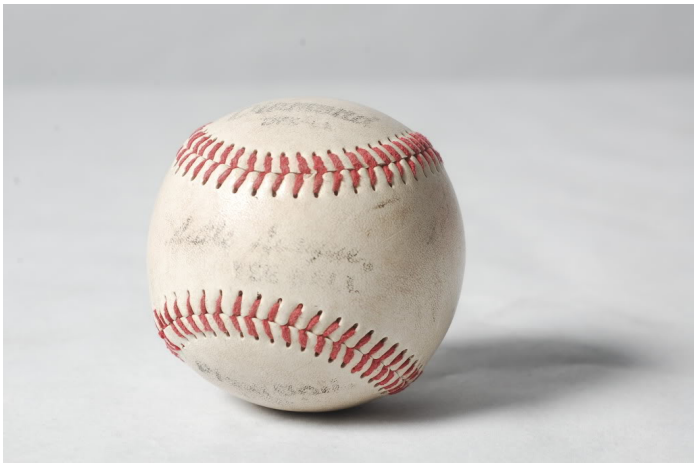
NEWSLETTER OF SABR GAMES AND SIMULATION COMMITTEE

JUNE 2014

SENT BY STEVE KREVISKY, CHAIR PERSON OF GAMES AND SIMULATION COMMITTEE.



Hi everyone! Here is another newsletter from the SABR Games and Simulation Committee. I hope to see many of your at our convention in Houston. Please check the SABR program for the meeting time. Included in this newsletter are the rosters for the game between the all-stars of the 19th century and of the dead-ball era, sponsored by the Great American Fantasy League, or GAFL. Please join us for this special event. Also, please note Joe Runde's article which follows.

See you in Houston! Regards, Steve

19TH CENTURY v. DEADBALL ERA ALL-STAR GAME ROSTERS

	19th Century All-Stars	Deadball All-Stars
1B	CAP ANSON (Chicago, 1880-1897)	GEORGE SISLER (St. Louis, 1915-1919)
2B	BID McPHEE (Cincinnati, 1882-1899)*	NAP LAJOIE (Cleveland, 1902-1914)
SS	HUGH JENNINGS (Baltimore, 1894-1898)	HONUS WAGNER (Pittsburgh, 1901-1916)
3B	JOHN McGRAW (Baltimore, 1891-1899)	FRANK BAKER (Philadelphia, 1908-1914)
OF	ED DELAHANTY (Philadelphia, 1891-1900)	TY COBB (Detroit, 1905-1919)
OF	BILLY HAMILTON (Philadelphia, 1890-1895)	TRIS SPEAKER (Boston, 1907-1915)
OF	SAM THOMPSON (Philadelphia, 1889-1898)	JOE JACKSON (Cleveland, 1910-1915)
C	BUCK EWING (New York, 1883-1892)	ROGER BRESNAHAN (NY, 1902-1908)
P	AMOS RUSIE (New York, 1890-1898)	WALTER JOHNSON (Wash., 1907-1919)

