Moneyball

Postscript: In 2003 I used the example of Billy Beane, profiled in Michael Lewis’ book Moneyball, as an example of applying new thinking to an old pastime: baseball. Fast-forward eight years and we now see a new film based on that story starring Brad Pitt.

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No Major League Baseball team has won so much while spending so little as the Oakland A's under GM Billy Beane. His method -- to pick talent based on statistical analysis rather than old pros' gut feelings -- is changing the business of baseball. This year, the Blue Jays are learning the system. In 2002, Oakland's scouts realized it could make them obsolete.

An excerpt from Moneyball by Michael Lewis.

He began that day in the summer of 2002 facing a roomful of his scouts. Billy Beane, now in his 40th year on Earth and his fifth as the Oakland A's general manager, had changed. He'd lost the ramrod posture of his youth. The brown mop of hair had thinned and been trained, poorly, to part. Otherwise the saggings and crinklings of middle age were barely discernible. The difference in Billy wasn't what had happened to him, but what hadn't. He had a life he hadn't led, and he knew it. He just hoped nobody else noticed.

The men in this room were the spiritual descendants of the older men who had identified Billy Beane, as a boy of 16, as a future baseball superstar. Invisible to the ordinary fan, they were nevertheless the heart of the game. They decide who gets to play and, therefore, how it is played. For the first time in his career Billy was about to start an argument about how they did what they did. Calling them in from the field and stuffing them into a dank room in the bowels of the Oakland stadium for the seven days before the annual June amateur draft had become something of a team custom. It was the point of the exercise that was about to change.

A year ago, before the 2001 draft, the goal had been for Billy and his scouts to come to some mutually satisfying decisions about whom to select with the top picks. Billy had allowed the scouts to lead the discussion and influence his decisions. He had even let the scouts choose a lot of their own guys in higher rounds. That changed about five seconds after the 2001 draft, which had been an expensive disaster. The elite players that Billy and the scouts had discussed in advance had been snapped up by other teams before the A's turn came to make their second and final first-round draft pick. All that remained were guys the scouts loved and Billy knew next to nothing about. In the confusion, Grady Fuson, the A's soon-to-be-former head of scouting, had taken a high school pitcher named Jeremy Bonderman. The kid had a 94-mile-per-hour fastball, a clean delivery and a body that looked as if it had been created to wear a baseball uniform. He was, in short, precisely the kind of pitcher Billy thought he had trained his scouting department to avoid.
It was impossible to say whether Jeremy Bonderman would make it to the big leagues, but that wasn't the point. The odds were against him, just as they were against any high school player. The scouts adored high school players, and they especially adored high school pitchers. High school pitchers were far away from being who they would be when they grew up that you could imagine them becoming almost anything. But you had only to study the history of the draft to see that high school pitchers were half as likely as college pitchers, and a quarter as likely as college position players, to make it to the big leagues. Taking a high school pitcher in the first round -- and spending 1.2 million bucks (all figures in US$) to sign him -- was exactly the sort of thing that happened when you let scouts have their way. It defied the odds; it defied reason. Reason, even science, was what Billy Beane was intent on bringing to baseball. He used many unreasonable means -- anger, passion, even physical intimidation -- to do it. "My deep-down belief about how to build a baseball team is at odds with my day-to-day personality," he said. "It's a constant struggle for me."

It was hard to know what Grady Fuson imagined would happen after he took a high school pitcher with the first pick. Professional baseball had violently detached Billy Beane from his youthful self, but Billy was still the guy whose anger after striking out caused the rest of the team to gather on the other end of the bench. When Grady leaned into the phone to take Bonderman, Billy, in a single motion, erupted from his chair, grabbed it and hurled it right through the wall. When the chair hit the wall it didn't bang and clang; it exploded. Until they saw the hole Billy had made in it, the scouts had assumed that the wall was, like their futures, solid.

Other teams, when they sought to explain to themselves why the Oakland A's had won so many games with so little money, usually invoked the A's scouting. Certainly, Grady could never have imagined that his department was on the brink of total overhaul, and that his job was on the line. But that was the direction Billy's mind was heading. He couldn't help but notice that his scouting department was the one part of his organization that most resembled the rest of baseball. From that, it followed that it was most in need of change. "The draft has never been anything but a fucking crapshoot," Billy had taken to saying. "We take 50 guys and we celebrate if two of them make it. In what other business is two for 50 a success? If you did that in the stock market, you'd go broke."

