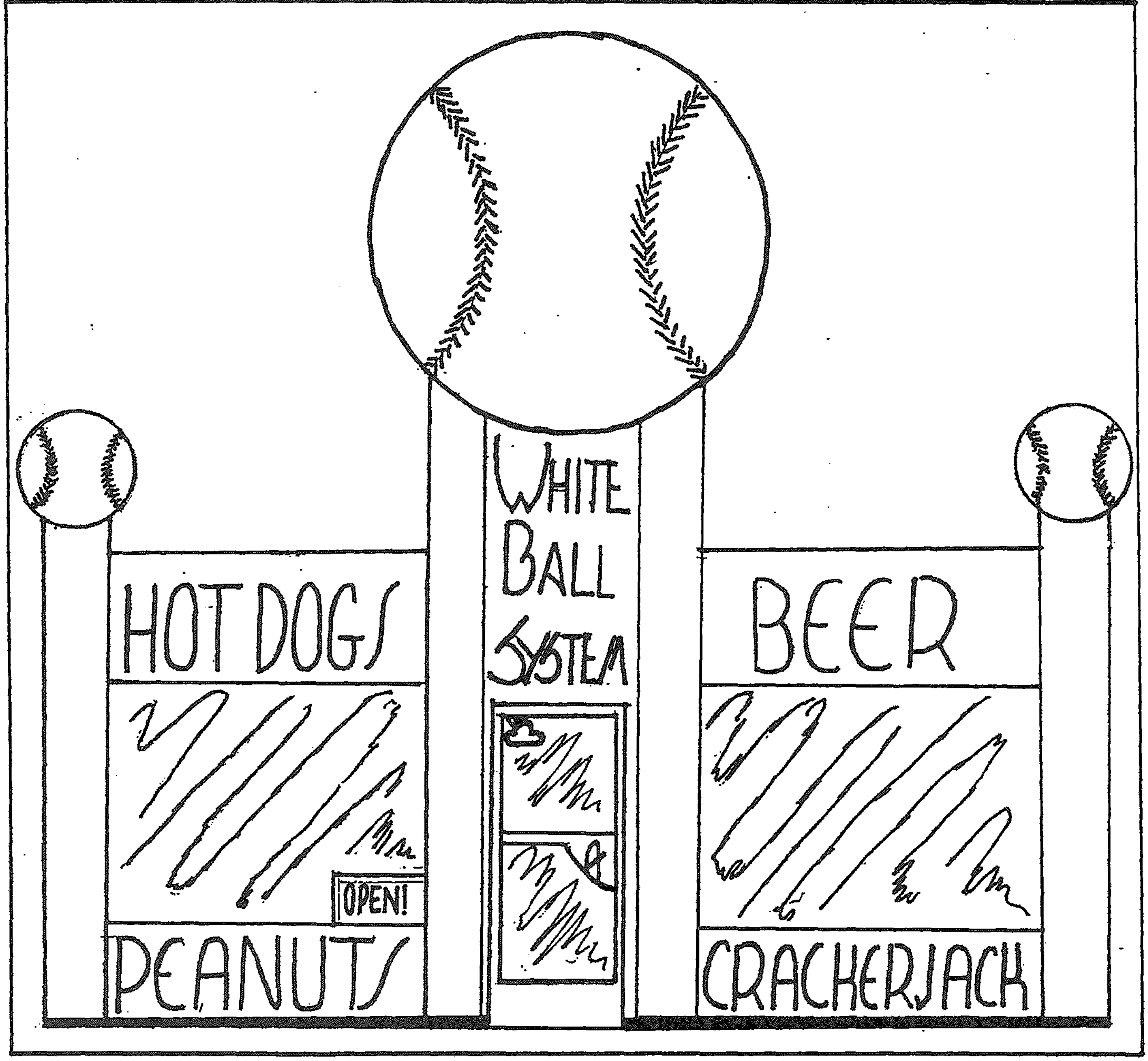
baseball ANALYST

OCTOBER 1983 ISSUE #8



FOOD FOR BASEBALL THOUGHT

EDITOR'S NOTE

USED ESP TO DICTATE ORIOLE STRATEGY!!

UFO'S RAN SERIES

PHILADELPHIA: Strange alien creatures in flying "disks" used very powerful anti-gravity guns to aid the trajectory of Eddie Murray's two Game Five homeruns as well as many other World Series hits it was reported here today. "The aliens apparently took sides and then used all their fancy futuristic hardware and advanced brains to try to effect the outcome of the best-of-seven series," a source very close to someone who was once inside the Pentagon said.....

.....I am seriously giving thought to turning this publication into a real rag. You know, a smarmy tabloid that prints exposes and lies. Of course, the theme would still be baseball, it's just that the editorial outlook would be radically changed. Instead of analyzing men's achievements, we would delve into the cult of personality. Why should atheletes misdoings be confined to the sports page? Why can't their various transgressions of social mores and laws be exposed to a wider public? Why can't there be a tabloid that caters to the sports world? Why should Hollywood and Washington grab all the sordid headlines when baseball players are doing everything in their power to sink to the level of actors and politicians in the private behavior department?

Think of the advantages of such a publication. You could read the Analyst while on line at the supermarket. As you wait to be checked out, headlines such as these would demand your attention: GEORGE BRETT: 'BIG FOOT ATE MY BATS'; A.L. MOUND ACE USED TO BE WOMAN; FORMER PORNO STAR NOW PCL PHENOM; N.L. UMP FORMER NAZI SPY; BIG CITY BALL PLAYERS SACRICE GOAT AND VIRGIN IN VAIN TRY FOR FLAG; OUTFIELD WHIZ ENJOYS KIDNAPPING; and so on. Now face it, aren't these the things inquring minds really want to know?

