

“DON’T STEP ON THE FOUL LINE”: BASEBALL AND THE
(IR-)RATIONALITY OF SUPERSTITION IN SPORTS

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Baseball is 90 percent mental; the other half is physical. — Yogi Berra

Baseball is an exceptionally psychological sport. Perhaps it is for this reason that superstitious behavior seems to crop up in baseball more than in most any other sport. And while all but Chicago Cubs fans may smile at the thought of the so-called “Curse of the Billy Goat” (see n.1 below), no one will talk to the pitcher throwing a perfect game for fear he might “jinx” it. Most players tap their bat on home plate or touch the letters on their uniform while preparing to hit, but some players take their superstitions even further. Former Red Sox third baseman Wade Boggs notoriously arose at the same time each morning, ate chicken before every game, fielded exactly 150 balls during infield practice, took batting practice at exactly 5:17 pm, and ran sprints at exactly 7:17 pm before night games (“Wade Boggs,” 2006). Even more idiosyncratic than Boggs, pitcher Turk Wendell chewed four pieces of black licorice when he pitched, spit them out after each inning, brushed his teeth in the dugout, and “kangaroo hopped” over the baseline when heading to and from the field. On the pitcher’s mound, Wendell stood if the catcher was squatting, and squatted if the catcher was standing (“Baseball Players Do the Darneest Things,” 2006).

What are we to say about the rationality of such superstitious behavior? To be sure, we can trace much of the superstitious behavior we see in baseball to a type of irrational belief. We think that an epistemically rational agent would recognize that, say, wearing the same protective cup he wore during his last win does not directly cause an increase in the numbers of strikes he throws. Or that, in reality, tousling the batboy’s hair on the way out of the dugout does not bring luck. But how deep does this supposed irrationality run? It appears that superstitions may occupy various places on the spectrum of irrationality — from motivated ignorance to self-deception to psychological compulsion — depending on the type of superstitious belief at work and on the means of formation and/or maintenance of that belief.

I have several goals in this paper. First, I will examine the various types of superstitions we find in baseball culture, in an attempt to see what these different kinds of superstitions might have in common. I then hope to lay out a working definition of superstition (at least from within a baseball context) by examining the general psychology underlying such behavior, in an attempt to ascertain the possible causal and/or motivational reasons for the acquisition of superstitious beliefs and practices in sports like baseball. I will then go on to argue that, in addition to superstitions acquired merely via the workings of a type of biasing mechanism, there also appear to be genuine cases of superstition acquisition and maintenance, in which the agent may be said to be actively engaged. I will claim that in at least some cases of superstitious belief, it is possible that agents are employing an awareness of their own *rational* epistemic standards to allow themselves to believe and act *irrationally*, and that the result of such "pseudo-rational" behavior is perhaps a form of self-deceptive superstitious belief.

Toward a Working Definition of Superstition

There are many types of beliefs and behaviors that can be categorized as superstitious, and most of these can be found within the culture of baseball. In a 2005 study, Burger and Lynn described superstitious behavior to participating baseball players as "anything you do that you feel might bring good luck during a game. . . [like] wearing lucky clothes, sitting in lucky spots, not mentioning certain things, eating certain goods, and entering the field a certain way" (Burger & Lynn, 2005, 73). This somewhat limited description implies that superstitions are primarily employed to "bring good luck." And, indeed, much superstitious behavior serves just such a function. One type of superstition employed in order to elicit positive results is that of the superstitious *ritual*. This type of behavior may range from the relatively quick and simple rites exercised in the batter's box or on the pitching mound to the development of an elaborate daily routine. Objects, too, may be employed to bring about good luck. Players often repeatedly wear a certain item of clothing or rely on touching medallions, rocks, coins, and other physical objects they take to be "lucky." Superstitions about numbers and sequences of numbers are also quite common. Some players insist on wearing uniforms bearing particular combinations of numbers, even when they are traded to a new team. We may label these kinds of superstitions as *fetishes* or reliance on *charms*. However, baseball superstitions encompass not only behavior intended to bring about good luck but also other types of behavior as well. *Taboos* such as not stepping on the foul line or not throwing a bat such that it crosses another bat are employed, not necessarily in order to bring about

good luck, but rather to prevent a bad outcome from happening. Furthermore, there are also what we might call *historical superstitions* associated with baseball, such as those embodied in the belief in curses and spells.¹

