Player Win Averages

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A Computer Guide to
Winning Baseball Players

1970 EDITION

by Eldon G. Mills
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Introduction

Have you ever heard someone say something like "his average doesn't show it, but he's really been coming through in the clutch this year"? Sure you have. What is really being said is that he is a "winning" player. A "winning" player can be described in many ways. He is the player who "comes through in the clutch"; who "came to play"; who "gets the big hit"; who "delivers when the chips are down"; and on and on.

What gives all these expressions a common base is that they are all opinions, and they may, or may not, be a correct evaluation of the player's true ability. On the other hand, if someone tells you a player is hitting .242 and has driven in 38 runs, you know he can be exactly right. In other words, today we know almost everything about a ball player accurately—everything except how much he helps win games.

We can, however, accurately measure a "winning" team, composed of 25 players, right down to the fifth decimal point. We do that when we list the team standings in the league every day. And that's the *only* way we do it. We do not look at a team's batting average, earned run average, or any other average to identify the "winning" teams. We look only at the team win average.

Yet when we identify "winning"players we look only at batting averages, hits, home runs, runs batted in, etc. Why? Simply because that's all we have to look at. If we identified "winning" teams this way wouldn't that be something?

It was this sort of thing that got us started, several years ago, in an attempt to find a statistical way of identifying "winning" players. We learned early that we would be unable to manipulate any of the normal statistics available to us, so we designed a new scorecard, invented new terms, and took a completely new approach. We even like the name we have given our new statistic—Player Win Average. And if you're over 40, just remember, PWA doesn't stand for Public Works Administration.

Here's something else to remember. This is only a guide to "winning" players. Of course there are factors that no human being could ever measure with a statistic. But for the things that are measurable this will give us a keener insight on how much a player helps his team win games. It will let us find the "winning" player with a much better degree of accuracy than we have ever been able to do before.

Player Win Averages

Part I
What It's All About

1. Prediction and Measurement

Anytime we travel through Las Vegas and linger awhile (it's a strong person who can resist the temptation of all that loot), we find a perfect example of prediction and measurement.

As we stand at the gaming table we are attempting to predict what number will turn up on the dice, or what card will come up next. Usually what happens is that we spend several hours making these predictions, then retire to the solace of our room to conduct the measurement.

We measure how much money we had when we started, how much we have at the end and then figure the difference. If we have more money than when we started we have done better than average. We know that for sure. If we have less we may be average or we may be below—we don't really know.

We don't really know because the management in Las Vegas has been doing some predicting of its own. Management has predicted just what the average player will do, and that is some small fraction just *below* breaking even. As the hundreds of thousands of guests take their chances,

some will do better, some will do worse, and many will hover right around the average (win a little, lose a little).

But management doesn't worry, because it knows the predictions are accurate, having come about as a result of what has actually taken place in the past. And, like we said, the participants can measure their performance on how well they played the game, and they can compare how they stacked up against other players.

It's the same thing with our new scoring system. Only instead of counting money, we count Points—Win Points (for above average) and Loss Points (for below average).

Just like the management in Las Vegas, we have predicted what the average baseball player will do. We have described this process in Chapter 5. We have not made guesses, but have recorded the actual play of the players in both leagues—situation by situation—over an entire season. This amounts to over some 155,000 separate plays that we can use to make our predictions.

From this we can predict, at the league level, what on the average the next play will be. For instance, with one out and a runner on first base, we know from actual major league experience what percent of the time the average batter will make an out and what percent of the time he will get on base. We also know—if the average batter gets on first—what percent of the time a runner on first will advance only to second base, and what percent of the time the runner will make it all the way to third base. And so on, for every possible play that has actually occurred.

Now we are ready to count our money, so to speak. As each game is being played, we measure, play by play, the performance of each player. We assign Win and Loss Points to each and every player as the game progresses. (He will usually get Win Points when he increases his team's chance of winning, and he will usually get Loss Points when he decreases his team's chance of winning.) Furthermore, this is a double entry system. That is, on

every play the exact same amount of Win and Loss Points is given to a member of each team, depending on his performance. Just like at Vegas—on any play, if you lose a dollar, management wins exactly a dollar.

So we play on and on. Maybe only for hours in Vegas, but for days and weeks in baseball. We continually measure each player's performance based on our predictions of the average player.

Next, just like number of at bats and number of hits, we add up number of Win Points and number of Loss Points. A player who has performed precisely "on the average" will have exactly the same number of Win and Loss Points. A player who has more Win Points than Loss Points will be above average, and a player who has more Loss Points than Win Points will be below average.

What we are really keeping track of is a player's clutch ability. If he is generally coming through in the clutch his Win Points will be greater than his Loss Points. However, if he shines only occasionally, and is consistently failing when he comes up in the big plays, he will have more Loss Points. So we are constantly measuring both the good and the bad, the spectacular and the routine.

After we have totaled the Win and Loss Points over any period of time we have two large numbers—and they get larger and larger as the season goes on. From these numbers we can easily tell whether a player is doing better, or worse, than average; but that's about all. That's the same as just counting hits and trying to learn something about a batting average.

So, to tell more precisely how a player is doing, we now calculate our new statistic—Player Win Average. This lets us tell just how much better, or worse, than average a player is. It also lets us compare player against player, just like batting averages.

Here's how we do it. We add up the total of Win and Loss Points, then divide that total into the Win Point total

only. If a player has 12,000 Win Points and 13,000 Loss Points we know he is below average (Loss Points greater than Win Points). By adding Win and Loss Points (12,000 plus 13,000) and dividing that total (25,000) into 12,000 we arrive at a Player Win Average. That turns out to be .480 and tells us just how much below average (.500) he is.

The following chapters in Part I will explain the rationale in developing the system. The results of the 1969 season for both leagues are shown in Part II. They are shown by rank by league, and we list offense and pitchers separately. Notice we say "offense"—not hitters. That's because we include base running along with hitting in the total offense.

Part III consists of special recognition to individual players. We show a play by play of the game where Willie Mays hit his 600th career home run. We think it's the best game of the season to demonstrate how we assign Win and Loss Points to players play by play, but mainly we want to show accurately just how "clutch" that 600th was.

Then we show our own All-Star teams; we identify the most winning player on each team; and then we present a MWP award to the Most Winning Player in each league. We also introduce a group of players we call Hidden Heroes, and present a special award to the most deserving Hidden Hero.

Part IV covers the 1969 Divisional Playoffs and the 1969 World Series. We show the computer-generated play by play of all five Series games with some highlight comments prior to each game.

A short Conclusion points to 1970 and we'd like to think that by then you'll be hooked on Player Win Averages, too.

2. We Remember Bobby Thomson

What's the most famous clutch play in the history of baseball? We'll bet you'll say Bobby Thomson's historic home run that won the pennant for the New York Giants in 1951. As Leo Durocher would say, "that was some shot, wasn't it?"

Here's the situation: two men on, one out, Giants trailing by two in the last of the ninth inning. Bobby Thomson is at bat. The worst thing he could do would be to make an out.

But there were other things Thomson could do. Among others, he could walk, hit a single, get on by an error. He didn't. Instead, he changed the game from near defeat to absolute victory. And the fans reacted accordingly and Bobby Thomson reserved for himself a special place in history.

But what did it do for his season statistics? It gave him three more runs batted in; one additional hit; one more home run; one more time at bat; one more run scored; and raised his batting average a point or two. That's no big deal!

Bobby Thomson's home run came in the third game of a playoff that decided the National League championship, and that made him famous. But what about others, who have delivered in the clutch in the same situation and also won a game for their team? Who remembers other players who did the same thing, only in the middle of the season? We don't, nor do most others. Oh, their statistics are recorded—one more home run, etc. And that home run goes right alongside another one the player may have hit when his team already had the game won. No difference. According to present-day statistics they are all the same.

But they are not all the same, and we all know it! It

depends on *when* it happened. And how crucial that *when* instinctively tells us how big a clutch hit it was.

We remember Bobby Thomson's home run. We won't remember, for instance, the home run that Jim Hickman—one of the Chicago Cubs' best clutch players in 1969—hit on the 7th of September that year. Here's the situation: One out, runner on first, bottom of the eighth, Cubs trailing Pittsburgh 4–3. Hickman hit a big clutch home run, putting the Cubs ahead 5–4 with just one more inning to play.

But that home run didn't win the game for the Cubbies. That's because Pittsburgh also has some pretty good clutch hitters. Willie Stargell came to bat with two out, nobody on, trailing by one run. Very crucial situation. An out ends the ball game and the Pirates lose. But Stargell didn't make an out—he hit a home run. That tied the score, and the Pirates eventually went on to win it in eleven innings.

So Hickman's home run didn't win a game, and it gets recorded right along with all the rest. Yet, at the time, it was a big clutch play and should be remembered that way. So, of course, should Willie Stargell's.

A few days later Frank Howard hit his 45th home run, and it made the headlines of some sports pages. It also went into the record books as just another home run: and in this case that's all it was. He hit it in the top of the ninth against Baltimore, when Washington was already out of it, trailing by six runs. It made the headlines because it was a *personal* achievement, not a *team* achievement. However, personal achievements do not necessarily help win games. This is not to put down Howard. Many of his big blows were hit in the clutch indeed and we rate him as an excellent clutch player; but this particular one was not.

"Okay, so what," you say, "there's no statistic today that can accurately measure a player's clutch ability." That's right, there hasn't been up till now, but Player Win Averages are on the way.

3. Duke Sims Is a Prince of a Hitter!

The underlying theme of what has been said so far is that the big clutch plays involve not only *what* happened, but—equally important—*when*. Any good baseball fan knows this already, and most of us can easily spot the big clutch plays.

But what about the small clutch play? The "bread and butter" play that helps win games, day in, day out? For example, a batter walks, the next man singles him to third, and the next man brings him in with a sacrifice fly. The first batter is credited with a run scored, the third batter gets an RBI, but the second batter has the biggest clutch play! Trouble is, that second batter doesn't show up in any of the run-producing statistics!

There are even smaller clutch plays that happen every day. In any ball game when the score is tied and the inning is late (and nearly a third of all games are won or lost by a single run), just getting on base in any way is a small clutch play. And it is a little bigger clutch play with none out than with two out.

In other words, throughout the game there are little clutch plays taking place. As the score becomes lopsided they become less clutch, and as the score gets closer they become more clutch.

But exactly how much more or less? Is a walk to lead off an inning worth as much as a single? Is it worth it to give up an out to advance a runner to second (the sacrifice)? And how about Tony Kubek's pet play—moving a runner from second to third with a grounder to the right side of the infield? Without a measuring system, who knows? And what are all these little clutch plays (and the big ones, too, for that matter) precisely worth?

These kinds of questions will be answered as we develop

the logic and rationale of how we arrive at our new statistic. Until now, measuring clutch ability has been a "by guess and by golly" sort of thing—mostly we try to remember when somebody did something with men on base (because that's the easiest thing to remember). But the score and inning are even more important.

We also will discuss and show you the results of the 1969 season, in various forms. Some of the results will merely confirm what you already know, but there will be many surprises, too. Just for one quick example, would you believe that Cleveland's Duke Sims was the best clutch hitting catcher in the Majors in 1969?

Notice we said he was the best clutch *hitting* catcher in the Majors. We did not say he was the best fielding catcher, or the best handler of pitchers, or had the most baseball savvy. What we are trying to make clear at this point is that we don't say Player Win Averages are the complete answer in every phase of evaluating players.

We are fully aware there are many variables that go into the making of a big league player. And many of them will never be measured by any statistic. Outfielders' throwing arms; the range of both outfielders and infielders; the quick reaction in "getting the jump" on a batted ball; automatically knowing which base to throw to: all are immeasurable factors, and are a matter of human judgment.

If everything a human baseball player did could be measured by a statistic, wouldn't that be dull? What would we talk about all winter?

What we do believe, though, is that Player Win Averages will give us a better idea of how a player is coming through in the clutch—at bat, on the bases, in the field, and while pitching. And, further, like no other statistic today, this statistic can be applied equally to pitchers and batters. That is, a batter with a .520 Player Win Average is slightly better (clutchwise) than a pitcher with a .510

Player Win Average. We've never been able to do that before, have we?

We think you will find it interesting, as we show the results of the 1969 season, to see how batters do against other batters, how pitchers do against pitchers, and then be able to compare them against each other.

But always remember (as we try to do), it is just a statistic. And statistics don't measure emotions, headaches, or a manager's pet peeves. Now let's get on with our rationale.

4. The Outcome Is Always in Doubt

We have to begin with the following assumption. When a player throws his glove on the field and stands at attention for our National Anthem, he has only one goal in mind—to help his team win the game. He will (along with his fellow players and opponents) devote his full energies towards that goal.

So what are we trying to measure? Simply, just how much he helps his team, through his individual efforts, to win that game. But there are always two teams involved, both attempting the same thing, and there can only be one winner. So, no matter how hard a player tries, there is going to be a group of winners, and a group of losers. And the fascinating thing about baseball is that, at the beginning, nobody knows which will be which.

As the game progresses, the outcome is always in doubt—sometimes a lot of doubt (if the score is close), sometimes very little doubt (like in the 9th, trailing by 10 runs). What each player does to increase or decrease the doubt is what we will record, in a straightforward, logical way.

When we say "increase or decrease the doubt," what we

are really saying is increase or decrease the chance of winning. Remembering that there are two teams, both trying to win, it now becomes clear that when a player on one team increases his team's chance of winning (by hitting a home run, or even by getting on by a walk) a player on the other team has decreased his team's chance of winning.

Usually this occurs in the confrontation between the hitter and the pitcher. For example, if a pitcher strikes out a batter (or forces him to fly out or ground out), he has increased his team's chance of winning by a certain amount. And the batter, much to his chagrin, has decreased his team's chance of winning *by exactly the same amount.*

Well, okay—but by what amount are the team's chance of winning increased or decreased? That depends on *when* it happened. It depends on the number of men on base, number of outs, inning, and score. Remember Bobby Thomson's home run? The Giants chances of winning when he stepped up were about one in four. After he had batted, the Giants had won. That's what made it such a dramatic play—he increased his team's chance of winning from around 26 percent to 100 percent and brought the Giants from the brink of defeat to certain victory.

To illustrate with Thomson's home run a bit further. We know *what* he did. He hit a home run. Now if you haven't thought about it this may come as a surprise, but there are only some 20 *whats* in a baseball game. The home run, triple, double, single, walk, hit by batter, stolen base, sacrifice, ground out, fly out, strike out, and double play are the most frequent *whats.* And they are neatly and accurately recorded and stored in numerous ways.

The *when,* however, as opposed to the *what* can be nearly 8000 different things. Bobby Thomson hit a home run *when* two were on with one out, his team was trailing by two runs, and it was the last of the ninth. Of course, there was one more *when*—it was the third game of a play-

off to determine the National League championship. That's the *when* that really brought the fame to Bobby Thomson, for other players have hit home runs in the exact game situation that Thomson did, but who remembers?

Had Thomson hit a home run in the bottom of the ninth *when* his team was trailing by eight runs we wouldn't be talking about him today. To paraphrase the old song, what a difference a *when* makes!

5. Help from the Computer

The most difficult problem (and the key to the system) was to figure out how to accurately determine the chance of a team winning from any of the nearly 8000 *whens* in a game.

First off, we had to force ourselves to ignore all the normal statistics available to us today. That's because they only tell us *what*. And furthermore, we don't really care how a runner reaches first, for instance. The fact is, he is there, and the game has progressed to that point. What happens next from that point is what we are interested in, and from that next point, and the following point—to the end of the game.

Where could we get this kind of information? Of all the statistics on baseball today, *nobody* we could find kept track of a game in this manner. So we had to do it ourselves. The end result was a scorecard that not only simultaneously told us *what* and *when* a player did something, but could be preserved in such a way that the information could be transposed to computer cards—and then to a computer.

This scorecard fitted our purposes exactly. Now we could gather a history of the progress of every game in both

leagues for the entire season (and all seasons to come) as it actually happened. Now we could tell, for instance, just what percent of the time any situation would follow any other situation. As an example, we know (and we don't know anybody else who does) what percent of the time a double play will occur with a runner on first, and less than two outs. We also know not only what percent of the time a home run will be hit with men on second and third and one out (Bobby Thomson's situation), but also what percent of the time a home run will be hit from every combination of men on base and outs.

Why do we need this information? Because now we can direct a computer to play baseball games just like real games, according to these percentages. We can play the games over and over, thousands of times. We can keep track of who loses and who wins, and from that we can establish a chance of winning.

In order to establish a chance of winning from each of the nearly 8000 situations, we must play out games beginning from each of those situations. When we start thousands of games from the beginning (nobody on, nobody out, top of first, score tied) we find that each team will win 50 percent of the time.

Now, if we play out the game from one of the very next possible situations (nobody on, one out, top of first, score tied), we find that the home team will win approximately 50.2 percent of the time, or just slightly more than half. Another possible next situation, from the beginning one, might be runner on second, none out, top of first, score tied (lead off man hit a double). Now, playing out the game in the computer thousands of times from this situation, we find the visitors will win approximately 55.9 percent of the time.

And so we go, starting from every possible situation and playing it out from there to the end of the game. We even played out the game thousands of times from the situation that Bobby Thomson faced. (And the home team doesn't

win from that situation very often. In the computer, as a matter of fact, the home team won only 264 games out of 1000, for a 26.4 percent chance of winning.)

Of course, what we have now is a chance of a team winning, based on normal league play. In other words, if all the players were statistical robots, we could depend on these odds quite precisely in predicting the outcome of a game from any situation. But Willie McCovey (in 1969 the greatest of them all) is far from being a robot. He is also far from being average, and, to tell you the truth, most of us know that without our new statistic.

None of the other players are robots either, and they will all vary from the average to some degree. And as we measure, play by play, just how much each human player changes his team's chance of winning we will learn, over the long run, just how much below or above average he is.

Many players will perform close to that of our average player. Some will be farther above average, some will be farther below. And it is our new statistic—Player Win Average—that makes it possible to tell at a glance who is playing average ball, who is playing above average, and who is playing below average. We are also able to rank players from best to worst, as we now do with batting averages.

We can compare this whole process we have just described to another field. A life insurance company knows the life expectancy of a 55-year-old, married carpenter who lives in Milwaukee; we know the win expectancy of a team trailing by two runs in the bottom of the sixth with one out and a runner on second base. The life insurance company knows how much premium to charge from its actuarial tables, which cover every age, sex, field of work and so on. We know how much to charge every player action—every *what*—from our chance of winning tables, which cover every situation—every *when*—possible in a game.

6. Baseball Players Set Their Own Standard

Now that we have established a chance of winning for a team from any situation, the next thing is to be able to convert that chance of winning into a meaningful value so that we can award Win and Loss Points. Here's what we've come up with.

The chance of winning is, naturally, expressed in percentages. That's awkward, so we have converted them to whole numbers. Then, for reasons of simplicity, instead of a start of a game being 50–50, we set the value at 0. We set the end of a game at +1000 for a home team win, and —1000 for a visitor win.

Now, as the game progresses, the visitors are attempting to move the game to —1000, while the home team is striving for +1000. Each player, depending on his action, is then awarded points, based entirely on how much he has increased or decreased his team's chance of winning. We already know what the chances of winning are from every situation, so all we have to do is look at the value of the situation when he came to bat, look at the new value after he is through, and award the points.

If he increased his team's chance of winning (usually by getting on base) he will receive Win Points. If he decreased his team's chance of winning (usually by making an out) he will receive Loss Points.

The opposing responsible player (usually the pitcher) receives just the opposite, so that on every play a player on one team receives Win Points, and a player on the other receives *exactly the same number* of Loss Points.

And so on down through the game. The more clutch the situation, the larger the value of points, both Win and Loss. Average situations will generally have a value of between 25 and 75 points. Big clutch plays get up as high as

1800 points (going from probable defeat to certain victory), and small clutch plays drop to 5 to 10 points (hitting a home run in the ninth while leading by six runs). Bobby Thomson's home run? Worth 1472 Win Points. Pitcher Ralph Branca? 1472 Loss Points. Who's Branca? He threw the pitch that Thomson hit.

So, over any period of time—weeks, months, a season—we continually award Win and Loss Points to each individual player. We award the points to a member of each team simultaneously on each play, based on just how much each player increases or decreases his team's chance of winning.

