If the ball is gripped tightly with the finger tips at the moment it is released from the hand its speed piles up a billow of air in front of it, and at some point before crossing the plate, the air resistance becomes so great that the ball "jumps" an inch or more upward or in the direction the greatest amount of pressure of the fingers was applied.

Every man who pitches fast balls successfully has a powerful grip and a strong arm, the stronger the greater the jump to the fast ball. President Cleveland once received a crowd of baseball players in the White House and shook hands with all. When the ceremony was over he laughingly picked out the three pitchers, and explained that he knew by the grips of their hands that they were pitchers.

The curve is a ball held exactly in the same way in which the fast one is gripped, but the ball is released from the side and end of the first finger. The amount of curve or shoot depends upon the manner and strength of the grip of the hand and the way in which the wrist is turned at the moment of release, as well as upon the amount of power applied by the pitcher.

These are the elementary principles of pitching, so well understood that every schoolboy knows them. They are the beginning of the wonders of baseball pitching. After them come the change of pace, the slow ball, the "spit ball," the "knuckle ball," the "fade-away," a score of curves and varieties of curves, and to tell how these things are done it is necessary to tell who does them, and how.

Cy Young and "Kid" Nichols were the leading pitchers of fast balls, although both used curves while depending upon the "straight" one for their greatest success. They pitched the ball alike, throwing directly overhand, with the hand held as straight as possible and, at the instant of releasing the ball each gripped it tightly with the finger tips and loosely with the thumb. The finger pressure increased the speed of the natural revolution of the ball and caused it to jump more. It is odd that Young and Nichols, who probably came nearer pitching "straight" balls than any other pitchers ever did, were so successful and it proves that the batter does not hit at the ball at all, but swings his bat at a spot where he expects the ball to cross the plate. The success of the fast ball lies in this, and in the fact that it is coming so rapidly the batter has no opportunity to change the direction of his swing before the ball passes.

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The curve pitchers are a host. Every one has a different curve, faster, sharper, slower, with heavier twist, or some individual peculiarity to distinguish it. The first curves pitched were of the variety now known as the "barrel hoop." It was a slow curve, pitched underhand, with the hand swung nearly to the level of the knee, fingers downward and hand held almost at right angles with the wrist. As the hand was swung the wrist was jerked sharply and the ball, sliding off the first finger, revolved rapidly and the air pressure on one side of the sphere and the partial vacuum on the other caused by the rotation, forced the ball to move in a slow wide arc. All curves are developments of the "barrel hoop," the same principle entering into each, whether it is Mordecai Brown's marvelous "hook" curve, George Mullin's meteoric shoot, or the wonderful curves of Camnitz, Overall, Wiltse, Krause, Adams, Ferguson and others.

Brown's "hook" curve is the highest present development of the fast overhand curve pitch which breaks sharply down and outward. Brown probably owes much of his success to a feed-chopper which cut off part of his right hand, leaving him without an index finger and with the middle finger bent at right angles at the first joint. Brown pitches the "hook" overhand, releasing the ball at various points after his hand swings past his body. By the point at which he releases the ball he regulates the point at which it breaks in the air. He can make the ball either describe a wide fast arc, or by jerking his hand at the proper instant, make the ball go in almost a straight line, perhaps 50 feet, and then dart suddenly down and outward.

There are many players, however, among them members of the Detroit team who faced him in the final game for the World's Championship in 1908, who believe Overall's curve a more marvelous one. In that game the Chicago giant had one of the most remarkable curves ever pitched. At times the ball darted down two feet and struck the ground while the batters struck more than a foot over it.

Overall pitches his curve with a wide, sweeping overhand swing, releasing the ball over the side of the index finger as the hands turns downward. His swing and curves are duplicates of those used by Terry, McCormick and some of the great pitchers of the past, and when his jerk motion at the finish of the wide swing is sharp, the curve actually darts downward.

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But speed and curves alone will not win and pitchers, baseball generations ago, discovered that there was not enough of an assortment to fong puzzle batters. The batters guessed correctly too many times whether the ball would be curved or fast, and often detected by the position of the hand that a curve was coming even before it was pitched. With the necessity of a greater assortment came the "slow ball," one of the paradoxes of the game. Slow balls are of three different kinds, with a huge number of varieties of each kind. The original slow ball was merely a ball thrown slowly, the pitcher depending entirely upon a false motion to deceive the batter into believing he was pitching a fast ball. The pitcher would swing his arm, check it suddenly and "lob" the ball to the plate. The ball did not deceive the batter in the slightest after it left the pitcher's hand, but before that he was thrown off his balance, deceived by the arm motion, and was out of position to lunge forward and hit the ball.

