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Chapter Appendix: The Prisoner's Dilemma

Newcomb's Problem is closely connected to a classic problem in Game Theory: the Prisoner's Dilemma.

Here is the Dilemma.

Imagine you and Jones committed a crime together, and you've both been arrested. The police don't have much evidence against either of you, though. If both of you keep quiet, you'll each be convicted of a relatively minor offense, and spend only 1,000 days in prison (a payoff of -1,000). But there is an offer on the table. If either of you agrees to sign a statement accusing the other, the defector will be allowed to leave scot-free (a payoff of 0), and the accused will be convicted of a felony offense, and sentenced to 10,000 days in prison (a payoff of -10,000).

Unfortunately, there is a catch. Should *both* you and Jones defect, you will both be convicted with felony offenses, but given the lesser sentence of 9,000 days in prison because of your cooperation with the police (a payoff of -9,000).

Here is a summary of the payoffs:

	You defect	You keep quiet
Jones defects	Jones → −9,000 You → −9,000	Jones → 0 You → −10,000
Jones keeps quiet	Jones → −10,000 You → 0	Jones → −1,000 You → −1,000

Before the offer is made, you and Jones are placed in separate interrogation rooms. You're then each told of the offer, and each of you is also told that the other has been told of the offer. But, you're not allowed to communicate with each other. So neither of you can do anything to affect the other's decision. Finally, assume that all you care about is minimizing your jail time. So, in particular, you do not care about Jones at all, or about any consequences beyond those that have already been mentioned. (No need to worry about Jones exacting revenge, or about feeling guilt, or about acquiring a bad reputation, or anything like that.)

Should you defect or should you keep quiet?

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