I think it's about time baseball fans had one continuous source for gossip and slander, don't you? And as editor of the Baseball Analyst, I am going to make it my task to see that this publication makes the transformation from small, academic journal into huge, money-making tabloid. Yes, the first all-yellow journalistic rag sheet in the history of sports writing!

Why have I been driven to this rather extreme change of policy? Some of you must be asking this by now. Well, simply because there is not enough material to carry on in our current fashion. We are fast running out of articles and will soon face a crisis point bordering on extinction. This grand endeavor will cease to be andin its place will rise up a publication of the most tawdry sort.

However, there is a way to stop me.

All you have to do is submit an article or a study.

That's it.

--Jim Baker

World Headquarters
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Lawrence, KS 66044

$12.00 per annum

All Submissions ready for reproduction, please

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October 1983

Founder/Publisher: Bill James
Editor: Jim Baker
Business Manager: Susie McCarthy

Issue no.8

IN THIS ISSUE:

ABOUT THE COVER: Pictured on our cover this time is one of the many White Ball restaurants that populated several major league cities from 1925 to 1954. Architecturally an obvious imitation of the White Tower and White Diamond hamburger stands, the "System" featured food otherwise found at the ball park. This one, located blocks from the site of League Park in Cleveland, is now a store-front church.

THE CHALMERS AWARD: The born-anew Chalmers Award goes to Dale Murphy in the National League and Cal Ripken in the Junior Circuit, by reader's decree. (Don't you hate it when people call the American League the "Junior Circuit?")

Letters

Dear Jim,

Congratulations on your new position as editor of The Analyst. The August issue was splendid.

I see that the periodical is still finding itself short of material; too many readers and not enough writers. I can suggest a very simple way to adjust that imbalance: change the annual subscription renewal price from 12 dollars to 12 dollars plus a publishable article. Apply the change to renewals only, thus giving new subscribers a year to get familiar with the Analyst and to prepare an article for renewal time. In fact you might decide to make the change applicable with the August 1984 issue, catching the charter subscribers at that time and giving everybody at least a year's warning.

Regarding the recent August issue, my deep thanks to Pete Palmer for acquainting me with the Moroney equation, which can be applied to the distribution of runs. This is a very nice, concise equation and it works well. My own equation is a trifle more accurate but it also is more cumbersome computationally. The Moroney equation requires the additional input of runs per game variance; although as Pete points out, the simple assumption that this is exactly twice the mean will give good results. More accurate calculations can be obtained by the empirical relationship

$$\text{VARIANCE} = -.040732 * \text{MEAN}^2 + 2.72649 * \text{MEAN} - 2.10153$$

I'd like to ask Dick O'Brien if, in his work on the distribution of runs scored and batted in as a function of batting order position, he's noted any trend between a team's distributions and that team's compiling a better (or worse) winning percentage than would be predicted from its runs scored and runs allowed figures?

As many Analyst readers are aware, I'm quite interested in teams which are over-efficient or under-efficient; and I've been searching for characteristics indicative of such teams. It occurs to me that possibly over-efficient teams show a more balanced distribution of runs and RBI's up and down the batting order, for example.

My definition of an over-efficient team is one which wins at least four more games than is predicted by my variation of the Bill James "Pythagorean Equation". And an under-efficient team is one which loses at least four more games than was predicted. Given these two definitions, the under- and over-efficient teams during the five year period 1978-1982 are as follows:

YEAR	UNDER-EFFICIENT TEAMS	OVER-EFFICIENT TEAMS
1978	Min,Cle,Mil,Mon,NYM,StL,Phi	Oak,Bal,Atl,ChC,SF,Cin
1979	ChW,NYM,LA,Atl	Cle,Mil,Phi,Hou
1980	Mil,Tex,Cal,Det,StL,ChC	Bos,KC,ChW,NYY,Cle,Hou
1981	Cal,ChW,SD	Bal,Cin
1982	Min,Mon,ChC,Cin	Phi,Atl,SF

In my own studies, I've compiled average season statistics in all the conventional categories for the three groups of teams -- under-efficient, normally-efficient, over-efficient -- utilizing all major league clubs since 1967. Disappointingly there are no clear-cut statistical differences between the groups. This suggests that team efficiency is mainly a matter of luck, or that more subtle parameters, such as the O'Brien distribution of runs and RBI's throughout the batting order, must be considered.

Sincerely,

Dallas Adams

Dallas Adams

PROJECT SCORESHEET
by Bill James

I am beginning here the most important project that I have ever undertaken. And I desperately need your help.

When I began writing about baseball in 1975, I assumed that the scoresheets of major league baseball games were available to the public if you had a valid interest in obtaining them. They are not. The official scoresheets of major league games are the jealously guarded possessions of the bureaus which compile the official statistics. They have not the slightest intention of allowing anyone else to have access to them.

What information could you and I figure if we had access to those scoresheets. Oh, a little stuff. We could figure what everyone hits with men in scoring position. We could figure what they hit with men on base. We could find out whether certain pitchers were more likely to get strikeouts with men on third base than in other situations.

We would be able to know how many runners a relief pitcher allowed to score after he entered the game, and how many men he left out there. We could find out whether a big hitter hit as well in the late innings of a close game as he did at other times. We could figure out how many times each second baseman fielded a ground ball with a runner on first, and how many times he turned a double play on it.

We could find out what each player did against a particular type or class of pitchers--what he hit against power pitchers, and what he hit against junkballers. We could keep books on what each player hit against each pitcher.

We could find out how many errors each catcher made on the throw to second. We could assess the cost of every error, and distinguish between the costly ones and the harmless ones.

We could find out how many times each player was thrown out on the bases. We could find out how many times each player went first-to-third on a single.

AND, MY FRIENDS, I HAVEN'T EVEN STARTED YET. I'VE GOT pages of this stuff--studies that could be done, abilities that could be described, deficiencies that could be measured, strategies that could be evaluated. I don't have the space here even to give you a feel for the knowledge that would be gained. That's in the other letter--the one you must write for.