Keefe O'Day and most of the old-time pitchers used that kind of a slow ball, but after batters began to watch the motion and shift their feet so as to run forward and meet the slow pitch, they were compelled to find something new, and the development of the slow ball followed. The difficulty was to pitch a ball with full force and with the exact motion used in pitching a fast ball, and yet make the ball travel slowly. It was discovered that if the ball be held far back in the palm of the hand with the little finger and the thumb clinched on opposite sides of it, or the little finger and the third finger on one side and the thumb on the other, with the other fingers held so as not to touch the ball at all, the result could be attained. Held that way, and with the arm swung at full speed and force, the finger and thumb gripping the ball tightly at the moment of release, the result is peculiar. Instead of revolving and going rapidly, the ball wabbles from side to side, scarcely turning over, and allowing the full atmospheric pressure to strike the forward side with no revolution to lessen the friction. The result is the air pressure stops the ball, and it loses speed rapidly, obeys the call of gravity and drops quickly toward the earth after expending its force. The harder the ball is thrown and the tighter the finger pressure at the instant of release, the more sharply the ball drops. Expert after expert developed the slow ball, until its perfection was reached in the hands of Brown, Frank Sparks, of Philadelphia, and "Doc" White of the Chicago Americans.

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The odd thing about pitching is this: A ball which revolves in the air appears much smaller to the eye than one that fails to revolve, and the more rapid the revolution of the sphere, the smaller it appears. The slow ball, floating in the air and "dead," looks as "big as a balloon," as everyone in the bleachers remarks, and it does not deceive the eye. In fact if slow balls of that variety are pitched three or four times in succession they look so large that an amateur can hit them out of the lot. Successful use of that kind of a pitched ball consists entirely in surprising the batter, fooling him when he expects something else. The batter may miss the ball a foot, yet his eye is not deceived. He saw the ball perfectly, but was off balance, just as he was for the slow pitch.

The discovery of another kind of slow ball, and the most successful pitched ball ever used, arose from the fact that to deceive the eye the ball must be made to appear small, and that revolution, and rapid revolution at that, is necessary to deceive the eye into the idea of smallness and speed when it is slow. "Hoss" Radbourne working on that theory, began to develop a slow ball that revolved rapidly. It seemed impossible, because a ball that revolves rapidly usually has great speed, the greater the speed the greater the revolution. But Radbourne, pitching for Providence, kept practicing until he found his slow ball. He had been a good pitcher before that, and after his discovery he became one of the greatest the game has ever known.

No one could understand his success, yet his discovery was simple. He found that if he held the ball exactly as if pitching a fast ball, with the thumb on one side and the two first fingers on the other, and at the moment of releasing it from his hand clinched the finger tips tightly into the seams of the ball and jerked backwards with the hand, the ball not only would revolve rapidly but would travel almost on a straight line—yet slowly. The revolution, which was the reverse of the natural twist, helped the ball to hold its straight course, and it lost speed quickly after exhausting the reverse revolution and fell rapidly towards the ground at a point in front of the batter. The secret of his discovery, Radbourne imparted to Clark Griffith, now manager of the Cincinnati club, and for years after the passing of Radbourne, Griffith was one of the premier pitchers of the country, holding practically a monopoly on his slow ball and using it with wonderful effect.

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But the ultimate and greatest development of that slow ball was left for Mathewson, of New York, in whose hands it became the most effective ball ever used; the "fadeaway," which is only a development of the idea and the style used by Radbourne and Griffith, is a ball which almost all the pitchers in the country are trying with more or less success to imitate. Yet before Mathewson learned the trick of pitching his "fader," there was one who pitched the same ball in even more wonderful style. Virgil Garvin, a tall, slender young Texan, with extraordinarily long fingers, pitched the ball before Mathewson, but he did not understand its use or worth. He pitched it with his middle finger lapped over the index finger and when he reelased the ball his hand was turned almost upside down. He jerked the hand downward and backward, the ball going over the sides of the lapped fingers, giving it a rapid revolution that resulted in the impression of great speed.