This is comparable to awarding number of hits and times at bat to a player. At any period of time we can stop and figure his batting average. It's the same with our scoring system. At any period of time we can stop and figure a Player Win Average. Everybody knows how to figure a batting average (divide number of times at bat into number of hits), but once again, here's how we figure a Player Win Average.

Add up the total of a player's Win and Loss Points. Then divide that total into the Win Points only. The resultant percentage is a win average. Example—if a player has 13,000 Win Points and 12,000 Loss Points, we divide 13,000 plus 12,000 (25,000) into 13,000. That turns out to be a .520 win average. Since it belongs to an individual player we call it a Player Win Average.

Here's something to keep in mind, and it also explains why we think this measurement system is equitable for the players.

The players are not measured against any arbitrary standard. They are measured against their own teammates and opponents on how they performed *this year*. Over the year, using our new scorecard, we tabulate every play of every game. We know what actually happened—how many times each situation moved to each next situation. This

gives us an average of what will happen on each next play, as actually performed by the players.

So when we score each player against that average, we are really scoring him against his fellow players and opponents. The player who conforms to the average will have exactly the same number of Win and Loss Points, for a .500 Player Win Average. Those who are better than average will be above .500, and those who are less than average will be below .500, *no matter what their batting average or earned run average may be.*

To illustrate, if it were a common, every-day occurrence for a player to hit a game-winning home run in the ninth, then those who did not would be below average. Since this is not the case, those who do not are not necessarily below average. Also, in a year when hitters are big, and ten runs a game are commonplace, a player had better be up there getting his share, or he'll be below average. On the other hand, in a year like 1968, an average hitter needn't have done so much, since low scoring games were the rule.

In other words, we do not measure players from one era against players from another. We measure them against their own teammates and opponents. But the statistic itself—Player Win Average—can be used to compare players of any era. That's because, in any era, whether the ball be dead or rabbit-like, a .500 ball player will be average, and a .570 player will be much better than average.

7. He Hit Only .235, But . . .

Consider this thought for a moment. If all players were mechanical robots (exactly normal) all teams would win exactly half their games in the long run, and the standings would end up in a dead heat! It is because all players are

not average that some teams finish ahead of others (ignoring for the sake of this discussion the part that managers play in determining the results).

We know, as a matter of fact, that some players are better than others. The normal statistics—batting averages, home runs, RBIs—provide us some assistance today in making that judgment. And it is easiest when the extremes are the greatest—both good and bad. It is easy to tell that Willie Mays is a great hitter—his number of home runs, extra base hits, and his RBI total all testify to his ability. Same with Hank Aaron, and many others.

We know instinctively that Mays and Aaron help their respective teams win more games than the average player. What we don't know is precisely how much. We don't even know, over the years, which of the two has helped his team the most. Or has Juan Marichal since, say 1962, helped the Giants even more than Willie Mays? Up to now that's been like comparing apples and oranges (pitchers versus hitters).

We think you will agree that it is fairly easy today to identify the super stars. Even so, within the select group of super stars, it is very difficult to get a majority agreement on who is better than whom. The voting in 1969 for all-time All Stars shows that to be true.

But when it comes to the player who is near average (above or below) the selection becomes many times more difficult. And, just like in any other field of work, most ball players fall in this category.

In 1969 the New York Mets had a number of players who looked like they were hovering around the average mark: lots of .230 to .250 hitters, no real super stars on the club (though some may arrive in a few years). But they were consistently winning games (and make no mistake about it—the players were winning the games; as yet the non-playing manager is not allowed to pitch or bat).

Looking at the hitters from a normal statistics point of

view, one would come to the conclusion that Cleon Jones (.340) was carrying the team practically by himself, with some help from Art Shamsky (.300) and Tommy Agee (.271).

Player Win Averages, though, reveal that some of those "average" players really weren't so average. As could be expected, Jones, Shamsky, and Agee were right up there (though not in that order). Jones's PWA is .567, Shamsky's is .582 (to lead all Mets hitters), and Agee's is a very fine .548. They really were well above average, and do deserve much of the credit, no doubt about that.

But now let's look at the record of one of the "average" players, Ron Swoboda, as compared to the record of Art Shamsky.

	G	AB	R	H	2B	3B	HR	RBI	SB	PCT
Swoboda	109	327	38	77	10	2	9	52	1	.235
Shamsky	100	303	42	91	9	3	14	47	1	.300

Looking back over the season from these records (and it gets even worse as years go by), we would have to come to the conclusion that Shamsky contributed quite some more to the Mets wins than did Swoboda. Everything else is fairly equal, but Shamsky has a batting average 65 points higher than Swoboda.

The truth of the matter is Shamsky was a little bit better "winning" player than Swoboda, but not by much. For we find that Swoboda (to no surprise to Met management, we are certain), has a Player Win Average of .571! Now that's no average player, *no matter what the normal statistics say!*

Why do we say this would come as no surprise to Met management? Simply because we are of the view that each club knows more about its *own* players, watching them day in and day out, than anybody else in the world. They may not be able to *prove,* using normal statistics, that what they know is true, but they do know it. Each club has managers

and coaches with many years of baseball experience, and there is no substitute for that.

That experience enables them to intuitively know who is coming through in the clutch. They observe, and recognize, all the little clutch plays that occur daily. And they retain that information, so that, in a general way, they can tell who are their best clutch players.

Some managers can tell this better than others; and that, in a nutshell, is what we think is a very important ingredient in the making of a great manager.

8. Who's the Real Winner?

The nature of pitching, and the handling of pitchers, has changed a great deal in the 57 years since somebody invented the earned run average.

Prior to that time pitchers started games much more frequently, and the same pitcher usually finished the game. Relief pitchers were practically unheard of, as the starters gamely and proudly hung on to the end. In fact, it was Joe (Fireman) Page of the New York Yankees, who, in the years following World War II, is generally credited with starting the trend towards the relievers. Today, relievers are nearly as famous, and maybe just as important, as starters; and some players make a career out of relieving.

When pitchers were pitching a full game the earned run average was easy to figure. Since there was only one pitcher, no one had to worry about which earned run should be charged to whom. Nowadays, though, when pitchers are rotating in and out during most games, things have changed.

No matter what the cause, the fact is that the appearance of three or four pitchers a game is getting to be commonplace. Now this wouldn't be bad if each pitcher

worked three innings and stopped. What happens, though, is that one pitcher will work, say, seven innings, get himself in a heap of trouble, and then the parade starts. This introduces the phenomenon of a pitcher being credited as the official winner, or loser, while he is taking a shower.

He can be given the "win" if taken out for a pinch hitter, and then during the same inning his hitters come through with some clutch plays to go ahead. Of course, the relievers must hold the lead. However, the reliever can blow the lead and once again let his hitters regain it, and give *him* (the reliever) the "win." In either case, a pitcher hasn't really "won" a game. The hitters have.

On the other hand, a pitcher can be given a "loss" after he has been removed. He can be completely innocent, and he can say "I wuz robbed!", but it won't do any good. Consider the following example.

The score is tied in the last of the ninth (1–1, 10–10, take your choice). With the bases empty and two out, the next batter gets on by an error. The manager figures "well it *was* hit pretty hard, and maybe should have been a hit and the guy's tiring—I'd better get my ace reliever in." So in comes Ace Reliever who promptly gives up a run-scoring double, and that's the ball game.

So the pitcher, we think, "wuz robbed." That "loss" goes on his record, and even the Supreme Court can't remove it. And if the double was hit by a pinch hitter for the opposing pitcher, both the winner and loser are out of the game. But it's not all bad—no one got charged with an earned run. No matter that a team lost the game—the earned run record is still intact.

What's the solution? Player Win Averages, naturally. PWA will place just the proper amount of blame where it belongs. The erring fielder will get his share, and Ace Reliever will get the big share (and rightly so—didn't he give up a double that drove in the winning run in a clutch situation?). If he had given up the double *when* his team

was already leading, or trailing, by many runs, it wouldn't amount to much. But in this case it would be several hundred Loss Points.

Up till now, since the fans demand it, someone has had to be given a "win" and "loss." The pitcher, who does play a dominant role, is the logical choice. Besides, nobody has figured out any other way to divide the "win" and "loss"—up till now.

Now, using Player Win Averages, the entire game is divided up as it is played, situation by situation. And, at the end of a game, just by looking at each individual's Win and Loss Points, one can see to what degree each player was responsible for the outcome of the game.

No longer is it necessary for an official scorer to determine just who is responsible for what. It all falls out automatically, play by play, and just the proper amount of credit and blame is charged, at the same time, to the players who are responsible.

9. Will the Real Winner Please Stand Up?

Pitchers—starters and relievers—are all striving for the same goal: a team victory. But they are also interested in their personal statistics—those "wins" and that earned run average. Let's look at Steve Carlton and those 19 strikeouts he got against the New York Mets in 1969 to set a new record. Carlton is a great team player, we are sure, but that was a great personal record he was going after. Every time a fly ball was hit if it was caught it meant an out that was not a strike out. As a matter of fact, two of Ron Swoboda's outfield fly balls *did* go over the fence. Had they been caught, the Cards would have won, but Carlton would not have broken the record. What do you imagine his personal choice was? We don't know, of course, but it

does point up a player's dilemma when it comes to making a choice between team and personal records.

One of the reasons baseball is so exciting is that although it is a "team" game, individuals, making individual plays, determine the outcome. As a result, we tabulate both individual statistics and team statistics. Of course, as we've said before, the most important statistic in baseball is the team win average, for that determines who has won the pennant.

The individual statistic that is most closely associated with the team win average is the pitcher's won-lost record. That's probably because we use the same words—win and lose—for the team and the pitcher. But this statistic is very deceptive, and in the days of lots of relievers, even more so.

Who really does "win" or "lose" the game? Why, all the players, of course.

In a 1–0 shutout, the losing pitcher didn't really "lose" the game. The hitters did, for not getting some runs. And in an 8–7 game (if a starter were ever allowed to go that long) the pitcher didn't really "win" the game. The hitters did, by getting all those runs across.

The point is that it is a team effort, and yet we try to give individual credits, using statistics that have little relation to a "win" or "loss." We can think of a fine example that probably won't hurt anybody's feelings, because they are aware of it already. (Remember we said earlier that management—and most players—know how well their own players are doing.) Dave McNally, Baltimore's fine pitcher, is the subject of our example.

McNally had an outstanding win-loss record in 1969 of 20–7, and won 15 in a row before losing his first game. Of course, he wasn't really "winning" those games (just as any other pitcher isn't really "winning" them). He was *helping* win them, and so were his hitters. And sometimes his hitters were helping the most. He was even kidded by his own teammates about "getting all those runs for him."

Where does all this show up? In McNally's Player Win Average, which was .530. That's quite good, but there are over a dozen starters in the league with a better PWA, and most of their win-loss records aren't as good as McNally's. If Joe Coleman of the Washington Senators pitched for Baltimore, his 12–13 record would probably be greatly improved.

For the fact is, Coleman and McNally are nearly equal in every other respect, including Player Win Averages. Here are the records:

	G	CG	IP	H	BB	SO	SHO	W	L	ERA	PWA
McNally	41	11	269	232	84	165	4	20	7	3.21	.530
Coleman	40	12	247	221	101	187	4	12	13	3.28	.534

10. How About Those Home Run Hitters?

We have often been asked the question, "Does this scoring system favor the long ball hitter, the guy who doesn't necessarily have a big batting average, but hits 30 to 40 home runs a year?"

Well, let's face it, the home run does play an important role in the game today. In a tight ball game a home run, especially with men on base, can turn the result around. It can bring a team from near defeat to certain victory. The heart of the question is, though, will the players who have the home run punch far overshadow the light spray hitters, or will their heretofore unnoticed failures act as a leveler?

The answer is, it all depends on the individual. In 1969 Willie McCovey led the league in home runs and RBIs, too, and we rate him as the greatest clutch player in baseball today. But then, in the American League, there were

others who had more homers than McCovey, but their Player Win Averages were well below that of McCovey's. Let's consider the American League final standings for a moment.

Of the top 24, seven are considered to be light hitters, with only 76 home runs among them. The rest are good power hitters, but this could be expected. They are heavy run producers, and they come through in the clutch frequently. Even among them, though, we find significant differences that would be hard to detect without Player Win Averages.

Mike Epstein has to be the surprise of the year. But when you stop to think about it—and the people around Washington D.C. know this to be true—Epstein had a fabulous year. Time after time he was making the key small clutch play, moving runners around when it counted, etc. And it seemed that he was forever driving in the first run of the game—that's always a clutch play since the score is tied. And he hit a bases-loaded home run that reminded us of Bobby Thomson's big blow. He hit it in the bottom of the eighth against Detroit while trailing 2–0. (Is there any record book any where that tells us *when* all bases loaded home runs were hit?)

But to answer our original question in more detail: The fact that Rod Carew, Minnesota; Mike Hegan, Seattle; Duke Sims, Cleveland; Don Buford, Baltimore; Dick McAuliffe, Detroit; Mike Fiore, Kansas City; and Gail Hopkins, Chicago are in the top 24 proves conclusively that the so called light hitter can also be a good clutch player. In fact, we believe a lot of people have suspected this for a long time, but had no statistics to prove it. All of these players are rated ahead of some pretty well known sluggers.

We particularly like to look at Dick Schofield, Boston's super sub. With only 2 home runs and a .257 batting average, he is right up there with a .517 Player Win Average.

(Isn't there some club, somewhere, who can use this guy as a regular?)

11. Winning Is the Only Thing That Counts

Another question that frequently pops up when we are talking about our new scoring system runs like this: when a team is behind by 6 or 8 runs in the late innings, and the players know their chance of winning may be less than one in a hundred, what's the point in their trying any more?

Indeed, what is the point? In the first place, the *game* is still in doubt. (There is no ticking clock to stop them in mid play.) And as long as there is a single out left, there is still a chance of winning. True, it's not much of a chance, but once in a long while a team does come from far behind to win, and isn't that exciting?

But the prime thing that keeps a player digging in there is his own individual pride as a professional. He *knows,* as he faces a pitcher in the ninth inning while trailing by six runs, that his team probably won't win. Nevertheless, he wants to get a hit—it will help his own individual batting average, even if it doesn't increase his team's chance of winning very much.

Keep in mind that Player Win Averages measure only one thing—how much a player helps his team win games. All the other statistics are useful, of course, if we keep them in perspective. In the above case, where a team is trailing by six in the ninth inning, other players on the other team have already been given credit for helping to win the game—both batters and pitchers. At the same time, players on the losing team (usually the pitcher) have been given exactly the same amount of blame. Nevertheless, if Frank Howard hits another homer, that helps his personal records, and everybody is for that.

The most extreme example that we can think of—where a personal achievement doesn't necessarily contribute a great deal to a victory—is the lopsided no-hitter.

Sandy Koufax pitched four no-hit ball games, which increased his personal fame quite some. His game of May 11, 1963, was an 8–0 game, however, and the clutch was on the no-hitter, not on winning the game. The hitters had contributed heavily toward the victory, and by the eighth inning the *game* was in very little doubt—the no-hitter still was. And, because it is so rare, a no-hitter is a real pressure-packed exciting event. Furthermore, it almost always guarantees what even a bases loaded home run doesn't —a win.

But the no-hitter Koufax pitched on September 9, 1965, was a different story. That was clutch all the way, finally ending 1–0, Los Angeles, and a perfect game for Koufax. In this contest the game *and* the no-hitter were in great doubt, right up to the end.

Koufax has been involved in many other games where the pressure of a no-hitter was not involved, but the pressure of a win was. Anytime a pitcher goes seven, eight, or nine innings without giving up a run—while at the same time his teammates aren't getting any either—he is clutching it all the way. And he, naturally, is being rewarded handsomely in the form of Win Points. Also, by the way, his earned run average is zero.

If he does the same thing, however, while his teammates are getting four or five runs for him in the early innings, his Win Points will not be nearly so great (less pressure, less clutch, with a big lead). But his earned run average will still be zero.

On the other hand, let's say he goes into the ninth inning with a five run lead and allows four runs to score before retiring the side to win 5–4. Now his earned run average for the game is 4.0, but his Win Points are exactly the same as though he had shut them out 5–0.

Here's why. At the start of the ninth inning his (the pitcher's) team's chance of winning was, let's say, 99 percent. If he gets the side out while still leading, the team has won and the chance of winning has moved from 99 to 100 percent, and the pitcher will receive the credit for it in the form of Win Points. If he gets them out 1, 2, 3, the odds will go straight up from 99 to 100 percent.

But if he allows hits and runs to score, the chance of winning will decrease accordingly. As the game becomes 5–4, the chance of winning will drop to around even (depending on number of outs and men on base). But when he retires the last man it jumps dramatically to 100 percent, the game is won, and the pitcher still gets credit for a net of 1 percent (from 99 to 100 percent). In this case, his earned run average looks bad, but his Player Win Average is no different.

However, managers being what they are, the above example would probably never happen. What would happen is that the starter would be removed somewhere along the line, a reliever rushed into the fray, and probably another one as the situation became more dire.

If the starter were removed after, say, the bases were loaded, one out, and leading 5–3, he would then still have a 4.0 earned run average. Now, though, the chance of winning has dropped from 99 percent to 68 percent. The starter would be credited with Loss Points for the inning's work, and the reliever will be measured from that 68 percent chance of winning point. If he walks the first batter he faces (forcing in a run, making the score 5–4 and bases still loaded) the chance of winning will decrease to 24 percent. (In other words, even though trailing by a run, the team with the bases loaded and one out now has the best chance of winning.)

What usually happens now is that a left-handed pinch hitter will be sent up against our right-handed reliever. So, naturally, this being the age of "percentage" baseball,

in will come the Mets' Tug McGraw. (You'll notice him at the top of our rankings of pitchers.)

McGraw will retire the next two batters without any runs scoring (a real clutch performance) and, man, will he get the Win Points! He will receive credit for being responsible for moving the team's chance of winning from 24 percent to 100 percent. He did this clutch sort of thing with regularity in 1969, and his Player Win Average shows it.

12. "Speaking of Clutch Play"

We think TV baseball announcers are great people. They contribute to our own enjoyment of the game (in most cases), and they have a lot of baseball savvy. But every now and then we will hear one of them say things like "he's been hitting well in the clutch all year," or "he's not much for average, but he's sure getting them when they count," or "he really comes through with men on base."

What they are talking about is a batter's good clutch ability. Notice, it is almost always batters (not pitchers or fielders), and it is almost always good. How come? Because announcers just naturally like to say something good about players, and in this case, since the normal statistics don't look too good, they can always fall back on that "clutch" routine.

Like we said, they are almost always talking about batters. This is strange, because pitchers are involved in just as many clutch plays as batters. Granted, they may be of their own making, like in a tight game where a pitcher lets runners get on base, then proceeds to retire the side without any damage. But the clutch is just as great, and in this case it would be a batter who failed in the clutch.

But in any case, batter or pitcher, we don't know of

anyone who can tell for certain just how good in the clutch any particular player might be. There just aren't any normal statistics available today that tell us that. Oh, we are aware that some people keep track of number of runs batted in versus men on base when coming to bat—and they call that a clutch statistic. But how many were out; what was the score; what was the inning?

We even know of clubs that keep track of the number of times players drive in the "winning" run. We're not sure of all the ground rules but we assume that in a 6–0 game it would be the player who drove in the first run. Or perhaps they only count at all when there is a one-run difference, like a 6–5 game.

We personally believe one would have to have the wisdom of Allah to decide which was the "winning" run. In the 6–5 game, for instance, let's say that player A hit a bases-loaded home run while his team was trailing by 3. Then player B knocks in 2 more runs to make it 6–3. Later the other team scores two runs and the game ends at 6–5. Who knocked in the "winning" run?

The one big weakness, as we saw it several years ago and still do, is that people are trying to figure out a player's clutch abilities with the normal statistics available to them. There's just no way. No way! That's because the normal statistics tell us only *what* a player does, and never *when*.

And if you think we have lots of statistics today just think of what we'd have if we kept track of the *what* for every *when*. Each player would have his at bats, hits, batting average, etc., listed nearly 8000 times! Then, of course, we could look up what he did all year long when, say, the score was tied, there was one out, there was one on, in the eighth inning. We could—if we could ever find it! And wouldn't the official scorers go mad, trying to record all that information?