RESERVES

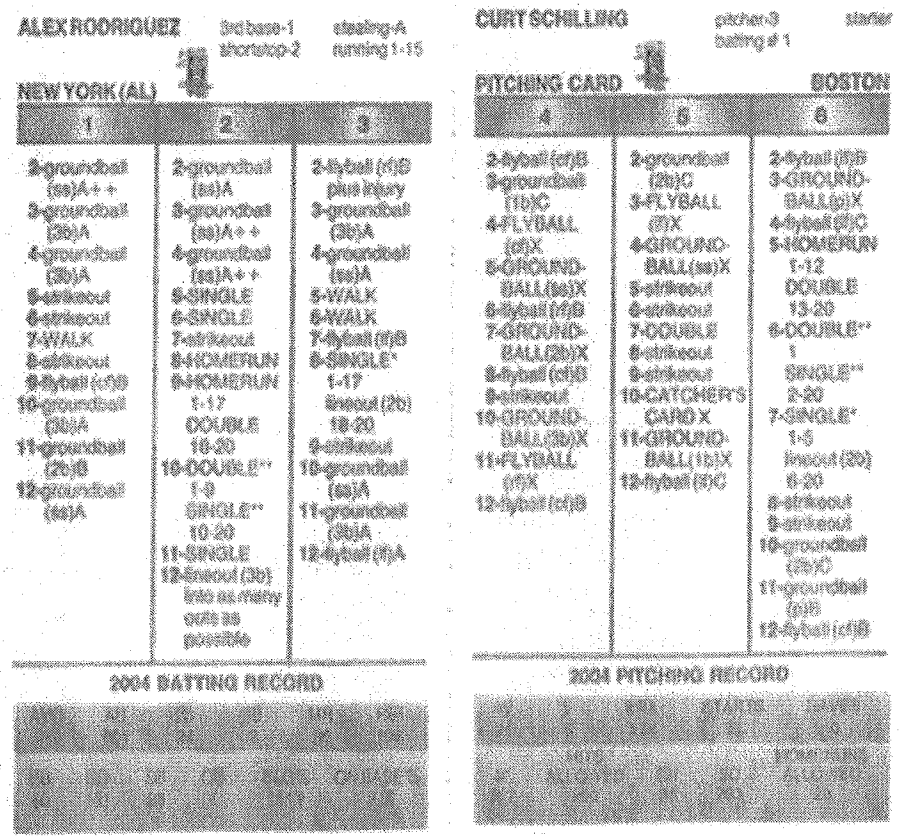
P	TIM KEEFE (New York, 1884-1892)	CHRISTY MATHEWSON (NY, 1901-1916)
P	KID NICHOLS (Boston, 1890-1900)	GROVER ALEXANDER (Phila., 1911-1917)
P	CHARLEY RADBOURN (Prov., 1881-1885)	MORDECAI BROWN (Chicago, 1904-1912)
P	CY YOUNG (Cleveland, 1890-1898)	ADDIE JOSS (Cleveland, 1902-1910)**
C	MIKE (KING) KELLY (Chicago, 1880-1886)	JOHNNY KLING (Chicago, 1901-1908)
1B	DAN BROUTHERS (Buffalo, 1881-1885)	FRANK CHANCE (Chicago, 1901-1912)
INF	GEORGE DAVIS (New York, 1893-1900)	EDDIE COLLINS (Phila., 1906-1914)
INF	DEACON WHITE (Buffalo, 1881-1885)	JIMMY COLLINS (Boston, 1901-1907)
OF	WILLIE KEELER (Baltimore, 1894-1898)	ZACH WHEAT (Brooklyn, 1909-1919)
OF	PETE BROWNING (Louisville, 1882-1889)	SAM CRAWFORD (Detroit, 1903-1917)
MGR	NED HANLON (Baltimore, 1891-1898)	JOHN McGRAW (New York, 1902-1919)

* McPhee replaced Nap Lajoie as the starter at second base for the 19th Century All-Stars per GAFL rules.

** Joss took Cy Young's spot on the Deadball All-Stars pitching staff per GAFL rules.

Remember playing Strat-O-Matic on the porch on a rainy summer afternoon? Or APBA? Or Statis-Pro? Many of us played these games as kids and teenagers; they whetted our interest in baseball history and statistics. (Could the Gas House Gang hold on to beat Murderers' Row?) Some of us still play them. The debates as to which was "better" are likely familiar as well. Based on batting averages, slugging averages, and hits and homeruns allowed, Strat-O-Matic felt like it should be more realistic, but guys with no homers frequently managed four or five per season "off the pitchers' cards." Based on earned run average and pitcher wins, APBA and Statis-Pro delivered a pretty good results as well, though in full-season replays the numbers of hits were often low.

Of course, as SABR members, we recognize the limitations of statistics like ERA and the games that derived from them. Developers have tried to adapt each game engine to SABRmetrics, some more successfully than others. Skeetersoft, Inc., has taken the APBA game engine and reworked the pitching ratings on the basis of opponents' BA and introduced a simple but more realistic stealing system, one that actually gets a grip on caught stealing numbers. Gen1400's Dice Baseball took the old Statis-Pro engine and



adapted it to WHIP. The most visible difference is in the Strat-O-Matic cards (Figure 1).

Fig. 1. These recent Strat-O-Matic cards appear similar to cards created in the 1960s.

As Figure 2 shows, for the newer "advanced" and "super advanced" versions, not only has the vertical format become horizontal but the cards account for each hitter's and pitcher's performance against lefties and righties. The second side also includes ball park effects, weather effects, and hitting with runners in scoring position – or not. Fielders are rated for range as well as fielding percentage, and the stealing system adopts each player's ability to get a lead and the possibility for pick-offs, wild pitches, errors, and so on.