Mathewson achieved his "fadeaway" by holding the ball exactly as Griffith did his slow ball and releasing it over the side of the middle finger. By the sharp holding pressure and "draw" of his fingers he put the "reverse English" on the ball, causing it to revolve rapidly for a distance, then lose speed and "fade" towards the ground and inward like a left-handed pitcher's slow curve. The action of the ball is exactly that of a massed billiard ball, and when the ball "fades" it really is striving to get grip enough on the air to return toward the pitcher.

Scores of pitchers have imitated Mathewson's "fadeaway;" some with success. Flakenberg, of Cleveland; Willis, of Pittsburg, and Reulbach, of Chicago, can pitch it well. "Vic" Willis, a veteran, ranks as one of the cleverest of pitchers and his use of slow curves is a revelation to young players. Chicago signed a youngster once who thought he could hit. Willis, who never had seen him before, teased him with slow curves and drooping slow pitches, and the youngster struck out three times.

"Are there more like him?" he inquired anxiously.

"He's only a second rater," complained an angry player.

"Then," said the youngster with immense cheerfulness, "I won't be here long."

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With all these varieties of speed and curves, pitchers were not satisfied and each kept seeking more varieties of slants watranted to prevent hitting. There came into baseball in 1903 a ball that came near revolutionizing the game. The Chicago White Sox had signed Elmer Stricklett. While the team was training at New Orleans, Stricklett was pitching to batters in practice when he pitched a ball which, whirling rapidly for a short distance, suddenly ceased revolving, commenced to float and wabble like a slow ball and then darted down and out like a fast curve, leaving the batter staring in astonishment. Stricklett repeated the pitch and immediately every man on the field was clamoring to see the ball and bat at it, suspecting some trick. That night correspondents sent messages filled with wild theories regarding the "spit ball." It is odd to recall the "call down" one of the correspondents received from the managing editor who telegraphed:

"Please confine yourself to facts. No such thing as a spit ball is possible and the expression is vulgar."

The managing editor was partly right: the ball is not a spit ball but a thumb ball. It is pitched with two (sometimes with three) fingers held on one side and the thumb on the other. The ball is made slippery at the point touched by the fingers, so that it slides off the fingers with the minimum of friction. The thumb, gripped tightly against the seam on the opposite side, gives the maximum of friction at that point, the result being that the ball, leaving the thumb, takes "reverse English." It whirls rapidly for a short distance, until the heavy friction begins to overcome the natural rotary motion of the ball, when it stops rotating, as if a struggle between the two forces was going on, then the thumb "English" gains control and the ball darts just as it would have done if curved naturally, shooting in the direction the heaviest friction was applied. A "spit ball," when pitched directly overhand, darts almost straight downward, and when pitched sidearm, with the thumb towards the body, it darts as a fast curve does, down and outward. Immense power and speed are required to pitch the ball successfully, as the faster it is pitched the faster and sharper the curve will be.

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The "thumb ball," pitched without moisture, was used before Stricklett found saliva would negative the friction of the fingers, but the object was to get heavy friction on the thumb, rather than to decrease friction on the other side. The principle of the "spit ball" was used in Griffith's and Radbourne's slow balls. Those who saw Griffith pitch will remember how he always tapped the ball upon his heel spikes, and tried to persuade umpires he was knocking the dirt out of the spikes. His object was to make small cuts or abrasions on the surface of the ball, against which to press his thumb and get more friction at the desired point. He never thought of greasing or wetting the ball to lessen friction on the opposite side.

Obtaining more friction at one point was the object of many pitchers. Some rubbed the ball on gritty dirt, others carried small files to use surreptitiously. One sharp rasp of the file and the ball was "winged," at a certain point. The pitcher gripped his fingers against the "winged" spot and not only was the sharpness of the curve accentuated, but the "wings" by offering more resistance to the air, caused the ball to make eccentric shoots in the air.

Al Orth used a "thumb ball" and saliva with astonishing success, but oddly enough never hit upon the most successful manner of using it. Orth came nearer pitching an upcurve than any pitcher ever did, and many think his underhand ball really curved upward. He at last made the unnatural rotation of the ball overcome gravity to such an extent that the ball did not drop, whether it rose or not. In pitching he held his thumb on top of the ball, pressed tightly against a seam, and two fingers under it, not touching the seam, and he spat upon the place where the fingers came in contact with the leather. Then he pitched underhand with great force, his hand swinging almost straight downward at the level of his knee. His object was to make the ball angle from his knee to the batter's shoulder and the false revolution imparted by his thumb was to make the ball "ride" the air and help maintain the angle. In seven years the number of "popups" hit off Orth's pitching was one of the wonders of the game, being almost twice the normal, batters continually hitting under his "thumb ball," which in reality was a "spit ball" pitched upside down.