Thus, the phenomena in baseball that may be captured by the word 'superstition' are wide-ranging and diverse. Superstitions may be employed in the service of making a prediction about future events or in explaining past events. They may also be interpretive, as with the "reading" of omens and signs. But regardless of the role a particular superstitious belief plays in the order of explanation of particular events, there still appear to be certain psychological features and functions that all of these types of superstitions share.

First, superstitious beliefs appears to emerge as the result of an agent's postulating a false (or highly improbable) causal correlation between two temporally and/or spatially contiguous events.² This kind of so-called *parataxic* thinking (i.e., mistaking correlation or contiguity for causation) appears to be one of the primary symptoms of superstitious belief (cf. Scheibe & Sarbin, 1965, 148). Indeed, it is difficult to imagine an instance of superstitious belief that does not involve the false or unlikely attribution of some kind of causal power to a particular item or event.

But mere parataxic thinking is not enough to get us to full-blown superstition, for surely we make false causal attributions all the time that we do not consider to be instances of superstitious belief. Rather, for a particular belief to count as superstitious, it seems the agent must attribute a "special, magical significance" to the object or action in question (cf. Vyse, 1990, 90). It is not enough for an agent to posit an illusory causal connection between two events. The agent must also believe or demonstrate some level of confidence that the object or action in question causes its proposed effect in a way different from "normal," natural causation.

A further feature that appears to distinguish superstition from a mere mistake in causal reasoning is that, in general, superstitious beliefs appear to be *motivated*. Indeed, people do not tend to hold onto superstitions regarding things they do not care about. So to get at superstition proper, we must ask

¹ For example, the so-called "Curse of the Billy Goat" maintains that the Chicago Cubs will never again win a World Series. According to legend, tavern owner Billy Sianis pronounced the curse in 1945, when he and his pet goat (also in attendance) were asked to leave a Chicago Cubs World Series game because the smell was bothering fans. He exited the stadium, declaring that the Cubs would never win a World Series so long as the goat was not allowed in Wrigley Field. And since then, no Cubs team has won the World Series ("The Curse of the Chicago Cubs," 2010).

² Of course, the origins of some superstitions may be historically obscure, such as not walking under ladders, knocking on wood, and (in the case of baseball) not stepping on the foul line. Others appear to be highly individualized rituals. However, in both types of cases we have the presence of a false or highly improbable belief about some thing or event as (either positively or negatively) causally affecting some other event.

what underlies the motivation for superstitious belief and what psychological function the acquisition and maintenance of superstitions might serve. This leads us to what Burger and Lynn (2005) have called the *Uncertainty Hypothesis*. They claim that "the more people attribute outcomes to chance or luck, the more likely it is that they will turn to superstition" (79). This seems to be borne out in many of the studies performed on superstition (cf., among others: Malinowski, 1954; Felson & Gmelch, 1979; Vyse, 1997; Thompson, Armstrong & Thomas, 1998). Thus, the Uncertainty Hypothesis points to a possible function of superstitious belief, namely that it gives the agent *a sense of control over that which she perceives to be uncontrollable in situations where she cares about the result*. That is, in circumstances where one has a personal stake in the outcome, one has an increased desire for control over those circumstances. And if the outcome is perceived to be highly uncertain or risky, this may lead to a kind of "anxious desire" (i.e., a desire that p , paired with the anxiety that not- p), which may motivate one to believe that one does, in fact, have some degree of control over the situation.³ To be sure, in situations where a desired or feared outcome is perceived to be largely out of our control, we often experience a kind of cognitive unease or discomfort. We naturally tend to prefer situations in which we are more confident in our abilities to effect the desired outcomes. Accordingly, it seems reasonable to suppose that, in cases where this psychological "need" is not met, we are more likely to turn to superstition, which allows us to fill the cognitive gap between uncertainty and certainty in an attempt to control the uncontrollable.⁴

