Biases are, arguably, experimental psychology's best export. Many a psychologist has built a successful career exploring, cataloguing, and attempting to explain the myriad biases supposed to plague human cognition (for a taste, see this Wikipedia list).

This is not a healthy development. It has helped spread a reign of error in psychology, fed by 'gotcha experiments' suggesting that humans are broadly irrational and quite a bit dumber than, say, rats. On the contrary, human cognition is extraordinarily efficient and adaptive—not to pat ourselves in the back too much, but, cognitively, we're pretty dope. With a keen sense of irony, Gerg Gigenrenzer, one of the stalwarts of human rationality, has decried a bias bias that mistakes adaptive heuristics for biases.

The crucifixion of William of Norwich (found here)

One of the most often decried bias is the 'belief bias' (sometimes also called confirmation bias), which would taint the way we acquire information, making us more inclined to believe information that fits with our preconceived ideas, and to reject information that doesn't. As you can imagine, such a bias could lead to polarization—as supposedly demonstrated in a classic 1979 Lord, Ross, and Lepper experiment. In their own terms, "subjects supporting and opposing capital punishment were exposed to two purported studies, one seemingly confirming and one seemingly disconfirming their existing beliefs about the deterrent efficacy of the death penalty. As predicted, both proponents and opponents of capital punishment rated those results and procedures that confirmed their own beliefs to be the more convincing and probative ones, and they reported corresponding shifts in their beliefs

as the various results and procedures were presented. The net effect of such evaluations and opinion shifts was the postulated increase in attitude polarization."

Their demonstration has recently come under attack. A few years back, Andrew Guess and Alexander Coppock performed a Bayesian analysis of the experiment, showing that participants were behaving rationally enough. After all, taking priors into account is a very sensible thing to do and it needn't lead to any epistemically hazardous outcomes. More recently, Ben Tappin, and Stephen Gadsby, using similar methods, have questioned other results taken to demonstrate belief bias.

I love that stuff (indeed, in a forthcoming book, I defend exactly this stance regarding belief bias, so big thanks to the guys who did the math). However, in our work on human reason, Dan Sperber and I have defended the existence of a myside bias: a tendency to find reasons that support our priors. Even if we claim this bias is an adaptive feature of reason, it remains a bias in the statistical sense, in that, on its own, it leads to poor epistemic outcomes (we believe it's fine because in the right context—proper group discussion in particular—these bad outcomes turn into good results instead).

In our book, we take the example of Bertillon, the respected criminal expert who went bonkers attempting to frame Dreyfus. The whole case against Dreyfus rested on a piece of paper—a *bordereau*—written by a French spy working for the Germans. Bertillon, hired to ascertain whether (i.e. prove that) the handwriting was Dreyfus's, came up with a jewel of sophistry. Allow me to quote at length:

> Bertillon's mind works tirelessly with a single purpose: proving that Dreyfus wrote the *bordereau*. Here's what he has to work with: two letters—the *bordereau* and a sample of Dreyfus's writing—that have some similarities but also marked differences. These differences are sufficient for real experts to conclude that the two letters have not been written by the same person. But Bertillon is smarter than that. Only by imagining what clever deceptions Dreyfus has devised will this connoisseur of the criminal mind be able to prove the traitor's guilt.
>
> Bertillon wonders: What kind of spy would write such a compromising message in his own hand? (The real spy, as it turns out, but no one knows this yet.) In Bertillon's mind Dreyfus, a spy, and a Jew to boot, is too shrewd to make such a glaring mistake. He must have disguised his hand. This explains the differences between Dreyfus's normal writing and the *bordereau*.
>
> But now Bertillon has another problem: How to account for the similarities? Why hasn't that shrewd spy simply used a completely different writing? To answer this question Bertillon comes up with his chef-d'œuvre, the keystone of his system: the theory of the auto-forgery.
>
> Imagining what a shrewd spy might do, Bertillon realizes that transforming one's writing would work only if the potentially incriminating document were found in a non-incriminating place. Then Dreyfus could use the disparities to claim that he was not the author of the bordereau. However, if the letter were discovered on Dreyfus's person or in his office, he could not simply claim that it wasn't his. Instead, this master of deception would have to say that he was being framed, that someone had planted the bordereau. But if someone were to try to frame Dreyfus, surely they would be careful to reproduce his hand-writing. And so Dreyfus set out to imitate his own handwriting—he engaged in auto-forgery.

However much the bordereau matches Dreyfus's handwriting, it points to Dreyfus's guilt. I believe Bertillon has managed to outsmart any attempt to make, by Bayesian means or others, his reasoning sound.

The point of this post is to mention that I found a much earlier version of a similar reasoning while listening to the lovely podcast Medieval Death Trip. Episode 11 reads from *The Life and Miracles of St. William of Norwich*, which has the sad distinction of describing the first instance of blood libel in English story. In 1144, a 12-years-old boy was found dead in Norwich, and the local Jewish community was accused of ritual murder. How did the folks of Norwich know the Jews were to blame? The body exhibited marks of torture. In particular, one hand and one foot showed signs of having been pierced with a nail, pointing to the (alleged) Jewish practice of mock crucifixion. But why only one hand and one foot? The good people of Norwich aren't fooled. Had the signs of crucifixion been perfect, everybody would have believed the Jews had done it. And so the Jews attempted to hide their mischief by making it look like a half-crucifixion (??). Such an attempt to conceal the true nature of the crime is further proof of the Jews' guilt — them being so devious and all that. This is a very Bertillonesque reasoning: if it looks like a crucifixion, the Jews did it; if it doesn't quite look like a crucifixion, the Jews did it even more.

It can be argued (as we have) that the cognitive mechanisms giving rise to such reasoning are broadly adaptive, and yield, on the whole, epistemically sound outcomes. Yet the way they do so is by being biased and, when the biases aren't compensated in some way—for example by someone pointing out how stupid this reasoning is—they can precipitate epistemically, and sometimes practically, disastrous results. People really can be biased, and the long history of antisemitism offers a depressing treasure trove of evidence.