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Special Issue: The Genetics of Cognition

Genetics and criminal responsibility

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Some believe that genetics threatens privacy and autonomy and will eviscerate the concept of human nature. Despite the astonishing research advances, however, none of these dire predictions and no radical transformation of the law have occurred. Advocates have tried to use genetic evidence to affect judgments of criminal responsibility. At present, however genetic research can provide little aid to assessments of criminal responsibility and it does not suggest a radical critique of responsibility.

Internal and external interdisciplinary critiques

Another discipline could influence the law by providing either an internal or an external critique. In the former, the general validity of a legal doctrine, practice or institution is accepted but the other discipline tries either to explain the legal phenomenon or to reform it. For example, findings from other disciplines might suggest that the doctrines of criminal responsibility should be altered in various ways but might not suggest that the concept of responsibility is incoherent. By contrast, an external critique suggests that the doctrine, practice or institution is invalid. Many people believe that discoveries in genetics and other sciences strongly suggest the truth of determinism (or something like it), and that if determinism is true, then no one can be genuinely responsible. For example, *The Economist* recently warned, 'Genetics may yet threaten privacy, kill autonomy, make society homogeneous and gut the concept of human nature. But neuroscience could do all of these things first' [1]. Blaming and punishing criminals is thus allegedly unfair because no one deserves such treatment [2]. The conclusion is that current conceptions of criminal justice should be abandoned because they rest on a morally mistaken foundation. External critiques are radical, whereas internal critiques produce incremental change or suggest that the current system is valid.

The law's psychology and general concept of responsibility

To understand how genetics research can influence criminal law requires understanding of the law's implicit psychology and concept of responsibility. Law is a system of rules and standards that is meant to guide human action by providing agents with reasons to act one way or another [3]. Criminal law, and indeed all law, therefore presupposes the 'folk psychological' view, which causally explains behavior in

part by mental states such as desires, beliefs, intentions, volitions, and plans [4]. Other psychological, as well as biological and sociological variables also play a role but folk psychology considers mental states fundamental to a complete explanation of human action. The law's concept of responsibility follows from the nature of law and the type of creature it addresses. Responsible agents are those who can be adequately guided by the law, which means, roughly, that only conscious, intentional and rational creatures with developed linguistic capacity can be responsible. This explains why young children and some people with mental abnormalities are not considered responsible [5].

Criminal law responsibility criteria

Now let us be a bit more specific about the criteria for criminal liability, which are normative and not scientific facts. These criteria justify state blame and punishment because offenders who meet them deserve such treatment, and desert is at least a necessary condition for just punishment in the USA.

The definitions of most criminal prohibitions include an intentional action done in a reasonably integrated state of consciousness that is accompanied by another mental state (*mens rea*) that indicates how culpable the action is. Note that these are both folk psychological criteria. For example, a common definition of murder is intentional killing conduct done with the purpose to kill. A neuromuscular spasm that causes the death of another is not an action, and if one is driving intentionally but completely carefully, then an entirely accidental killing of a pedestrian would not be done with the purpose to cause death. In both cases, the defendant is not culpable.

Even if the agent does the prohibited act with the culpable mental state, the person will not be liable if he or she has an 'affirmative defense' because either the agent's act was right or permissible under the circumstances (a justification) or the person was not a responsible agent at the time of the crime (an excuse). Intentionally killing a wrongful aggressor because the agent reasonably believes he must do so to save his own life, self-defense, is an example of the former. If the agent kills because he has the delusional belief that he is in deadly danger, then he has done wrong, but he might be excused by the defense of legal insanity because he was not a rational agent.

There are two generic excusing conditions: lack of rational capacity and compulsion. The latter can be caused externally, such as cases involving dreadful 'do-it-or-else' threats (e.g. 'kill or I will kill you'), or internally, such as

cases of strong internal desires (e.g. an addict's desire to seek and use substances). In both cases, the agent acted intentionally but we might think it is unfair to ask him to control himself because it will be so difficult to do so. Note that affirmative defenses also involve folk psychology because they are based on mental states, including desires and beliefs.