So we have a very unusual thing going in baseball today—everybody knows *when* a player does something is

most important, everybody talks about it, everybody offers his opinions and views, but nobody we know has done anything about it. Nobody we know can back up his opinions with hard facts.

In developing Player Win Averages we have gone from one extreme to the other. We have made the *when* the dominant factor, with no regard for the kind of *what* that happened. Our scorecard reflects this thinking, as we list, play by play, the progress of a game as it goes from situation to situation (normally 75 to 80 of them). We never identify any of the *whats* (like, for instance, a home run). We can figure it out, but it is unnecessary—all we need to know is who is responsible.

That's the key—knowing who's responsible for moving the game from situation to situation. For then we can give him credit, or blame—in the form of Win Points and Loss Points—for being responsible for the change in situation. From our records we can not tell you how many home runs were hit, how many times at bat by any player, or any of the other normal statistics. But we can tell you how good a clutch player he is, and how he compares with all the other players (batters, runners, pitchers, fielders) in the league. We can do it with a statistic that is easily understood, and that statistic we call Player Win Average.

Part II

1969 Player Win Average Season Statistics

The year 1969 was a good year for baseball. A new commissioner, a story book finish for a rags to riches team, interest and attendance up, and a centennial year celebration capped off by the All Star game and the honoring of the All time greats were just some of the highlights. However, the biggest thing, in our opinion, was that the hitters started coming back—winning their share of games—thereby making the whole season more exciting.

Using our new scoring system we have kept track of every play of the 1969 season in both leagues. This has been a vast undertaking and has involved many people, plus a computer.

There are around 75 to 80 individual plays per game and 1,946 games were played (including two ties) which comes to season total of around 155,000 plays to be scored. Since we simultaneously score an offensive and defensive player on each play, that means a grand total of around 310,000 entries into our system. This is obviously too big a job to do by hand, so we turn to the computer once again. (We first used the computer to play thousands of simulated baseball games to determine the chance of win-

ning from each of nearly 8000 situations—the *whens*.)

Using a special scorecard we keep track of both *what* happens and *when* it happens (including outs, men on base, score, and inning) for every game. We then keypunch the data onto computer cards, which are used as input to a specially written computer program.

The program runs through each game, play by play, assigning Win Points to one player and the same amount of Loss Points to a player on the other team after each play. It can do this because we have stored internally in the computer the value of each of the nearly 8000 situations a game can pass through.

The computer does the following: It determines what the situation is when the play begins and what it is when the play ends. It then determines what two players are responsible for the change in situation. From that it assigns Win Points to the player who increased his team's chance of winning and Loss Points to the player on the other team who decreased his team's chance of winning. The exact amount is determined by the change in the team's chance of winning.

Now, for any time period—a day, a week, a month, or a season—the computer adds up the total of Win and Loss Points for each player, and calculates his Player Win Average. That information is assembled by club and league and by offense and pitcher. The 1969 season totals by League are shown next on the following pages. Just for comparison we also show some of the normal statistics.

All baseball fans are familiar with the normal statistics, and as you become accustomed to Player Win Averages you will find them very easy to use. The only thing to remember is that .500 is average, and anything around that figure is pretty good. An extreme in either direction from .500—well, you can draw your own conclusions.

NATIONAL LEAGUE

Offense

Name	Team	AB	BA	HR	PWA
McCovey	San Francisco	491	.320	45	.677
Jeter	Pittsburgh	29	.310	1	.637
Rose	Cincinnati	627	.348	16	.611
Allen	Philadelphia	438	.288	32	.611
Carty	Atlanta	304	.342	16	.606
Stargell	Pittsburgh	522	.307	29	.601
Slocum	San Diego	24	.292	1	.600
Clemente	Pittsburgh	507	.345	19	.594
Aaron, H	Atlanta	546	.300	44	.585
Shamsky	New York	303	.300	14	.582
Watson	Houston	40	.275	0	.580
Hickman	Chicago	338	.237	21	.578
Williams	Chicago	642	.293	21	.575
Perez	Cincinnati	629	.294	37	.574
Swoboda	New York	327	.235	9	.571
Francona	Atlanta	88	.295	2	.569
Wynn	Houston	495	.269	33	.569
Jones	New York	483	.340	12	.567
Staub	Montreal	549	.302	29	.564
Geiger	Houston	125	.224	0	.558
Santo	Chicago	575	.289	29	.558
Torre	St. Louis	602	.289	18	.557
Fairly	Montreal	317	.274	12	.556
Jones	Montreal	455	.270	22	.555
Banks	Chicago	565	.253	23	.550
Bonds	San Francisco	622	.259	32	.549
Agee	New York	565	.271	26	.548
Callison	Philadelphia	495	.265	16	.543
Tolan	Cincinnati	637	.305	21	.541
Mays	San Francisco	403	.283	13	.540
Bench	Cincinnati	532	.293	26	.538
May	Cincinnati	607	.278	38	.537
Taylor	Pittsburgh	221	.348	4	.537
Johnson, D	Philadelphia	475	.255	17	.537
Johnson	Cincinnati	523	.315	17	.536
Williams	San Diego	25	.280	0	.535
Smith, W	Chicago	195	.246	9	.531
Brock	St. Louis	655	.298	12	.524
Garr	Atlanta	27	.222	0	.523
Crawford	Los Angeles	389	.247	11	.522
Dietz	San Francisco	244	.230	11	.522
Gonzalez	Atlanta	502	.269	12	.521
Morgan	Houston	535	.236	15	.521

Name	Team	AB	BA	HR	PWA
Parker	Los Angeles	471	.278	13	.520
Alou	Pittsburgh	698	.331	1	.520
Davis	Los Angeles	498	.311	11	.519
Brown	San Diego	568	.264	20	.519
Spiezio	San Diego	355	.234	13	.518
Marshall	San Francisco	267	.232	2	.518
Cash	Pittsburgh	61	.279	0	.518
Colbert	San Diego	482	.255	24	.516
Pagan	Pittsburgh	274	.285	9	.516
Gabrielson	Los Angeles	178	.270	1	.515
Lefebvre	Los Angeles	275	.236	4	.515
Tillman	Atlanta	190	.195	12	.512
Stone, E	Philadelphia	28	.214	0	.510
Martinez	Pittsburgh	168	.268	1	.510
Boyer	Los Angeles	34	.206	0	.510
Ferrera	San Diego	366	.260	14	.507
Hebner	Pittsburgh	459	.301	8	.507
Kessinger	Chicago	664	.273	4	.503
Aspromonte	Atlanta	198	.253	3	.501
Valdespino	Houston	119	.244	0	.501
Savage	Cincinnati	110	.227	2	.501
Haller	Los Angeles	445	.263	6	.500
Cline	Montreal	209	.239	2	.499
Hisle	Philadelphia	482	.266	20	.499
Alou	Atlanta	476	.282	5	.499
Oliver	Pittsburgh	463	.285	17	.498
Menke	Houston	553	.269	10	.498
Stewart	Cincinnati	221	.253	4	.497
Lum	Atlanta	168	.268	1	.497
Rudolph	Chicago	34	.206	1	.496
Martinez	Houston	198	.308	0	.493
Morales	San Diego	41	.195	1	.492
Hart	San Francisco	236	.254	3	.492
McCarver	St. Louis	515	.260	7	.492
Miller	Houston	409	.264	4	.491
Cepeda	Atlanta	573	.257	22	.491
Clendenon	New York	331	.248	16	.490
Hunt	San Francisco	478	.262	3	.490
Beckert	Chicago	543	.291	1	.490
Rader	Houston	569	.246	11	.489
Bailey	Montreal	358	.265	9	.489
Harrelson	New York	395	.248	0	.489
Blefary	Houston	542	.253	12	.489
Hundley	Chicago	522	.255	18	.488
Jackson	Atlanta	318	.239	1	.487
Whitfield	Cincinnati	74	.149	1	.486
Mota	Los Angeles	383	.321	3	.485

Name	Team	AB	BA	HR	PWA
Dyer	New York	74	.257	3	.483
Corrales	Cincinnati	72	.264	1	.482
Wills	Los Angeles	623	.274	4	.481
Kelly, V	San Diego	209	.244	3	.481
Watkins	Philadelphia	148	.176	4	.479
Boswell	New York	362	.279	3	.479
Kranepool	New York	353	.238	11	.475
Browne	St. Louis	53	.226	1	.475
Hiatt	San Francisco	194	.196	7	.475
Joseph	Philadelphia	264	.272	6	.472
Collins	Montreal	136	.213	3	.471
Russell	Los Angeles	212	.226	5	.470
Burda	San Francisco	161	.230	6	.470
Briggs	Philadelphia	361	.238	12	.469
Flood	St. Louis	606	.285	4	.468
Gamble	Chicago	71	.225	1	.466
Popovich	Chicago	204	.284	1	.466
Weis	New York	247	.215	2	.466
Sudakis	Los Angeles	462	.234	14	.465
Boyer	Atlanta	496	.250	14	.464
Sizemore	Los Angeles	590	.271	4	.463
Edwards	Houston	496	.232	6	.461
Millan	Atlanta	649	.268	6	.460
Henderson	San Francisco	374	.225	6	.459
Laboy	Montreal	562	.258	18	.458
Didier	Atlanta	352	.256	0	.455
Pinson	St. Louis	495	.255	10	.454
Fuentes	San Francisco	183	.295	1	.453
Javier	St. Louis	493	.282	10	.453
Qualls	Chicago	120	.242	0	.451
Shannon	St. Louis	551	.254	12	.449
Taylor	Philadelphia	557	.262	3	.449
Woodward	Cincinnati	241	.261	0	.449
Grote	New York	365	.252	6	.449
Charles	New York	169	.207	3	.448
Hutton	Los Angeles	48	.271	0	.447
Herrera	Montreal	126	.286	2	.446
Sanguillen	Pittsburgh	459	.303	5	.446
Phillips	Montreal	248	.218	4	.444
Gotay	Houston	81	.259	0	.443
Gutierrez	San Francisco	23	.217	0	.439
Helms	Cincinnati	480	.269	1	.439
Alley	Pittsburgh	285	.246	8	.438
Reid	Philadelphia	19	.211	0	.437
Ryan	Philadelphia	446	.204	12	.436
Etheridge	San Francisco	131	.260	1	.436
Davenport	San Francisco	303	.241	2	.434

Name	Team	AB	BA	HR	PWA
Davis	Houston	79	.241	1	.432
Sutherland	Montreal	544	.239	3	.429
Hall	Chicago	24	.208	0	.427
May	Pittsburgh	190	.232	7	.427
Alou	Houston	452	.248	5	.427
Davis	Pittsburgh	64	.234	0	.425
Young	Chicago	272	.239	6	.425
Harmon	Philadelphia	201	.239	0	.424
Pena	San Diego	472	.250	4	.422
Arcia	San Diego	302	.215	0	.422
Rojas	Philadelphia	391	.228	4	.421
Money	Philadelphia	450	.229	6	.421
Kosco	Los Angeles	424	.248	19	.420
Gagliano	St. Louis	128	.227	1	.419
Cannizzaro	San Diego	418	.220	4	.416
Brand	Montreal	287	.258	0	.415
Martin	New York	177	.209	4	.414
Spangler	Chicago	213	.211	4	.413
Mason	San Francisco	250	.228	0	.412
Aaron, T	Atlanta	60	.250	1	.412
Wicker	Montreal	39	.103	0	.412
Davalillo	St. Louis	98	.265	2	.411
Garrett	New York	400	.218	1	.409
Ricketts	St. Louis	44	.273	0	.406
Mazeroski	Pittsburgh	227	.229	3	.403
Davis	San Diego	57	.175	0	.402
Patek	Pittsburgh	460	.239	5	.401
Hague	St. Louis	100	.170	2	.401
Gaspar	New York	215	.228	1	.400
Lee	St. Louis	23	.217	0	.400
Stahl	San Diego	162	.198	3	.399
Ruiz	Cincinnati	196	.245	0	.396
Fairey	Montreal	49	.286	1	.393
Murrell	San Diego	247	.255	3	.393
Davanon	St. Louis	99	.202	1	.392
Bateman	Montreal	235	.209	8	.390
Garrido	Atlanta	227	.220	0	.388
Hriniak	San Diego	73	.219	0	.386
Stone, R	Philadelphia	222	.239	1	.385
Huntz	St. Louis	139	.194	3	.385
Heath	Chicago	32	.156	0	.384
Hicks	St. Louis	44	.182	1	.383
Wine	Montreal	370	.200	3	.379
Maxvill	St. Louis	372	.175	2	.373
Beauchamp	Cincinnati	59	.254	1	.371
Bosch	Montreal	112	.179	1	.370
Chaney	Cincinnati	209	.191	0	.370

Name	Team	AB	BA	HR	PWA
Gaston	San Diego	391	.230	2	.368
Evans	Atlanta	26	.231	0	.366
Robertson	Pittsburgh	96	.208	1	.357
Sipin	San Diego	229	.223	2	.356
Torborg	Los Angeles	124	.185	0	.355
Lanier	San Francisco	495	.228	0	.348
Barry	Philadelphia	32	.188	0	.339
Dean	San Diego	273	.176	2	.336
Boccabella	Montreal	85	.106	1	.328
White	St. Louis	57	.211	0	.327
Bryant	Houston	59	.186	1	.325
Pfeil	New York	211	.232	0	.324
Johnson	St. Louis	29	.207	1	.324
McFadden	Houston	74	.176	0	.286
Otis	New York	93	.151	0	.275
Hermoso	Montreal	74	.162	0	.259
Barton	San Francisco	106	.170	0	.255
Oliver, N	Chicago	40	.175	1	.248
Miller	Los Angeles	38	.211	1	.241
Stephenson	San Francisco	27	.222	0	.214
Oliver, E	Chicago	31	.194	0	.207
Kendall	San Diego	26	.154	0	.200
Ruberto	San Diego	21	.143	0	.175
Kolb	Pittsburgh	37	.081	0	.161
Grabarkewitz	Los Angeles	65	.092	0	.154

NATIONAL LEAGUE

Pitcher

Name	Team	IP	ERA	W	L	PWA
McGraw	New York	100	2.25	9	3	.651
Wilhelm	Atlanta	12	0.75	2	0	.644
Dierker	Houston	305	2.33	20	13	.612
Seaver	New York	273	2.21	25	7	.609
Koosman	New York	241	2.28	17	9	.601
Gibbon	Pittsburgh	71	2.41	6	4	.600
Mikkelsen	Los Angeles	81	2.78	7	5	.600
Gibson	St. Louis	314	2.18	20	13	.594
Marichal	San Francisco	300	2.10	21	11	.592
Hoerner	St. Louis	53	2.89	2	3	.592
Niekro	Atlanta	284	2.57	23	13	.586
Carlton	St. Louis	236	2.17	17	11	.584
Singer	Los Angeles	316	2.34	20	12	.573
Moose	Pittsburgh	170	2.91	14	3	.572

Name	Team	IP	ERA	W	L	PWA
Taylor	St. Louis	127	2.55	7	5	.568
Bryant	San Francisco	58	4.34	4	3	.560
Granger	Cincinnati	145	2.86	9	6	.559
Jenkins	Chicago	311	3.21	21	15	.557
Hands	Chicago	300	2.49	20	14	.557
Dilauro	New York	64	2.39	1	4	.557
Taylor	New York	76	2.72	9	4	.551
Dalcanton	Pittsburgh	86	3.35	8	2	.550
Gentry	New York	234	3.42	13	12	.550
Jackson	Cincinnati	38	6.87	1	0	.549
Aguirre	Chicago	45	2.60	1	0	.549
Upshaw	Atlanta	105	2.91	6	4	.549
Perry	San Francisco	325	2.49	19	14	.549
Osteen	Los Angeles	321	2.66	20	15	.548
McCool	San Diego	59	4.27	3	5	.547
Maloney	Cincinnati	179	2.77	12	5	.547
Britton	Atlanta	88	3.78	7	5	.543
Torrez	St. Louis	107	3.62	10	4	.542
Jackson	Philadelphia	253	3.34	14	18	.538
McCormick	San Francisco	197	3.34	11	9	.538
Cardwell	New York	152	3.02	8	10	.536
McAndrew	New York	135	3.47	6	7	.534
Lemaster	Houston	245	3.27	13	17	.532
Bunning	Los Angeles	212	3.69	13	10	.532
Briles	St. Louis	228	3.51	15	13	.531
McMahon	San Francisco	24	3.00	3	1	.530
Giusti	St. Louis	100	3.60	3	7	.529
Dukes	San Diego	22	7.36	1	0	.529
Sutton	Los Angeles	293	3.47	17	18	.529
Regan	Chicago	112	3.70	12	6	.528
Waslewski	Montreal	130	3.39	3	9	.527
Niekro	San Diego	220	3.72	8	18	.526
Renko	Montreal	103	4.02	6	7	.524
Raymond	Montreal	70	4.89	3	4	.522
Holtzman	Chicago	261	3.59	17	13	.521
Face	Montreal	59	3.97	4	2	.521
Brewer	Los Angeles	88	2.56	7	6	.521
Reed	Atlanta	241	3.47	18	10	.520
Kelley	San Diego	136	3.57	4	8	.520
Ellis	Pittsburgh	219	3.58	11	17	.519
Washburn	St. Louis	132	3.07	3	8	.518
Veale	Pittsburgh	226	3.23	13	14	.517
Walker	Pittsburgh	119	3.63	4	6	.517
Wilson	Houston	225	4.00	16	12	.517
Marone	Pittsburgh	35	2.57	1	1	.515
Pappas	Atlanta	144	3.63	6	10	.514
Fryman	Philadelphia	228	4.42	12	15	.514

Name	Team	IP	ERA	W	L	PWA
Abernathy	Chicago	85	3.28	4	3	.514
Stone	Atlanta	165	3.65	13	10	.513
Podres	San Diego	65	4.29	5	6	.512
Ryan	New York	89	3.54	6	3	.512
Griffin	Houston	188	3.54	11	10	.511
Koonce	New York	83	4.99	6	3	.510
Wise	Philadelphia	220	3.23	15	13	.510
Wilson	Philadelphia	62	3.34	2	5	.509
Nolan	Cincinnati	109	3.47	8	8	.508
Baldschun	San Diego	78	4.73	7	2	.508
Carroll	Cincinnati	151	3.52	12	6	.507
Kirby	San Diego	216	3.79	7	20	.507
Ray	Houston	115	3.91	8	2	.504
McGinn	Montreal	132	3.95	7	10	.504
Blass	Pittsburgh	210	4.46	16	10	.502
Arrigo	Cincinnati	91	4.15	4	7	.502
Reed	Montreal	106	4.84	6	7	.502
Santorini	San Diego	185	3.94	8	14	.500
Merritt	Cincinnati	251	4.37	17	9	.499
Reberger	San Diego	88	3.58	1	2	.498
Foster	Los Angeles	103	4.37	3	9	.498
Gladding	Houston	72	4.25	4	8	.495
Culver	Cincinnati	101	4.28	5	7	.493
Robertson	San Francisco	44	5.52	1	3	.490
Selma	Chicago	191	3.68	12	10	.490
Stoneman	Montreal	237	4.37	11	19	.489
Johnson, J	Philadelphia	147	4.29	6	13	.489
Jarvis	Atlanta	217	4.44	13	11	.488
Sembera	Montreal	33	3.55	0	2	.486
Sisk	San Diego	143	4.78	2	13	.485
Linzy	San Francisco	116	3.65	14	9	.485
Grant	St. Louis	114	4.42	8	11	.483
Robertson	Montreal	180	3.95	5	16	.483
Wegener	Montreal	165	4.31	5	14	.480
Ross	San Diego	112	4.34	3	12	.479
K Johnson	Chicago	48	4.13	1	3	.477
Champion	Philadelphia	117	5.00	5	10	.477
Herbel	San Francisco	87	4.03	4	1	.476
Drysdale	Los Angeles	63	4.43	5	4	.475
McBean	Los Angeles	55	4.09	2	7	.474
Womack	Houston	51	3.53	2	1	.473
Bolin	San Francisco	146	4.44	7	7	.471
Blasingame	Houston	52	5.37	0	5	.464
Guinn	Houston	27	6.67	1	2	.463
Cloninger	Cincinnati	190	5.02	11	17	.461
Sadecki	San Francisco	138	4.24	5	8	.458
Ramos	Cincinnati	72	5.25	4	4	.455