The Uncertainty Hypothesis also helps explain why superstition is so prevalent in baseball. Baseball is a sport in which many outcomes are wildly uncertain. Of course, the sport requires the possession of a high degree of talent and the exercise of very precise skills. However, a poorly thrown fast-ball can result in a strikeout, and a perfectly executed slider can be "blooped" into the outfield for a base hit. A ball "popped-up" in the infield can be lost in the sun, and the wind can turn a would-be home run into a foul ball. The

³ For more on the role of anxious desires in motivating beliefs, cf. Annette Barnes (1997) and Mark Johnston (1988).

⁴ Note that this is not to claim agents intentionally or even consciously aim at this goal. Indeed, the influence of non-conscious cognitive and motivational biases in belief acquisition and maintenance has been well-documented (cf. Tversky & Kahnemann, 1973; Nisbett & Ross, 1980; Trope, Gervy, & Liberman, 1997). However, the Uncertainty Hypothesis may still explain the psychological *function* of these biases, even if agents are unaware of the occurrent workings of particular psychological mechanisms in the formation of their superstitious beliefs. We should also note that the Hypothesis does not necessarily explain all instances of what we commonly *call* superstitious behavior (e.g., hotels not having a 13th floor, throwing salt over one's shoulder, etc.), insofar as some superstitions are the result of historical or cultural inheritance. However, the Hypothesis may at least be able to provide a plausible explanation for the historical beginnings of these superstitions.

best batters only get hits three out of every ten tries, and the best teams win only approximately 60% of their games. In other words, despite requiring extreme talent and finesse, many of the outcomes in baseball depend largely on chance or "luck." Thus, it should not be surprising that baseball players would be more prone to superstitious behavior than the average person. In a sport where both psychological and physical control mean everything — but in which many outcomes are out of the players' hands — we should expect superstition to run rampant. And it does. However, the role that superstitious behavior plays in baseball varies widely. Some superstitions are abandoned as soon as they fail to "work," though other superstitions are usually adopted in the former's place. Some rituals, fetishes, and taboos may be maintained over the course of an entire season. And some players engage in certain incredibly complex ritualistic practices over the course of their entire careers.⁵

Nevertheless, to summarize what we have said thus far, there appear to be at least four types of superstitions prevalent in baseball: rituals, fetishes, charms, and taboos. We have also claimed that the following are constitutive of superstitious belief in this context:

1. The agent cares about (e.g., values, fears) the outcome of a certain situation.
2. The agent believes the outcome of that situation to be highly uncertain or risky, but he (consciously or non-consciously) desires control over the situation. (The Uncertainty Hypothesis)
3. The combination of (1) and (2) motivates the agent to engage in *parataxic* thinking.
4. The causal connection between the two events is supposed to be magical or supernatural in some way.

Conditions (1) through (4) represent a good start toward a definition of superstition. At the very least they give us the conceptual tools we need to discuss the (ir)rationality of superstition in sports in more detail.

⁵ Additionally, it appears that superstitious beliefs differ in frequency and type from culture to culture. Burger and Lynn (2005) found that whereas American players tended to believe that engaging in superstitious behavior enhanced *personal* performance, Japanese players tended to think that superstitions had a greater effect on what happened to the *team* as a whole (Burger & Lynn, 2005, 74). They hypothesized that part of the reason Japanese players do not place as much emphasis on the superstitions regarding personal performance is that they have a much stronger notion of personal responsibility for errors and failure to perform. The idea that an agent's conception of personal responsibility may have a strong impact on how superstitious he is, is an interesting one and worthy of further discussion. Unfortunately, I do not have the time or space to discuss it here.