Grady wasn't entirely oblivious to Billy's hostility. He had known enough to be uncomfortable the week before, when Billy's assistant, Paul DePodesta, had turned up in the draft room with his laptop. Paul hadn't played pro ball. Paul was a Harvard graduate. Paul looked and sounded more like a Harvard graduate than a baseball man. Maybe more to the point, Paul shouldn't have even been in the draft room. The draft room was for scouts, not assistant general managers.

It was Paul's computer that Grady dwelled upon. "What do you need that for?" Grady asked Paul after the meeting, as if he sensed the machine somehow challenged his authority. "You're sitting over there with your computer, and I don't know what you're doing."

"I'm just looking at stats," said Paul. "It's easier than printing them all out." Paul wanted to look at stats because the stats offered him new ways of understanding amateur players. He had graduated from college with distinction in economics, but his interest, discouraged by the Harvard economics
department, had been on the uneasy border between psychology and economics. He was fascinated by irrationality, and the opportunities it created in human affairs for anyone who resisted it. He was just the sort of person who might have made an easy fortune in finance, but the market for baseball players, in Paul's view, was far more interesting than anything Wall Street offered.

For Billy Beane, it was a little different, a little less cerebral and a little more visceral. Billy intended to rip away from the scouts the power to decide who would be a pro baseball player and who would not, and Paul was his weapon for doing it.

It wasn't quite 10 in the morning, and everyone in the draft room who wasn't a Harvard graduate had a lipful of chewing tobacco. The snuff rearranged their features into masks of grim determination. Anyone whose name wasn't two syllables, or didn't end in a vowel or a spittable consonant, had it changed for the benefit of baseball conversation. Ron Hopkins is "Hoppy," Chris Pittaro is "Pitter," Dick Bogard is "Bogie." Most were former infielders who had topped out in the minor leagues. A handful actually made it to the majors, so briefly that it almost hadn't happened at all. All of them had lived different versions of the same story. They were uncoiled springs, firecrackers that had failed to explode.

There was no avoiding just how important the 2002 amateur draft was for the future of the Oakland A's. The Oakland A's survived by finding cheap labour. The treatment of amateur players is the most glaring of the many violations of free market principles in Major League Baseball. A team that drafts and signs a player holds the rights to his first seven years in the minor leagues and his first six in the majors. It also enjoys the right to pay the player far less than he is worth. For instance, the Oakland A's were able to pay their All-Star pitcher Barry Zito $200,000 in 2000, $240,000 in 2001 and $500,000 in 2002 (when he would win the Cy Young Award as the best pitcher in the American League) because they had drafted him in 1999. For his first three years of big league ball, Zito was stuck; for his next three years he could apply for salary arbitration, which would bump him up to maybe a few million a year, but would still keep him millions below the $10 million to $15 million a year he could get for himself on the open market. Not until 2007, after he had been in the big leagues for six years, would Barry Zito, like any other citizen of the republic, be allowed to auction his services to the highest bidder. At which point, of course, the Oakland A's would no longer be able to afford Barry Zito. That's why it was important to find Barry Zito here, in the draft room, and obtain him for the period of his career when he could be paid the baseball equivalent of slave's wages.

This year was the best chance they might ever have to find several Barry Zitos. In 2001, the A's had lost all three of their top free agents -- Jason Giambi, Johnny Damon and Jason Isringhausen -- to richer teams. The combined $33 million the three players would make each year was just $5 million less than the entire Oakland team's salaries. The rules of the game granted the A's the first-round draft picks of the three teams that had poached the A's top talent, plus three more "compensation" picks at the end of the first round. Together with their own first-round pick, the A's had, in effect, seven first-round draft picks. The question for Billy Beane was what to do with them. What he wasn't going to do was what Grady had done last year, or what old baseball men had done with them for the past 37 years. "You know what?" Billy said to Paul, before the draft-room meetings. "However we do it, we're never going to be more wrong than the way we did it before."
Already the scouts had whittled, or thought they had whittled, the vast universe of North American amateur baseball down to 680 players. They'd pasted all the names onto little magnetic strips. They now had one week to reduce that pile of magnetic nameplates to some kind of order. They would do this, more or less, by a process of elimination. Erik Kubota, the new, young scouting director Billy hired to replace Grady, would read a kid’s name off a sheet. The scout who knew the kid then offered up a brief, dispassionate description of him. Anyone else who had seen the kid play might then chime in. Then the floor was open for discussion, until everyone was satisfied that enough had been said.