Name	Team	IP	ERA	W	L	PWA
Boozer	Philadelphia	82	4.28	1	2	.451
Neibauer	Atlanta	58	3.88	1	2	.449
Shaw	Montreal	66	5.18	2	5	.449
Billingham	Houston	83	4.23	6	7	.448
Hartenstein	Pittsburgh	96	3.94	5	4	.446
Doyle	Atlanta	39	2.08	2	0	.439
Willis	Houston	36	3.75	1	2	.439
Roberts	San Diego	49	4.78	0	3	.437
Nye	Chicago	69	5.09	3	5	.434
Moeller	Los Angeles	51	3.35	1	0	.432
Raffo	Philadelphia	72	4.13	1	3	.430
Fisher	Cincinnati	113	5.50	4	4	.429
Palmer	Philadelphia	90	5.20	2	8	.428
Jaster	Montreal	77	5.49	1	6	.426
Radatz	Montreal	35	5.66	0	4	.416
Kline	San Francisco	42	5.36	1	5	.401
Farrell	Philadelphia	74	4.01	3	4	.398
Nottebart	Chicago	18	7.00	1	1	.245

AMERICAN LEAGUE

Offense

Name	Team	AB	BA	HR	PWA
Motton	Baltimore	88	.307	6	.698
Epstein	Washington	403	.278	30	.641
May	Chicago	367	.281	18	.616
Robinson, F	Baltimore	539	.308	32	.615
Killebrew	Minnesota	555	.276	49	.608
Jackson	Oakland	549	.275	47	.597
Powell	Baltimore	533	.304	37	.590
Smith	Boston	543	.309	25	.583
Carew	Minnesota	458	.332	8	.582
Reese	Minnesota	419	.322	16	.582
Taylor	Kansas City	89	.270	3	.578
Bando	Oakland	609	.279	31	.572
Morton	California	172	.244	7	.571
Howard	Washington	592	.296	48	.569
White	New York	448	.290	7	.568
Goosen	Seattle	139	.309	10	.568
Thomas	Boston	51	.353	0	.568
Petrocelli	Boston	535	.297	40	.568
Hegan	Seattle	267	.292	8	.564
Fiore	Kansas City	339	.274	12	.562
Kennedy	Seattle	128	.234	4	.561
Kaline	Detroit	456	.272	21	.561
Northrup	Detroit	543	.295	25	.557
Cash	Detroit	484	.281	22	.555
Ward	Chicago	199	.246	6	.551
Sims	Cleveland	326	.236	18	.550
McAuliffe	Detroit	271	.262	11	.550
Buford	Baltimore	554	.291	11	.548
Brooks	Oakland	79	.241	3	.547
Cowan	California	104	.240	5	.544
Yastrzemski	Boston	603	.255	40	.544
Hinton	Cleveland	120	.258	3	.544
Oliva	Minnesota	637	.309	24	.543
Hopkins	Chicago	373	.265	8	.541
Conigliaro, B	Boston	80	.288	4	.541
Suarez	Cleveland	85	.294	1	.538
Green	Oakland	483	.275	12	.533
Conigliaro, T	Boston	506	.255	20	.532
Allison	Minnesota	189	.228	8	.531
Mincher	Seattle	427	.246	25	.531
O'Brien	Boston	264	.242	9	.530
Foy	Kansas City	519	.262	11	.530
Comer	Seattle	481	.243	15	.530

Name	Team	AB	BA	HR	PWA
Hendricks	Baltimore	295	.244	12	.529
Fernandez	New York	229	.223	12	.528
Stroud	Washington	206	.252	4	.526
Piniella	Kansas City	493	.280	11	.526
Rettenmund	Baltimore	190	.247	4	.525
Horton	Detroit	508	.262	28	.523
Pagliaroni	Seattle	137	.241	6	.522
Murcer	New York	564	.259	26	.521
Davis	Seattle	454	.271	6	.520
McCraw	Chicago	241	.257	2	.519
Maye	Washington	346	.277	10	.518
McMullen	Washington	563	.272	19	.518
Monday	Oakland	398	.271	12	.518
Schofield	Boston	226	.257	2	.517
French	Washington	158	.184	2	.516
Cardenal	Cleveland	557	.255	11	.514
Salmon	Baltimore	91	.297	3	.513
Alcarez	Kansas City	79	.253	1	.512
Scott	Boston	549	.253	16	.511
Unser	Washington	581	.286	7	.508
Fregosi	California	580	.260	12	.508
Harrelson	Cleveland	565	.221	30	.507
Horton	Cleveland	624	.279	27	.507
Klimchock	Cleveland	258	.287	6	.507
Kelly	Kansas City	416	.264	8	.507
Whitaker	Seattle	116	.250	6	.506
Harper	Seattle	537	.236	9	.503
Andrews	Boston	464	.293	15	.503
Johnson	Oakland	67	.328	1	.502
Webster	Oakland	77	.260	1	.501
Johnson	Baltimore	511	.280	7	.500
Stanley	Detroit	592	.235	16	.500
Tovar	Minnesota	535	.290	11	.499
Pepitone	New York	513	.242	27	.499
Spencer	California	386	.254	10	.499
Francona	Oakland	85	.341	3	.499
Allen, B	Washington	365	.247	9	.499
Melton	Chicago	555	.256	23	.497
Munson	New York	86	.256	1	.497
Hicks	California	48	.083	3	.493
Jones	Boston	335	.221	3	.492
Satriano	Boston	235	.221	1	.492
Renick	Minnesota	139	.245	5	.489
Michael	New York	412	.272	2	.487
Pavletich	Chicago	188	.245	6	.487
Williams	Chicago	471	.304	3	.487
Ranew	Seattle	81	.247	0	.486

Name	Team	AB	BA	HR	PWA
Belanger	Baltimore	530	.287	2	.486
Josephson	Chicago	161	.242	1	.485
Kenney	New York	447	.257	2	.481
Cox	New York	191	.215	2	.481
Reichardt	California	493	.256	13	.480
Kirkpatrick	Kansas City	315	.257	14	.480
Freehan	Detroit	490	.261	16	.479
Gosger	Seattle	55	.109	1	.479
Clarke	New York	641	.287	4	.478
Uhlaender	Minnesota	554	.273	8	.477
Martinez	Kansas City	204	.230	4	.474
Hermann	Chicago	290	.231	8	.473
Blair	Baltimore	626	.284	26	.473
Knoop	Chicago	417	.221	7	.473
Price	Detroit	192	.234	9	.472
Baker	Cleveland	172	.256	3	.470
Alyea	Washington	237	.249	11	.470
Haney	Oakland	145	.193	4	.469
Johnstone	California	540	.270	10	.469
Nettles	Minnesota	225	.222	7	.469
McNertney	Seattle	410	.241	8	.467
Tresh	Detroit	473	.209	14	.464
Roof	Oakland	247	.235	2	.464
Peterson	Cleveland	110	.227	1	.464
Cater	Oakland	584	.262	10	.464
Gibson	Boston	287	.254	3	.463
Kubiak	Oakland	305	.252	2	.462
Aparicio	Chicago	599	.280	5	.462
Cardenas	Minnesota	578	.282	10	.460
Moses	Boston	135	.304	4	.460
Robinson, B	Baltimore	598	.234	23	.459
Wert	Detroit	423	.225	14	.459
Alomar	California	616	.247	1	.459
Christian	Chicago	129	.217	3	.458
May	Baltimore	120	.242	3	.458
Bradford	Chicago	273	.256	11	.455
Rodgers	California	47	.191	0	.455
Brinkman	Washington	576	.266	2	.454
Campaneris	Oakland	547	.260	2	.454
Schaal	Kansas City	205	.263	1	.452
Lahoud	Boston	218	.188	9	.450
Hansen	Chicag	185	.259	2	.448
Adair	Kansas City	432	.250	5	.448
Hovley	Seattle	329	.277	3	.448
Leon	Cleveland	213	.239	3	.447
Roseboro	Minnesota	361	.263	3	.447
Harrison	Kansas City	213	.221	3	.446

Name	Team	AB	BA	HR	PWA
Rodriguez	Kansas City	267	.236	2	.443
Fuller	Cleveland	254	.236	4	.442
Oliver	Kansas City	394	.254	13	.442
Amaro	California	27	.222	0	.441
Mitterwald	Minnesota	187	.257	5	.439
Voss	California	349	.261	2	.439
Hernandez	Kansas City	504	.222	4	.438
Tartabull	Oakland	266	.267	0	.436
Hall	New York	222	.225	3	.432
Snyder	Cleveland	266	.248	2	.431
Duncan	Oakland	128	.125	3	.430
Dalrymple	Baltimore	80	.238	3	.429
Reynolds	Oakland	315	.257	2	.426
Etchebarren	Baltimore	217	.249	3	.425
Repoz	California	219	.164	8	.422
Morales	Chicago	121	.215	0	.422
Johnson	California	133	.203	0	.418
Bravo	Chicago	90	.289	1	.418
Donaldson	Seattle	351	.225	1	.417
Casanova	Washington	379	.216	4	.416
Held	Chicago	63	.143	3	.415
Gibbs	New York	219	.224	0	.413
Robinson	New York	222	.171	3	.413
Brown, I	Detroit	170	.229	5	.410
Gil	Seattle	221	.222	0	.410
Rodriguez	California	561	.232	7	.410
Campbell	Detroit	39	.103	0	.408
Manuel	Minnesota	164	.207	2	.407
Allen, H	Washington	270	.278	1	.406
Azcue	California	323	.226	2	.400
Woods	New York	186	.183	2	.398
Nelson	Cleveland	123	.203	0	.398
Matchick	Detroit	298	.242	0	.398
Brown	Cleveland	469	.239	4	.397
Northey	Kansas City	61	.262	1	.395
Hershberger	Oakland	129	.202	1	.393
Fosse	Cleveland	116	.172	2	.392
Clark	Seattle	171	.193	0	.389
Brown, G	Detroit	93	.204	1	.387
Oyler	Seattle	255	.165	7	.387
Berry	Chicago	297	.232	4	.382
Egan	California	120	.142	5	.374
Walton	Seattle	92	.217	3	.373
Boehmer	New York	108	.176	0	.371
Alvis	Cleveland	191	.225	1	.371
Scheinblum	Cleveland	199	.186	1	.370
Tischinski	Minnesota	47	.191	0	.368

Name	Team	AB	BA	HR	PWA
Cullen	Washington	249	.209	1	.366
Ellis	New York	62	.290	1	.366
Lyttle	New York	83	.181	0	.364
Rios	Kansas City	197	.223	1	.363
Rudi	Oakland	122	.189	2	.352
Lock	Boston	57	.228	1	.349
Keough	Kansas City	166	.187	0	.339
Quilici	Minnesota	145	.172	2	.337
Versalles	Washington	292	.236	1	.330
Tracewski	Detroit	79	.139	0	.327
Campanis	Kansas City	83	.157	0	.317
Gutierrez	Detroit	49	.245	0	.293
Floyd	Baltimore	84	.202	0	.249
Shopay	New York	48	.063	0	.198

AMERICAN LEAGUE

Pitcher

Name	Team	IP	ERA	W	L	PWA
Tatum, K	California	86	1.36	7	2	.643
Watt	Baltimore	71	1.65	5	2	.623
Lachemann	Oakland	43	3.98	4	1	.619
Richert	Baltimore	57	2.21	7	4	.607
Roland	Oakland	87	2.17	5	1	.595
Perranoski	Minnesota	120	2.10	9	10	.594
Grzenda	Minnesota	49	3.86	4	1	.593
Hall	Baltimore	66	1.91	5	2	.587
Palmer	Baltimore	181	2.34	16	4	.585
McLain	Detroit	325	2.77	24	9	.585
Bosman	Washington	193	2.19	14	5	.584
McMahon	Detroit	37	3.89	3	5	.580
Peterson	New York	272	2.55	17	16	.579
Perry	Minnesota	262	2.78	20	6	.574
Lindblad	Oakland	80	4.05	9	6	.572
Cuellar	Baltimore	291	2.38	23	11	.569
Murphy	Chicago	35	1.54	2	1	.568
Messersmith	California	250	2.52	16	11	.567
Cisco	Kansas City	22	3.68	1	1	.567
Leonhard	Baltimore	94	2.39	7	4	.566
Bouton	Seattle	92	3.72	2	1	.564
O'Donoghue	Seattle	70	2.96	2	2	.564
Romo	Boston	135	3.13	8	10	.563
Stottlemyre	New York	303	2.82	20	14	.560
Lyle	Boston	103	2.45	8	3	.560
McDowell	Cleveland	285	2.91	18	14	.559
Geishert	California	31	4.65	1	1	.557

Name	Team	IP	ERA	W	L	PWA
Hamilton	New York	58	3.26	3	4	.549
Paul	Cleveland	117	3.62	5	10	.548
Odom	Oakland	229	2.91	15	6	.548
Humphreys	Washington	80	3.04	3	3	.547
Drabowsky	Kansas City	97	2.97	11	9	.547
Aker	New York	83	3.14	8	6	.542
Worthington	Minnesota	61	4.57	4	1	.542
Kilkenny	Detroit	128	3.30	8	6	.540
Lasher	Detroit	44	3.07	2	1	.538
Downing	New York	130	3.39	7	5	.538
Bunker	Kansas City	223	3.31	11	11	.536
Wilhelm	California	66	2.45	5	7	.536
John	Chicago	232	3.26	9	11	.535
Knowles	Washington	84	2.25	9	2	.535
Coleman	Washington	247	3.28	12	13	.534
Lolich	Detroit	281	3.14	19	11	.533
Phoebus	Baltimore	202	3.52	14	7	.533
Boswell	Minnesota	256	3.23	20	12	.532
Culp	Boston	227	3.41	17	8	.530
McNally	Baltimore	269	3.21	20	7	.530
Locker	Seattle	102	3.18	5	6	.529
Santiago	Boston	8	3.38	0	0	.529
Hall	Minnesota	141	3.32	8	7	.528
Hannan	Washington	158	3.65	7	6	.528
Hunter	Oakland	247	3.35	12	15	.528
Cox	Washington	172	2.77	12	7	.527
Nagy	Boston	197	3.11	12	2	.526
Edmondson	Chicago	88	3.68	1	6	.523
Woodson	Minnesota	110	3.68	7	5	.520
Horlen	Chicago	236	3.78	13	16	.520
Nash	Oakland	115	3.68	8	8	.520
Miller	Minnesota	119	3.03	5	5	.520
Nelson	Kansas City	193	3.31	7	13	.519
Landis	Boston	82	5.27	5	5	.519
Brabender	Seattle	202	4.28	13	14	.519
Kaat	Minnesota	242	3.50	14	13	.518
May	California	180	3.45	10	13	.518
Wilson	Detroit	215	3.31	12	10	.517
McDaniel	New York	84	3.54	5	6	.516
Seibert	Boston	177	3.71	14	11	.516
Hedlund	Kansas City	125	4.24	3	6	.515
Lee	Boston	52	4.50	1	3	.515
Butler	Kansas City	194	3.85	9	10	.514
Dobson	Oakland	235	3.87	15	13	.512
Chance	Minnesota	88	2.97	5	4	.511
Murphy	California	216	4.21	10	16	.511
Drago	Kansas City	201	3.81	11	13	.509

Name	Team	IP	ERA	W	L	PWA
Kroll	Cleveland	24	4.13	0	0	.509
Wood	Chicago	120	3.00	10	11	.508
McGlothlin	California	201	3.22	8	16	.507
Wickersham	Kansas City	50	3.96	2	3	.507
Priddy	California	34	4.76	0	1	.506
Gelnar	Seattle	109	3.30	3	10	.506
Jarvis	Boston	100	4.77	5	6	.506
Severinsen	Baltimore	20	2.25	1	1	.506
Dobson	Detroit	102	4.24	5	10	.506
Meyer	Seattle	33	3.27	0	3	.505
Timmerman	Detroit	56	2.73	4	3	.505
Wynne	Chicago	129	4.12	7	7	.505
Stange	Boston	137	3.68	6	9	.502
Bahnsen	New York	220	3.85	9	16	.501
Burbach	New York	141	3.64	6	8	.501
Hiller	Detroit	100	3.87	4	4	.499
Fisher	California	97	3.62	3	2	.499
Shellenback	Washington	85	4.02	4	7	.499
Krausse	Oakland	139	4.47	7	7	.499
Kekich	New York	105	4.54	4	6	.498
Jones	Kansas City	46	4.11	2	3	.494
Marshall	Seattle	88	5.11	3	10	.491
Segui	Seattle	142	3.42	12	6	.490
Moore	Washington	134	4.30	9	8	.490
Pizarro	Cleveland	98	3.40	4	5	.489
Sparma	Detroit	93	4.74	6	8	.489
Lopez	Baltimore	69	4.43	5	3	.488
O'Riley	Kansas City	23	7.43	1	1	.488
Brett	Boston	39	5.31	2	3	.487
Barber	Seattle	87	4.76	4	7	.487
Hardin	Baltimore	138	3.65	6	7	.483
Brunet	Seattle	164	4.39	8	12	.482
Peters	Chicago	219	4.52	10	15	.481
Tiant	Cleveland	250	3.74	9	20	.480
Law	Cleveland	52	5.02	3	4	.476
Baldwin	Washington	67	4.03	2	4	.474
Williams	Cleveland	178	3.92	6	14	.474
Fingers	Oakland	119	3.71	6	7	.473
Crider	Minnesota	29	4.66	1	0	.470
Hargan	Cleveland	144	5.69	5	14	.468
Lonborg	Boston	144	4.50	7	11	.468
Higgins	Washington	85	3.49	10	9	.466
Ellsworth	Cleveland	147	4.10	6	9	.463
Rooker	Kansas City	158	3.70	4	16	.461
Kealey	California	37	3.89	2	0	.461
Bertaina	Baltimore	42	5.57	1	3	.458
Nyman	Chicago	65	5.26	4	4	.458

Name	Team	IP	ERA	W	L	PWA
Pattin	Seattle	159	5.72	7	12	.456
Lauzerique	Oakland	61	4.72	3	4	.453
Talbot	Oakland	146	4.38	6	10	.450
Johnson	New York	26	3.46	1	2	.443
Morehead	Kansas City	34	5.56	2	3	.443
Hamilton	Chicago	43	6.70	0	5	.441
Carlos	Washington	67	5.37	5	4	.439
Bell	Chicago	100	5.31	2	6	.435
Borbon	California	41	6.15	2	3	.434
Osinski	Chicago	61	3.54	5	5	.429
Sprague	Oakland	46	4.50	1	1	.422
Roggenburk	Seattle	34	5.82	2	3	.417
Pascual	Washington	55	6.71	2	5	.413
Pina	Cleveland	47	5.17	4	2	.411
Wright	California	64	4.08	1	8	.408
Secrist	Chicago	40	6.08	0	1	.406
Ellis	Chicago	29	5.90	0	3	.391
Burchart	Cleveland	43	4.19	0	2	.390
Blue	Oakland	42	6.64	1	1	.390
Radatz	Detroit	19	3.32	2	2	.372
Miles	Washington	20	6.30	0	1	.369
Burgmeier	Kansas City	54	4.33	3	1	.368
Brandon	Minnesota	18	8.00	0	1	.364
Patterson	Detroit	23	2.74	0	2	.309
Kline	Boston	17	4.76	0	1	.268

Part III
Special Recognition

1. Willie Mays Hits 600th Home Run

The twenty-second day of September, 1969, is a day to remember. For on that day a player performed a feat that only one other player in the history of baseball has accomplished, and it very likely will never happen again. Willie Mays hit the 600th home run of his career. Only Babe Ruth (who else?) had done that before him.

The game was played at San Diego. San Francisco was in the middle of a hot divisional title race with Atlanta, and the Padres had been playing the role of the spoilers to the hilt.

We list the computer-generated play by play of the game at the end of this chapter, because it dramatically shows the value of that 600th home run. Unlike a regular box score, one can see at a glance how the fortunes of the game are moving up and down. One can also see exactly who is responsible for the changes in the progress of the game, and just how much credit (or blame) each player receives.

The far right hand column shows the "Game Status."