Let me put it this way. When project scoresheet is completed, when the scoresheets of major league games are available to the public, all previous measures of performance in baseball will become obsolete. Instantly.

I feel it is very wrong of the major leagues to deny us access to those scoresheets--wrong, and illegal. The entire basis of professional sports is the public's interest in what is going on. To deny the public access to information that it cares about is logically equivalent to locking the stadiums and playing the games in private, so that the information will not escape. Wrong, illegal, and stupid.

So we have to do it the hard way--we have to build a network of fans to collect the scoresheets without the help of the leagues.

And maybe that's not so bad. Because if we collect the information, we are in control of the information. If we depended on the leagues, we would wind up with the information that the leagues wanted us to have. If we do it ourselves, we can find out anything we want to know.

Do you ever score games? If you do, my friends, project scoresheet needs you.

I look at it this way: at every major league game , dozens of people are keeping score. Somebody in every major league city scores every game. To bring those people together, and to bring their scoresheets together, is just a little organizational problem.

A little organizational problem which, once solved, will advance our understanding of the game of baseball more than a hundred sabermetricians and analysts could ever do it. The quantum leap; the great leap forward in sabermetrics.

If you're interested, write to me at box 2150, Lawrence, Ks (66044), or call the office at 1-913-749-2998. I'll send you a letter, a longer version of this one. If you're still interested, I'll send you another letter. If you're still interested after that, I'll send you another letter. And by that time, with a little luck, the project will be out of my hands.

Hope to hear from you soon.

SUPPORT PROJECT SCORESHEET

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SCORING SEQUENCES

Barry L Mednick

This is a simple study of run scoring sequences for Giants and A's games played in the last three weeks of June. The games were chosen on the basis of available information, and therefore not all games played during that period are included. I considered an activity as being "involved in scoring" if it got a man on base who later scored, advanced a runner who later scored or batted in a run. I determined the percentage of each type of activity involved in scoring as well as the percentage of run scoring activities employed in an inning when a run was scored. The charts break down the data by Giants, Giants' opponents, A's, A's opponents and totals.

Several factors stood out: The A's pitching is poor, particularly in giving up extra base hits. There is a consistent differential between walks and singles, that is, walks only lead to scores 39% of the time while singles were effective 51% of the time. I had expected these figures to be closer. Passed balls, wild pitches and errors were not as damaging as I had expected either. Ther percentage of men on base involved in run scoring innings was higher than I had anticipated. The running teams (Giants and A's) did not get as much out of their stolen bases as did their opponents. This tends to support the feeling that steals are a mediocre offensive weapon. Sacrifices were rare. Obviously, these teams are familiar with the studies on the value of bunting. The distribution of runs scored per inning had a mean of exactly .5 and 95% of the data points were with two standard deviations.

	SF Giants	SF Opps	Oak As	Oak Opps	Total
At Bats	501	509	673	685	2368
Hits	110	128	173	185	596
Bat Ave	.220	.251	.257	.270	.252
Walks & HBP	63	48	47	73	231
On Base %	.307	.316	.306	.340	.318
Won-Lost	6-9	9-6	7-12	12-7	
Runs	59	69	86	98	312
Runs/Game	3.93	4.60	4.53	5.16	4.59
Earned Runs	51	59	77	90	277
ER / Gane	3.40	3.93	4.05	4.74	4.07
Inn not Scoring	98	98	137	121	454
Inn Scoring	38	37	41	54	170
Percent	28%	27%	23%	31%	27%
Runs/Inn	.434	..511	.483	.560	.500
Runs/Inn Scored	1.55	1.86	2.10	1.81	1.84
Singles	77	94	127	121	419
Involved in Scores	40	53	62	60	215
Percent	52%	56%	49%	50%	51%
Doubles	15	15	28	36	94
Involved	9	11	15	26	61
Percent	60%	73%	54%	72%	65%
Triples	3	7	6	13	29
Involved	2	6	5	12	25
Percent	67%	86%	83%	92%	86%
Home Runs	15	12	12	15	54
Slug Pct	.351	.379	.370	.426	.384

	SF Giants	SF Opps	Oak As	Oak Opps	Total
Steals	25	17	27	21	90
Involved	7	10	11	12	40
Percent	28%	59%	41%	57%	44%
Sac Bunts	5	3	5	6	19
Involved	4	0	3	3	10
Percent	80%	0%	60%	50%	53%
Sac Flies	6	4	6	6	22
Walks & HBP	63	48	47	73	231
Involved	21	18	19	31	89
Percent	33%	38%	40%	42%	39%
Pass Ball & WP	7	3	3	10	23
Involved	2	1	1	4	8
Percent	28%	33%	33%	40%	35%
Opp Errors	15	23	14	14	66
Involved	8	11	10	9	38
Percent	53%	48%	71%	64%	58%
Double Plays	13	9	15	16	53
Involved	0	1	1	0	2
Percent	0%	11%	7%	0%	4%
Balks				3	
Involved				2	
Percent				67%	
Men on Base	186	193	232	269	880
Involved	93	105	121	150	469
Percent	50%	54%	52%	56%	53%

Number and Percentage of Run Scoring Innings Employing

Singles	23 61%	26 70%	31 76%	35 65%	115 68%
Doubles	8 21%	11 30%	13 32%	21 39%	53 31%
Triples	2 5%	6 16%	4 10%	10 19%	22 13%
Home Runs	14 37%	11 30%	11 27%	15 28%	51 30%
Steals	7 18%	9 24%	8 20%	9 17%	33 19%
Errors	8 21%	12 32%	9 22%	8 15%	37 22%
Sac Bunts	4 11%	0 0%	2 5%	3 6%	9 5%
Sac Flies	4 11%	4 11%	6 15%	6 11%	20 12%
Double Plays	0	1 3%	1 2%	0	2 1%
Walks & HBP	16 42%	15 41%	14 34%	22 41%	67 39%
PB & WP	2 5%	1 3%	1 2%	4 7%	8 5%
Balks				2 4%	2 1%
No Hits	2 5%	1 3%	1 2%	0	4 2%