They began that morning by weeding out the pile. Some large number of amateur ballplayers were, for one reason or another, unworthy of serious consideration. The scouts used several catchphrases to describe what they need to avoid. "Rockhead" clearly isn't a good thing to be, but the quality can be overcome. "Soft" is also fairly damning -- it connotes both "out of shape" and "wimp" -- but it, too, is inconclusive. "Bad makeup" is a death sentence. "Bad makeup" means "this kid's got problems we can't afford to solve." The phrase signalled anything from jail time to drinking problems to severe personality disorders.

Billy doesn't say much during the search for bad makeup, and Paul says nothing at all. The meetings are all about minimizing risk. They can't afford to have guys not work out. There's no point in taking risks on players temperamentally, or legally, unsuited to play pro ball. At one point Billy looks up and asks, "Who's that fucking guy we took last year we had to release because he robbed a bank?" The others are too absorbed in weeding out the bad makeup to reply or even consider how remarkable the question is.

By the end of the third day the scouts have organized the players into two groups: the prospects not worth considering further, and everyone else. The second group, maybe 400 players, they parse further by position. But before they do that, they turn their attention from eliminating players to selecting them. Billy's already made it clear that he has only a secondary interest in pitchers. The past few years he has stocked up on arms. It's the bats he needs. On the white board closest to Billy, the "Big Board," there was space for 60 players. Only one slot had been filled, the first:

**Swisher**

Nick Swisher, a centre fielder from Ohio State. For the past six months, Billy's been sure about Swisher, and he knows he won't get the slightest disagreement from his scouts. Swisher is a rare point of agreement between Paul's computer and the internal compass of an old baseball guy. He has the raw athletic ability the scouts adore, but he also has the stats Billy and Paul have decided matter more than anything: He's proven he can hit, and hit with power; he drew more than his share of walks.

Oddly enough, Billy has never actually seen Swisher play. His scouting department told him that if he did, word would quickly spread to the rest of Major League Baseball that Billy Beane was onto Nick Swisher, his stock would rise, and the odds that he'd still be around when the A's made their first pick -- the 16th of the draft -- would plummet. "Operation Shutdown," the scouts called their project to keep Billy as far away from Swisher as they could.

"Did Operation Shutdown work?" asks Billy.
"Too well," says an old scout. "Guy from the White Sox called me yesterday and said he knows you must be in love with Swisher because you haven't been to see him."

Billy laughs. "Out of this room, Swisher is hush-hush," he says.

As the conversation turns from Nick Swisher it becomes contentious. Not violently so -- these are people with an interest in getting along. The tone of the conversation is that of a meeting in a big company that has just decided to drop a product line or shift resources from marketing to R&D. Still, it's a dispute with two sides riven by some fundamental difference. The two sides are, on the one hand, the old scouts and, on the other, Billy Beane. The old scouts are like a Greek chorus; it is their job to underscore the eternal themes of baseball. The eternal themes are precisely what Billy Beane wants to exploit for profit -- by ignoring them.

One by one Billy takes the names of the players the old scouts have fallen in love with, and picks apart their flaws. The first time he does this, an old scout protests.

"The guy's an athlete, Billy," the old scout says. "There's a lot of upside there."

"He can't hit," says Billy.

"He's not that bad a hitter," says the old scout.

"Yeah, what happens when he doesn't know a fastball is coming?" says Billy.

"He's a tools guy, lots of physical skills," says the old scout, defensively. The old scouts aren't built to argue; they are built to agree. They are part of a tightly woven class of former baseball players. The scout looks left and right for support. It doesn't arrive.

"But can he hit?" asks Billy.

