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## An Economist Listens to Serial

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# An Economist Listens to Serial

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## An Economist Listens to *Serial*

Peter Siegelman add thanks to Anne, Ian, and Ann.

Virtually nothing about what makes *Serial* so compelling has much to do with economics. But the central question of the series—the guilt or innocence of Adnan Syed—does connect with a powerful and important branch of economic theory dealing with asymmetries of information, instances where one party knows something the other doesn't.<sup>1</sup> For example, policyholders may know more about their riskiness than their insurers do; criminal defendants may know more about their guilt or innocence than the state does; and so on. Of course, people often have reasons to conceal or distort their private information, so the challenge posed by so-called “screening” models is to devise rules, incentives or institutions that induce self-interested actors to reveal what they know.

Could *Serial* itself, by its very existence, serve as such a truth-inducing mechanism? Sarah Koenig seemed to toy with this idea when—at the very end of episode 12, as she was wrapping up the series—she wondered “. . . why on earth would a guilty man agree to let me do this story, unless he was cocky to the point of delusion.”<sup>2</sup> Put slightly differently, can we learn anything about Adnan Syed's guilt or innocence from the fact that (before the investigation began) Syed gave permission for his case to be investigated and his story to be told?

Consider the decision of a rational<sup>3</sup> individual who has been convicted of a crime, and is approached by an unbiased journalist and asked for permission to have his case investigated for a podcast. The individual knows whether he has committed the crime for which he was convicted. Assume further that refusing to grant permission is costless: unless the podcast is produced, nobody will ever learn that the

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<sup>1</sup> For a brilliant application of these ideas to a problem in criminal law, see Daniel J. Seidmann and Alex Stein, *The Right to Silence Helps the Innocent: A Game-Theoretic Analysis of the Fifth Amendment Privilege*, 114 HARV. L. REV. 430 (2000) and Alex Stein, *The Right to Silence Helps the Innocent: A Response to Critics*, 30 CARDOZO L. REV. 101 (2008) (right to silence encourages guilty defendants to remain silent, enhancing evidentiary value of innocent defendants' testimony). See also, Peter T. Leeson, *Ordeals*, 55 J. L. & ECON. 691 (2012) (explaining how trial by ordeal in medieval criminal law could have served as mechanism for accurate revelation of private information). And on a lighter note, see MARSHALL JEVONS, *MURDER AT THE MARGIN* (2014) (fictional economist turns detective and uses economic principles to solve a murder).

<sup>2</sup> Serial podcast, Transcript at p. 286 (available at <https://drive.google.com/file/d/0Bw8FBdDIWKodbjJNRmIHeWdMSjg/view>), visited March 14, 2016. A little earlier, Koenig mentioned that Adnan agreed to have DNA testing done on physical evidence that was never tested at the time he was convicted. He says:

It's just anything about my case, I want to know it. I don't want anyone to be able to say 'well he didn't want to know so boom, we went and found out.' No, I want to know. So I called . . . and said 'Look . . . I wanted you to test things. I'm the one that asked for this.'

*Id.* at p. 285. I'm assuming that Adnan was in a position to authorize or grant permission for the podcast, in just the way he was empowered to authorize the DNA testing: neither could have occurred without his consent. If that's not true, then the analysis below would look quite different: even a guilty subject might find it in his interest to participate in an investigation that was going to take place anyway, with or without his permission.

<sup>3</sup> If we are not willing to assume a rational actor, almost anything is possible. For example, the subject might have an inflated sense of his own invulnerability, and authorize an investigation despite being guilty, because he believes he could never be caught: he might be “cocky to the point of delusion.” Or perhaps, though guilty, he might authorize an investigation because he unconsciously *wants* to be caught.

subject was approached for permission, or that he refused to grant it, so no adverse inferences could ever be drawn from a refusal.<sup>4</sup>