Runs Scored	Number of Innings	
0	454	73%
1	94	15%
2	43	7%
3	15	2%
4	9	1%
5	5	1%
6	3	} 1%
8	1	

ON HANDEDNESS AND PITCHERS' FIELDING

Warren Johnson

To a large extent this is a response to Mark Lazarus' article in the December Analyst, which I enjoyed reading. Lazarus speculates at one point that "it could be that there are proportionately more junk-balling lefties who don't strike out as many as righties." As a lefthanded person I was interested in, and even mildly insulted by, this comment, all the more since I didn't think it was true. I studied the 1982 season; off that season I would say that there is more truth in it than I had thought, though probably less than Lazarus thought.

		BFP	Outs	SO	CA	BBO	Outs % BFP	SO % BFP	CA BBO
NL	L	19373	13761	2871	1022	10890	71.0	14.8	.0938
	R	54729	38869	7429	2804	31440	71.0	13.6	.0892
	T	74102	52630	10300	3826	42330	71.0	13.9	.0904
AL	L	29163	20420	3653	1286	16767	70.0	12.5	.0767
	R	57339	40585	7269	2792	33316	70.2	12.6	.0838
	T	87002	61005	10922	4078	50083	70.1	12.6	.0814

This data would indicate that the reverse is true in the National League. In the American League the strikeout percentage is a little higher for righthanders, mostly because righthanders were slightly more effective than lefthanders in the American League in 1982; the strikeout per out ratios are the same. The CA and BBO columns are in there because this started out to be an article about a fielding statistic for pitchers. The alert reader will have noticed that BBO (batted ball outs) = outs - strikeouts; CA is chances accepted. More on this later.

The obvious reason there are more strikeouts in the National League is the designated hitter rule. National League pitchers had 5118 plate appearances and struck out in 1606 of them (31.4 % of the time). Therefore NL nonpitchers had 68984 plate appearances and struck out in 8694 of them, 12.6 % of the time, the AL percentage exactly.

As a further test of the lefthanded junkballer hypothesis, I divided pitchers into three groups. Group 1 comprises all pitchers who had at least one strikeout per six batters faced, while group 3 has all pitchers who struck out at most one batter for every nine faced. Group 2 has all the others. It bothered me some to use the same standard for both leagues, given the difference in the strikeout percentages, but I rationalized that Joey McLaughlin and Roy Lee Jackson made it into group 1, and they're not exactly Ryne Duren and Dick

Radatz. For the aforementioned fielding statistic I divided pitchers into four classes, so I figured I might as well use those classes here too. Class A is E.RA title qualifiers, class B is pitchers who worked at least 81 innings but not as many as 162, class C between 40 and 80 2/3, class D less than 40. Then I did what I usually do, and that is to ignore the class D pitchers. Following is the breakdown by groups and classes of the pitchers in each league:

NL	1			2			3			T		
	L	R	% L	L	R	% L	L	R	% L	L	R	% L
A	3	7	.300	5	19	.208	0	7	.000	8	33	.195
B	5	6	.455	6	16	.273	4	11	.267	15	33	.313
C	2	5	.286	2	10	.167	5	9	.357	9	24	.273
T	10	18	.357	13	45	.232	9	27	.250	32	90	.262
AL												
A	4	2	.667	6	17	.261	9	11	.450	19	30	.338
B	2	7	.222	6	23	.207	7	12	.368	15	42	.263
C	1	4	.200	9	11	.450	5	9	.357	15	24	.385
T	7	13	.350	21	51	.292	21	32	.396	49	96	.338

The totals compare very nicely with the facts that lefthanders in the NL faced 26.1 % of the batters and recorded 26.1% of the outs, and that lefthanders in the AL faced 33.5% of the batters and recorded 33.5% of the outs.

We may loosely refer to group 1 pitchers as fireballers, to group 3 pitchers as junkballers, to class A pitchers as starters, and to class B pitchers as spot starters and relievers. Many class C pitchers missed time with injuries, and many more were in the minors for some of the year. With these references we may say that among lefthanders, in the National League there are more fireballers than expected, about the right number of junkballers, more spot starters and relievers than expected, and a shortage of starters. In the American League the number of fireballers is about right and there is indeed a large percentage of junkballers. There are a lot of lefthanded starters but few spot starters and relievers.

The group of pitchers that led Lazarus to make his remark is no doubt the subgroup of 9 group 3 class A lefthanded pitchers in the American League. You can probably rattle most of these guys off pretty quick--Caldwell, Flanagan, Gura, Honeycutt, John, McGregor, Splittorff, Tanana, Zahn. Four of these guys pitched in the National League and three of them could fairly be described as flops. Tommy John was none too impressive in his last NL campaign either. Also Honeycutt originally belonged to the Pirates but was traded before he reached the majors. I wouldn't be too crazy about having any of them on my NL team. There is not one pitcher like them who qualified for the NL E.RA title last year. It's no wonder Ross Baumgarten got hammered....I don't know how significant it is that four of the six AL group 1 class A pitchers are lefties. Probably not very.

On to the fielding statistic. It is the "natural" statistic, chances accepted divided by batted ball outs. It is a more precise, if not accurate, statistic than is available for players at any other position, in that only for pitchers can we get a precise count of balls hit into play while they were in the field. Referring back to the first table we see that NL pitchers have higher range factors (or whatever you want to call them) than AL pitchers and that lefthanded NL pitchers are higher than righthanded NL pitchers while righthanded AL pitchers are higher than lefthanded AL pitchers.

