



## The Numbers Game: Baseball's Lifelong Fascination with Statistics (Book Review)



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The Numbers Game: Baseball's Lifelong Fascination with Statistics.

Alan SCHWARZ. New York: Thomas Dunne Books, 2004, xv + 270 pp. \$24.95 (H), ISBN: 0-312-32222-4.

I am amazed at how frequently I walk into a colleague's office for the first time and spot a copy of *The Baseball Encyclopedia* or *Total Baseball* on a bookshelf. How many statisticians developed and nurtured their interest in probability and statistics by playing Strat-O-Matic[R] and/or APBA[R] baseball board games; reading publications like the annual *The Bill James Baseball Abstract*; or scanning countless box scores and current summary statistics in the *Sporting News* or in the sports section of the local newspaper, looking for an edge in a rotisserie baseball league? For many of us, baseball is what initially opened our eyes to the power of probability and statistics, and the sport continues to be an integral part of our lives (for evidence of this, attend the sessions or business meeting of the ASA's Statistics in Sports section at the next Joint Statistical Meetings). This is why so many probabilists and statisticians will enjoy reading Alan Schwarz's *The Numbers Game: Baseball's Lifelong Fascination with Statistics*. In this book, Schwarz effectively chronicles the ongoing association between baseball and statistics by describing the evolution of the sport from the mid-nineteenth century through the beginning of the twenty-first century, and looking at several of its most influential characters.

The book is composed of 12 chapters that proceed chronologically through baseball's relationship with statistics. In the first three chapters, Schwarz covers the evolution of baseball and its statistics from its inception, through the deadball era (the early twentieth century), and into the first three decades of the post-deadball era (the 1920s, '30s, and '40s). He focuses on early pioneers such as Harry Chadwick, whose efforts to design new methods for recording (or keeping score), summarizing, and reporting the events of a baseball game led to the development of the modern box score found in sports pages across the country. Ernie Lanigan's inclusion of the now-common statistic runs batted in (or RBI) in box scores printed by the New York Press (well before the Major Leagues began officially recording the statistic), and publication of a small daily item called "This Day in Baseball" (which has become a staple of sports publications) are also highlighted. Ferdinand Cole Lane's early attempt to ascertain the relative values of singles, doubles, triples, and home runs (an issue that would be addressed repeatedly by baseball statisticians, and eventually would lead to the development of the slugging percentage) are documented. Of course, Schwarz addresses Babe Ruth's immeasurable impact on the way the sport was played and the resulting effect on the statistics that were kept. Throughout these chapters, the author consistently reviews major rule changes that occurred during this era and how they affected the statistics that were created and maintained; he also emphasizes baseball's fervent resistance to these proposed new statistics.

Schwarz then moves on to early attempts to bring baseball statistics and their rigorous mathematical analysis to the public. Contributions by Frederick Mosteller, John H. Smith, George Lindsey, Donato A. D'Esopo, and Benjamin Lefkowitz are acknowledged. The author describes the production of a compendium of historical baseball records for all major league baseball players--the 2,338-page, 6.5-pound *Baseball Encyclopedia* (1969). Bill James' efforts to popularize statistical baseball analysis (named "sabermetrics" by James, after the acronym SABR used by the Society for American Baseball Research) are also documented. Again, baseball's reluctance to embrace new statistical measures is highlighted.

At this point, the author begins recounting how statistical analyses slowly began creeping into use by baseball management. Schwarz describes the controversy that resulted from Bobby Bragan's early use (as manager of the Pittsburgh Pirates and the Atlanta Braves) of the Earnshaw Cook strategy for constructing a lineup. Schwarz details the development by Dick Cramer and Steve Mann of an organization devoted to the computerization of detailed baseball statistics in 1980 (*Sports Team Analysis and Tracking Systems* or *STATS, Inc.*), and how this organization inevitably became involved in binding arbitration hearings used to resolve impasses in salary negotiations between players and teams.

Schwarz then returns to the ongoing struggle to correct errors that had been made and perpetuated in the recording and tabulation of baseball statistics. The battle now wages between SABR members (who fanatically continued checking baseball's statistical records) and purists (who argued for a statute of limitations on changes to old records). The primary focus is the discovery of an additional hit by Ty Cobb as Pete Rose approached Cobb's career hits record, and baseball's unwillingness to change its records to reflect this finding.

As the book progresses, Schwarz turns his attention to the availability of data. Specifically, he details the development by AOL and STATS, Inc. of a dial-up service for real-time scores and play-by-play descriptions of games, and the National Basketball Association's ultimately unsuccessful suit over this service. The author also discusses the impact of the quickly growing collection of available data and its effect on the statistical analysis of baseball. The use of probability and simulation models in the analysis of batting orders, streaks, and extreme performances is examined. Schwarz emphasizes the role of academicians, focusing on the research contributions of Stephen J. Gould, Art Peterson, Dick Cramer, Ed Purcell, Carl Morris, and Jim Albert. He also acknowledges the inception of ASA's section on Statistics in Sports.

As Schwarz moves into his last two chapters, he concentrates on baseball's increasing use of statistical analysis to make strategy and player personnel decisions. Here Schwarz focuses on how Sandy Alderson (an executive with the Oakland A's during the 1980s and 1990s) dramatically increased statistics' reach into baseball by employing several future baseball executives and encouraging their use of statistical analysis. Schwarz details the decision by several major league teams to employ statisticians, and he features the Texas Rangers' decision to hire Craig Wright in 1981 under the title "sabermetrician." Of course, availability of data on the Internet is the final topic; Schwarz describes efforts to develop an interactive statistics portal for MLB.com (Major League Baseball's official Web site), discusses the hiring of Bill James by the Boston Red Sox, and notes the incredibly generous efforts of Dave Smith to make computerized play-by-play accounts of major league games freely available.

Schwarz does more than explain how these various characters influenced baseball; his greatest contributions are the insights he provides into why they became involved with baseball and statistics. In doing so, he helps readers understand how individuals and past events created the current environment for statistics in baseball.

While this book is extremely well written, entertaining, and informative, it is not without its shortcomings. Although written for the general public, the book would benefit greatly from the inclusion of a full bibliography. A few important works such as *Optimal Strategies in Sports* (Ladany and Machol 1977) have been overlooked, and the book would have been enhanced by a discussion on the efforts of statistics educators to use baseball to reach their students. Despite these minor omissions, Alan Schwarz's *The Numbers Game: Baseball's Lifelong Fascination with Statistics* is a book that any statistician with an interest in baseball will enjoy reading, and I recommend it without reservation.

#### REFERENCES

Ladany, S. P., and Machol, R. E. (eds.) (1977), *Optimal Strategies in Sports*, Amsterdam: North-Holland Publishing.

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