Confidence in Efficacy and Prudential Reasons for Belief

Thus far, we have done little to establish how it is that the acquisition and maintenance of superstitions are possible in the first place. On the one hand, superstitious behavior is nearly ubiquitous among human beings and is, therefore, perhaps merely the result of the way we are cognitively "hard-wired." Yet, interestingly, when players were asked about the confidence they put in their superstitions, Burger and Lynn found that many baseball players were not as strong of believers in the efficacy of their superstitious behavior as one might think. When asked how much effect their superstitious behavior has on their performance or the outcome of the game, the average response was somewhere between *sometimes has an impact* and *hardly ever has an impact*. Only 36.5% of those who listed at least one superstition said that their superstitions *always* or *often* had an impact (Burger & Lynn, 2005, 74).

Of course, 36.5% is still a fairly high number. For these players, it is likely that many of them acquire their superstitions (and the complementary confidence in those superstitions) unintentionally via a kind of motivated biasing. Indeed, Vyse (1997) and others suggest that human beings may be evolutionarily predisposed to be strongly biased toward superstitious behavior in certain situations (Vyse, 1997, 75). Such superstitious beliefs, then, would be those non-deviantly caused by the operation of some cognitive biasing mechanism combined with a motivational factor (e.g., an anxious desire), as opposed to those caused by a rational sensitivity to the evidence at hand. Thus, it should come as no surprise that those who are affected by these biases should believe in the efficacy of their superstitions — at least until enough countervailing evidence has been made available to them, at which point they ought, from the standpoint of epistemic rationality, to reject their superstitious belief.⁶

Therefore, many baseball players who strongly believe in the efficacy of their superstitions appear to occupy a fairly weak position on the scale of irrationality — the same position occupied by, say, wishful thinkers. Their unwarranted beliefs are epistemically irrational, insofar as these have their origins in some biasing mechanism, not in an objective assessment of the weight of the evidence. Yet such agents cannot be said to be *complicit* in the formation of these beliefs, since they are unaware of the role the relevant bias plays in their having the beliefs in question. Indeed, an agent's being aware of the workings of a "superstition-causing" bias on an his belief system would threaten the stability of his superstitious beliefs and likely lead

⁶As we have seen, however, many players resist giving up their superstitions or trade old superstitions for new ones. I discuss the potential irrationality of the maintenance of superstitious belief below.

to the revision of those beliefs. Therefore, although such agents are, in some sense, "irrational," they are also victims of a certain kind of ignorance — namely ignorance of the role certain non-rational processes have played in the formation of their superstitious beliefs.

However, we have not yet explained why so many players report a *lack* of confidence in the effectiveness their superstitions. Burger and Lynn propose that some players were perhaps embarrassed to admit that they believed in their superstitions, but the fact that their questionnaire responses were kept confidential lead them to largely reject this suggestion. More plausible is their later proposal that some players may engage in superstitious behavior either because it performs a comforting psychological function or because the culture of baseball normatively endorses the practice of superstition (Burger & Lynn, 2005, 75–6). Now it is surely the case that many baseball players engage in ritualistic behavior because it helps them psychologically prepare for the task at hand. In a game like baseball, concentration is incredibly important, and the repetition of a particular type of behavior (e.g., tapping the bat three times on the plate before hitting) may assist a player in raising his chances of performing well. We have also noted how much superstition surrounds the subculture of baseball. Thus, it would not be surprising to observe more skeptical athletes simply "going along" with such behavior, merely in order to fit in or perhaps as an expression of team solidarity.

Therefore, we have at least two types of cases in which we would expect baseball players to report not putting much confidence in the efficacy of their supposedly superstitious practices. However, neither of these types of cases appear to represent instances of true superstition! Players who employ certain rituals as a kind of psychological preparation are not confident in their "superstitions" because they aren't actually superstitious. They do not postulate an unwarranted, magical causal connection between their rituals and particular outcomes. Rather, they postulate a very normal type of causal link between their behavior and their performance (e.g., between tapping the bat on the plate and feeling "ready" to hit) — one for which they likely have good introspective evidence. Neither do they not suppose that the behavior in question directly elicits the desired outcome; rather, they themselves bring about the effect as a result of, e.g., being able to concentrate due to the behavior in question. And we can say something similar of players who participate in supposedly superstitious activities due to "locker room culture." Thus, in neither of these scenarios does the player believe or act irrationally.