Let's start with the easiest case, a perfect investigation that is guaranteed to uncover the true outcome: without error, it reveals whether the defendant was guilty or innocent. Under these unrealistic circumstances, the defendant's choice of whether to participate should be clear. A guilty subject will refuse to permit an investigation, since it would inevitably confirm his guilt. By contrast, an innocent subject will always want to cooperate. In this world, the mere offer to conduct an investigation induces perfect "separation" between the two types of defendants. All and only the innocent will agree to cooperate; the guilty will refuse. Even without actually undertaking the investigation, therefore, we can motivate the subject to part with his private information about his own guilt.<sup>5</sup>

What would happen in a more realistic world where the investigation is not guaranteed to uncover the truth? Let's imagine that whether the subject is guilty or innocent, he believes that the investigation will reveal the true state of affairs with probability  $p$ , while with probability  $(1-p)$ , it will reveal evidence that is mildly consistent with the opposite of the truth.<sup>6</sup> Figure 1 illustrates. At stage 1 of the game, "Nature" chooses the defendant's type (guilty or innocent), which the defendant knows, but which nobody else does. At stage 2, the investigator offers to conduct an investigation (without, of course, knowing the defendant's type). At stage 3, the defendant either rejects the offer (and suffers no consequences) or accepts it. A guilty defendant who accepts expects to receive weakly exculpatory (erroneous) evidence with probability  $(1-p)$  and strongly inculpatory (correct) evidence with probability  $p$ . An innocent defendant expects to receive weakly inculpatory (erroneous) evidence with probability  $(1-p)$  and strongly exculpatory (correct) evidence with probability  $p$ . If either type of defendant accepts, the investigation then occurs, and at stage 4, its outcome is revealed. The ultimate consequences of the investigation are given by some function,  $V(\text{evidence})$ , which captures the value to the defendant of whatever evidence is uncovered.

In this setup, the guilty defendant can choose to reject the offer to investigate, or can accept and face a  $p$  chance of getting a bad outcome and a  $(1-p)$  chance of getting a weakly good outcome. It follows that

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<sup>4</sup> This is somewhat analogous to the right to remain silent: the trier of fact is supposedly not allowed to draw any adverse inferences from the defendant's refusal to take the stand. (Of course, as Lisa Flynn, one of the jurors in the Syed trial made clear when interviewed for the podcast, Adnan Syed's failure to take the stand in his own defense *did* apparently count against him, despite an instruction to the contrary by the judge. Serial Podcast Transcript, Episode 8 at p. 191 (visited March 14, 2016).

<sup>5</sup> For the purposes of determining the truth, it might therefore seem as if no investigation need ever be done. However, astute readers will recognize that never doing any investigations cannot be an equilibrium. If investigations are never actually undertaken, the guilty would always have an incentive to grant permission for an investigation so as to pool with the innocent, thereby breaking the separating equilibrium we just constructed. Fortunately, the independent desire of investigators to tell a good story (apart from demonstrating the subject's guilt or innocence) provides a motive for actually conducting some investigations, even though they are costly. Such an extrinsic motive is *not* present, e.g., when insurance companies investigate possibly fraudulent claims. This means that unless insurers can somehow pre-commit to auditing some fraction of claims, they cannot effectively use the threat of an audit to deter fraud. See, Pierre Picard, *Auditing Claims in Insurance Markets With Fraud: The Credibility Issue* 63 J. PUBL. ECON 27 (1996).

<sup>6</sup> As Leeson, *supra* n. 1, points out, what matters is the defendant's *subjective belief* about  $p$ , not the fact of the matter. Leeson's claim is that superstitious beliefs about the accuracy of trial by ordeal—based on the notion that God intervenes to determine the outcome of the trial—were sufficient to generate accurate outcomes from ordeals, even if the underlying beliefs were wrong.

he should accept the offer to investigate if and only if the expected payoff from refusing to permit the investigation (0) is less than the payoff from allowing it:

$$(1) \quad 0 < p \times V(\text{Strongly Inculpatory}) + (1-p) \times V(\text{Weakly Exculpatory}).$$

If the subject thinks the investigation will be accurate ( $p$  is large), he expects it to generate strongly inculpatory evidence with a high probability (and weakly exculpatory evidence with a conversely low probability).<sup>7</sup> Of course, what really matters is not the evidence itself, but the real world outcome the evidence gives rise to.<sup>8</sup> For example, someone serving a life sentence without possibility of parole would probably not be harmed by new inculpatory evidence, because he would have very little to lose by its revelation. Assuming he believes  $p$  to be reasonably large, a guilty defendant who has something to lose from unfavorable evidence would be better off refusing to allow an investigation, because the expected value on the right hand side of (1) is negative.