There are a couple of simple explanations for the fact that NL pitchers have higher range factors than AL pitchers. The first is that people, primarily pitchers, bunt more in the National League. In fact, American Leaguers bunt 0.88% of the time, while National League nonpitchers bunt 0.75% of the time (again these are 1982 statistics). But since NL pitchers bunted 9.07% of the time, all National Leaguers bunted in 1.32% of their plate appearances. That is, they laid down a successful sacrifice bunt that often. However, even if you assumed that the pitcher gets a chance accepted every time there is a successful sacrifice bunt, subtracted them out of all of the chances accepted and recomputed the range factors, the National Leaguers still come out higher.

Another simple explanation is suggested by Lazarus in his article. He says that there is more stealing in the NL, which is certainly true, and that there are more errant pick-offs because of this, which is almost certainly true. He also says that righthanded pitchers "tend to make more errors, probably because of the tougher pickoff throw to first." This was true in the NL in 1982, but not in the AL. This little table shows errors made by pitchers per batted ball out in 1982:

	NL	AL
L	.0037	.0037
R	.0048	.0035

Getting back to the subject, if one accepts the fact that there are more errant pickoffs in the NL, it also stands to reason that there are more successful ones. Unfortunately, this is as far as we can go on this issue because we, or anyway I, don't have information about how many pickoffs each pitcher had. I will add this--I see Steve Carlton a lot, and it is my considered opinion that he is not at all a good fielder. His range factor isn't very high anyway, but it is quite a bit higher than it would be with a pickoff adjustment.

A third simple explanation is that the NL teams seek more athletic pitchers because they have to hit. In my opinion this is something that should be true, but isn't. In the first place most NL teams use the DH in the minors, and in the second place there are a lot of AL pitchers who would probably hit pretty well if they had to, such as Stieb,

Sutcliffe, Honeycutt, Hough, Caldwell, Langford, Flanagan, Castillo, McGregor, Keough, Guidry. It is also interesting to note that Stieb is the only one of these pitchers to have a particularly high range factor.

There is probably enough in these three simple explanations to account for the difference between leagues, though I don't particularly like any of them. More intriguing is the difference between leagues in the relative performances of lefthanders and righthanders. I checked the consistency of this across groups and classes. It is consistent across five of the six classes, the exception being class C in the American League, and across five of the six groups, the exception being group 2 in the National League. At this point you can start saying things like "Well, if it weren't for Dave LaPoint you wouldn't have that second exception, and if it weren't for two of the class C pitchers who were healthy and pitching all year (and who therefore would be in class B under a less simple-minded classification system), i.e. Kevin Hickey and Ed Vande Berg, plus Jerry Garvin and his great pickoff move, you wouldn't have that other one either." Which is true, but then if you threw out Fernando Valenzuela you'd bring in a new exception. The problem is that the farther you break it down in trying to analyze it, the more you get into the idiosyncracies of individual pitchers.

I was hoping that the breakdown into groups and classes would allow me to make statements about types of pitchers who are good fielders, or at least who have high range factors. On the data I have, I would not feel confident of very many such statements. One I would like to make concerns the group of lefthanded junkballers I brought up earlier. I think some people have the impression that this type of pitcher fields well and makes a lot of plays, pointing to guys like Bobby Shantz, Harvey Haddix and Harry Breechen. Those three certainly represent a valid type of pitcher, and there is an example of the type in the majors, Dan Boone, and he is a good fielder. I don't feel this has anything to do with that group of nine pitchers; their aggregate range factor in 1982 was .0800, under the AL average. The only other such statement I would feel comfortable making is that lefthanded class C pitchers in groups 1 and 2, i.e. <u>not</u> junkballers, do tend to be good fielders at least off the 1982 statistics.

I can make some more subjective comments. Pitchers with reputations as good fielders, like converted center fielders Hickey and Stieb and two-time ex-bullpen mates Tom Burgmeier and Bill Campbell, do have very high range factors year after year. This past year the numbers were Burgmeier .1407, Campbell .1441, Hickey .1276 and Stieb .1105. Stieb led the AL in 1980. He was third in 1982 behind Dan Petry and league leader Bob Stanley. Extreme sinkerball relievers such as Stanley, Dan Quisenberry, Gene Garber, Kent Tekulve and Greg Minton also are perennial high scorers. Quisenberry led all class B pitchers in 1982 at .1758.

Pertinent to the topic of the effect of sacrifice bunts on these range factors is the pitching staff of the Twins. After the trade of Doug Corbett there were no good range factors on the staff and quite a few really bad ones. These included Brad Havens (.0443), Terry Felton (.0335), Frank Viola (.0544), Jack O'Connor (.0280), Paul Boris (.0504) and John Pacella (.0307). The Twins tied a major league record in 1982 with only 40 successful sacrifices against them, and set one by sacrificing successfully only 22 times themselves. The Twins had a terrible fielding pitching staff and yet there was less than one successful sacrifice against them per four games. Obviously they weren't foiling sacrifices right and left. Did a lot of bunts against them go for hits? How much were Twins' pitchers hurt by their own defensive shortcomings? After all, the staff has quite a few good arms and is backed by an excellent outfield. If anybody out there has any information on this, I'd like to hear about it.

It seems likely that knuckleballers will do well in this statistic. The Niekro brothers and Hough are all pretty high in the 1982 statistics, and one would be entitled to question the mobility of all three of them. There's a knuckleballer in the Pirates' organization named Larry Lamonde who was in the Gulf Coast League in 1981 and had a range factor of .2178. Minor league pitchers do tend to have higher range factors, but not that high.

Other observations: some others who usually have high range factors are Dan Petry, Milt Wilcox, John Tudor, Rick Camp and Dennis Lamp. As with everything else, Mike Norris is up and down....the National League top ten seems to fluctuate more than the American League. Mike Krukow was near the bottom in 1980 but near the top in 1982....some pitchers are always near the bottom, such as Jeff Reardon, Dan Spillner, Pete Falcone, Frank LaCorte and Lynn McGlothen. And it will sometimes happen that a guy who is getting clobbered pitching for a bad team will have a sensational range factor. Cases in point are Mike Parrott in 1980 and Tom Filer in 1982. Filer's minor league range factors are always high, but are nothing compared to the .2150 he chalked up for the Cubs last year....Texas rookie Mike Mason may challenge for the AL lead this year.