Furthermore, remember that Burger and Lynn asked players to report on "anything you do that you *feel* might bring good luck during a game" (my emphasis). And if we read 'feel' as 'believe', then it is doubtful that the above suggestions provide the entire story for all respondents of Burger and Lynn's study who reported lacking confidence in their superstitions. Of

course, some players may have read the prompts differently or failed to realize the potential inconsistency of their responses, but attacks on the intelligence of baseball players aside, there may be other reasons regarding how and why it is that some players report a lack of confidence in their superstitions.⁷ We are left with a philosophical puzzle: If the Uncertainty Hypothesis regarding the origins of superstitions is correct, and what generally serves to motivate genuine superstitions is a desire for control over uncertain events in which one cares about the outcome, how is it that some cases we find baseball players who engage in behavior they “feel” might bring about the desired outcome but which they don’t believe is efficacious? Is this a deeper kind of irrationality — one in which players believe what they don’t believe?

Burger and Lynn present yet another interesting suggestion in their attempts to explain these results. They argue that some baseball players may engage in certain superstitious behaviors “just in case,” or because “it can’t hurt” (Burger & Lynn, 2005, 76). Perhaps baseball players implicitly run a sort of Pascalian-type wager, in which they calculate the expected utility of engaging in superstitious behavior. In the case of a player is deciding whether or not to engage in a certain ritual to bring good luck, such a wager might run as follows:

*The “Baseball Wager”*⁸

	<i>(1) Player engages (correctly) in superstitious ritual</i>	<i>(2) Player does not (correctly) engage in superstitious ritual</i>
<i>(a) Superstition is effective</i>	(1a) desired (“lucky”) outcome occurs	(2a) outcome uncertain
<i>(b) Superstition is not effective</i>	(1b) outcome uncertain	(2b) outcome uncertain

We can imagine a player developing a potentially superstitious ritual by implicitly reasoning in the above manner. Assuming that the psychological and physical cost of performing the ritual is not overly taxing, he may calculate that the expected utility of performing the ritual outweighs the countervailing reasons not to do so. In the case envisioned above, only in the scenario in which both the player (correctly) performs the ritual in question and the superstition is effective is the outcome he desires more likely to occur (1a).

⁷ At the very least, the puzzle that follows represents an interesting conceptual conundrum — one that is worth exploring.

⁸ I have developed a wager for the case of superstition rituals, but I think we can develop related wagers for the other types of superstition as well.

All the other scenarios leave the player with uncertainty and lack of control over the situation. Thus, (1a) results in the most desirable outcome, given the options, and may provide the player with a prudential reason to attempt to correctly perform the superstitious ritual. And I do not think it at all implausible that this kind of practical rationality (i.e., "hedging one's bets") may actually explain many players' performance of certain rituals.

Yet, at first glance, the Baseball Wager appears to differ from Pascal's Wager insofar as the former recommends an *action*, whereas the latter recommends a *belief*. But take, for example, the following statement that longtime major leaguer, Wade Boggs, made to *The New York Times*:

Sometimes it's better to be lucky than good. That's why I do things to create luck, like eating the chicken and running my sprints at 7:17 before night games. *I want to feel lucky*. I want to *feel* that if I hit a ball to the shortstop, it's going to hit a rock and go over his head. (Quoted in Vyse, 1997, 196, my emphasis)

Note that although Boggs claims he does things to "create" lucky outcomes, he also expresses a desire to *feel* lucky. But what is it to "feel" lucky, other than to believe that one *is* lucky? So even though his superstitions might not actually bring him luck, Boggs implies that they do serve to make him feel as though he has a measure of control over that which he perceives to be largely uncontrollable. Thus, Boggs appears to have a prudential reason to *believe* in the efficacy of his superstition. Furthermore, it is also widely held amongst superstitious people that superstitions cannot be effective unless one truly believes in their causal power.⁹ So we might say that one cannot be said to "correctly" perform a superstitious ritual (as in column 1) unless one also believes in its efficacy. Likewise, given the way we have tentatively defined superstition above, the truly superstitious agent must exhibit parataxic, magical thinking — and this kind of thinking involves belief. So, in the end, it appears that a constitutive part of successfully executing the Baseball Wager is acquiring a belief in that ritual's "power."

