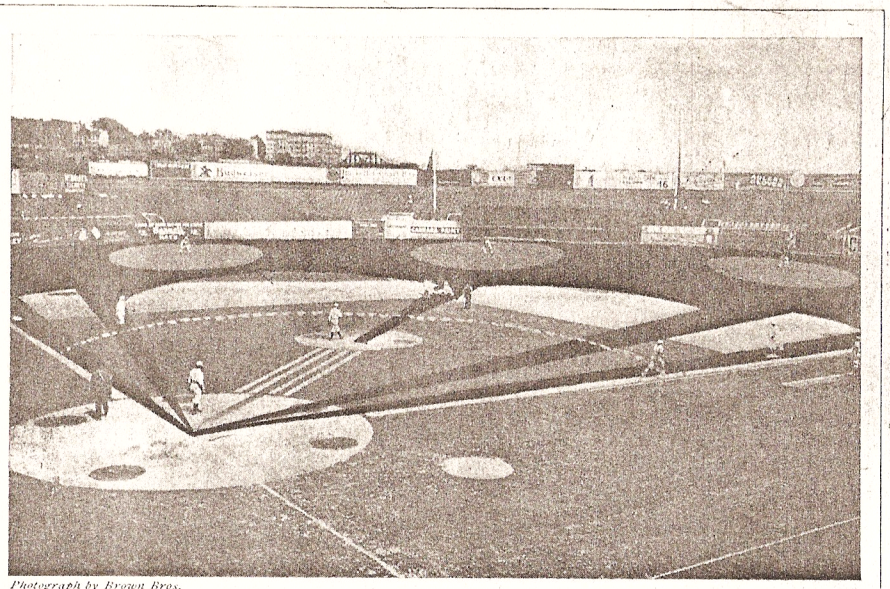

Photograph by Brown Bros.

Black portions in the above baseball field indicate territory where line hits ought to go safe. Calculations are made on the basis of the velocity of the ball being one and a half seconds per hundred feet and on the speed of the players being six seconds for every fifty yards. Dotted white line indicates boundary of neutral territory in the infield

osed hermetically, while the gap between einfeldt and the third base line was opened o 22 feet. The ball, if hit on the ground, had o place to go except into some infielder's hands, nless Reulbach blundered and Mitchell oulled" the ball down the third base gap. very man on the team knew if Reulbach tched high, fast and outside, Mitchell would t toward right field. The only chance Mitch- had to hit safe was to drive the ball over the ead of the outfielders, or hit it on a line over feet and less than 15 feet above the ground. Reulbach had been ordered to pitch low and er the plate, or low and inside, or a slow ball, e team would have shifted exactly in the pposite way.

Every club worthy the name uses the same stem, but it is in the major leagues (the nerican and National) that it reaches its ghest perfection. That is the explanation the fact that college players stop eight out nine grounders and big leaguers stop 15 out 16 or thereabout. There is not much differ- ce in the mechanical ability of players in the inor and major leagues, and the managers e men of almost equal experience, but the ajor league teams remain together year after ar, while the minor league managers are forced to make an almost new team each season and teach the system to many recruits. The Milwaukee American Association team probably played as intricate and involved inside baseball last season as any team ever did and it came near winning the pennant. "Stoney" McGlynn, the veteran pitcher, was chiefly responsible. McGlynn "hasn't much" (which means he does not pitch great curves and possesses little speed), but he can "put 'em where he wants to," and with a team behind him trained well enough to know every ball he pitches and to move in the direction the ball will be hit he is a great pitcher. With a broken up infield he is bad.

The system of signaling used by major league teams is so involved that it requires constant thought and a good memory to follow the signals, even after knowing them. No team dares use the same signals for any length of time. Some players become so skilful in detecting the signals of opponents that they compel the other club to change sometimes two or three times during a game. Fred Clarke of the Pirates, John Kane of Chicago, Al Bridwell of the Giants, "Red" Dooin of Philadelphia, seem to possess almost uncanny powers of observation.