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The overhand "spit ball," with its marvelous shoot, brought an army of strong-armed pitchers into the game, revived veterans whose careers seemed over, and ruined many great hitters. Almost every pitcher learned to use it—and in the hands of Ed Walsh, the giant of the Chicago White Stockings, it reached its highest stage of development and made him the pitching marvel of the decade.

Immediately variations of the ball were developed. Slippery elm, talcum powder, crude oil, vaseline were used to lessen the friction of the fingers while other pitchers, to get more friction on the thumb, used gum, pumice stone, resin or adhesive tape.

Stricklett had founded a new school of pitching. "Spit ball" pitchers who can control the ball need few other curves, and the ball, when it breaks at the right spot, practically is impossible to hit. Some pitchers abandoned it because it injured their arms. The catchers dreaded it because it was hard to handle, and harder to throw. The fielders opposed it because the slippery ball was hard to throw, and because, when hit, the ball takes doubly unnatural English, both from the bat and when it strikes the ground, and darts in weird manner. The batters objected, naturally, as it stopped their slugging.

Frank Chance disliked the ball and during one Spring training trip every team the Clubs played presented a "spit ball" pitcher. Chance wanted batting practice and was aggravated. One day at Memphis a giant "spit ball" pitcher made his debut. Early in the game he pitched a "spitter" to Chance. The ball failed to break and Chance drove it back with terrific force. The pitcher threw up his hands. They were driven against his head, the ball caromed on to center field and Chance, spluttering with rage, remarked:

"There's one blanked 'spit ball' pitcher I put out of business."

Walsh, master artist of the "spit ball," pitches it in the most common way. He uses a trifle of slippery elm bark in his mouth and moistens a spot an inch square between the seams of the ball. His thumb he clinches tightly lengthwise on the opposite seam and, swinging his arms straight overhand with terrific force, he drives the ball straight at the plate. At times it will dart two feet down or out, depending upon the way his arm is swung.

The American League, during the early days of the "spit ball," used it so much that Charlie Dryden, angler and scribe, remarked that: "The American League consists of Ban Johnson, the 'spit ball' and the Wabash Railroad."

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"The "knuckle ball," a freak, promised much, and is successfully used by some long-fingered pitchers, but it cannot be a general success because it is impossible for the fingers to grip the ball firmly enough to control its direction. The ball is pitched with the three middle fingers bent under, the ball resting against the first joints, and held by the thumb and little finger on opposite sides. Sommers, of Detroit, pitches the ball with great effect at times, but it is uncertain, being nothing more or less than a "spit ball" pitched in freakish manner.

The "wrist ball" is only a contortion of the wrist and hands, resulting in a slow curve, and the "finger nail ball" is another freak effort at a slow ball.

There is more to pitching, however, than curving or inventing curves, and some of the most effective pitching is by angles rather than by curves. For some reason, unexplained, the deadly "cross fire" used with wonderful effect 15 years ago, almost has been abandoned. The left-handers of former generations "cross fired" almost as often as they curved the ball and many right-handers used it. The ball was pitched sidearm, the hand being extended as far as possible, and while the pitcher's hand was swinging he stepped to right or left in the direction of his pitching arm and hurled the ball back across the inside corner of the plate, at an angle. The balk rules caused the left-handers to abandon the pitch partially, and the passing of the side arm right-handers, probably explains its abandonment. Pfiester, Leifield, "Doc" White and Krause use the ball effectively but not frequently.

Pitching from angles consists in angling the ball from high overhand to the batter's knee, from the pitcher's knee to the batter's shoulder and from the limit of the outstretched arm to the outside corner of the plate. One of the best exhibitions of pitching by angles ever given was in the now famous game between Chicago and New York in September, 1908, in which Merkle forgot to touch second base. Pfiester had strained a ligament in his pitching arm, and a lump had formed on his forearm two inches high, the muscle bunching. He could not bend

(Concluded on Page 6.)