Thus, just as the conclusion of Pascal's Wager leaves the agent with a prudential reason to acquire a belief in God, so might the conclusion of the Baseball Wager give the agent a similar reason to acquire a belief in the effectiveness of his superstitious behavior. Of course, the conclusion of Pascal's Wager does not automatically result in the acquisition of a belief in the

⁹For example, a common reason given by superstitious third parties when a certain type of superstitious behavior fails to "work" is that the agent performing the behavior didn't "believe enough" in its power. An interesting parallel might be drawn to instances of belief in the paranormal and the reasons given for the lack of observed "paranormal" activity amongst disbelievers.

existence of God, and neither does the conclusion of the Baseball Wager automatically result in the acquisition of a belief in a superstition's power. So how is it possible that a baseball player can come to form and maintain this kind of belief, if he does not currently believe his superstition is effective? It is to this problem I now turn.

Believing What You Don't Believe: Pseudo-Rationality, Self-Deception, and Superstitious Belief

When superstitious behavior comes about via a wager-type situation like the one just described, it is difficult to see how a player could acquire a belief in the efficacy of the relevant behavior, given that he currently does not believe it is effective in the way necessary to potentially elicit the desired result. Belief is not generally thought to be something over which we have direct, voluntary control (cf. Williams, 1973). In this sense, to *will* to acquire or maintain a belief for which one does not have sufficient evidence seems to be a self-defeating project from the get-go. However, as Pascal himself notes, we do appear to have at least *indirect* control over our beliefs — that is, we can intentionally try to *bring it about* that we believe (or are caused to believe) something (cf. Hieronymi, 2006). We can imagine a baseball player surrounding himself with superstitious people and avoiding skeptics (which, given "locker room culture," should not be that difficult); he may intentionally cultivate certain ritualistic habits and try to avoid thinking skeptical thoughts; he might direct his attention toward positive evidence and attempt to rationalize or explain away negative evidence; he may even "simulate" belief by pretending (to himself and others) that his superstitions are effective — all in the hopes that these strategies will, at some point, cause him to actually believe that which he wants to believe.

In some sense, there is not much difference between this endeavor and other intentional projects. The agent adopts a certain end and employs various means intended to bring this end about. We might compare it with similar projects like attempting to bring it about that one falls asleep at a certain time, or that one sneezes, or that one comes to aesthetically appreciate a certain kind of food. On the other hand, there is something very interesting about this particular kind of venture. Normally one acts *because* one has a reason to do so, but in this case, as David Pears (1982) notes, the agent acts *in order to* acquire something that would have been a reason for his acting in such a way. That is, he undertakes an series of actions *intended* to produce reasons — in this case, reasons that epistemically justify his belief (and thereby pragmatically justify his having acted as he did to acquire these reasons). But the agent who attempts to acquire positive epistemic reasons for a particular belief in ways he himself takes to be epistemically unjustified

und unreliable, is not fully rational. Insofar as he is searching for justifying reasons at all, the player in question is still acting in his capacity *qua* agent. However, the agent is, we might say, *pseudo-rational*, in that he is trying to generate reasons that would allow him to believe something he thinks it would be irrational to believe.¹⁰ He is moved by and employing the very same capacities that allow for rational assessment and evaluation, but this time in the service of irrationality.

Here, we see a stronger kind of irrationality at work than in the types of superstition associated with motivationally-based belief we discussed above — one in which an agent attempts to violate his own rational standards for belief, precisely in order to acquire justifying reasons for that belief. We are no longer in the realm of mere wishful thinking or motivated biasing. Rather, we now appear to be in the province of *self-deception*. That is, in order to succeed in his Pascalian endeavor, the baseball player under discussion here must somehow *deceive himself* into believing that which he currently does not believe. He must somehow either a) repress his epistemic misgivings, b) habituate himself into thinking in a certain way, such that he elicits a change in his epistemic standards, or c) actually generate reasons for himself that meet his current epistemic standards (or some combination of these three). In either case, if the agent succeeds (which will likely hinge on contingent factors external to his will), the actual *acquisition* of the belief in question will not be straightforwardly irrational — he will believe for reasons he now takes to be more or less justified. However, the pseudo-rational, self-deceptive *process* by which the agent arrives at this condition expresses a stronger kind of internal irrationality — a struggle to violate his own norms of rationality, in the service of fulfilling some goal or desire.