In summary, I feel that this statistic is measuring something that does exist and is of some importance. It checks out pretty well with the limited knowledge that we have about pitchers' fielding, it has about as much internal consistency as can be expected given the limited number of fielding chances a pitcher has in a year, and when it does change from year to year we can sometimes explain this. I introduce the case of Vida Blue, whose range factors were awful early in his career, improved steadily through 1980 and 1981, then relapsed last year when Blue had a weight problem. If the extra pounds stay off, Blue should have one of the better range factors in the AL in 1983. I hope to be able to have more to say on this subject next year.

Range Factors For 1982 E.RA Title Qualifiers

AL	pitcher	range
1	Stanley	.1327
2	Petry	.1254
3	Stieb	.1105
4	Wilcox	.1047
5	Norris	.1034
6	Tudor	.0998
7	Beattie	.0981
8	Lamp	.0978
9	John	.0972
10	Vuckovich	.0919
11	Palmer	.0917
12	Barker	.0914
13	Sutcliffe	.0909
14	Rawley	.0892
15	Honeycutt	.0888
16	Gura	.0882
17	Hough	.0881
18	Caldwell	.0873
19	Perry	.0861
20	Morris	.0853
21	Langford	.0853
22	Witt	.0837
23	Koosman	.0835
24	Blue	.0818
25	D. Martinez	.0791
26	Dotson	.0769
26	Eckersley	.0769
28	Tanana	.0766
29	Splittorff	.0752
30	Leal	.0752
31	Sorensen	.0751
32	Flanagan	.0744
33	Castillo	.0732
34	Medich	.0723
35	Bannister	.0714
35	Ujdur	.0714
37	Hoyt	.0706
38	McGregor	.0689
39	K. Forsch	.0687
40	Haas	.0674
41	McClure	.0644
42	Zahn	.0626
43	Clancy	.0620
44	Righetti	.0596
45	Torrez	.0537
46	Keough	.0524
47	Guidry	.0516
48	Havens	.0443
49	Burns	.0408

NL	pitcher	range
1	Valenzuela	.1280
2	Puleo	.1253
3	Rhoden	.1155
4	Berenyi	.1137
5	Krukow	.1111
6	Mahler	.1076
7	Reuss	.1070
8	Camp	.1034
9	Andujar	.1030
10	Gale	.1002
11	P. Niekro	.1002
12	Laskey	.0979
13	Hammaker	.0946
14	J. Niekro	.0941
15	Noles	.0935
16	Jenkins	.0927
17	Knepper	.0926
18	Rogers	.0905
19	Montefusco	.0851
20	Welch	.0847
21	Ryan	.0830
22	Lollar	.0821
23	B. Forsch	.0810
24	Sutton	.0307
25	Christenson	.0802
26	Swan	.0787
27	Soto	.0782
28	Mura	.0768
29	Ruthven	.0763
30	Bird	.0757
31	Robinson	.0756
32	Eichelberger	.0741
33	Carlton	.0715
34	Walk	.0709
35	Lea	.0670
36	Pastore	.0637
37	Candelaria	.0614
38	Gullickson	.0613
39	Sarmiento	.0605
40	Sanderson	.0564
41	Falcone	.0437

Pitchers' Range Factors- by C. Comly

What do pitchers' range factors look like? How high and low do they get? Can you predict the Gold Glove from range factor? I looked at every pitcher since 1974 that qualified for the ERA title (as many IP as his team played). I originally used the formula:

Range Factor=(A+PO)x9/IP

but the "worst" R.F.s were consistently owned by people like Carlton and Ryan. I was surprized that Gold Glover Carlton had joined error-prone Ryan at the bottom. Then it dawned on me that by not allowing for strikeouts, I was penalizing power pitchers. A nine strikeout performance in 9 innings reduces the number of chances the pitcher and his fellow fielders can handle by 50%. So I corected it to:

Range Factor=(A+PO)x27/(3xIP-Strikeouts)

The results for 1982 are below, by league. The third column is the ranking for pitchers who pitched 1000 innings in seasons they qualified for since 1974.

NL 1982		AL 1982		1000 IP	
1.Valenzuella	3.46	1. Stanley	3.58	1. R.Reuschel	3.28
2. Puleo	3.38	2. Petry	3.39	2. R.Jones	3.06
3. Rhoden	3.12	3. Stieb	2.98	3. J.Martinez	2.90
4. Berenyi	3.07	4. Wilcox	2.82	4. Barr	2.87
5. Krukow	3.00	5. Norris	2.79	5. Jenkins	2.79
37.Candelaria	1.66	44.Torrez	1.59	43. Eckersley	1.93
38. Gullickson	1.65	45. Keough	1.42	44. Matlack	1.91
39. Sarmiento	1.63	46. Guidry	1.39	45.Carlton	1.90
40. Sanderson	1.52	47. Havens	1.19	46. Tiant	1.84
41. Falcone	1.18	48. Burns	1.10	47. Candelaria	1.82

The 1982 Gold Gloves were Guidry (1.39) and Phil Niekro (2.71). There have been sixteen Gold Gloves since 1974. Two have been in the top five for that season, two in the bottom five, and ten in between. Two did not pitch enough innings, but if they had, one would have been in the middle and the other in the bottom five. So, range factor does not predict the Gold Glove for pitchers.