"He can hit," says the old scout, unconvincingly.

Paul reads the player's college batting statistics. They contain a conspicuous lack of extra base hits and walks.

"My only question is," says Billy, "if he's that good a hitter, why doesn't he hit better?"

"The swing needs work. You have to reinvent him. But he can hit."

"Pro baseball's not real good at reinventing guys," says Billy.

Whatever happened when an older man who failed to become a big league star looks at a younger man with a view to imagining whether he might become a big league star, Billy wanted nothing more to do with it. Over and over the old scouts will say, "The guy has a great body," or, "This guy may be the best body in the draft." And every time they do, Billy will say, "We're not selling jeans here," and deposit yet another highly touted player, beloved by the scouts, onto his shit list. One after another of the players the scouts rated highly vanish from the white board, until it's empty. If the Oakland A's aren't going to
use their seven first-round draft picks to take the players their scouts loved, who on Earth are they going to take? That question begins to be answered when Billy Beane, after tossing another name on the slag heap, inserts a new one:

**TEAHEN**

The older scouts lean back in their chairs, spittoons in hand. Paul leans forward into a laptop and quietly pulls up statistics from college websites. Scouting director Erik Kubota, who used a giant wad of Copenhagen snuff to disguise the fact that he was a brainy graduate of the University of California at Berkeley, holds a ranked list of all the amateur baseball players in the country. He turns many pages, and passes hundreds and hundreds of names, before he finds Teahen. "Tell us about Teahen," says Billy.

Mark Teahen, says Erik, is a third baseman from St. Mary's College just down the road in Moraga, Calif. "Teahen," says Erik. "Six three. Two ten. Left right. Good approach to hitting. Not a lot of power right now. Our kind of guy. He takes pitches."

"Why haven't we talked about this guy before?" asks the old scout. "It's because Teahen doesn't project," says Erik. "He's a corner guy who doesn't hit a lot of home runs."

"Power is something that can be acquired," says Billy. "Good hitters develop power. Power hitters don't become good hitters."

"Do you see him at third base or shortstop?" asks another old scout, like a prosecuting attorney leading a witness.

"Let's forget about positions and just ask: Who is the best hitter?" says Billy.

Paul looks up from his computer. "Teahen: .493 on base; .624 slug. Thirty walks and only 17 strikeouts in 194 at bats." It's hard to tell what the scouts make of these stats. Scouts from other teams would almost surely say: Who gives a shit about a guy's numbers? It's college ball. You need to look at the guy. Imagine what he might become.

Everyone stares silently at Teahen's name for about 30 seconds. Erik says, "I hate to say it, but if you want to talk about another Jason Giambi, this guy could be it." Giambi was a natural hitter who developed power only after the Oakland A's drafted him. In the second round. Over the objections of scouts who said he couldn't run, throw, field or hit with power. Jason Giambi: MVP of the American League in 2000.

More silence. Decades of scouting experience are being rendered meaningless. "I hate to piss on the campfire," one of the scouts finally says, "but I haven't heard Teahen's name once all year. I haven't heard other teams talking about him. I haven't heard his name around here all year."

"Who do you like better?" asks Billy.
The old scout leans back in his chair and folds his arms. "What about Perry?" he says. "When you see him do something right on a swing, it's impressive. There's some work that needs to be done. He needs to be reworked a bit."

"You don't change guys," says Billy. "They are who they are."

Once Teahen has found his slot high up on the Big Board, Billy Beane takes out a Magic Marker and writes another name: BROWN

The four scouts across from him either wince or laugh. Brown? Brown? Billy can't be serious.

"Let's talk about Jeremy Brown," Billy says.

In moving from Mark Teahen, whoever he is, to Jeremy Brown, whoever he is, Billy Beane, in the scouting mind, had gone from the remotely plausible to the ridiculous. Jeremy Brown made the scouting lists, just. His name appears on the last page; he is a lesser member of the rabble regarded by the scouts as, at best, low-level minor league players. He's a senior catcher at the University of Alabama. Only three of the old scouts saw him and none of them rated him even close to a big leaguer. Each of them has about a thousand players ranked above him.

"Jeremy Brown is a bad-body catcher," says the most vocal of the old scouts.

