

'What is it that you do again?': thinking about criminal responsibility

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My object all sublime, I shall achieve in time, to let the punishment fit the crime —
the punishment fit the crime. (Gilbert & Sullivan, *The Mikado*)

Finding the Problem

I study the intersection between contemporary neuroscience and the theory of criminal responsibility. Hanging around disciplinary intersections like this can be fun: people don't always look where they are going and if you wait long enough you might witness a crash or two.

Casting aside the metaphor, my job begins by identifying the problems and tensions that emerge from the different ways in which we view the world. What might those problems be in the case of neuroscience and criminal responsibility? Well, we can divide it into two classic problems.

The first is the problem of competing descriptions. Simplifying somewhat, we can say that neuroscientists describe human behaviour from the bottom-up, beginning with chemical and electrical signals between individual nerve cells and working up to the functional processing that takes place within and between different brain regions. These descriptions are mechanistic, deterministic and reductive.

By way of contrast, theorists of the criminal law describe behaviour from the top-down, beginning with the system of legal norms and values, and working down to the intentional and psychological capacities that they think supports this system. These descriptions invoke the concepts of consciousness, intentionality, freedom of the will, and so on.

The worry is that these two sets of descriptions cannot live side-by-side; that one must necessarily supplant or eliminate the other; and that, due to the successes of the natural sciences, the most likely candidate for elimination is the criminal law.

The second problem is the problem of enhanced control. The worry here is not that the traditional understanding of criminal responsibility will be done away with, but, rather, that the technologies derived from neuroscientific discovery will enlarge the scope of our responsibilities.

For example, drugs and other medical interventions that can enhance cognitive function could have two effects on criminal responsibility. First, they might bring people who were traditionally excused from responsibility within the scope of criminal liability. This might be due to their having some now-treatable cognitive defect. And second, in the drive to reduce and control risk in society at large, we might all be legally obliged to “up our games” and partake of these enhancements.

Although I do focus on the first problem, the second strikes me as being the more interesting and practically relevant of the two. What is particularly interesting about it is that the law has been dealing with it for some time.

There is, I argue, a class of cases that have come before the courts involving “precommitment failures”. These are situations in which someone committed a crime in a state of “abnormal” agency. This state would normally excuse them from liability, but, because they failed to take steps that were available to avoid this state, they can be held responsible. These cases are similar to the hypothetical worries about cognitive enhancement mentioned above.

The key question then becomes: when, and under what conditions, is it legitimate to hold a person criminally liable for failing to avail of opportunities for enhanced control?

Assembling the Tools

One of the tools that I use to answer that question is game theory. Game theory was developed in order to understand the dynamics of strategic interaction. In the parlance of game theorists, a “game” is not something frivolous or trivial. It is any situation that has players, actions, payoffs, and information. This, it turns out, covers nearly all social interactions.

There are two main reasons why game theory can help us to think about the law. First, laws deal with social interaction. Indeed, laws are designed to structure and place limits on our social interactions. So any tool that can be used to model and understand social interactions is of benefit to legal theory. Second, through the concept of *equilibria solutions*, game theory helps us identify which laws are possible.

Here’s a simple game that can illustrate my point. It’s called *divide-the-cake*. Two people, Ann and Bob, are given a cake to divide among themselves. The rules of the game are as follows. They each demand a fraction of the cake. If the fractions add up to one or less, they receive whatever they demanded. If the fractions add up to more than one, the cake is taken away or spoiled.

This is an example of a bargaining problem. These arise whenever two or more people are trying to negotiate some sort of deal which is mutually beneficial. And although dividing a

cake is somewhat trivial, this basic game has been used by political and moral theorists to understand questions of distributive justice: Who is entitled to what? Which distribution of social goods is the fairest? These are not trivial questions: they are central to the moral foundations of legal systems.

To answer those questions from the perspective of game theory, we must first try to identify the equilibria solutions to the game. There is a precise definition of what an equilibrium is, but, very roughly, we can say it arises whenever the combination of the players’ actions is such that no player has an incentive to change what they are doing.

In the divide-the-cake game, there is one glaringly obvious equilibrium: the fifty-fifty split. At this point, neither player has an incentive to demand more or less. But things are not that simple. It turns out that every combination of fractions-demanded that adds up to exactly one is an equilibrium. Think about it: as long as the fractions sum to one, the player demanding more than half has no incentive to demand less, and the player demanding less than half, knowing the position of the other player, has no incentive to demand more or less.

This is disturbing because we would probably like the fifty-fifty split. Indeed, experimental evidence confirms that people have a preference for equitable distributions. But how can the fair split get a foothold in society if there are other potential equilibria? Fortunately, there is a way.

Experimental testing and computer modelling of the divide-the-cake game has revealed that if the game is played repeatedly, if players learn from experience, and if they can be more discriminating in their choice of who they bargain with, fifty-fifty becomes the dominant equilibrium. Evolutionary game theorists have argued that these observations can account for the human preference for equitable solutions. This engrained preference then serves as a constraint on possible legal norms.

Constructing a Solution

Now you may be wondering: what relevance does this have to the problem of enhanced control? This is where I enter the third stage of my research and try to construct a solution using the tools I have identified and defended in the second stage. I can only offer a brief sketch of that solution here.

My solution begins by pointing out that the problem of responsibility has significant parallels with the problem of distributive justice. Whereas the latter is about sharing out some social surplus; the former is about sharing out a social burden. The burden in question relates to the *effort we are expected to expend in order to avoid risk*.

To expand on this, we can say that the criminal law defines the activities that are socially

unacceptable or, to put it another way, the activities that give rise to unacceptable levels of risk. We are all burdened with avoiding those activities. The norms of responsibility dictate exactly where the burden lies. Thus, the law of criminal responsibility can be modelled in the same way as the divide-the-cake game.

This casts the problem of enhanced control in a new light. We can see now that this problem arises whenever new information is added to the game that changes how we think about the risk burden. By paying close attention to the trade-offs between increased effort and reduced risk, we can identify the situations in which it is fair to impose liability for failing to avail of the opportunities for enhanced control.

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