The average range factor for the 1982 National League was 2.44. John Denny has both of the two best RFs, 4.24 in '81 and4.06 in '78, the only two seasons to break 4. The only two seasons under 1.0 were Burns at 0.60 in '81 and Falcone's 0.92 in 1976. What causes the variation? Not chance. Only Mike Krukow has appeared on both the best and worst lists (1.61 in 1980 and 3.0 in 1982). Certainly pichers can inflate their RFs by picking off runners and dilligently covering first base, but I suspect that pitchers that encourage batters to hit the ball on the ground are the only ones that can greatly increase their RFs. Denny and Randy Jones are known for their sinkers. Perhaps pitcher range factor can be used to identify ground ball pitchers? Final humiliation: after adjusting for strikeouts my preconception was reversed, Carlton stayed in the bottom five in '76 and '81 and on the 1000 IP list, but Nolan Ryan escaped the bottom five every season and the 1000 IP list.

POWER HITTERS STRIKEOUT/HOME RUN RATIOS
Dick O'Brien

We've all heard the expression, "He strikes out too much." We've probably said it ourselves more than once to describe the limitations of some hitter. Rightly or wrongly, most fans use the substance of the expression to at least partially assess the batting skills of players. It's a factor that has to be dealt with. But just how meaningful is it? And if it does have meaning, is it more or less relevant when applied to power hitters? (Most of us would probably agree that a power hitter is one who hits 20 or more home runs per season).

Leonard Koppett wrote an interesting article in The Sporting News a couple of years ago, I believe, touching on the subject. His contention was that if Mike Schmidt shortened his swing he might well hit for a higher average, and that if Pete Rose swung from the heels his home run totals would undoubtedly climb. His point was that both players use their basic skills to do that which they can do best. Ergo, if you're a slugger, you're going to pay the price.

Most observers believe that SO/HR ratios are pretty meaningless in themselves, or per se, as the academicians like to put it, when applied to power hitters. One has to look at a player's overall stats to see just how significant the SO/HR ratio is in his case.

In an effort to see just how relevant SO/HR ratios are when applied to power hitters, a look at the top RBI leaders over the years provides a starting point. Using the years 1920-1982 as the data base, the following ratios were applicable for all players batting in 100 or more runs per season:

SO/HR Ratio	Batters	% of total	Cumulative total
1:00 and under	36	4.4	------
1:00 - 2:00	258	31.5	36.
2:01 - 3:00	259	31.5	67.
3:01 - 4:00	178	21.7	89.
4:01 - 5:00	53	6.5	96.
5:01 and higher	36	4.4	100.

It's interesting to note that of these 820 batters, only 63 (or 8%) had fewer than 20 home runs per year.

Strikeouts in the 1980s occur approximately twice as often as they did in the 1920s when one compares team totals --- due primarily to the recent appearance of the relief pitcher specialist. It shows up quite clearly when we use the table above for the years 1970-1982:

1:00 and under	1	.001	-----
1:01 - 2:00	11	8.	8.
2:01 - 3:00	47	34.	43.
3:01 - 4:00	56	41.	84.
4:01 - 5:00	18	13.	97.
5:01 and higher	4	3.	100.

While 67% of the top producers were performing at the rate of 3:00 or better in the past, the current crop of leaders show only a 43% skill level at the same 3:00 or better ratio.

A detailed look at the years 1970-1982 was taken to see if there was any appreciable difference in the SO/HR ratios between batters who hit 20 plus homers and drove in 100 RBI and batters who hit 20 plus homers and failed to drive in 100 runs. Since the minimum number of at-bats necessary to drive in 100 runs in the period was 459 (set by Richie Allen of the '70 Cards) it was decided that that figure would have to be met by the second group who didn't get the 100 RBI. Let's call the first group Category I, and the second, Category II. Now we'll look at their ratios:

Category I				Category II			
Batters	HR	SO	Ratio	Batters	HR	SO	Ratio
137	4376	13116	3:00	289	7219	26265	3.64

And then there's a third group of cats --- guys who had 20 plus taters and drove in fewer than 70 runs:

Category III			
Batters	HR	SO	Ratio
28	616	2433	3.95

One of the more interesting disclosures points to the unmistakable conclusion that when a batter's SO/HR ratio exceeds the 4:00 level, diminishing returns begins to set in. In both periods under consideration, a whopping 89% of the total leaders produced at this rate while 84% of the last twelve years meet this standard. This is stating the obvious perhaps, but it's still worthy of note. If a player hits 25 home runs and strikes out 100 or more times one doesn't have to be an Einstein to figure out the missed opportunities. And there's just no way in hell a runner can advance or score when the batter strikes out. A Milwaukee club with batting behemoths up and down the order can afford to carry a Gorman Thomas, but can Cleveland? Even though he's the only slugger on the team besides Andre Thornton.

There are probably many reasons why a power hitter can get 20 or more home runs and not bat in 100 runs. Here are just a few.

1. Not batting in the "heart" of the order ---Graig Nettles a classic example --- Dewey Evans, Joe Morgan, etc.
2. Low batting average --- Gorman Thomas, Dave Kingman
3. Poor offensive team mates --- Zisk, Carty
4. Can't hit in the clutch --- you pick 'em.

It's also interesting to note that of the twelve players who have hit 500 or more home runs, the highest ratio is only 3:19 (Mickey Mantle).

With the increased emphasis on the big buck going to the guy who provides the big bang, there's no telling how high the SO/HR ratio will climb in the coming years.

ON FOUL BALLS By David Aceto

Baseball parks with large foul territories seem to be pitchers' parks, and many people doubt that this is mere coincidence. In the 1983 Abstract, Bill James suggests that the large foul territory in Oakland is the largest factor in the depressed batting averages in the Coliseum.

Well, I decided to look into this matter. As of July 1, 1983, the AL was batting .263, with 18.16 hits, 69.06 AB and 6.46 BB per nine innings (for both teams, of course). Assuming that all of Coliseum's decreased offence was lost in foul popups which could not have been caught in an average park, how many popups would be needed to reduce Coilseum batting averages by 20 points? If other parks averaged y foul outs, and Oakland x, then x-y foulouts would have to cause the reduction.