"A bad body who owns the Alabama record books," says Pitter.

"He's the only player in the history of the Southeastern Conference with 300 hits and 200 walks," says Paul, looking up.

It's what he doesn't say that is interesting. No one in big league baseball cares how often a college players walks; Paul cares about it more than just about anything else. He doesn't explain why walks are important. He doesn't explain that he has gone back and studied which amateur hitters made it to the big leagues, and which did not, and why. He doesn't explain that the important traits in a baseball player were not all equally important. That foot speed, fielding ability, even raw power tended to be dramatically overpriced. That the ability to control the strike zone was the greatest indicator of future success. That the number of walks a hitter drew was the best indicator of whether he understood how to control the strike zone. Paul doesn't explain anything because Billy doesn't want him to. Billy was forever telling Paul that when you try to explain probability theory to baseball guys, you just end up confusing them.

"This kid wears a large pair of underwear," says another old scout.

"Okay," says Billy.

"It's a soft body," says the vocal scout. "A fleshy kind of a body."

"Oh, you mean like Babe Ruth?" says Billy. Everyone laughs, the guys on Billy's side of the room more happily than the older scouts across from him.
"A body like that can be low-energy," says a scout.

"Sometimes low energy is just being cool," says Billy.

"Yeah," says the scout. "Well, in this case low energy is because when he walks, his thighs stick together."

"I repeat: We're not selling jeans here," says Billy.

"That's good," says the scout. "Because if you put him in corduroys, he'd start a fire."

Clutching Jeremy Brown's yellow nameplate, Billy inches toward the Big Board with the Top 60 names on it. The scouts shift and spit. The leading scouting publication, Baseball America, has just published its special issue devoted to the 2002 draft, and in it a list of the top 25 amateur catchers in the country. Jeremy Brown's name is not on the list. Baseball America has more or less said that Jeremy Brown will be lucky to get drafted. Billy Beane is walking Jeremy Brown into the first five rounds of the draft.

"Billy, does he really belong in that group?" asks the old scout plaintively.

Billy takes a step toward the Big Board, sticks Brown's name onto the top of the Big Board's second column, the 17th slot, and says, "All right, push him down, guys." Jeremy Brown is now a high second-round, or even low first-round, draft pick. If baseball scouts were capable of gasping, these men would have gasped. Instead, they spit tobacco juice into their cups. That was the moment when the scouts realized just how far Billy Beane was willing to go to push his supposedly rational and objective view of things.

"Come on, Billy," the vocal scout says.

"Finding a catcher who can hit -- there's not one of them out there who can hit," says Billy. "This guy can hit. And he walks his ass off."

"He's leading the country in walks," says Paul. Walks!

"He better walk, because he can't run," says one of the scouts.

"That body, Billy," says the most vocal old scout. "It's not natural." He's pleading now.

"Can he hit, though?" asks Billy.

"Wanna hear something?" says Paul, gazing into his computer screen at the University of Alabama website. "In the past two years: 390 at bats; 98 walks; 38 Ks [strikeouts]. Those numbers are better than anyone's in minor league baseball. Oh yeah, 21 jacks." Jacks are home runs. So are dongs, bombs and big flies.

The fat scout looks up from his giant chocolate chip cookie and seeks to find a way to get across just how unimpressed he is. "Well," he says, exaggerating his natural drawl, "I musta severely unnerestimated Jeremy Brown's hittin' ability."
"I just don't see it," says the vocal scout.

"That's all right," says Billy. "We're blending what we see but we aren't allowing ourselves to be victimized by what we see."

This argument had nothing to do with Jeremy Brown. It was about how to find a big league ballplayer. In the scouts' view, you found a big league ballplayer by driving 60,000 miles, staying in a hundred crappy motels, and eating God knows how many meals at Denny's, all so you could watch 200 high school and college baseball games inside of four months, 199 of which were completely meaningless to you. Most of your worth derived from your membership in the fraternity of old scouts who did this for a living. The other little part came from the one time out of 200 when you would walk into the ballpark, find a seat on the aluminum plank in the fourth row directly behind the catcher and see something no one else had seen -- at least no one who knew the meaning of it. You only had to see him once. "If you see it once, it's there," says Erik. "There's always been that belief in scouting." And if you saw it once, you, and only you, would know the meaning of what you saw. You had found the boy who was going to make you famous.

