An interview with Steve Wang, assistant professor of statistics, by Tom Krattenmaker, director of news and information at Swarthmore.

Q: As a statistics expert and baseball fan, what are your thoughts about this rethinking of baseball conventional wisdom? Do you think it’s overdue?

As a statistician, I’m pleased to see a greater awareness of statistics in any context. I think what’s especially exciting right now is that there are differing degrees to which teams have adopted the so-called Moneyball approach. Oakland, of course, and Boston and Toronto seem to have wholeheartedly embraced this statistical approach, and the Dodgers just hired Billy Beane’s former assistant GM, Paul DePodesta, away from the A’s. On the other hand, some teams such as Tampa Bay seem to espouse a more traditional view that stresses scouting based on “tools” and athleticism. It’s this diversity of opinions among teams that makes things interesting, because for the first time there’s a real competition between these differing philosophies of how to build a baseball team. Twenty years ago, when teams didn’t use statistical principles, this debate would not have existed. Twenty years from now, it may be the case that all teams use such principles. But right now, because teams have different strategies, there’s an interest in seeing which ones will eventually prevail on the field, and I think that’s great for the game.

Q: GMs Epstein and Beane are probably the first execs in MLB to take interest in and apply some of the principles of Sabermetrics. As a statistics professor and knowledgeable baseball follower, what do you make of these new-breed GMs?

What I find interesting about this process is that it in many ways it parallels the process outlined by Thomas Kuhn in his classic work on the history of science, The Structure of Scientific Revolutions. Kuhn found that in scientific revolutions, such as the quantum mechanics revolution in 20th-century physics, what happens is not that people convert from the old paradigm (classical mechanics) to the new paradigm (quantum mechanics). Instead, the revolution is completed when a new group of scientists replaces the existing group. That process is taking place in baseball today, as the new-breed GM’s - Paul DePodesta in LA, J. P. Ricciardi in Toronto, Theo Epstein in Boston - grew up reading Bill James in the 1980s and find statistical analysis a natural part of baseball. Along with Billy Beane, they are the ones who are leading the Moneyball revolution. It will be interesting to see how far this revolution leads and to compare it to the revolutions that took place on the field in the last few decades. Will statistical analysis take over baseball just as the five-man rotation and relief specialization did, or will it retreat as the stolen base revolution in the ’70s has? I think the former will happen, but I’m looking forward to finding out.

Q: What are some common fallacies you observe on the part of managers, baseball scouts and execs, fans, etc.? Michael Lewis, for example, talks about how much we have historically overrated the importance of batting average. Could the same be said of a pitcher’s won-loss record or ERA, for example?

Certainly there have been statistics that have been overemphasized. A pitcher’s won-loss record in a single year, for instance, is subject to many influences, such as the team’s run support, that are essentially beyond his control and don’t reflect how well he has pitched. But more than any one particular statistic, I think what’s been overemphasized is a general attitude, which is the widespread use of statistics as a rhetorical tool to end arguments and prove points, rather than as a means of discovering knowledge.

Let me give you an example of what I’m referring to. In debates about Cy Young award voting, people sometimes argue that one pitcher should win because of his great record in games following a loss by his team. But you never hear this stat brought up in any other context, because people don’t really care about a pitcher’s record following a loss. Rather, they care about who should win the Cy Young award, and they only bring up this stat if it helps prove that their favorite should win. So stats are being used to end the
argument, not to inform the argument. I think that's a flawed use of statistics. What we should do is to look at all the statistics, not just pick and choose the stats that happen to support our point. But every Cy Young candidate has some specific stat trotted out to support his candidacy, even if that stat is not particularly informative, reliable, or relevant. People instinctively recognize that this is intellectually dishonest, and they too often come to the conclusion that all statistics are unreliable, that all arguments that quote stats should be distrusted. And I can't blame them for thinking that.

But that's not the fault of the statistics, it's the fault of the approach. What I think is great is that there's been a new emphasis, pioneered by Bill James in the '80s and Rob Neyer on ESPN and other analysts, on using statistics systematically to discover knowledge, rather than to rhetorically bludgeon those who disagree with you. Since baseball is one of the most visible contexts in which statistics is applied, I think this new approach can go a long way in showing people the value of statistical analysis in all sorts of fields.

Q: Can we go too far with this rational approach? For example, I wonder if it overlooks the psychological aspects of closing a game, getting a clutch hit, etc.

Certainly, it's possible to go too far. I think anyone who works with statistics acknowledges that there are many aspects of baseball, and of baseball players, that cannot be quantified or measured. Any analyst or GM - even Billy Beane, I'm sure - would recognize that statistics forms only one part of the evaluation of a player. All sources of information - whether based on statistical analysis or on traditional scouting - have weaknesses and biases. The hope is that by using both types of sources, the strengths of each one will compensate for the weaknesses of the other, and we can learn more than we would have from either alone.

At the same time, I think too much is made of the dichotomy between statistics and on-field qualities such as the ability to close a game or get the big clutch hit. After all, statistics are just records of what happened on the field. A person watched the game and wrote down what happened, and we put those records together and call them statistics. They're just a convenient way of helping us keep track of more information than any one person could remember by himself or herself.

Q: Billy Beane critics are quick to point out that his Athletics have been unsuccessful in the post-season. Is there any logical reason to think his approach works less well in the playoffs, or is it bad luck, as Beane has said? (I can think of several instances where Oakland's lack of fielding and athleticism has hurt them in the playoffs, but I'm probably being irrational ...)

Oakland has been the most visible proponent of the sabermetric approach, and they've been notably unsuccessful in the postseason, so it's tempting to put the two together. But my guess is that it's probably not related. The Yankees use similar principles in putting their teams together - strong starting pitching, an offense with high on-base percentages and good power - and until recently, they had spectacular success in the postseason. On the other hand, Atlanta has never been a team known for using statistical analysis. And for most of the last decade, they've also been perennial disappointments in the postseason. Yet no one connects this to their reliance on traditional scouting. So too with Oakland, I think it's too early to attribute their postseason woes to their sabermetric approach. In a short series, anything can happen.