To reduce BA by 20 points would mean to find h so that $\frac{h}{h+o^*} = .243$, where h is the number of hits per nine innings and o* is the number AB-H per nine innings. On July 1, o* was 50.9 in the AL. So long as the number of hits does not change too much, o* should remain about the same, until the difference in hits is enough to change the value of a bunt or stolen base and the number of DP opportunities. The solution to the above equation is h = 16.38, whereas the actual number of hits per nine innings was 18.16. The foul outs must therefore erase 1.8 hits per nine innings.

How many hits does each foul out cost? If the batter had 0 strikes on him, then the fact that the foul ball stays playable, rather than falling into the stands, costs the batter the chance to be a .263 hitter with 1 strike on him. If the batter has 1 or 2 strikes, then the caught foul costs him the chance to be a .263 hitter with 2 strikes on him. Knowing the distribution of foul balls according to the count on the batter, and having something like Pete Palmer's table in the February '83 issue would allow an exact calculation. Until then, however, I'll assume that the batter would have been a .240 hitter. If so, then 7.5

extra foul outs (1.8 ÷ .24) would be needed to produce the effect. Furthermore, the batter might also have walked. Overall, this happened about 8.5% of plate appearances; with an extra strike, the frequency of walks might be lower -- say 6%. The foul out would then cost the batter .225 hits (.24 x .94), thus requiring 8 foul outs to erase 1.8 hits.

Incidentally, since hitters were averaging .022 HR/plate appearance, 8 extra foul outs would cost .176 HR per game, or slightly more than 10% of the league average of 1.69 HR per nine innings.

Eight extra foul outs per nine innings seems like a lot, but I have no data on the subject. If this method is correct, though, someone with a count of foul outs in each park should be able to calculate the actual effect of each park's foul territory on hitting.

The Left-Handed Hitter's Advantage

by John Schwartz

The centers of the respective batters' boxes are 77 inches apart. Using the Pythagorean Theorem and a calculator equipped to extract square roots, it is relatively simple to determine how much closer to first base the left-handed batter stands as compared with the right-handed hitter. This distance works out to a difference of 54.4 inches, or 4.54 feet (or 138 centimeters for the rest of the world). In relative terms, a right-handed batter must cover 105.2% of the distance a lefty must in going straight to first base. Inversely, the sinister batsman has to only go 95.1% of the distance the righty must cover. See table below.

But how about circling the bases? This leads to an interesting question: What is the fastest way to get around the diamond? In my calculations I have used a circle. The assumption is that, as the batter hits his stride, this is the path of constant velocity necessary to navigate the bases. However, it also means that, at the midpoints between bases, the runner is 18 feet outside the baseline. Certainly this is rarely the case between home and first, but the runner may not have hit full stride as he has just exited from the batter's box.

Is there a "faster" path to follow when traversing the bases? Your comments, calculations, and intuitive insights are invited!

Distances	*RH*	*(RElative)*	*LH*	*(Relative)*
Straight Line	*FT*	*RH/LH*	*FT*	*LH/RH*
Home to 1B	*92.3*	*1.052*	*87.8*	*.951*
on curve: Home to				
1B	*103.1*	*1.066*	*96.8*	*.938*
2B	*203.1*	*1.032*	*196.7*	*.968*
3B	*303.1*	*1.022*	*296.7*	*.979*
HOME AGAIN	*403.1*	*1.016*	*396.7*	*.984*

A Baseball Analyst film preview,
by John Borkowski and Jim Baker

MAX PATKIN!

THE FILM....

ORIGIN: Most baseball fans know Max Patkin as one of the premiere baseball clowns, a man who has plied his trade in the relative anonymity of minor league baseball for many, many years. The French however, see him as a comic genius along the lines of Jerry Lewis. Many is the French film critic who will sneak out of a New York City theatre (while on a junket there) to drive up to the tiny ball parks of the New York-Penn League in order to see the man they call "Chaplin's unfilmed brother."

PRODUCERS: Naturally, this is going to be a French film, shot entirely in the South of France. Sportsmans Park is being painstakingly reconstructed by the production crew. The financing of this film is being handled by unknown sources. French money, what little there is of it right now, is definitely involved. Rumor has it however, that a certain American concern has put up a great deal of the backing. One theory is that Patkin is being pushed for the soon-vacant job of baseball commisioner, with the film being used as a springboard for his campaign.

TITLE: (literal translation) "My Arms and Legs are Moving to Comic Effect, and See How Rubberized Is My Face."

CAST: Red Skelton plays the older Patkin. Robin Williams the younger. Jason Robards is Bill Veeck. Former Senator backstop Jim French plays a cameo as Patkin's high school baseball coach who utters the immortal line, "Patkin, you're a clown."

THEMES: Patkin is seen as the sane man in the insane world of professional American sport. Although he plays the fool, he is actually a deep insightful man who really knows more about the game of baseball than the professionals. Statistics have been produced which demonstrate that while Patkin is jokingly coaching the basepaths for his customary inning or two per game, run production has actually increased. The screenwriter compares him favorably with the Fool in King Lear.

CINEMATIC HIGHLIGHTS: In what is perhaps the film's most ambitious sequence, the aging Patkin (played by Skelton) has a dream in which the San Diego chicken is plucked and deep fried, then fed to some starving Knot Hole Gang members. Wade Boggs helps prepare the meal. He offers Max a drumstick, but Max takes only the heart.

DISTRIBUTION: The film will have its American premiere next Spring at the Ballpark Drive-In in Grande, New Mexico. It's a former ball park that's now a drive-in movie theatre. Cars fill the infield and outfield areas while the screen (actually a bedsheet) is draped over the scoreboard. (Many remember the stadium as the former home of the Grande Agave Worms in the old Class D Illegal Alien League.)