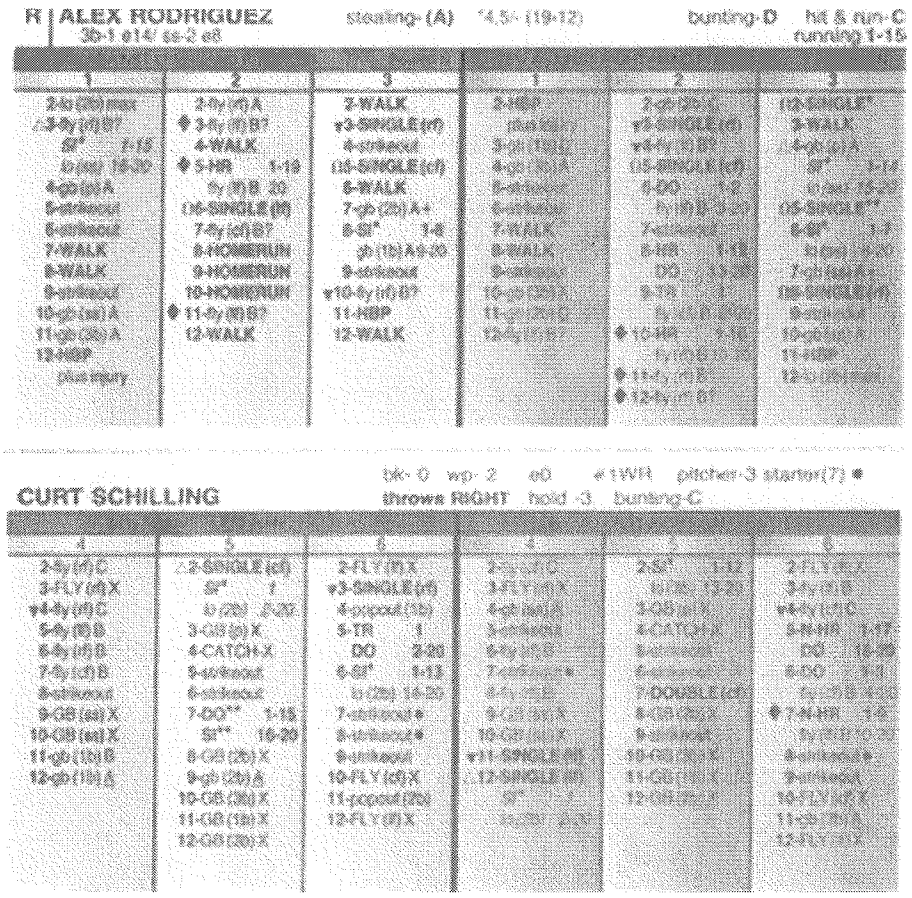


Fig. 2. The back side of each card presents more sophisticated ratings, as well as more clutter with symbols and extra ratings.

Even as the venerable Strat-O-Matic was making these changes, however, additional ways of looking at performance gave rise to whole new game designs, designs that focused on pitcher-hitter interactions, giving attention to the strengths and weaknesses of each hurler and batsman.

A number of simulations address these characteristics. For this essay, however, I want to focus on a recent, though now well-established design marketed as Inside Pitch Baseball. Unlike Strat-O-Matic and and APBA, this simulation requires two rolls of four dice (three different colored six-sided dice[d6] and one twenty-sided die [d20]) to

resolve most plate appearances. We use the first roll with the pitcher's card (see the Billy Pierce card in Figure 3) to determine whether to check the batter's strikeout, walk, or home run ratings, all of which can be resolved with the result from the 20-sided die.

For example, a roll of **4-2**-3-10 would result in a strikeout for Mickey Mantle but not for Hector Lopez. The 4-2 result is a possible strikeout on Pierce's card. The 10 result is within Mantle's strikeout range, but not Lopez'. As Lopez did not fan, he has put the ball in play. A roll of **2-3**-6-15 sends us to the 2-3 box, which indicates that Lopez has flown out to center.