To show how complicated the system is, the

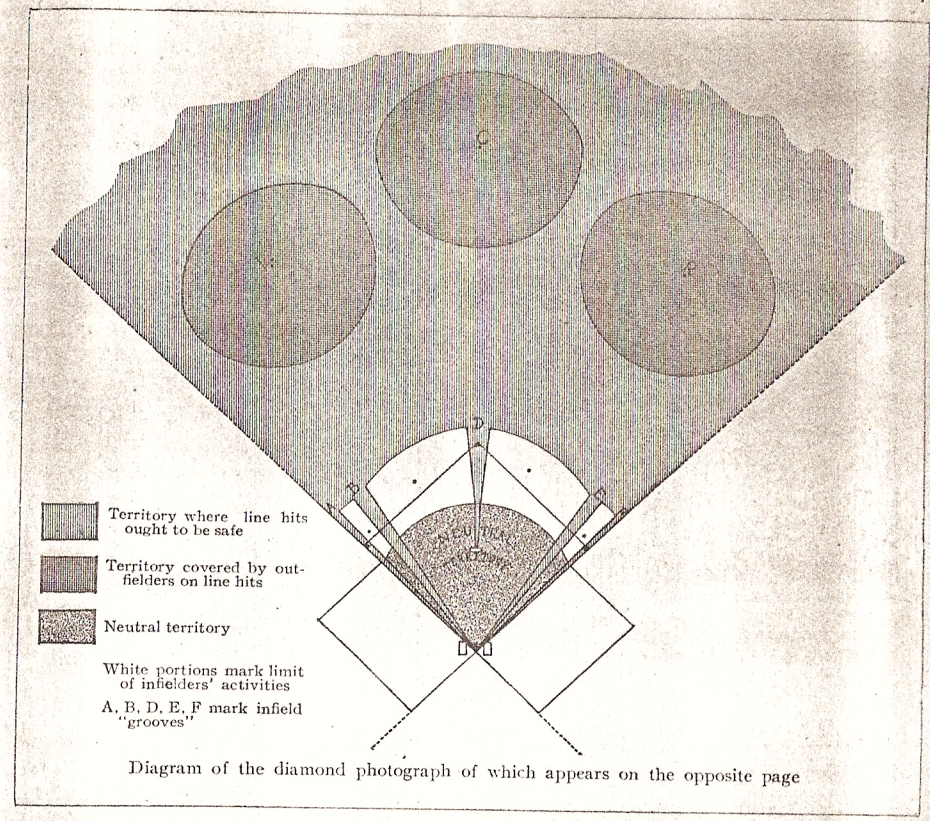

Diagram of the diamond photograph of which appears on the opposite page

Chicago "Cubs" catchers each have five signals which are plainly visible to the second baseman and short stop. If the pitcher gives the signal, the catcher repeats it by a different code. The catcher uses his hands, feet, knees or eyes in signaling. The commonest code is one finger in various positions for a straight ball, two fingers for a curve, a snapping of the thumb for a spit ball, a closed fist for a slow ball and the palm out if he wants a "pitch out," the ball being thrown wide to prevent the batter from hitting it when the defensive side suspects or knows a hit and run play is to be attempted. Sometimes the signal is given by the position of the feet. Schmidt of Detroit, using hands to signal when the bases are clear, signals with his eyes when runners are on bases, also using his hands to deceive them. In the World's Series between Detroit and Pittsburgh last year Tommy Leach of Pittsburgh tipped off Schmidt's signals repeatedly by guessing that when Smith signaled one thing with his hands he was flashing the opposite signal with his eyes.

The second baseman and short stop see the catcher's signal and verify it by signaling to each other, deciding which is to cover second base. Also the intention of the pitcher is signaled to every member of the team.

One would think that the batter would notice the shifting of position and know what was to be pitched. He is, however, too intent on watching the pitcher to see anything else and, besides, the full motion of the defensive team is not noticeable until the pitcher starts to pitch, and then it is too late for the batter to realize anything except that the ball is coming. The coachers see the movement and half the time call out to the batter "Fast" or "Curve," but he does not hear until the ball is past him.

If you doubt this, try some day to see what becomes of the bat when a batter hits the ball and you will realize how hard it is to watch anything except the ball.

In addition the second baseman and short stop have a code of their own, consisting of two signals, given with hands, feet, arms or eyes,—