Billy had his own idea about where to find future major league baseball players: inside Paul's computer. He'd flirted with the idea of firing all the scouts and just drafting the kids straight from Paul's laptop. The Internet now served up just about every statistic you could want about every college player in the country, and Paul knew them all. Paul's laptop didn't have a tiny red bell on top that whirled and whistled whenever a college player's on-base percentage climbed above .450, but it might as well have. To Paul, that was the great thing about college players: they had meaningful stats. The statistics enabled you to find your way past all sorts of sight-based scouting prejudices: the scouting dislike of short righthanded pitchers, for instance, or the scouting distrust of skinny little guys who get on base. Or the scouting distaste for fat catchers.

That was the source of this conflict. For Billy and Paul and, to a slightly lesser extent, Erik and Pitter, a young player is not what he looks like, or what he might become, but what he has done. As elementary as that might sound to someone who knew nothing about professional baseball, it counts as heresy here. It directly contradicts the baseball man's view that a young player is what you can see him doing in your mind's eye. It argues that most of what's important about a baseball player, maybe even including his character, can be found in his statistics.

After Billy said what he had to say about being "victimized by what we see," no one knew what to say. Everyone stared at Jeremy Brown's name. Maybe then they all understood that they weren't here to make decisions. They were here to learn about the new way that decisions were going to be made.

Billy Beane didn't invent the statistical analysis that's helped him build winners on the cheap. He isn't even the first GM to adopt it. Credit for that goes to Sandy Alderson, Beane's predecessor in Oakland. But only Beane seems to have made it the underpinnings for an entire organization. Coupled with his tremendous success -- second-most wins in the past five years, second-lowest payroll -- it's no wonder others are copying him.
Only one team, however, has gone to the source. The Toronto Blue Jays hired general manager J.P. Ricciardi out of Oakland after a poor 2001. Beane has called Ricciardi "my best friend in baseball ... my best friend, period." Ricciardi worked in Oakland for 16 years, starting out as a scout and rising to personnel director, one of the seats closest to Beane in the A's think-tank.

Ricciardi's hiring was not popular in Toronto. Previous GM Gord Ash had been a Day One employee. Ricciardi came from the A's, one of the Jays' rivals in the glory days. Then, in his first major deal, Ricciardi traded ace relief pitcher Billy Koch to the very same A's for a couple of unheralded prospects. It looked like a "salary dump," the Jays cutting a few million dollars off their payroll in return for a couple of young bodies. Next out was Raul Mondesi, a $12-million-a-year outfielder absorbed by the fat-cat New York Yankees.

Had Rogers Communications Inc., the Jays' owner, simply hired Ricciardi to cut costs, giving no consideration to the team's quality? It turned out that neither the trades nor the new general manager were what they seemed, and that they augured a new way of doing business.

One of the prospects in the Oakland deal was third baseman Eric Hinske, who last year won the American League Rookie of the Year award. And by simply clearing out Mondesi, Ricciardi opened a lineup spot for young back-up Vernon Wells, who quickly became one of the league's top hitters. This season, Wells and first-baseman Carlos Delgado, league leader in runs batted in and homers in the first half, were voted All Stars. And through June, the Jays were vying for first place -- for now, at least, ahead of the GM's 2005 target of "contender" status.

Not every new player is a Ricciardi discovery, but to a man they're playing his game, an acute version of Beane's game -- rarely sacrificing an out, seldom stealing and paying statistical homage to on-base percentage (hits plus walks plus hits-by-pitch divided by total at bats) over batting average. And, with the exception of Delgado, whose Ash-era contract pays US$18.7 million a year, these guys come cheap. In 2001, the Jays' annual payroll was US$76 million. In 2003, Ricciardi's opening-day tab was US$51 million. Public faith is slowly being restored.

"Any business that looks to keep costs down is bound to be more effective and efficient," Ricciardi says. "There's no sense spending money just for the sake of spending money. I don't know what the owner of the Texas Rangers thinks when his $100 million [the team's payroll] is sitting 20 games under .500."