Translating genetic research for assessing criminal responsibility

Genetics concerns mechanistic causation. Genes do not have mental states and do not commit crimes; people do. To make a useful internal contribution to criminal responsibility, the genetic data must be 'translated' into the law's folk psychological responsibility criteria [6]. It must be shown how, precisely, the genetic data are relevant to whether a defendant acted, whether he or she possessed a particular *mens rea*, and whether the mental states relevant to defenses were present.

It is not sufficient to indicate that genetics played a causal role in explaining the criminal behavior, even if that causal role is very powerful. Causation and predictability are not excusing conditions in law and causation is not the equivalent of legal compulsion (most action is not the causal result of dire threats or uncontrollable desires) [7]. If they were, no one would be responsible because we inhabit a causal universe, but we nonetheless hold people responsible. A genetic predisposition to criminal conduct does not *per se* mitigate or excuse. Causation is relevant only if it tends to show the presence of a genuine excusing condition, but it is the latter that does the legal work. Believing that causation *per se* mitigates or excuses responsibility is the most pernicious confusion bedeviling the attempt to relate scientific findings to criminal responsibility. I have termed it the 'fundamental psycholegal error' [8]. In the few legal cases in which genetic information has been used to mitigate responsibility, this error has been common [9,10].

We are reasonably confident that having a genetically induced MAO-A deficiency in interaction with childhood abuse causally increases the risk of criminal and antisocial behavior more than ninefold [11]. Nonetheless, there is no reason to believe that offenders exposed to that interaction did not act or form the required mental states. If exposure to that interaction somehow diminished their rationality or produced some type of uncontrollable internal desire, then mitigation or excuse might be warranted. Such a diminished rationality or control problem would have to be demonstrated independently by evidence other than causation data.

Internal contributions unrelated to responsibility

Genetic research might contribute internally to criminal law in ways unrelated to responsibility. For example, knowledge about genetic variables that predispose people to crime could enhance the accuracy of dangerousness predictions that affect sentencing and parole and it might enhance the efficacy of interventions to reduce the risk of crime. Note that if it were safe to release an offender early as a result of a successful, genetically based intervention, the reason would be public safety and cost and not because the offender deserved less punishment.

External challenges to the concept of responsibility

Genetic research might also provide a radical external critique of criminal responsibility if it convincingly demonstrated that no one deserves punishment. It might do this either by lending support to a deterministic metaphysics, or by proving that our mental states play no role in explaining our behavior. The former is simply the familiar determinism and free will issue. Note that contra-causal libertarian free will is not an internal criterion in law and is not even foundational for criminal responsibility. For example, even if determinism is true, some defendants are delusional and most are not. Some offenders act with a gun at their heads but most do not. These are differences that make a moral difference according to theories of fairness we endorse. At the metaphysical level, there is a respectable view, 'compatibilism,' which holds that robust responsibility is possible in a deterministic world even if we lack libertarian free will [12]. Determinist 'incompatibilists' disagree, of course, but the dispute is not resolvable and the law cannot wait for the metaphysicians. Thus, the external critique based on determinism does not have much legal purchase, although it has proponents.

Compatibilism cannot save responsibility from the second external critique because compatibilism presupposes the folk-psychological view of agency that the second critique denies. Some believe that mental states play no causal role – paradoxically, this is a motivating mental state for them – but neither genetics nor any other science at present remotely proves that our mental states are causally inert [6]. As the eminent philosopher of mind, Jerry Fodor, has written, if we are wrong about the importance of mental states, that will be about the 'wrongest' we have ever been about anything [13]. Finally, if our mental states, including our reasons for action, are simply an epiphenomenal sideshow the brain somehow constructs, what good reason would we have to do anything? The task of genetics and other sciences should be to explain our intentionality rather than reductively to explain it away.

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Update

Trends in Cognitive Sciences xxx xxxx, Vol. xxx, No. x

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