It always starts at zero, and ends at —1000 if the visitors win and +1000 if the home team wins. Thus, at any point in the game, just by looking at that column we can see which team has the best chance of winning. For example at the start when it is zero, the chances of winning are an even 50–50 for both teams.

After the Giants are retired without scoring in the top of the first, the home team (San Diego) has moved the Game Status to +90, meaning they now have a better than even chance of winning. (And that makes logical sense—San Diego still has 9 at bats left, while San Francisco has used up 3 outs, and only has 8 at bats left.) So we have established a point. Anytime the Game Status is a positive number the home team has over a 50 percent chance of winning. Anytime the Game Status is a minus number the visitors have over a 50 percent chance of winning. And the larger the number, the better the chance of winning, until finally the Game Status reaches —1000 or +1000, meaning the game has actually been won and lost.

Anytime you want to find out the exact chance of winning simply add 1000 to the Game Status, ignoring the minus sign, and divide by 2000. By way of illustration, and to show the value of Willie Mays's home run, let's figure the chance of winning both prior to and after his homer.

Looking down the play by play until we come to the "first half of inning 7" we see that when Ron Hunt got on first base he moved the Game Status to —121, and got 121 Win Points for doing it. At this situation the Giants' chance of winning is (1000 + 121) / (2000), or 56.5%. After Mays hit the home run it moved to —669, for a chance of winning of (1000 + 669) / (2000), or 83.5%.

So that 600th home run was not only a landmark occasion, it also increased his team's chance of winning from nearly even to 83.5%! A truly clutch home run. Mays, of course, was aware that it was a timely hit, for he commented after the game that he was happy to have hit his

600th when it would help the team. Now we can tell him precisely how much it helped the team.

The remainder of the columns in the play by play are easily recognized. The first column shows the batter or runner, and the second column shows the pitcher (or fielder, if an error was made on the play). The next four columns show the number of outs, men on base, and score (visitor and home).

The seventh column (next to the Game Status column) shows the Win or Loss Points awarded to the batter or runner on the play. The pitcher (or fielder) receives just the opposite. For instance, on the first play of the game, when Rigoberto (Tito) Fuentes got on first base, he received 73 Win Points, and at the same time Mike Corkins received 73 Loss Points.

By the way, in the bottom of the second inning you will notice that an impossible thing seems to happen. Under the "Out" column the number of outs goes from 1 to 0. This is our way of giving credit where credit is due. Ron Bryant, the Giants' pitcher, would have retired Al Ferrara under normal play. However, Hal Lanier made an error that allowed Ferrara to reach base. So Bryant gets credit for retiring a player, and Lanier receives the blame for letting that same player get on base.

The summary we show following the game lets us see, for this very game, how each player performed. The Player Win Average means very little here (just as a batting average covering one game means very little), but by looking at the Net Points we can see who helped the most during the game.

Willie Mays—to the surprise of no one—leads all players with 535 Net Points. Who's next? Not a Giant player, but Nate Colbert of San Diego, with 489 Net Points. Just to satisfy ourselves, we can check back over the play by play, to see *what* he did, and *when* he did it. Sure enough, in the bottom of the 2nd he came to bat with the score tied,

none out and a runner on first. He moved the runner to third. Then, in the last of the sixth, he drove in the tying run with what looks like a triple. Nate Colbert was a hero in a losing cause. And, thanks to Player Win Averages, it will always be remembered.

But this day belongs to Willie Mays, and we, among thousands of others, are happy that his 600th home run really meant something.

PLAY BALL---WILLIE MAYS HITS 600TH HOME RUN

SAN FRANCISCO AT SAN DIEGO 22/09/69

PLAYER OFFENSE	DEFENSE	* OUT	SITUATION MEN-ON-BASE	* V	SCORE H	WIN/ LOSS POINTS	GAME STATUS
	FIRST HALF OF INNING 1						0
FUENTES	CORKINS	0	1ST	0	0	73	-73
FUENTES	CORKINS	1	NONE	0	0	-116	43
HUNT	CORKINS	2	NONE	0	0	-30	73
HART	CORKINS	3	NONE	0	0	-17	90
	LAST HALF OF INNING 1						90
ARCIA	BRYANT	1	NONE	0	0	-42	48
PENA	BRYANT	2	NONE	0	0	-31	17
BROWN	BRYANT	3	NONE	0	0	-17	0
	FIRST HALF OF INNING 2						0
MCCOVEY	CORKINS	1	NONE	0	0	-45	45
BONDS	CORKINS	2	NONE	0	0	-33	78
HENDERSON	CORKINS	2	1ST	0	0	23	55
HIATT	CORKINS	3	NONE	0	0	-41	96
	LAST HALF OF INNING 2						96
FERRARA	BRYANT	1	NONE	0	0	-45	51
FERRARA	LANIER	0	1ST	0	0	121	172
COLBERT	BRYANT	0	1ST,3RD	0	0	195	367
MURRELL	BRYANT	0	LOADED	0	0	105	472
FERRARA	BRYANT	1	1ST,2ND	0	0	-288	184
CANNIZZARO	BRYANT	2	1ST,2ND	0	0	-96	88
DEAN	BRYANT	3	NONE	0	0	-88	0

	FIRST HALF OF INNING 3						0
LANIER	CORKINS	0	1ST	0	0	82	-82
BRYANT	CORKINS	0	1ST,2ND	0	0	136	-218
FUENTES	CORKINS	1	2ND,3RD	0	0	-9	-209
HUNT	CORKINS	1	1ST,3RD	1	0	176	-385
HART	CORKINS	1	1ST,3RD	2	0	184	-569
MCCOVEY	CORKINS	2	1ST,3RD	2	0	-105	-464
BONDS	CORKINS	3	NONE	2	0	-72	-392
	LAST HALF OF INNING 3						-392
CORKINS	BRYANT	1	NONE	2	0	-50	-442
ARCIA	BRYANT	1	1ST	2	0	56	-386
PENA	BRYANT	2	1ST	2	0	-66	-452
ARCIA	BRYANT	2	2ND	2	0	21	-431
BROWN	BRYANT	2	1ST	2	1	208	-223
FERRARA	BRYANT	3	NONE	2	1	-49	-272
	FIRST HALF OF INNING 4						-272
HENDERSON	CORKINS	1	NONE	2	1	-43	-229
HIATT	CORKINS	2	NONE	2	1	-31	-198
LANIER	CORKINS	2	1ST	2	1	22	-220
BRYANT	CORKINS	3	NONE	2	1	-40	-180
	LAST HALF OF INNING 4						-180
COLBERT	BRYANT	1	NONE	2	1	-60	-240
MURRELL	BRYANT	1	1ST	2	1	66	-174
MURRELL	BRYANT	2	NONE	2	1	-107	-281
CANNIZZARO	BRYANT	3	NONE	2	1	-24	-305
	FIRST HALF OF INNING 5						-305
FUENTES	CORKINS	0	1ST	2	1	73	-378
FUENTES	MURRELL	0	2ND	2	1	63	-441
HUNT	CORKINS	1	2ND	2	1	-90	-351
HART	CORKINS	2	2ND	2	1	-75	-276
MCCOVEY	CORKINS	2	1ST,2ND	2	1	22	-298
BONDS	CORKINS	2	LOADED	2	1	60	-358
HENDERSON	CORKINS	3	NONE	2	1	-147	-211
	LAST HALF OF INNING 5						-211
DEAN	STEPHENSON	1	NONE	2	1	-67	-278
CORKINS	STEPHENSON	2	NONE	2	1	-47	-325
ARCIA	STEPHENSON	3	NONE	2	1	-28	-353
	FIRST HALF OF INNING 6						-353
HIATT	CORKINS	1	NONE	2	1	-45	-308
LANIER	CORKINS	1	1ST	2	1	49	-357
BRYANT	CORKINS	2	2ND	2	1	-33	-324
FUENTES	CORKINS	3	NONE	2	1	-68	-256

	LAST HALF OF INNING 6						-256
PENA	MCMAHON	0	2ND	2	1	235	-21
PENA	MCMAHON	1	NONE	2	1	-313	-334
BROWN	MCMAHON	1	2ND	2	1	155	-179
FERRARA	MCMAHON	2	2ND	2	1	-131	-310
COLBERT	MCMAHON	2	3RD	2	2	438	128
MURRELL	MCMAHON	3	NONE	2	2	-128	0
	FIRST HALF OF INNING 7						0
HUNT	CORKINS	0	1ST	2	2	121	-121
MAYS	CORKINS	0	NONE	4	2	548	-669
MCCOVEY	CORKINS	0	1ST	4	2	42	-711
BONDS	REBERGER	1	1ST	4	2	-40	-671
HENDERSON	REBERGER	1	1ST,2ND	4	2	45	-716
HIATT	REBERGER	2	1ST,2ND	4	2	-53	-663
LANIER	REBERGER	3	NONE	4	2	-52	-611
	LAST HALF OF INNING 7						-611
CANNIZZARO	MCMAHON	0	1ST	4	2	132	-479
KELLY,V	MCMAHON	0	1ST,3RD	4	2	290	-189
MORALES	MCMAHON	1	1ST,3RD	4	2	-204	-393
STAHL	MCMAHON	3	NONE	4	2	-364	-757
	FIRST HALF OF INNING 8						-757
MCMAHON	REBERGER	1	NONE	4	2	-21	-736
FUENTES	REBERGER	2	NONE	4	2	-15	-721
HUNT	REBERGER	3	NONE	4	2	-10	-711
	LAST HALF OF INNING 8						-711
PENA	MCMAHON	1	NONE	4	2	-79	-790
BROWN	MCMAHON	2	NONE	4	2	-52	-842
FERRARA	MCMAHON	3	NONE	4	2	-26	-868
	FIRST HALF OF INNING 9						-868
MAYS	REBERGER	1	NONE	4	2	-13	-855
MCCOVEY	REBERGER	2	NONE	4	2	-9	-846
BONDS	REBERGER	3	NONE	4	2	-6	-840
	LAST HALF OF INNING 9						-840
COLBERT	MCMAHON	1	NONE	4	2	-84	-924
SPIEZIO	MCMAHON	2	NONE	4	2	-52	-976
KENDALL	MCMAHON	3	NONE	4	2	-24	-1000

LINE SCORE

INNING	1	2	3	4	5	6	7	8	9	FINAL
SAN FRANCISCO	0	0	2	0	0	0	2	0	0	4
SAN DIEGO	0	0	1	0	0	1	0	0	0	2

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PITCHER SAN FRANCISCO SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
STEPHENSON	1.000	3	142	0	142
BRYANT	0.597	19	963	651	312
MCMAHON	0.538	16	1457	1250	207

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OFFENSE SAN FRANCISCO SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MAYS	0.977	2	548	13	535
LANIER	0.746	4	153	52	101
HUNT	0.696	5	297	130	167
HART	0.667	3	184	92	92
BRYANT	0.651	3	136	73	63
FUENTES	0.412	6	146	208	-62
MCCOVEY	0.287	5	64	159	-95
BONDS	0.284	5	60	151	-91
HENDERSON	0.264	4	68	190	-122
HIATT	0.000	4	0	170	-170
MCMAHON	0.000	1	0	21	-21

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PITCHER SAN DIEGO SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
REBERGER	0.830	10	219	45	174
CORKINS	0.392	32	1040	1611	-571

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OFFENSE SAN DIEGO SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
KELLY,V	1.000	1	290	0	290
BROWN	0.840	4	363	69	294
COLBERT	0.815	4	633	144	489
ARCIA	0.524	4	77	70	7
CANNIZZARO	0.524	3	132	120	12
MURRELL	0.421	4	171	235	-64
PENA	0.325	5	235	489	-254
SPIFZIO	0.000	1	0	52	-52
FERRARA	0.000	5	0	539	-539
STAHL	0.000	1	0	364	-364
DEAN	0.000	2	0	155	-155
MORALES	0.000	1	0	204	-204
KENDALL	0.000	1	0	24	-24
CORKINS	0.000	2	0	97	-97

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2. The All-Stars

Selecting All-Star baseball teams is the quickest way we know of to start an argument, so we're not going to do it. Rather, we are going to show a position lineup of who, according to Player Win Averages, are the most "winning" players in the Majors.

The first will be an All-Major team, and then we will show All-League teams, with a provision being that those on the All-Major team are not eligible for selection to an All-League team.

Just for comparison we will also show an All-Major team that NEA (Newspaper Enterprises Association) published in various newspapers on September 28, 1969. According to NEA, this team was selected by the vote of the players.

We have not attempted to separate the outfielders by position; rather we have selected them as they appeared in the rankings. A special mention should be made concerning Carlos May, the White Sox' brilliant rookie outfielder. He is second only to Mike Epstein with a .616 Player Win Average, but an unfortunate accident cut his playing year too short for him to be considered. We, along with thousands of others, hope he will be able to come back in 1970.

All-Major Teams

	SELECTED BY PLAYER WIN AVERAGES		SELECTED BY VOTE OF PLAYERS	
Position	*Name*	*Team*	*Name*	*Team*
First Base	W. McCovey	San Francisco	W. McCovey	San Francisco
Second Base	R. Carew	Minnesota	R. Carew	Minnesota
Third Base	H. Killebrew	Minnesota	R. Santo	Chicago Cubs
Shortstop	R. Petrocelli	Boston	R. Petrocelli	Boston
Catcher	D. Sims	Cleveland	J. Bench	Cincinnati
Outfield	F. Robinson	Baltimore	H. Aaron	Atlanta
Outfield	P. Rose	Cincinnati	R. Jackson	Oakland
Outfield	W. Stargell	Pittsburgh	F. Howard	Washington
Relief Pitcher	T. McGraw	New York Mets	R. Perranoski	Minnesota
Starting Pitcher	L. Dierker	Houston	D. McLain	Detroit

All-League Teams
(Selected by Player Win Averages)

	NATIONAL		AMERICAN	
Position	*Name*	*Team*	*Name*	*Team*
First Base	R. Allen	Philadelphia	M. Epstein	Washington
Second Base	J. Morgan	Houston	D. Green	Oakland
Third Base	T. Perez	Cincinnati	S. Bando	Oakland
Shortstop	D. Kessinger	Chicago	J. Fregosi	California
Catcher	J. Bench	Cincinnati	E. Hendricks	Baltimore
Outfield	R. Clemente	Pittsburgh	R. Jackson	Oakland
Outfield	H. Aaron	Atlanta	R. Smith	Boston
Outfield	B. Williams	Chicago	F. Howard	Washington
Relief Pitcher	P. Mikkelsen	Los Angeles	K. Tatum	California
Starting Pitcher	T. Seaver	New York	D. McLain	Detroit

3. Winning Players

Even though only one team can win a division title or a pennant or a World Series, every team has its stars—those players who are consistently helping to win games. Of course they are hard to identify accurately. Trying to remember not only when every player came through with the big play is difficult enough, but also trying to remember when they failed in the clutch is almost impossible. Player Win Averages make the job a little easier.

We will show below who, according to Player Win Averages, was the most "Winning Player" on each club. We will list hitters and pitchers separately. Naturally there are many other winning players on each club, but in our view these are the best in 1969. Among the hitters, it is interesting to note that 11 are righthanded, 10 are lefthanded, and 3 are switch hitters.

National League

TEAM	OFFENSE	PITCHER
Atlanta	Hank Aaron	Phil Niekro
Chicago	Billy Williams	Bill Hands—Fergie Jenkins (Tie)
Cincinnati	Pete Rose	Wayne Granger
Houston	Jim Wynn	Larry Dierker
Los Angeles	Willie Crawford	Bill Singer
Montreal	Rusty Staub	Gary Waslewski
New York	Cleon Jones	Tom Seaver
Philadelphia	Richie Allen	Grant Jackson
Pittsburgh	Willie Stargell	Bob Moose
San Diego	Ollie Brown	Joe Niekro
San Francisco	Willie McCovey	Juan Marichal
St. Louis	Joe Torre	Bob Gibson

American League

TEAM	OFFENSE	PITCHER
Baltimore	Frank Robinson	Jim Palmer
Boston	Reggie Smith	Vicente Romo
California	Jim Fregosi	Andy Messersmith
Chicago	Carlos May	Tommy John
Cleveland	Duke Sims	Sam McDowell
Detroit	Al Kaline	Denny McLain
Kansas City	Mike Fiore	Wally Bunker
Minnesota	Harmon Killebrew	Jim Perry
New York	Roy White	Fritz Peterson
Oakland	Reggie Jackson	Johnny Odom
Seattle	Don Mincher	Gene Brabender
Washington	Mike Epstein	Dick Bosman

Among the best team "Winning Players" we will find the best league "Winning Player." In 1969 in both leagues they just happen to be hitters. In 1968 they might have been pitchers. Following is a short presentation of the Most Winning Player award in both leagues.

National League

On July 30, 1959, they brought up the rookie from Phoenix to play in the majors for the first time. What did he do? He simply tied the modern National League record by getting 4 hits. Later on he would receive the supreme compliment from opposing pitchers by being intentionally walked 3 times in a game (another tying National League record). He has been selected to the All-Star team four times, he led the National League in slugging percentage in 1968, and he was the Rookie of the Year in 1959.

However, since 1959 he has never hit over .300—until 1969 when he hit .320 and finished fifth in the league. He was doing other things in 1969, also. He was getting those "clutch" hits consistently. He was keeping his team in contention right up to the end. In short, he is a super-star, even though his lifetime batting average is just .282.

He finished the 1969 season with the highest Player Win Average of any Major League player—.677! Congratulations, Willie McCovey, you were the greatest in 1969, and we are delighted to present you with the National League Most Winning Player award for 1969.

American League

In 1965 he was named Rookie of the Year and Most Valuable Player in the California League. He received the same honors in the International League the following year, and also was named the Minor League Player of the Year by *The Sporting News* in 1966.

With that kind of credentials he should have been "sure fire" in the majors. He wasn't. Baltimore gave him a try, then traded him to Washington. In 1968 at Washington. according to normal statistics, he wasn't exactly a sensation, either. But the potential was still there. Big, at 6′4″ and 230 pounds, he had a lot of natural ability and desire.

Then came 1969. He batted .278, hit 30 home runs, and knocked in 85 runs. That's not bad, but it's not up there with the supers and really wouldn't justify being a holdout in 1970. But hold on, what's his Player Win Average? Why only .641, tops in the league. Nice going, Mike Epstein, you win the American League Most Winning Player award for 1969.

Footnote to above story: We don't measure the ability of managers. Don't know how, really. But we think it is more than coincidence that Ted Williams, one of the greatest hitters of all time, just happened to be the manager of Mike Epstein when his true potential was finally realized.

4. Hidden Heroes

We think anyone who even makes it to the major leagues is a super baseball player. Therefore, when we say some are better than average and some are less than average, we are really only separating the super players to a finer degree.

Many of these super players are in the league for 10–15 years and get very little special recognition. Most never make an All-Star team, and yet they are all super baseball players. Sometimes that's hard to remember when a team has a losing record like, say, San Diego in 1969. Nevertheless, they have all been picked as super baseball players by wise old baseball heads, and we *know* they are.

Many players have so-so batting averages, never hit many home runs, and don't knock in too many runs. In this large group are some who are playing better "winning" ball than others, but their ability goes undetected and unrewarded if you look only at the normal statistics. That wouldn't matter much if you happened to be a Joe Garagiola, but not everybody can stop dodging pitches and end up pitching Dodges.

So, since we now have a statistic that can uncover these players, we want to spotlight the "hidden heroes" of the majors, and present a Hidden Hero award to the most deserving Hidden Hero in the Major Leagues. The category is limited to hitters only, who were at bat at least 100 times and had a batting average under .250. This eliminates Ernie Banks, with a low .253 batting average and a beautiful .550 Player Win Average, but everybody knows Banks is a great clutch player anyway. Here's the list.