Ricciardi dismisses questions about the long-term future, such as the expected loss of Delgado when his contract expires in 2004. "We're going to enjoy this moment and this season before looking too far down the line," he says.


**Analysis**

Below is an analysis of the baseball payroll versus wins.
The Oakland A's under GM Billy Beane has, over the past 6 years, compiled the best record in baseball with the least dollars; only the NY Yankees, the Atlanta Braves, and (by just 3 wins) the SF Giants have won more games over the past 6 years, and each has required a much larger payroll. For example, the Yankees have won 593 games (coming into Saturday's games) over that 6 years with a cumulative payroll of $635 million. Over that same period, the A's have won 549 games with a cumulative payroll of just $200 million.

Put another way, the Yankees paid, on average, $1,071,000 for each of their wins whilst the A's had a payroll cost of $365,000 per win or one third that of NY.

In commercial terms, Beane has achieved a remarkable "ROI" by disregarding the traditional practices, beliefs, and even statistics of so-called baseball experts, and instead has applied counterintuitive thinking and analysis which would do a Black Belt proud.
The Lessons of Moneyball

Stock market insights can come from unexpected sources. In his new book Moneyball, Michael Lewis explains how the Oakland A's mastered the art of identifying undervalued baseball players. Many of the same principles used to assemble winning baseball teams apply to building a winning stock portfolio.

By Zeke Ashton

July 2, 2003

I recently finished reading Moneyball, an excellent new book written by Michael Lewis. If you aren't familiar with Lewis, he made his name with Liar's Poker, a classic account of the rise and fall of the Salomon Brothers bond empire that he witnessed as a bond salesman for the firm. He followed that up with The New New Thing, an exploration of Silicon Valley culture that chronicled the exploits of Netscape founder Jim Clark.

Lewis' latest effort is different in that it doesn't directly address the financial markets. Moneyball offers a rare glimpse into the dynamics of a different market -- the market for professional baseball players as viewed through the lens of one of the game's better general managers, Billy Beane of the Oakland A's. Since Beane has been running the show, the A's have won more games with a smaller payroll than any team in baseball.

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<tr>
<td>CHICAGO CUBS</td>
<td>386.9</td>
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<td>COLORADO ROCKIES</td>
<td>361.5</td>
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<td>ST LOUIS CARDINALS</td>
<td>399.4</td>
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<tr>
<td>DETROIT TIGERS</td>
<td>273</td>
<td>372</td>
<td>0.734</td>
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<tr>
<td>SEATTLE MARINERS</td>
<td>397.5</td>
<td>544</td>
<td>0.731</td>
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<td>TORONTO BLUE JAYS</td>
<td>348.1</td>
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<td>0.700</td>
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<td>ANAHEIM ANGELS</td>
<td>332.6</td>
<td>483</td>
<td>0.689</td>
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<td>SAN FRANCISCO GIANTS</td>
<td>384.4</td>
<td>552</td>
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<td>HOUSTON ASTROS</td>
<td>343.2</td>
<td>532</td>
<td>0.645</td>
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<td>TAMPA BAY DEVIL RAYS</td>
<td>238.5</td>
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<td>PHILADELPHIA PHILLIES</td>
<td>284</td>
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<td>SAN DIEGO PADRES</td>
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<td>CINCINNATI REDS</td>
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<td>CHICAGO WHITE SOX</td>
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<td>PITTSBURGH PIRATES</td>
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<td>KANSAS CITY ROYALS</td>
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<td>FLORIDA MARLINS</td>
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<td>MONTREAL EXPOS</td>
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<td>MINNESOTA TWINS</td>
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<td>OAKLAND ATHLETICS</td>
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My hometown team, the Texas Rangers, offers the perfect contrast -- they pay more per win than just about any team in the majors. In 2002 the Oakland A's won 103 games with a payroll of $41.9 million. The same year, the Texas Rangers won 72 games, or 31 fewer, while spending $106.9 million, more than twice as much. In Moneyball, Lewis provides a behind-the-scenes look at how the Oakland A's managed to pull off this exceptional feat.