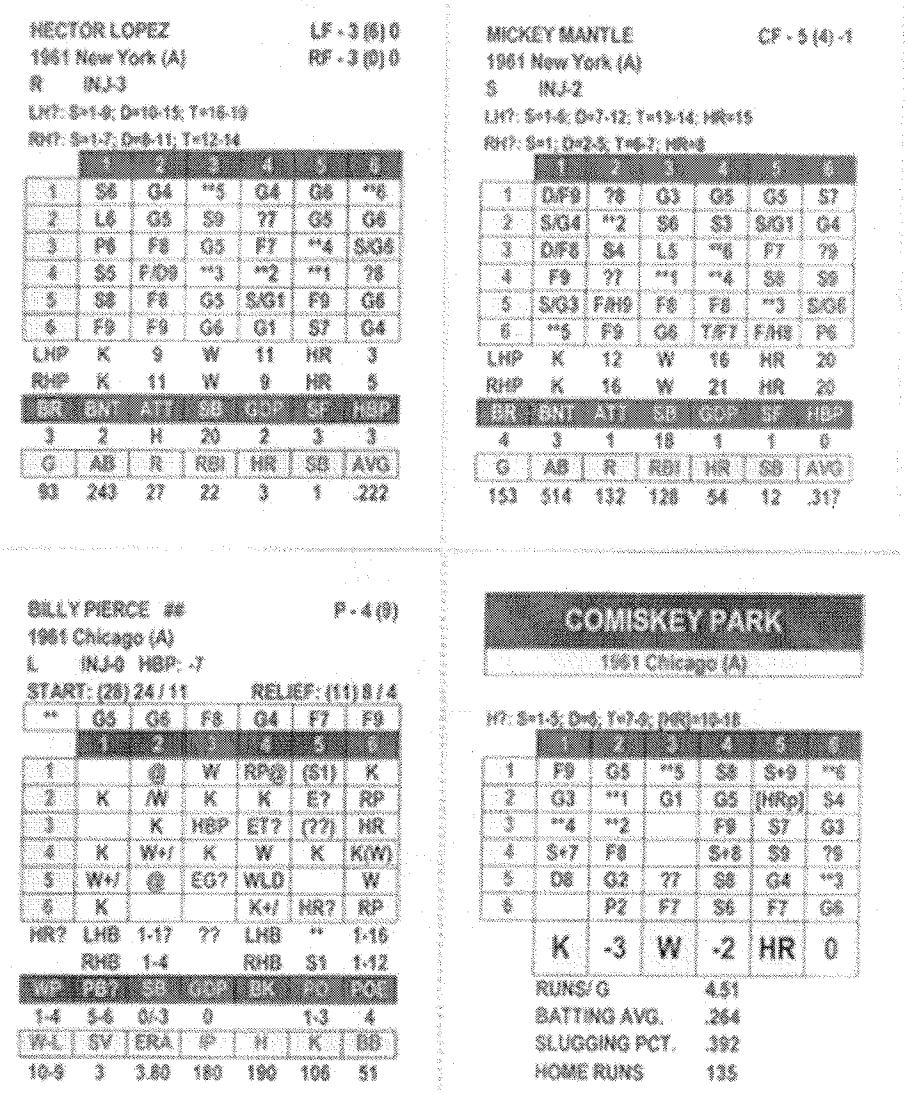


Fig. 3. These four cards represent a pitcher and ball park

In neither case did we need the third d6, and in the second roll the d20 was also unnecessary.

The fourth card, representing Comiskey Park, does affect Mantle's apparent strikeout, as the -3 strikeout rating would reduce Mantle's strikeout range. So Mantle would also put the ball in play, requiring a second roll. The same second roll (2-3) on Mantle's card would result in a single past the second baseman.

There are rules governing base running, fielders' range and errors, base stealing, pitchers' durability, and injuries. From my own experience and the comments of other players, we don't find ourselves employing tactics based on the game but tactics based on real baseball situations. Stolen base attempts are governed by a "strategy" roll whenever a hitter reaches first base with second base open.

The question, though, with all simulations comes down to how accurately the game reflects actual player performance. When Inside Pitch initially came out, one of the first seasons published was 1965. An experienced player of baseball simulations, Josh Nelson, tested the game by replaying each of Sandy Koufax's starts from that year with

1965 Sandy Koufax Replay using Inside Pitch -

Koufax pitching:

	W	L	ERA	G	GS	CG	SHO	IP	H	BFP	R	ER
Replay:	26	9	1.81	41	41	29	8	338	237	1305	84	68
Real life:	26	8	2.04	41	41	27	8	333 1/3	215	1297	90	76
	K	BB	DP	WP	HB	SB	CS	2B	3B	HR		
Replay:	381	67	17	8	4	23	3	42	7	20		
Real life:	380	67	13	11	5	16	4	29	7	26		
	BABIP	BAA	OBP	SLG	OPS	TB	K/9	BB/9	HR/9	H/9		
Replay:	0.277	0.192	0.233	0.289	0.523	353	10.1	1.8	0.5	6.3		
Real life:	0.238	0.179	0.227	0.28	0.507	337	10.2	1.9	0.7	5.8		

remarkable results.