Name	*Team*	*BA*	*PWA*
Hickman	Chicago Cubs	.237	.578
W. Smith	Chicago Clubs	.246	.531
Savage	Cincinnati	.227	.501
Geiger	Houston	.224	.558

Morgan	Houston	.236	.521
Valdespino	Houston	.244	.501
Crawford	Los Angeles	.247	.522
Lefebvre	Los Angeles	.236	.515
Swoboda	New York Mets	.235	.571
Spiezio	San Diego	.234	.518
Dietz	San Francisco	.230	.522
Marshall	San Francisco	.232	.518
Hendricks	Baltimore	.244	.529
Rettenmund	Baltimore	.247	.525
O'Brien	Boston	.242	.530
Morton	California	.244	.571
Cowan	California	.240	.544
Ward	Chicago White Sox	.246	.551
Sims	Cleveland	.236	.550
Harrelson	Cleveland	.221	.507
Allison	Minnesota	.228	.531
Fernandez	New York Yankees	.223	.528
Kennedy	Seattle	.234	.561
Mincher	Seattle	.246	.531
Comer	Seattle	.243	.530
Pagliaroni	Seattle	.241	.522
Harper	Seattle	.236	.503
French	Washington	.184	.516

Our most deserving Hidden Hero has been kicking around, up and down, since 1961 when he broke into professional baseball with Pensacola in the Alabama-Florida League. He's an infielder, mostly shortstop, with a lifetime major league batting average of .213. He is rated an excellent fielder and is probably referred to with that old cliche, "good field, no hit." He has been in both leagues, spending most of his time with the Washington Senators and the Los Angeles Dodgers. On November 13, 1968, he was sold to the Seattle Pilots, where he appeared in only 61 games in 1969.

Too bad; he is an outstanding fielder and—never mind that .234 batting average—he is a good clutch hitter. We salute you, John Edward Kennedy, for being the most deserving Hidden Hero of 1969.

Part IV
The Divisional Playoffs and the World Series

1. The Divisional Playoffs

The outcome of the first divisional playoffs in the history of baseball had to be a surprise to most fans. Baltimore beat Minnesota and New York beat Atlanta, both in three straight games. And here's another surprise—New York made it look the easiest.

The first two games in Baltimore were extra inning contests, and could easily have gone either way. On the other hand the Mets coasted in the last two games after scoring five big runs in the eighth inning of a tight first game.

In any short series Player Win Averages (just like batting averages) won't tell the whole story. Rather, in our system, we look to the total of Win and Loss Points and then at the Net Points (Win Points minus Loss Points).

In the National League, even in defeat, Hank Aaron was the most "winning" player of the series. He had a total of 1321 Win Points against only 311 Loss Points, meaning he was continually coming up in clutch situations, and was continually coming through with big hits.

In a three-game series where 42 runs were scored one

would expect that hitters on both clubs had contributed more than the pitchers. The Summary of Play verifies this. It also does even more—it shows precisely which hitters were doing the most.

As we said, Hank Aaron was the leader of the series but, and this may come as a surprise to some, Wayne Garrett was the leader among the Mets with 953 Net Points.

In the American League we have a different story. Here the leaders on both clubs are pitchers. Dave McNally with 1759 Net Points leads Baltimore, and look at Dave Boswell of Minnesota.

Boswell was declared the "losing" pitcher in the second game. He pitched ten and two thirds innings of scoreless ball, earned a total of 1645 Net Points, and he's the loser. When we look back at official records a few years from now all we will see is that Boswell "lost" one of the 1969 playoff games. So be it!

Among the hitters Tony Oliva leads Minnesota, Boog Powell leads Baltimore, and we don't think many people will disagree with that.

OFFENSE ATLANTA SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
LUM	1.000	2	59	0	59
AARON,H	0.809	14	1321	311	1010
CEPEDA	0.715	14	799	318	481
GONZALES	0.659	15	738	382	356
CARTY	0.550	13	297	243	54
MILLAN	0.531	15	277	245	32
BOYER	0.355	12	203	369	-166
GARRIDO	0.217	12	105	378	-273
AARON,T	0.000	1	0	3	-3
ALOU	0.000	1	0	71	-71
ASPROMONTE	0.000	3	0	42	-42
DIDIER	0.000	11	0	603	-603
JARVIS	0.000	2	0	73	-73
NIEKRO	0.000	3	0	141	-141
PAPPAS	0.000	1	0	22	-22
STONE	0.000	1	0	21	-21
UPSHAW	0.000	1	0	32	-32

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PITCHER ATLANTA SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
NEIBAUER	1.000	4	5	0	5
UPSHAW	0.477	26	257	282	-25
NIEKRO	0.405	38	1806	2653	-847
DOYLE	0.324	7	80	167	-87
REED	0.310	15	494	1102	-608
JARVIS	0.302	23	845	1952	-1107
PAPPAS	0.287	12	29	72	-43
BRITTON	0.261	3	18	51	-33
STONE	0.224	5	76	264	-188

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OFFENSE NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MARTIN	0.928	3	310	24	286
GARRETT	0.833	16	1193	240	953
JONES	0.827	17	872	182	690
AGEE	0.717	19	989	391	598
SHAMSKY	0.679	13	637	301	336
KOOSMAN	0.662	3	43	22	21
HARRELSON	0.660	13	663	341	322
BOSWELL	0.609	13	916	588	328
GROTE	0.552	13	430	349	81
RYAN	0.483	4	116	124	-8
KRANEPOOL	0.302	15	374	866	-492
WEIS	0.000	1	0	1	-1
SEAVER	0.000	3	0	181	-181

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PITCHER NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
TAYLOR	0.790	13	286	76	210
MCGRAW	0.743	11	153	53	100
RYAN	0.555	26	975	781	194
KOOSMAN	0.459	24	349	411	-62
SEAVER	0.419	35	1278	1775	-497
GENTRY	0.233	12	213	703	-490

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OFFENSE BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MOTTON	0.779	2	781	222	559
POWELL	0.682	15	1279	597	682
BLAIR	0.661	19	1236	633	603
ROBINSON,B	0.625	17	969	581	388
HENDRICKS	0.566	9	463	355	108
ROBINSON,F	0.546	15	559	465	94
BELANGER	0.396	15	647	988	-341
BUFORD	0.394	18	464	714	-250
JOHNSON	0.242	15	309	969	-660
MAY	0.000	1	0	120	-120
CUELLAR	0.000	2	0	52	-52
ETCHEBARREN	0.000	5	0	452	-452
MCNALLY	0.000	4	0	463	-463
PALMER	0.000	5	0	197	-197
SALMON	0.000	1	0	188	-188

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PITCHER BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
HALL	1.000	2	732	0	732
WATT	1.000	6	490	0	490
MCNALLY	0.821	42	2251	492	1759
RICHERT	0.625	6	150	90	60
PALMER	0.587	38	813	572	241
CUELLAR	0.448	27	909	1119	-210
LOPEZ	0.311	4	162	359	-197

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OFFENSE MINNESOTA SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MANUEL	1.000	1	23	0	23
WOODSON	1.000	1	24	0	24
OLIVA	0.736	15	1352	485	867
KILLEBREW	0.508	14	393	381	12
UHLAENDER	0.490	6	176	183	-7
REESE	0.372	13	327	553	-226
TOVAR	0.174	15	129	614	-485
CAREW	0.140	15	90	551	-461
MITTERWALD	0.115	8	46	353	-307
CARDENAS	0.073	13	71	895	-824
ROSEBORO	0.002	5	1	444	-443
BOSWELL	0.000	4	0	248	-248
NETTLES	0.000	1	0	0	0
ALLISON	0.000	9	0	537	-537
PERRANOSKI	0.000	1	0	109	-109
RENICK	0.000	1	0	66	-66
PERRY	0.000	3	0	88	-88

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PITCHER MINNESOTA SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
GRZENDA	1.000	2	42	0	42
HALL	1.000	2	59	0	59
BOSWELL	0.698	45	2903	1258	1645
PERRANOSKI	0.473	23	1743	1941	-198
PERRY	0.408	33	1388	2017	-629
MILLER	0.399	10	568	854	-286
WOODSON	0.333	11	223	446	-223
CHANCE	0.320	10	24	51	-27
WORTHINGTON	0.247	7	46	140	-94

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2. The 1969 World Series

Who will ever forget the 1969 World Series between Baltimore (some compared the Orioles to the great teams of the century) and the New York Mets (quote Cleon Jones, "Some people still might not believe in us, but then, some people still think the world is flat")? The Amazin' Mets took four straight after dropping the opener in Baltimore, and the ninth place club of 1968, defying 100–1 odds, became the darlings of New York City and the entire country.

The Series did have it's share of unusual happenings. Mets' bodies were sprawling all over the outfield and they seemed to have invented a new symbolic gesture that goes like this: Fling body to ground, roll over, leap to feet, raise gloved hand high with ball inside!

And then there was the old "shoe polish on the ball" routine. It started with a low inside pitch to Cleon Jones that looked like it might have nicked his foot. But wait, here's the umpire indicating that Jones was not hit, and the pitch was a ball. Consternation! What to do! The Mets are trailing by three and need base runners in the worst way.

At this exact moment the TV cameras swing to Manager Gil Hodges striding slowly and calmly toward home plate. And, wonder of wonders, he has a baseball in his hand! Could it be? The ball *was* around the shoes. Of course! It must have dawned on millions of viewers at the same moment, Hodges had the ball in his hand and it had a smudge of shoe polish on it.

Now the tension really sets in. There is a short discussion at home plate, an examination of the ball. Will home plate umpire Lou DiMuro reverse his decision? A short

pause, and then a dramatic arm gesture towards first by DiMuro indicates that, yes indeed, Jones really was struck by the ball after all, and he is being awarded first base. That's a great move by Hodges, and there isn't a statistic in the world to measure it—sorry about that!

But the Series was full of plays that we can measure with statistics and we will show the play by play of the five games on the following pages. The games provide an opportunity to demonstrate our scoring system in various ways. As we pointed out earlier, Player Win Averages (just like batting averages) are not as significant as other statistics in a short series of games. What we consider the most important statistic is the Net Points—that is, Win Points minus Loss Points.

Game #1

The first game in Baltimore was probably the least exciting of all, with the O's going straight for a fairly easy win. The Mets' top of the seventh, though, did create a little flurry, and a play occurred that gives us a chance to point out an unusual thing.

Remember, the Game Status always starts at 0, and the home team is striving to move it to +1000 while the visitors are going for −1000. When Don Buford hit that first-inning home run Baltimore took the lead and maintained it the rest of the way. So we can see the Game Status move steadily from 0 to +1000. (In the second game it moves from 0 to −1000—a New York win—and in the last three games it moves from 0 to +1000—home team New York wins.)

Back to the top of the seventh. Baltimore was leading 4–0 when New York loaded the bases with one out. Al Weiss then hit a sacrifice fly to left that scored Donn Clendenon from third base. Now normally, one would think that anytime a team scored a run it would increase it's

team's chance of winning on that play. But if we look at the Game Status before Weiss came to bat (735) and after he completed the play (822) we can see that, in fact, the visitors' chance of winning *decreased.*

How come? Because an out was made on the same play, and an out in this situation costs a team more than the increase of a run. Leonard Koppett, a veteran baseball reporter who covers sports for *The New York Times* and writes a column in *The Sporting News,* had this to say about the play: ". . . Cuellar reduced the danger by getting Weiss to hit an ordinary fly to Buford in left. It delivered a run, but at that stage it was worth it."

It sure was, Mr. Koppett, it actually increased Baltimore's chance of winning from 86.8 percent to 91.1 percent.

PLAY BALL---1969 WORLD SERIES, GAME NUMBER 1

NEW YORK AT BALTIMORE 11/10/69

PLAYER		* SITUATION *		SCORE		WIN/ LOSS	GAME
OFFENSE	DEFENSE	OUT	MEN-ON-BASE	V	H	POINTS	STATUS
	FIRST HALF OF INNING 1						0
AGEE	CUELLAR	1	NONE	0	0	-43	43
HARRELSON	CUELLAR	2	NONE	0	0	-30	73
JONES	CUELLAR	2	1ST	0	0	21	52
CLENDENON	CUELLAR	3	NONE	0	0	-38	90
	LAST HALF OF INNING 1						90
BUFORD	SEAVER	0	NONE	0	1	214	304
BLAIR	SEAVER	1	NONE	0	1	-36	268
ROBINSON,F	SEAVER	2	NONE	0	1	-26	242
POWELL	SEAVER	2	1ST	0	1	19	261
ROBINSON,B	SEAVER	3	NONE	0	1	-34	227
	FIRST HALF OF INNING 2						227
SWOBODA	CUELLAR	1	NONE	0	1	-48	275
CHARLES	CUELLAR	2	NONE	0	1	-33	308
GROTE	CUELLAR	3	NONE	0	1	-18	326

		LAST HALF OF INNING 2					326
HENDRICKS	SEAVER	1	NONE	0	1	-37	289
JOHNSON	SEAVER	2	NONE	0	1	-27	262
BELANGER	SEAVER	3	NONE	0	1	-15	247
		FIRST HALF OF INNING 3					247
WEIS	CUELLAR	0	1ST	0	1	89	158
SEAVER	CUELLAR	1	1ST	0	1	-83	241
AGEE	CUELLAR	3	NONE	0	1	-113	354
		LAST HALF OF INNING 3					354
CUELLAR	SEAVER	1	NONE	0	1	-38	316
BUFORD	SEAVER	2	NONE	0	1	-28	288
BUFORD	WEIS	1	1ST	0	1	70	358
BLAIR	SEAVER	2	1ST	0	1	-51	307
ROBINSON,F	SEAVER	3	NONE	0	1	-35	272
		FIRST HALF OF INNING 4					272
HARRELSON	CUELLAR	1	NONE	0	1	-56	328
JONES	CUELLAR	2	NONE	0	1	-40	368
CLENDENON	CUELLAR	2	2ND	0	1	55	313
SWOBODA	CUELLAR	3	NONE	0	1	-77	390
		LAST HALF OF INNING 4					390
POWELL	SEAVER	1	NONE	0	1	-39	351
ROBINSON,B	SEAVER	2	NONE	0	1	-29	322
HENDRICKS	SEAVER	2	1ST	0	1	20	342
JOHNSON	SEAVER	2	1ST,2ND	0	1	41	383
BELANGER	SEAVER	2	1ST,3RD	0	2	222	605
CUELLAR	SEAVER	2	1ST,2ND	0	3	143	748
BUFORD	SEAVER	2	2ND,3RD	0	4	108	856
BLAIR	SEAVER	3	NONE	0	4	-29	827
		FIRST HALF OF INNING 5					827
CHARLES	CUELLAR	1	NONE	0	4	-29	856
GROTE	CUELLAR	2	NONE	0	4	-19	875
WEIS	CUELLAR	3	NONE	0	4	-10	885
		LAST HALF OF INNING 5					885
ROBINSON,F	SEAVER	1	NONE	0	4	-9	876
POWELL	SEAVER	2	NONE	0	4	-7	869
ROBINSON,B	SEAVER	3	NONE	0	4	-4	865
		FIRST HALF OF INNING 6					865
DYER	CUELLAR	1	NONE	0	4	-28	893
AGEE	CUELLAR	2	NONE	0	4	-18	911
HARRELSON	CUELLAR	2	1ST	0	4	13	898
JONES	CUELLAR	3	NONE	0	4	-21	919
		LAST HALF OF INNING 6					919
HENDRICKS	CARDWELL	1	NONE	0	4	-6	913
JOHNSON	CARDWELL	2	NONE	0	4	-6	907
BELANGER	CARDWELL	3	NONE	0	4	-3	904

	FIRST HALF OF INNING 7						904
CLENDENON	CUELLAR	0	1ST	0	4	49	855
SWOBODA	CUELLAR	0	1ST,2ND	0	4	96	759
CHARLES	CUELLAR	1	1ST,2ND	0	4	-85	844
GROTE	CUELLAR	1	LOADED	0	4	109	735
WEIS	CUELLAR	2	1ST,2ND	1	4	-87	822
GASPAR	CUELLAR	3	NONE	1	4	-78	900
	LAST HALF OF INNING 7						900
CUELLAR	TAYLOR	1	NONE	1	4	-9	891
BUFORD	TAYLOR	2	NONE	1	4	-7	884
BLAIR	TAYLOR	2	1ST	1	4	5	889
BLAIR	TAYLOR	3	NONE	1	4	-9	880
	FIRST HALF OF INNING 8						880
AGEE	CUELLAR	1	NONE	1	4	-39	919
HARRELSON	CUELLAR	1	1ST	1	4	44	875
JONES	CUELLAR	2	1ST	1	4	-50	925
CLENDENON	CUELLAR	3	NONE	1	4	-28	953
	LAST HALF OF INNING 8						953
ROBINSON,F	TAYLOR	1	NONE	1	4	-4	949
POWELL	TAYLOR	2	NONE	1	4	-3	946
ROBINSON,B	TAYLOR	3	NONE	1	4	-3	943
	FIRST HALF OF INNING 9						943
SWOBODA	CUELLAR	0	1ST	1	4	67	876
CHARLES	CUELLAR	1	1ST	1	4	-64	940
GROTE	CUELLAR	2	1ST	1	4	-41	981
WEIS	CUELLAR	2	1ST,2ND	1	4	40	941
SHAMSKY	CUELLAR	3	NONE	1	4	-59	1000

LINE SCORE

INNING	1	2	3	4	5	6	7	8	9	FINAL
NEW YORK	0	0	0	0	0	0	1	0	0	1
BALTIMORE	1	0	0	3	0	0	0	0	0	4

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OFFENSE BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
BELANGER	0.925	3	222	18	204
BUFORD	0.902	4	322	35	287
CUELLAR	0.753	3	143	47	96
JOHNSON	0.554	3	41	33	8
HENDRICKS	0.317	3	20	43	-23
POWELL	0.279	4	19	49	-30
BLAIR	0.038	5	5	125	-120
ROBINSON,B	0.000	4	0	70	-70
ROBINSON,F	0.000	4	0	74	-74

PITCHER BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
CUELLAR	0.679	36	1235	583	652

OFFENSE NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
CLENDENON	0.612	4	104	66	38
GROTE	0.583	4	109	78	31
WEIS	0.571	4	129	97	32
SWOBODA	0.566	4	163	125	38
HARRELSON	0.399	4	57	86	-29
JONES	0.159	4	21	111	-90
AGEE	0.000	4	0	213	-213
CHARLES	0.000	4	0	211	-211
SHAMSKY	0.000	1	0	59	-59
DYER	0.000	1	0	28	-28
GASPAR	0.000	1	0	78	-78
SEAVER	0.000	1	0	83	-83

PITCHER NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
CARDWELL	1.000	3	15	0	15
TAYLOR	0.875	7	35	5	30
SEAVER	0.367	23	444	767	-323

Game #2

The second game was a pitcher's duel between two super lefthanders—Jerry Koosman for New York, and Dave McNally for Baltimore. Just three runs were scored in the game and the play by play lets us see how it affected the pitchers.

Donn Clendenon hit a home run to lead off the first of the fourth inning. The Game Status was 0 at the time (score tied, start of new full inning) and at the end of the inning it was —180. The visitors (New York) have, at this point, moved the Game Status that far along in attempting to go to —1000 and a victory. (They do eventually get there, but not without a struggle.)

So McNally is charged with 180 Loss Points for the inning. With no further scoring until the last of the seventh, we can see the Game Status slowly creeping to —1000 until Brooks Robinson knocked in a run. Then it actually moved to the plus side at +70, falling back to 0 when Dave Johnson made the final out.

At the start of the last of the seventh the Game Status was at —327, at the finish it was 0. All 327 points are charged to Koosman as Loss Points, and the game is all even again.

At the start of the ninth it is still all even—Game Status is at 0—but at the end of the first half of the ninth it has moved to —644! That's 644 Loss Points for McNally.

So three runs scored; one was worth 180 Loss Points; one was worth 327 Loss Points; and one was worth 644 Loss Points. It all depends on *when* it happened.

In that top of the ninth for New York we are able to see just what the value of each play was by the bottom of the Mets' batting order as they came through in crucial situations. The single by Ed Charles started things off and it didn't change the chances of winning very much (probably didn't cause too many flutters in the breasts of Baltimore

fans, either, since there were two out). But when Jerry Grote singled him to third things got a little more tense; actually, in this specific situation New York's chance of winning is just a little better than even (Game Status at —21). It's not better than that with two on because there are two out, and one more ends the inning.

So when Al Weiss delivered a clutch single with two out that produced a run, he dramatically increased his team's chance of winning—from 51.1 percent to 84.9 percent. He personally got 678 Win Points, and they were well deserved, for it just happens that this was the biggest offense play of the Series.