For this reason, these types of projects occupy what Pears calls “the territory of cognitive dissonance,” insofar as we would expect an agent who attempts to acquire or maintain a belief in ways that violate his own epistemic standards to encounter a certain level of psychological discomfort (Pears, 1982, 279). Especially given that repeated superstitious behavior tends, in the long run, to generate more evidence against the proposition that the superstition is effective than for it, players engaged in a self-deceptive project of this type will constantly be running up against negative evidence regarding their favored belief, such that we would expect them to exhibit a significant amount of cognitive tension.¹¹ Of course, all the strategies we mentioned

¹⁰ I have adopted this term from Michel & Newen (2010), although their use of it varies somewhat from my own.

¹¹ And we do tend to see this kind of behavior present in self-deceivers. Agents engaged in self-deception deny the disfavored proposition more strongly than their rational counterparts; they over-rationalize explanations for counterevidence; they become easily defensive; and so on.

above (e.g., selective evidence gathering, directing one's attention, rationalization, acting "as if," and so on) are means of attempting to resolve or avoid the kind of cognitive dissonance involved in attempting to believe something one takes oneself to have little or no good reason to believe.

We can now perhaps see another reason why some baseball players expressed a lack of confidence in their superstitious beliefs: they were entrenched in a sort of pseudo-rational, self-deceptive project aimed at realizing the conditions laid out in the Baseball Wager. Such a project often likely includes a kind of "waffling" back and forth between the current and favored beliefs, and it would not be surprising to find an agent engulfed in the kind of cognitive tension raised by negative evidence (which may arise in the context of being forced by researchers to explicitly discuss his superstitious beliefs), to express doubt or distrust in the belief he, in other contexts, tries to maintain. Thus, although in some sense he believes (or, at the very least, is *trying* to believe) that his superstition brings him luck, he doubts it too. And it is this cognitive dissonance we may be seeing in some respondents to Burger and Lynn's survey. Therefore, it appears that while many cases of superstition are likely the mere result of wishful thinking, motivationally biased belief, or mere unintentional habituation, to explain the acquisition of certain superstitious beliefs and their persistence over time, we may have to appeal to a deeper type of irrationality, one which involves self-deception and other pseudo-rational endeavors.

Conclusion

In this paper, I have explored superstition as found in the context of the game of baseball. I have argued that baseball superstitions involve a belief in the uncertainty of a particular outcome paired with a desire for control over that outcome (or the fear that it will not occur), which leads an agent to engage in parataxic, magical thinking regarding a particular event or state of affairs. I went on to show that although many of these superstitions may serve a beneficial pragmatic function, they nevertheless occupy positions on the spectrum of epistemic irrationality that range from fairly harmless motivated ignorance to rather deep internal irrationality. Many superstitious agents are likely mere wishful thinkers or "victims" of the workings of a desirability bias that performs a potentially beneficial evolutionary function. On the other hand, agents may sometimes need to deceive themselves in order to "generate" reasons for a particular belief they take themselves to have prudential reasons to hold. And the kind of pseudo-rational activity such a self-deceptive project requires represents a type of internal irrationality that amounts to more than the mere epistemic negligence of the wishful thinker.

Of course, the former type of superstition may at times devolve into the latter and vice versa. The spectrum of irrationality is wide-ranging, and its borders are far from clear. An anxious wishful believer may easily slide into self-deception, and the terminus of a successful self-deceptive project may result in a motivational bias that ends up causing the favored belief. But regardless of which kind of superstition you end up with, should you step foot onto a baseball field anytime soon, remember: Don't step on the foul line!

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