Fig. 4. In an email to the author, Nelson noted that his Excel formula for computing BABIP was in error, and that the correct BABIP for the replay was .260.

Nelson used actual opponent pitchers and starting lineups from retrosheet.org. Over 41 starts in a game engine driven by four dice, the simulation produced remarkable results, especially in strikeouts for nine innings, walks for innings, and hits for nine innings, and HR per nine innings.

At that point, the simulation looked promising, especially because it was able to get so close to Koufax's actual strikeout total, what simulation developers would call an "outlying" result.

So how did the Inside Pitch engine do in reproducing a complete season? One of the most difficult seasons for simulators to replicate has been 1969. Even with great pitchers, the Mets have trouble winning the NL East, the play-off series against the Braves, and especially the World Series against a well-balanced Baltimore Orioles team.

Charlie Stokes, another long-time player of baseball simulations got the results shown in Figure 5 for the NL East. Even more interesting – and even astonishing – is

how close so many individual players came to reproducing their actual results. Ernie Banks, for example, delivered 19 HR and .249/.304/.388 for Stokes. His actual stats (from baseball-reference.com) were 23 HR and .253/.309/.423. In 1969, Banks also accounted for 42 walks and 101 strikeouts; in the Stokes replay, he made 39 walks and 111 strikeouts. Some calls just didn't go his way.

National League East - Standings

Team	W	L	WP%	GB	BA	ERA	Home
New York Mets	100	62	.617	-	.250	2.94	48-34
Chicago Cubs	94	68	.580	6	.259	3.30	46-35
Pittsburgh Pirates	92	70	.568	8	.274	3.46	45-36
St. Louis Cardinals	85	77	.525	15	.256	3.20	42-38
Philadelphia Phillies	68	94	.420	32	.239	4.09	31-50
Montreal Expos	60	102	.370	40	.237	4.07	31-50
	499	473	.513		.253	3.51	

Fig. 5. Commenting on his replay, Stokes noted that the Mets duplicated their uncanny ability to get timely hits and make game-saving defensive plays.

For St. Louis's Lou Brock, Stokes got 14 HR and a .309/.339/.436, along with 53 of 70 in stolen bases. Brock's actual production that year ran 12 HR with a .298/.349/.434, along with 53 of 67 in stolen bases. Houston's Joe Morgan delivered 17 HR and a .231/.335/.367 result, along with 45 of 59 in stolen bases, in the simulation. In Houston, he provided 15 HR and .236/.365/.372 stealing 49 bases in 63 attempts.

Certainly, there are outliers in performance, especially among players with fewer plate appearances or innings pitched. One or two fortuitous or unfortunate rolls of the dice could easily change such results, though the standings results and overall statistics suggest that the composite performance of marginal players is in line with actual results. Overall, the simulated NL ran a

When NASA contractors went to work on the Hubble Space Telescope, the Mars Rover and other such projects, they built simulations, not just of the system but of the key component parts and materials. They wanted to see what would likely happen. The value of any simulation lies not in duplicating what has happened but in answering the "what if..." questions. What if the Cubs had kept Lou Brock or if the Phillies had hung onto Ferguson Jenkins? Could the Mets have won in 1969 without acquiring Donn Clendenon? Could the Gas House Gang hold on to beat Murderers' Row?

These questions are fanciful. For many of us, the value of simulating baseball games and seasons lies in testing whether one lineup might be more effective than another. Casey Stengel used to have Hank Bauer lead off, because the outfielder had some pop and could hit an occasional homer that would give the Yankees an early lead. Gil

McDougald, however, typically had a higher on-base percentage. Could the Yankees in 1956 through 1958 have been even more productive with McDougald leading off? Could the Orioles have won the World Series in 1969 by playing by bunting for some hits, hitting behind the runner, and manufacturing runs? How can John Farrell structure a Red Sox lineup without Jacoby Ellsbury? How would the standings look if the Red Sox had hung onto Ellsbury?

Simulation is one more tool for analyzing and talking baseball, especially as it tests the statistical measures we use.