PLAY BALL---1969 WORLD SERIES, GAME NUMBER 2

NEW YORK AT BALTIMORE 12/10/69

PLAYER		* SITUATION *		SCORE		WIN/ LOSS	GAME
OFFENSE	DEFENSE	OUT	MEN-ON-BASE	V	H	POINTS	STATUS
	FIRST HALF OF INNING	1					0
AGEE	MCNALLY	1	NONE	0	0	-43	43
HARRELSON	MCNALLY	2	NONE	0	0	-30	73
JONES	MCNALLY	3	NONE	0	0	-17	90
	LAST HALF OF INNING	1					90
BUFORD	KOOSMAN	1	NONE	0	0	-42	48
BLAIR	KOOSMAN	2	NONE	0	0	-31	17
ROBINSON,F	KOOSMAN	3	NONE	0	0	-17	0
	FIRST HALF OF INNING	2					0
CLENDENON	MCNALLY	0	1ST	0	0	77	-77
SWOBODA	MCNALLY	1	1ST	0	0	-72	-5
CHARLES	MCNALLY	2	1ST	0	0	-60	55
CHARLES	MCNALLY	2	2ND	0	0	23	32
GROTE	MCNALLY	3	NONE	0	0	-64	96
	LAST HALF OF INNING	2					96
POWELL	KOOSMAN	1	NONE	0	0	-45	51
ROBINSON,B	KOOSMAN	2	NONE	0	0	-32	19
JOHNSON	KOOSMAN	2	1ST	0	0	22	41
ETCHEBARREN	KOOSMAN	3	NONE	0	0	-41	0

	FIRST HALF OF INNING 3						0
WEIS	MCNALLY	0	1ST	0	0	82	-82
KOOSMAN	MCNALLY	1	1ST	0	0	-77	-5
AGEE	MCNALLY	2	1ST	0	0	-64	59
HARRELSON	MCNALLY	2	1ST,2ND	0	0	51	8
JONES	MCNALLY	3	NONE	0	0	-95	103
	LAST HALF OF INNING 3						103
BELANGER	KOOSMAN	1	NONE	0	0	-48	55
MCNALLY	KOOSMAN	2	NONE	0	0	-35	20
BUFORD	KOOSMAN	3	NONE	0	0	-20	0
	FIRST HALF OF INNING 4						0
CLENDENON	MCNALLY	0	NONE	1	0	272	-272
SWOBODA	MCNALLY	1	NONE	1	0	-43	-229
CHARLES	MCNALLY	2	NONE	1	0	-31	-198
GROTE	MCNALLY	3	NONE	1	0	-18	-180
	LAST HALF OF INNING 4						-180
BLAIR	KOOSMAN	1	NONE	1	0	-60	-240
ROBINSON,F	KOOSMAN	2	NONE	1	0	-41	-281
POWELL	KOOSMAN	3	NONE	1	0	-24	-305
	FIRST HALF OF INNING 5						-305
WEIS	MCNALLY	1	NONE	1	0	-44	-261
KOOSMAN	MCNALLY	2	NONE	1	0	-31	-230
AGEE	MCNALLY	3	NONE	1	0	-19	-211
	LAST HALF OF INNING 5						-211
ROBINSON,B	KOOSMAN	1	NONE	1	0	-67	-278
JOHNSON	KOOSMAN	2	NONE	1	0	-47	-325
ETCHEBARREN	KOOSMAN	3	NONE	1	0	-28	-353
	FIRST HALF OF INNING 6						-353
HARRELSON	MCNALLY	1	NONE	1	0	-45	-308
JONES	MCNALLY	2	NONE	1	0	-33	-275
CLENDENON	MCNALLY	3	NONE	1	0	-19	-256
	LAST HALF OF INNING 6						-256
BELANGER	KOOSMAN	1	NONE	1	0	-78	-334
MCNALLY	KOOSMAN	2	NONE	1	0	-56	-390
BUFORD	KOOSMAN	3	NONE	1	0	-32	-422
	FIRST HALF OF INNING 7						-422
SWOBODA	MCNALLY	1	NONE	1	0	-43	-379
CHARLES	MCNALLY	1	2ND	1	0	91	-470
GROTE	MCNALLY	2	2ND	1	0	-75	-395
WEIS	MCNALLY	2	1ST,2ND	1	0	19	-414
KOOSMAN	MCNALLY	3	NONE	1	0	-87	-327

		LAST HALF OF INNING	7					-327
BLAIR	KOOSMAN	0	1ST		1	0	159	-168
ROBINSON,F	KOOSMAN	1	1ST		1	0	-148	-316
POWELL	KOOSMAN	2	1ST		1	0	-125	-441
BLAIR	KOOSMAN	2	2ND		1	0	50	-391
ROBINSON,B	KOOSMAN	2	1ST		1	1	461	70
JOHNSON	KOOSMAN	3	NONE		1	1	-70	0
		FIRST HALF OF INNING	8					0
AGEE	MCNALLY	1	NONE		1	1	-88	88
HARRELSON	MCNALLY	2	NONE		1	1	-66	154
JONES	MCNALLY	3	NONE		1	1	-41	195
		LAST HALF OF INNING	8					195
ETCHEBARREN	KOOSMAN	1	NONE		1	1	-87	108
BELANGER	KOOSMAN	2	NONE		1	1	-66	42
MCNALLY	KOOSMAN	3	NONE		1	1	-42	0
		FIRST HALF OF INNING	9					0
CLENDENON	MCNALLY	1	NONE		1	1	-109	109
SWOBODA	MCNALLY	2	NONE		1	1	-83	192
CHARLES	MCNALLY	2	1ST		1	1	52	140
GROTE	MCNALLY	2	1ST,3RD		1	1	161	-21
WEIS	MCNALLY	2	1ST,2ND		2	1	678	-699
KOOSMAN	MCNALLY	3	NONE		2	1	-55	-644
		LAST HALF OF INNING	9					-644
BUFORD	KOOSMAN	1	NONE		2	1	-163	-807
BLAIR	KOOSMAN	2	NONE		2	1	-120	-927
ROBINSON,F	KOOSMAN	2	1ST		2	1	86	-841
POWELL	KOOSMAN	2	1ST,2ND		2	1	163	-678
ROBINSON,B	TAYLOR	3	NONE		2	1	-322	-1000

LINE SCORE

INNING	1	2	3	4	5	6	7	8	9	FINAL
NEW YORK	0	0	0	1	0	0	0	0	1	2
BALTIMORE	0	0	0	0	0	0	1	0	0	1

OFFENSE BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
ROBINSON,B	0.523	4	461	421	40
BLAIR	0.498	5	209	211	-2
POWELL	0.457	4	163	194	-31
ROBINSON,F	0.295	4	86	206	-120
JOHNSON	0.158	3	22	117	-95
BELANGER	0.000	3	0	192	-192
BUFORD	0.000	4	0	257	-257
ETCHEBARREN	0.000	3	0	156	-156
MCNALLY	0.000	3	0	133	-133

PITCHER BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MCNALLY	0.495	36	1452	1483	-31

OFFENSE NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
WEIS	0.947	4	779	44	735
CLENDENON	0.732	4	349	128	221
CHARLES	0.611	4	143	91	52
GROTE	0.506	4	161	157	4
HARRELSON	0.266	4	51	141	-90
AGEE	0.000	4	0	214	-214
SWOBODA	0.000	4	0	241	-241
JONES	0.000	4	0	186	-186
KOOSMAN	0.000	4	0	250	-250

PITCHER NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
TAYLOR	1.000	1	322	0	322
KOOSMAN	0.625	32	1565	941	624

Game #3

If the world had never heard of Tommy Agee before they sure have now. Sensational play by Agee overshadowed the continued good performance of Mets' pitchers in the third game of the World Series.

As you will recall, Agee made two beautiful catches that really did save 5 runs. He also led off the game with a home run, and as it turned out, that's all New York needed.

Agee's performance is a perfect example of what we mean when we say some things aren't measurable by any statistic. The home run is measurable—it increased New York's chance of winning a certain amount. But those catches—no way to put a number on them as things stand today.

Here's why. In the first place, if he had made the catches with none out and the bases empty the fan reaction would not have been nearly so great. So even the unmeasurable plays are affected by the situation. In these cases there were two on and two out and three on and two out. If he doesn't catch the ball all the base runners score. If he does catch the ball, the inning is over. Great clutch situations.

But here's the real problem in trying to statistically measure those plays, and this is not intended to downgrade Agee in any way. Maybe, just maybe, some other center fielder like, say, Willie Mays or Joe MiMaggio, could have reached those fly balls sooner, and made the play seem routine. On the other hand, lots of fielders may not have gotten within 10 feet of the ball and they would seem like good solid extra base hits. It's strictly a judgment decision on the part of observers at the game.

Back to the game. There were two home runs hit in the game, and we're certain the personal satisfaction was just as great for one as the other. A World Series home run is a tremendous personal achievement, no doubt about it.

Nevertheless, some help to win games more than others. Agee's homer changed the Game Status from 90 to 304 for a total of 214 Win Points for Agee. It was only the first inning with nobody on, but the score was tied. On the other hand, Ed Kranepool's homer came late in the game (last of eighth), nobody on, but the Mets already led by four. The game was practically won at this point, so that extra run changed the Game Status only from 979 to 991—just 12 Win Points for Kranepool. But that doesn't take a thing away from the personal accomplishment, does it?

We said the game was practically won. We think most fans recognized that fact at the time. But a strange thing occurred in the top of the ninth, and Curt Gowdy and the NBC camera director thought it worth pointing out to us viewers. With two out and a runner on first, trailing by five, Clay Dalrymple batted for Dave Leonhard who had been pitching.

That meant the pitcher had been removed from the game, and no other pitcher would be required if Baltimore didn't score five runs. It was at this point that we got a look at the silent Oriole bullpen, where not a creature was stirring.

PLAY BALL---1969 WORLD SERIES, GAME NUMBER 3

BALTIMORE AT NEW YORK 14/10/69

PLAYER		* SITUATION *		SCORE		WIN/ LOSS	GAME
OFFENSE	DEFENSE	OUT	MEN-ON-BASE	V	H	POINTS	STATUS
	FIRST HALF OF INNING 1						0
BUFORD	GENTRY	1	NONE	0	0	-43	43
BLAIR	GENTRY	2	NONE	0	0	-30	73
ROBINSON,F	GENTRY	2	1ST	0	0	21	52
POWELL	GENTRY	3	NONE	0	0	-38	90
	LAST HALF OF INNING 1						90
AGEE	PALMER	0	NONE	0	1	214	304
GARRETT	PALMER	1	NONE	0	1	-36	268
JONES	PALMER	2	NONE	0	1	-26	242
SHAMSKY	PALMER	3	NONE	0	1	-15	227

	FIRST HALF OF INNING 2						227
ROBINSON,B	GENTRY	1	NONE	0	1	-48	275
HENDRICKS	GENTRY	2	NONE	0	1	-33	308
JOHNSON	GENTRY	3	NONE	0	1	-18	326
	LAST HALF OF INNING 2						326
BOSWELL	PALMER	1	NONE	0	1	-37	289
KRANEPOOL	PALMER	2	NONE	0	1	-27	262
GROTE	PALMER	2	1ST	0	1	19	281
HARRELSON	PALMER	2	1ST,2ND	0	1	39	320
GENTRY	PALMER	2	2ND	0	3	341	661
AGEE	PALMER	3	NONE	0	3	-31	630
	FIRST HALF OF INNING 3						630
BELANGER	GENTRY	1	NONE	0	3	-40	670
PALMER	GENTRY	2	NONE	0	3	-26	696
BUFORD	GENTRY	3	NONE	0	3	-15	711
	LAST HALF OF INNING 3						711
GARRETT	PALMER	0	1ST	0	3	32	743
JONES	PALMER	1	1ST	0	3	-31	712
SHAMSKY	PALMER	2	2ND	0	3	-14	698
BOSWELL	PALMER	3	NONE	0	3	-30	668
	FIRST HALF OF INNING 4						668
BLAIR	GENTRY	1	NONE	0	3	-41	709
ROBINSON,F	GENTRY	1	1ST	0	3	45	664
POWELL	GENTRY	1	1ST,3RD	0	3	123	541
ROBINSON,B	GENTRY	2	1ST,3RD	0	3	-125	666
HENDRICKS	GENTRY	3	NONE	0	3	-85	751
	LAST HALF OF INNING 4						751
KRANEPOOL	PALMER	1	NONE	0	3	-18	733
GROTE	PALMER	2	NONE	0	3	-13	720
HARRELSON	PALMER	2	1ST	0	3	9	729
HARRELSON	POWELL	2	2ND	0	3	11	740
GENTRY	PALMER	3	NONE	0	3	-28	712
	FIRST HALF OF INNING 5						712
JOHNSON	GENTRY	1	NONE	0	3	-42	754
BELANGER	GENTRY	2	NONE	0	3	-28	782
PALMER	GENTRY	3	NONE	0	3	-14	796
	LAST HALF OF INNING 5						796
AGEE	PALMER	1	NONE	0	3	-15	781
GARRETT	PALMER	1	1ST	0	3	17	798
JONES	PALMER	2	1ST	0	3	-21	777
SHAMSKY	PALMER	3	NONE	0	3	-15	762
	FIRST HALF OF INNING 6						762
BUFORD	GENTRY	1	NONE	0	3	-43	805
BLAIR	GENTRY	2	NONE	0	3	-27	832
ROBINSON,F	GENTRY	2	1ST	0	3	20	812
POWELL	GENTRY	2	1ST,3RD	0	3	52	760
ROBINSON,B	GENTRY	3	NONE	0	3	-86	846

		LAST HALF OF INNING 6					846
BOSWELL	PALMER	0	1ST	0	3	20	866
KRANEPOOL	PALMER	1	2ND	0	3	-5	861
GROTE	PALMER	1	2ND	0	4	66	927
HARRELSON	PALMER	2	2ND	0	4	-12	915
GENTRY	PALMER	3	NONE	0	4	-11	904
		FIRST HALF OF INNING 7					904
HENDRICKS	GENTRY	1	NONE	0	4	-26	930
JOHNSON	GENTRY	2	NONE	0	4	-15	945
BELANGER	GENTRY	2	1ST	0	4	11	934
MAY	GENTRY	2	1ST,2ND	0	4	26	908
BUFORD	GENTRY	2	LOADED	0	4	50	858
BLAIR	RYAN	3	NONE	0	4	-94	952
		LAST HALF OF INNING 7					952
AGEE	LEONHARD	0	1ST	0	4	7	959
GARRETT	LEONHARD	1	2ND	0	4	-2	957
JONES	LEONHARD	2	2ND	0	4	-7	950
SHAMSKY	LEONHARD	3	NONE	0	4	-7	943
		FIRST HALF OF INNING 8					943
ROBINSON,F	RYAN	1	NONE	0	4	-21	964
POWELL	RYAN	2	NONE	0	4	-12	976
ROBINSON,B	RYAN	3	NONE	0	4	-5	981
		LAST HALF OF INNING 8					981
GASPAR	LEONHARD	1	NONE	0	4	-2	979
KRANEPOOL	LEONHARD	1	NONE	0	5	12	991
GROTE	LEONHARD	2	NONE	0	5	0	991
HARRELSON	LEONHARD	3	NONE	0	5	0	991
		FIRST HALF OF INNING 9					991
HENDRICKS	RYAN	1	NONE	0	5	-6	997
JOHNSON	RYAN	2	NONE	0	5	-2	999
BELANGER	RYAN	2	1ST	0	5	1	998
DALRYMPLE	RYAN	2	1ST,2ND	0	5	4	994
BUFORD	RYAN	2	LOADED	0	5	13	981
BLAIR	RYAN	3	NONE	0	5	-19	1000

LINE SCORE

INNING	1	2	3	4	5	6	7	8	9	FINAL
BALTIMORE	0	0	0	0	0	0	0	0	0	0
NEW YORK	1	2	0	0	0	1	0	1	0	5

PITCHER BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
LEONHARD	0.486	8	18	19	-1
PALMER	0.337	27	385	757	-372

OFFENSE BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MAY	1.000	1	26	0	26
DALRYMPLE	1.000	1	4	0	4
ROBINSON,F	0.804	4	86	21	65
POWELL	0.778	4	175	50	125
BUFORD	0.384	5	63	101	-38
BELANGER	0.150	4	12	68	-56
ROBINSON,B	0.000	4	0	264	-264
BLAIR	0.000	5	0	211	-211
HENDRICKS	0.000	4	0	150	-150
JOHNSON	0.000	4	0	77	-77
PALMER	0.000	2	0	40	-40

OFFENSE NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
GENTRY	0.897	3	341	39	302
GROTE	0.867	4	85	13	72
AGEE	0.828	4	221	46	175
HARRELSON	0.800	4	48	12	36
GARRETT	0.563	4	49	38	11
BOSWELL	0.230	3	20	67	-47
KRANEPOOL	0.194	4	12	50	-38
SHAMSKY	0.000	4	0	51	-51
JONES	0.000	4	0	85	-85
GASPAR	0.000	1	0	2	-2

PITCHER NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
RYAN	0.898	10	159	18	141
GENTRY	0.703	28	823	348	475

Game #4

"I throw the first pitch I've ever thrown in a World Series, and there goes the ball game." That's Baltimore reliever Pete Richert talking about the play in the last of the tenth inning of the fourth game where he fielded a fine bunt by pinch hitter J. C. Martin and threw to first. However, the ball hit Martin on the wrist, allowing the winning run to score all the way from second base.

That play did end the game and it did give New York its third straight win, but the game wasn't exactly up for grabs at this point. The Game Status in the play by play was +629 when Richert appeared on the scene. That means New York had an 81 percent chance of winning in the last of the tenth with runners on first and second and nobody out.

Richert was charged with an error when the ball hit Martin. Had there been no error, Martin would have been out, and the runners would have advanced to second and third. Martin receives 70 Win Points for advancing the team's chance of winning from 81 to 85 percent, and Richert, as a pitcher, receives 70 Loss Points (shown in next to last line of play by play).

That's what would have happened under normal play, and we so score it. But we also have to show what actually happened and the last line of the play by play does that. The error cost Richert 301 Loss Points *as a fielder,* and even though Martin's name shows as the offense player, the 301 Win Points go to the team as a whole, and not to an individual player. That was the biggest clutch mechanical error of the Series, and those 301 Loss Points verify it.

In the first half of the ninth of the play by play we can see one of the reasons why Boog Powell had a very good .560 Player Win Average for the Series. It's an actual game play of the example used earlier. Frank Robinson singled with one out, Powell followed with a single that

moved F. Robby to third and Brooks Robinson drove him in with a sacrifice fly.

So what happens? Frank scores the run, Brooks gets an RBI and, surprise, Powell gets the most Win Points! All three played a part in getting the run, but Powell's contribution was by far the greatest, and we bet a lot of people didn't know that. As a matter of fact, it was the fifth biggest offensive play of the Series.