What about an innocent defendant? He, too, should accept the offer to investigate if and only if the expected payoff from refusing to grant permission is less than that from permitting the investigation:

$$(2) \quad 0 < p \times V(\text{Strongly Exculpatory}) + (1-p) \times V(\text{Weakly Inculpatory}).$$

If he believes the investigation is accurate (large  $p$ ), the innocent defendant expects to get favorable information with a high probability and weakly unfavorable information with a low probability. The expected payoff from granting permission to investigate will tend to be positive if the defendant can make good use of the favorable information (by obtaining a new trial, a pardon, or parole) and if mildly negative information is unlikely to be very harmful.

Under these conditions, the innocent defendant should want to allow the investigation to proceed, while the guilty defendant shouldn't. And if he believes the investigation will actually be carried out, the guilty defendant will not find it in his interests to authorize an investigation just to make it *look* as if he's innocent. That strategy is unavailing because the actual investigation will likely reveal his guilt.

Have we learned anything from all this? Adnan Syed is serving a life sentence, but not one for which parole is technically impossible.<sup>9</sup> This means that he does have at least something to lose by the

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<sup>7</sup> The belief that  $p$  is large seems reasonable: in fact, the reporters on *Serial* went to great lengths and considerable expense to track down evidence, interview witnesses, retrace timelines, and so on.

<sup>8</sup> In episode 6, Adnan states

**Error! Main Document Only.** To be honest with you, it kinda—I feel like I want to shoot myself, if I hear someone else say, “I don’t think he did it cause you’re a nice guy, Adnan.” . . . I hear people say that to me over the years and it just drives me crazy. . . . I would rather someone say, “Adnan, I think you’re a jerk, you’re selfish, you know, you’re a crazy SOB, you should just stay in there for the rest of your life except that I looked at your case and it looks, you know, like a little off. You know like something’s not right.”