Even if you don’t care for sports analogies or give a hoot about baseball, Moneyball is full of investing insights. I have always found striking similarities in the markets for baseball players and equities. I’m not surprised that a guy who made his name conveying the fads of Wall Street has written a book about the search for value among baseball players. As you might expect, Lewis makes liberal use of financial metaphors to describe the business of valuing baseball players. Here, he explains Billy Beane’s seemingly uncanny ability to find undervalued relief pitchers:

Established closers were systematically overpriced, in large part because of the statistic by which closers were judged in the marketplace: "saves." But the situation typically described by the save -- the bases empty in the ninth inning with the team leading -- was clearly far less critical than a lot of other situations pitchers faced. The closer's statistic did not have the power of language; it was just a number. You could take a slightly above average pitcher, drop him in the closer's role, let him accumulate a gaudy number of saves, and then sell him off. You could, in essence, buy a stock, pump it up with false publicity, and sell it off for much more than you'd paid for it.

**Lessons for investors**

I myself learned a tremendous amount about investing from a baseball writer named Bill James, though I don’t believe he ever wrote a word about the stock market. Yet, through his annual publication, Baseball Abstract, Bill James became sort of the Benjamin Graham of baseball, introducing logic and statistical analysis to evaluate ballplayers, much as Graham pioneered the use of rigorous analysis to identify value in the stock market.

By applying this same sort of rigorous analysis to baseball, James learned that certain skills and characteristics of baseball players are widely overvalued by professional baseball men. Because others skills are dramatically undervalued, players who possess those skills can become great investments for any baseball manager who grasps their importance. And, just as classic "Graham-and-Dodd" value-style investors tend to be stock-market winners over time, by identifying and acquiring undervalued players from those teams that don’t recognize what they have, Billy Beane and other followers of Bill James have succeeded in beating their better-funded competitors.

Many of the lessons I learned from Bill James have nothing to do with baseball, but rather with applying logic and statistical evidence to informed value judgments. "Baseball is a soap opera that lends itself to probabilistic thinking," says one of the enlightened baseball analysts in Lewis' book. The same can be said about the stock market. Bill James discovered that, when subjected to the light of rigorous analysis, a great portion of conventional wisdom in baseball is, as he put it, "ridiculous hokum." The same can be said about much of what passes for conventional stock market wisdom.
**Secrets of the game**
Investing and baseball share another similarity in the vast quantity of statistics and data available to the layperson in today's Internet age. Enthusiasts have long used such classic ratios as batting average for hitters and earned run average for pitchers. You can even find what the backup shortstop on your favorite team hits with two outs in night games at home against lefty pitchers. The same is true for stocks -- the available statistical and analytical data boggles the mind. We're all familiar with the classic price-to-earnings and price-to-book ratios, but there is no end to the data that can be found online to evaluate stock investments. And in both baseball and stocks, too many get carried away with the analysis that can be done and don't spend enough time on the analysis that should be done.

In more than 20 years of searching for value on the baseball diamond, Bill James found two offensive statistics that were, as Lewis writes, "inextricably linked to baseball success." Those two statistics are on-base percentage and slugging percentage. Other statistics help in evaluating talent, of course, but everything else is far less important to winning baseball games. The reason that the Oakland A's are so good is quite simple.

They identify players who do the important things -- get on base, hit with power, and keep the opposing team from doing the same -- and then acquire them cheaply. The A's conscientiously avoid players who possess the classic "overvalued" baseball traits: guys who run fast, pitchers who throw 95 miles per hour but can't throw a strike, and others who just fill out a uniform well. Chronically bad baseball organizations are always over-populated with such players.

In much the same way, I know people who have portfolios chockfull of overvalued and speculative stocks that they heard about on CNBC, or whose CEO was on the cover of their favorite business magazine, or that they bought because the company is big in the latest hot technology fad.

**Building a winning portfolio**
The stock market has its own version of on-base percentage and slugging percentage, and I'm going tell you what they are. The most critical drivers of a company's value (and a stock) are its ability to produce cash and its ability to grow that cash flow over time. To win the unfair game of the stock market, you must simply learn to identify companies that can produce an ever-increasing stream of cash, and buy them cheaply. The more you focus on factors that don't or won't translate into cash flow, the more likely you are to overpay for your stocks. And as any Texas Rangers fan can tell you, overpaying is not a good thing.