PLAY BALL---1969 WORLD SERIES, GAME NUMBER 4

BALTIMORE AT NEW YORK 15/10/69

PLAYER		* SITUATION *		SCORE		WIN/ LOSS	GAME
OFFENSE	DEFENSE	OUT	MEN-ON-BASE	V	H	POINTS	STATUS
		FIRST HALF OF INNING 1					0
BUFORD	SEAVER	1	NONE	0	0	-43	43
BLAIR	SEAVER	1	1ST	0	0	47	-4
ROBINSON,F	SEAVER	2	1ST	0	0	-56	52
POWELL	SEAVER	3	NONE	0	0	-38	90
		LAST HALF OF INNING 1					90
AGEE	CUELLAR	1	NONE	0	0	-42	48
HARRELSON	CUELLAR	1	1ST	0	0	46	94
JONES	CUELLAR	3	NONE	0	0	-94	0
		FIRST HALF OF INNING 2					0
ROBINSON,B	SEAVER	1	NONE	0	0	-45	45
HENDRICKS	SEAVER	1	1ST	0	0	50	-5
JOHNSON	SEAVER	2	1ST	0	0	-60	55
JOHNSON	SEAVER	3	NONE	0	0	-41	96
		LAST HALF OF INNING 2					96
CLENDENON	CUELLAR	0	NONE	0	1	230	326
SWOBODA	CUELLAR	1	NONE	0	1	-37	289
CHARLES	CUELLAR	2	NONE	0	1	-27	262
GROTE	CUELLAR	3	NONE	0	1	-15	247
		FIRST HALF OF INNING 3					247
BELANGER	SEAVER	0	1ST	0	1	89	158
CUELLAR	SEAVER	0	1ST,2ND	0	1	147	11
BUFORD	SEAVER	1	1ST,3RD	0	1	-69	80
BLAIR	SEAVER	2	2ND,3RD	0	1	-138	218
ROBINSON,F	SEAVER	3	NONE	0	1	-136	354

		LAST HALF OF INNING	3				354
WEIS	CUELLAR	0	1ST	0	1	64	418
SEAVER	CUELLAR	1	1ST	0	1	-60	358
AGEE	CUELLAR	1	1ST,2ND	0	1	69	427
HARRELSON	CUELLAR	2	2ND,3RD	0	1	-52	375
JONES	CUELLAR	3	NONE	0	1	-103	272
		FIRST HALF OF INNING	4				272
POWELL	SEAVER	1	NONE	0	1	-56	328
ROBINSON,B	SEAVER	2	NONE	0	1	-40	368
HENDRICKS	SEAVER	3	NONE	0	1	-22	390
		LAST HALF OF INNING	4				390
CLENDENON	CUELLAR	1	NONE	0	1	-39	351
SWOBODA	CUELLAR	1	1ST	0	1	42	393
CHARLES	CUELLAR	2	1ST	0	1	-51	342
SWOBODA	CUELLAR	3	NONE	0	1	-36	306
		FIRST HALF OF INNING	5				306
JOHNSON	SEAVER	1	NONE	0	1	-62	368
BELANGER	SEAVER	2	NONE	0	1	-44	412
CUELLAR	SEAVER	3	NONE	0	1	-26	438
		LAST HALF OF INNING	5				438
GROTE	CUELLAR	1	NONE	0	1	-40	398
WEIS	CUELLAR	1	1ST	0	1	43	441
SEAVER	CUELLAR	3	NONE	0	1	-88	353
		FIRST HALF OF INNING	6				353
BUFORD	SEAVER	1	NONE	0	1	-72	425
BLAIR	SEAVER	1	1ST	0	1	81	344
ROBINSON,F	SEAVER	2	1ST	0	1	-95	439
POWELL	SEAVER	3	NONE	0	1	-66	505
		LAST HALF OF INNING	6				505
AGEE	CUELLAR	1	NONE	0	1	-38	467
HARRELSON	CUELLAR	2	NONE	0	1	-28	439
JONES	CUELLAR	3	NONE	0	1	-17	422
		FIRST HALF OF INNING	7				422
ROBINSON,B	SEAVER	1	NONE	0	1	-85	507
HENDRICKS	SEAVER	2	NONE	0	1	-61	568
JOHNSON	SEAVER	3	NONE	0	1	-35	603
		LAST HALF OF INNING	7				603
CLENDENON	CUELLAR	1	NONE	0	1	-33	570
SWOBODA	CUELLAR	1	1ST	0	1	35	605
CHARLES	CUELLAR	2	1ST	0	1	-43	562
GROTE	CUELLAR	3	NONE	0	1	-32	530
		FIRST HALF OF INNING	8				530
BELANGER	SEAVER	1	NONE	0	1	-105	635
MAY	SEAVER	2	NONE	0	1	-76	711
BUFORD	SEAVER	3	NONE	0	1	-44	755

		LAST HALF OF INNING 8					755
WEIS	WATT	1	NONE	0	1	-23	732
SEAVER	WATT	2	NONE	0	1	-17	715
AGEE	WATT	3	NONE	0	1	-11	704
		FIRST HALF OF INNING 9					704
BLAIR	SEAVER	1	NONE	0	1	-138	842
ROBINSON,F	SEAVER	1	1ST	0	1	155	687
POWELL	SEAVER	1	1ST,3RD	0	1	436	251
ROBINSON,B	SEAVER	2	1ST	1	1	111	140
HENDRICKS	SEAVER	3	NONE	1	1	-105	245
		LAST HALF OF INNING 9					245
HARRELSON	WATT	1	NONE	1	1	-106	139
JONES	WATT	1	1ST	1	1	104	243
CLENDENON	WATT	2	1ST	1	1	-139	104
SWOBODA	WATT	2	1ST,3RD	1	1	165	269
SHAMSKY	WATT	3	NONE	1	1	-269	0
		FIRST HALF OF INNING 10					0
JOHNSON	SEAVER	0	1ST	1	1	165	-165
BELANGER	SEAVER	1	1ST	1	1	-162	-3
DALRYMPLE	SEAVER	1	1ST,2ND	1	1	176	-179
BUFORD	SEAVER	2	1ST,3RD	1	1	-158	-21
BLAIR	SEAVER	3	NONE	1	1	-266	245
		LAST HALF OF INNING 10					245
GROTE	HALL	0	2ND	1	1	372	617
WEIS	HALL	0	1ST,2ND	1	1	12	629
MARTIN	RICHERT	1	2ND,3RD	1	1	70	699
MARTIN	RICHERT	0	1ST,3RD	1	2	301	1000

LINE SCORE

INNING	1	2	3	4	5	6	7	8	9	10	FINAL
BALTIMORE	0	0	0	0	0	0	0	0	1	0	1
NEW YORK	0	1	0	0	0	0	0	0	0	1	2

OFFENSE BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
DALRYMPLE	1.000	1	176	0	176
CUELLAR	0.850	2	147	26	121
POWELL	0.732	4	436	160	276
JOHNSON	0.455	5	165	198	-33
ROBINSON,B	0.395	4	111	170	-59
ROBINSON,F	0.351	4	155	287	-132
BELANGER	0.222	4	89	311	-222
HENDRICKS	0.210	4	50	188	-138
BLAIR	0.191	5	128	542	-414
BUFORD	0.000	5	0	386	-386
MAY	0.000	1	0	76	-76

PITCHER BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
WATT	0.677	8	565	269	296
CUELLAR	0.623	26	875	529	346
HALL	0.000	2	0	384	-384
RICHERT	0.000	1	0	70	-70

OFFENSE NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MARTIN	1.000	1	70	0	70
WEIS	0.838	4	119	23	96
GROTE	0.810	4	372	87	285
SWOBODA	0.768	5	242	73	169
CLENDENON	0.522	4	230	211	19
AGEE	0.431	4	69	91	-22
JONES	0.327	4	104	214	-110
HARRELSON	0.198	4	46	186	-140
CHARLES	0.000	3	0	121	-121
SHAMSKY	0.000	1	0	269	-269
SEAVER	0.000	3	0	165	-165

PITCHER NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
SEAVER	0.617	39	2344	1457	887

Game #5

The second and third biggest plays of the 1969 Series came in the fifth and final game. "As I neared second base I looked up and it was gone," was the way Al Weiss, in awe, described the second biggest play, which was worth 490 Win Points. It was a lead off home run in the last of the seventh, and tied the score at 3–3.

It turned the game around, and moved the Game Status from −327 to +163. Or, said another way, it moved New York's chance of winning from 33.6 percent to 58.0 percent. So Al Weiss gets the two biggest offensive plays of the Series.

Then, in the bottom of the eighth Ron Swoboda, one of our best Hidden Heroes, came through with the third biggest offensive play of the Series. With Cleon Jones on second as a result of a leadoff double (worth 290 Win Points), one out and the score tied, Swoboda hit a solid blow to left that Buford couldn't quite reach. It knocked in the lead run and Swoboda ended up on second base.

The reason that play is worth so much more than if it had happened in the second or third inning is just because of that—the inning. When a team gets a one run lead in the last of the eighth that means the opposition has only three outs left to catch up. If it happens in the bottom of the second, the opposition has 21 outs left to catch up. That's why we ask "what's the inning, what's the score?" when we talk to people who keep track of how players do with men on base.

And Baltimore didn't catch up before using up their last three outs, and the Mets became the World Champions. The WHO became the WHAT? That's right. As Shirley Povich—the sports editor of *The Washington Post* —put it, "First the National League pennant, and now the World Series, the whole thing, belonged to The Little Team That Dared"!

PLAY BALL---1969 WORLD SERIES, GAME NUMBER 5

BALTIMORE AT NEW YORK 16/10/69

PLAYER		* SITUATION		* SCORE		WIN/ LOSS	GAME
OFFENSE	DEFENSE	OUT	MEN-ON-BASE	V	H	POINTS	STATUS
		FIRST HALF OF INNING 1					0
BUFORD	KOOSMAN	1	NONE	0	0	-43	43
BLAIR	KOOSMAN	2	NONE	0	0	-30	73
ROBINSON,F	KOOSMAN	3	NONE	0	0	-17	90
		LAST HALF OF INNING 1					90
AGEE	MCNALLY	0	1ST	0	0	72	162
HARRELSON	MCNALLY	1	1ST	0	0	-68	94
AGEE	MCNALLY	1	2ND	0	0	37	131
JONES	MCNALLY	2	3RD	0	0	-56	75
CLENDENON	MCNALLY	2	1ST,3RD	0	0	19	94
SWOBODA	MCNALLY	3	NONE	0	0	-94	0
		FIRST HALF OF INNING 2					0
POWELL	KOOSMAN	1	NONE	0	0	-45	45
ROBINSON,B	KOOSMAN	2	NONE	0	0	-33	78
JOHNSON	KOOSMAN	2	1ST	0	0	23	55
ETCHEBARREN	KOOSMAN	3	NONE	0	0	-41	96
		LAST HALF OF INNING 2					96
CHARLES	MCNALLY	1	NONE	0	0	-45	51
GROTE	MCNALLY	2	NONE	0	0	-32	19
WEIS	MCNALLY	3	NONE	0	0	-19	0
		FIRST HALF OF INNING 3					0
BELANGER	KOOSMAN	0	1ST	0	0	82	-82
MCNALLY	KOOSMAN	0	NONE	2	0	378	-460
BUFORD	KOOSMAN	1	NONE	2	0	-32	-428
BLAIR	KOOSMAN	2	NONE	2	0	-23	-405
ROBINSON,F	KOOSMAN	2	NONE	3	0	185	-590
POWELL	KOOSMAN	3	NONE	3	0	-10	-580
		LAST HALF OF INNING 3					-580
KOOSMAN	MCNALLY	0	2ND	3	0	123	-457
AGEE	MCNALLY	1	2ND	3	0	-89	-546
HARRELSON	MCNALLY	2	2ND	3	0	-69	-615
JONES	MCNALLY	3	NONE	3	0	-53	-668
		FIRST HALF OF INNING 4					-668
ROBINSON,B	KOOSMAN	1	NONE	3	0	-22	-646
JOHNSON	KOOSMAN	2	NONE	3	0	-16	-630
ETCHEBARREN	KOOSMAN	3	NONE	3	0	-10	-620
		LAST HALF OF INNING 4					-620
CLENDENON	MCNALLY	1	NONE	3	0	-46	-666
SWOBODA	MCNALLY	1	1ST	3	0	51	-615
CHARLES	MCNALLY	2	1ST	3	0	-59	-674
GROTE	MCNALLY	3	NONE	3	0	-38	-712

		FIRST HALF OF INNING 5					-712
BELANGER	KOOSMAN	1	NONE	3	0	-20	-692
MCNALLY	KOOSMAN	2	NONE	3	0	-15	-677
BUFORD	KOOSMAN	3	NONE	3	0	-9	-668
		LAST HALF OF INNING 5					-668
WEIS	MCNALLY	1	NONE	3	0	-47	-715
KOOSMAN	MCNALLY	2	NONE	3	0	-31	-746
AGEE	MCNALLY	2	1ST	3	0	23	-723
HARRELSON	MCNALLY	3	NONE	3	0	-39	-762
		FIRST HALF OF INNING 6					-762
BLAIR	KOOSMAN	1	NONE	3	0	-18	-744
ROBINSON,F	KOOSMAN	2	NONE	3	0	-13	-731
POWELL	KOOSMAN	2	1ST	3	0	9	-740
ROBINSON,B	KOOSMAN	3	NONE	3	0	-17	-723
		LAST HALF OF INNING 6					-723
JONES	MCNALLY	0	1ST	3	0	89	-634
CLENDENON	MCNALLY	0	NONE	3	2	378	-256
SWOBODA	MCNALLY	1	NONE	3	2	-78	-334
CHARLES	MCNALLY	2	NONE	3	2	-56	-390
GROTE	MCNALLY	3	NONE	3	2	-32	-422
		FIRST HALF OF INNING 7					-422
JOHNSON	KOOSMAN	1	NONE	3	2	-43	-379
ETCHEBARREN	KOOSMAN	2	NONE	3	2	-33	-346
BELANGER	KOOSMAN	3	NONE	3	2	-19	-327
		LAST HALF OF INNING 7					-327
WEIS	MCNALLY	0	NONE	3	3	490	163
KOOSMAN	MCNALLY	1	NONE	3	3	-74	89
AGEE	MCNALLY	2	NONE	3	3	-55	34
HARRELSON	MCNALLY	3	NONE	3	3	-34	0
		FIRST HALF OF INNING 8					0
MOTTON	KOOSMAN	1	NONE	3	3	-88	88
BUFORD	KOOSMAN	2	NONE	3	3	-66	154
BLAIR	KOOSMAN	3	NONE	3	3	-41	195
		LAST HALF OF INNING 8					195
JONES	WATT	0	2ND	3	3	290	485
CLENDENON	WATT	1	2ND	3	3	-179	306
SWOBODA	WATT	1	2ND	3	4	476	782
CHARLES	WATT	2	2ND	3	4	-40	742
GROTE	WATT	3	NONE	3	4	-38	704
GROTE	POWELL	2	1ST,3RD	3	4	54	758
GROTE	WATT	2	1ST	3	5	120	878
WEIS	WATT	3	NONE	3	5	-10	868
		FIRST HALF OF INNING 9					868
ROBINSON,F	KOOSMAN	0	1ST	3	5	142	726
POWELL	KOOSMAN	1	1ST	3	5	-123	849
ROBINSON,B	KOOSMAN	2	1ST	3	5	-92	941
JOHNSON	KOOSMAN	3	NONE	3	5	-59	1000

LINE SCORE

INNING	1	2	3	4	5	6	7	8	9	FINAL
BALTIMORE	0	0	3	0	0	0	0	0	0	3
NEW YORK	0	0	0	0	0	2	1	2	0	5

OFFENSE — BALTIMORE — SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MCNALLY	0.962	2	378	15	363
ROBINSON,F	0.916	4	327	30	297
BELANGER	0.678	3	82	39	43
JOHNSON	0.163	4	23	118	-95
POWELL	0.048	4	9	178	-169
ROBINSON,B	0.000	4	0	164	-164
BLAIR	0.000	4	0	112	-112
BUFORD	0.000	4	0	150	-150
ETCHEBARREN	0.000	3	0	84	-84
MOTTON	0.000	1	0	88	-88

PITCHER — BALTIMORE — SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MCNALLY	0.465	30	1114	1282	-168
WATT	0.258	6	267	766	-499

OFFENSE — NEW YORK — SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
WEIS	0.866	4	490	76	414
JONES	0.777	4	379	109	270
SWOBODA	0.754	4	527	172	355
CLENDENON	0.638	4	397	225	172
KOOSMAN	0.539	3	123	105	18
AGEE	0.478	5	132	144	-12
HARRELSON	0.000	4	0	210	-210
CHARLES	0.000	4	0	200	-200
GROTE	0.000	4	0	140	-140

PITCHER — NEW YORK — SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
KOOSMAN	0.544	33	978	819	159

3. The 1969 World Series Five Game Summary of Play

Al Weiss started slowly in the first game—getting barely more Win than Loss Points—but from there he came on like Gangbusters. He only played in four games but ended up with a Net plus total of 1277 Points. That's far more than any other Mets player, including pitchers. We agree with Donn Clendenon: in a short series it's a team effort, but if we had to pick the outstanding player according to Player Win Averages there's no question who it would be.

Outside of Weiss and Clendenon the Mets' pitching dominated the Series. Every New York pitcher had more Win than Loss Points, with Jerry Koosman topping the list. On the other hand, only Mike Cuellar, among Baltimore pitchers, ended up with a plus. Strangely enough, Cuellar led all pitchers on both clubs with a Net plus total of 998. That's second only to Weiss among all players.

OFFENSE BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
DALRYMPLE	1.000	2	180	0	180
CUELLAR	0.799	5	290	73	217
MCNALLY	0.719	5	378	148	230
POWELL	0.560	20	802	631	171
ROBINSON,F	0.514	20	654	618	36
BELANGER	0.392	17	405	628	-223
ROBINSON,B	0.344	20	572	1089	-517
JOHNSON	0.316	19	251	543	-292
BUFORD	0.293	22	385	929	-544
MAY	0.255	2	26	76	-50
BLAIR	0.222	24	342	1201	-859
HENDRICKS	0.155	11	70	381	-311
ETCHEBARREN	0.000	6	0	240	-240
MOTTON	0.000	1	0	88	-88
PALMER	0.000	2	0	40	-40

PITCHER BALTIMORE SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
CUELLAR	0.655	62	2110	1112	998
LEONHARD	0.486	8	18	19	-1
MCNALLY	0.481	66	2566	2765	-199
WATT	0.446	14	832	1035	-203
PALMER	0.337	27	385	757	-372
HALL	0.000	2	0	384	-384
RICHERT	0.000	1	0	70	-70

OFFENSE NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
MARTIN	1.000	1	70	0	70
GENTRY	0.897	3	341	39	302
WEIS	0.863	16	1517	240	1277
CLENDENON	0.632	16	1080	630	450
GROTE	0.605	20	727	475	252
SWOBODA	0.604	17	932	611	321
GARRETT	0.563	4	49	38	11
JONES	0.417	20	504	705	-201
AGEE	0.373	21	422	708	-286
KOOSMAN	0.257	7	123	355	-232
HARRELSON	0.241	20	202	635	-433
BOSWELL	0.230	3	20	67	-47
KRANEPOOL	0.194	4	12	50	-38
CHARLES	0.187	15	143	623	-480
SHAMSKY	0.000	6	0	379	-379
DYER	0.000	1	0	28	-28
GASPAR	0.000	2	0	80	-80
SEAVER	0.000	4	0	248	-248

PITCHER NEW YORK SUMMARY OF PLAY

NAME	PWA	SITUATIONS	WIN POINTS	LOSS POINTS	NET POINTS
CARDWELL	1.000	3	15	0	15
TAYLOR	0.986	8	357	5	352
RYAN	0.898	10	159	18	141
GENTRY	0.703	28	823	348	475
KOOSMAN	0.591	65	2543	1760	783
SEAVER	0.556	62	2788	2224	564

Conclusion

The World Series signals the end of another baseball season, and most sports fans start concentrating on football, hockey, and basketball.

It was a great baseball season, no doubt about it, but there were 20 teams who didn't win at least a divisional playoff and some, like Cleveland and the Chicago White Sox, had, for them, a dismal year.

So, even as the fans turn to other sports, the staffs of the major league clubs will be doing baseball business as usual. Meetings, trade talks, winter ball and other baseball matters will be occupying their time right up to the start of the 1970 season.

The reason for all this—the ultimate goal—is to put a better baseball team on the field that will produce a better team win average. The way to get a better team is to get better players and the way to get better players is to be able to more accurately evaluate the skills and potentials of youngsters and veterans alike.

The evaluation process involves two separate and distinct measuring devices. They are (1) all the normal available statistics and (2) personal observation. Actually, we fans evaluate the same way, but then come showdown time we're not responsible, are we?

After the evaluation process all winter long comes contract negotiation time, and it is here we can find marked differences of opinion as to the true worth of a ball player. Management thinks he is worth a certain amount (expressed in dollars and cents) and the player thinks he is worth a certain amount (usually somewhat more than management). This is how the "holdout" comes about.

The strange thing about it is that both sides have used

the same evaluation tools to come to a determination. They have looked at the same statistics and arrived at different conclusions. In addition, the player remembers all those fine clutch plays he made, and would like to forget those times he didn't come through. Management doesn't mind remembering the good plays, but finds it hard to forget the poor ones.

We don't say Player Win Averages will solve this dilemma completely. We do say it will help. It will add another dimension to the evaluation process and it will provide a third measuring device for the use of management, players, and, most importantly, the fans all over the country.

We look forward to a good baseball year in 1970 and, when that vendor comes through the stands and says "you can't tell the players without a scorecard," just remember, "you can't tell the winning players without Player Win Averages."