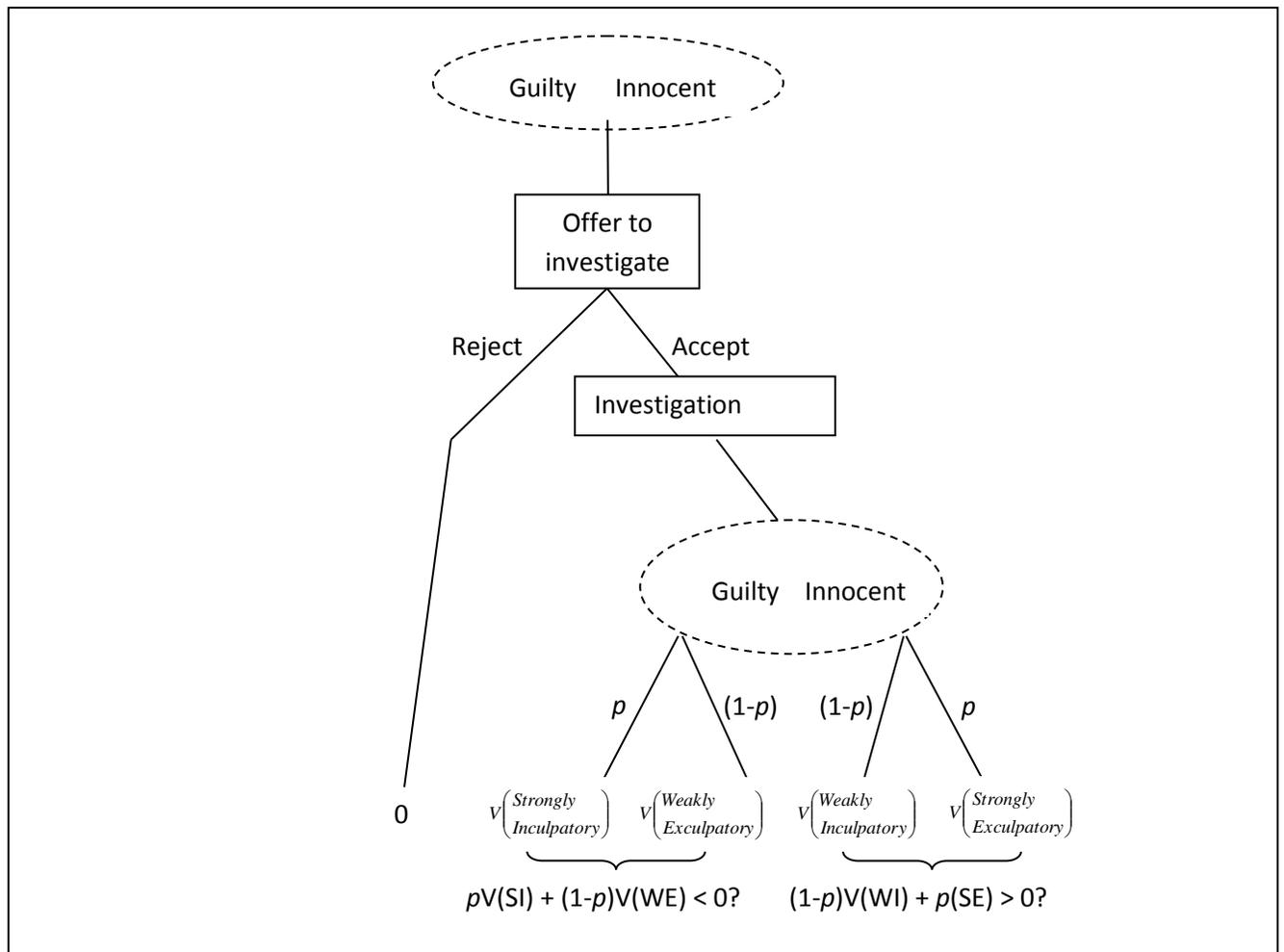
Serial Podcast Transcript, page 150. The model doesn't explicitly account for reputation or honor, one of many important omissions.

<sup>9</sup> Brief of Adnan Syed, Appellant, v. State of Maryland, Appellee., 2002 WL 32510997 (Md.App.), 1. According to one source, however, “release on parole for a life sentence is almost nonexistent and requires approval by the governor. In the past decade, no one serving a life sentence has been paroled in Maryland.”

<http://www.takepart.com/article/2014/12/17/serial-op-ed>, visited March 13, 2016.

revelation of any inculpatory evidence, even if we entirely discount questions of honor or reputation. And of course, he would certainly have at least something to gain from new exculpatory evidence. Thus, the mere fact that Adnan agreed to allow the investigation into his case is at least suggestive that he is actually innocent. Another possibility is that Adnan believed that the accuracy of the investigation,  $p$ , was very low. If so, even if he were guilty, agreeing to participate would have a low probability of revealing that fact, and a modest chance of uncovering some (weakly) exculpatory evidence.

It would be ironic if *Serial*, which conspicuously failed to reach a definitive conclusion about Adnan's guilt or innocence, could take us to the truth indirectly, just by virtue of Adnan's decision to allow the podcast to go forward. That would clearly be too strong an inference in this case. But in reaching a judgment about Adnan's guilt, we do need to appreciate that the evidence revealed by *Serial's* investigation includes the fact that Adnan authorized the investigation in the first place. If he did so rationally, the fact of his agreement should itself count as a piece of evidence in his favor.



**Figure 1: Investigation Game**

