Larissa MacFarquhar (2006) Two heads: A marriage devoted to the mind-body problem. *New Yorker*, February 12.

EXTRACT

[The article is an account of an extended interview with neuroscientists/philosophers Paul and Pat Churchland]

"I think the more we know about these things, the more we'll be able to make reasonable decisions," Pat says. "Suppose someone is a genetic mutant who has a bad upbringing: we know that the probability of his being self-destructively violent goes way, way up above the normal. How do we treat such people? Do we wait until they actually do something horrendous or is some kind of prevention in order? Should all male children be screened for such mutations and the parents informed so that they will be especially responsible with regard to how these children are brought up?"

"Why not?" Paul says. "I guess they could be stigmatized."

"There's a guy at U.S.C. who wanted to know what the activity of the frontal cortex looked like in people on death row, and the amazing result was this huge effect that shows depressed activity in frontal structures. These people have compromised executive function. Now, we don't really know whether it's a cause or an effect—I mean maybe if you're on death row your frontal structure deteriorates. But of course public safety is a paramount concern. We don't want these people running loose even if it's not their own fault that they are the way they are."

"Well, given that they're such a severe danger to the society, we could incarcerate them in some way," Paul says. "We could put a collar on their ankles and track their whereabouts. We could say, We have to put this subdural thing in your skull which will monitor if you're having rage in your amygdala, and we can automatically shut you down with a nice shot of Valium. It's like having somebody who's got the black plague—we do have the right to quarantine people though it's not their fault. Heinlein wrote a story–"

"We're back to Heinlein! How funny."

"This just reminded me. He had wild, libertarian views. The story concerned how you treated people who were convicted by criminal trials. Either you could undergo a psychological readjustment that would fix you or, because you can't force that on people, you could go and live in a community that was something like the size of Arizona, behind walls that were thirty feet high, filled with people like you who had refused the operation. The story was about somebody who chose to go in. What annoyed me about it—and it would annoy you, too, I think—was that Heinlein was plainly on the side of the guy who had refused to have his brain returned to normal. He tells this glorious story about how this guy managed to triumph over all sorts of adverse conditions in this perfectly awful state of nature."

Paul stops to think about this for a moment.

"You and I have a confidence that most people lack," he says to Pat. "We think we can continue to be liberals and still move this forward."

"I'm not so sure," Pat says.

Minority Report

It is perhaps unfair to critique in a scientific journal an interview in a popular magazine. But the these ideas have been expressed more rigorously, and much more opaquely, in the technical literature – and they are widely held by many intellectuals. So here goes.

The idea is this: perhaps we should forcibly treat and restrain "abnormal" individuals before they can do harm if the propensity can be detected in some way. "Abnormal" how? Because they are a danger to society. Because they are criminals. Because they are prone to violent rage. The theme is similar to the Philip K. Dick story *The Minority Report* in which a group of "psychics" predict who will commit what crimes and when – allowing them to be arrested in advance.

This general idea is apparently accepted as very sensible by our two interviewees – except that famed sci-fi writer Robert Heinlein evidently disagrees. His "wild, libertarian views" led him to object to "psychological readjustment" that would remove such distressing tendencies, says Paul. Are Heinlein's objections silly, and if not, why not?

The general idea that Heinlein criticizes – removal, adjustment or even punishment, of people *likely* to commit a crime – is a recurrent theme in literature and jurisprudence. In crude and nontechnical form (no psychics needed) it exists even in current law. Many traffic offences, for example, are of this sort: running a stop sign, speeding, even driving while drunk, may not be damaging in themselves. They *are* all crimes, yes, but not because they actually cause harm: many instances of speeding or running stop signs are completely safe, no one is hurt. If an accident actually occurs, the charge is dangerous driving, something related to the harm caused. Speeding and the rest are crimes because the law judges them to be *predictive* of crime. "If you go over 35 mph you *may* cause an accident." That's the rationale, and it is enforced even if the road is empty, the light good and the weather clear. (There are other rationales for restricting speed, of course, most memorably the widely loathed Nixon-Carter 55-mph limit during the oil crisis in the 1970s. I don't discuss the logic of this.)

So, with these precedents, why not do as the Churchlands suggest? If we can tell from someone's brain that he is likely to engage in crime why not…what? Imprison him? Operate on his brain? Put him under electronic restraint?

There are three kinds of objections to such a policy, two valid and one not germane. The irrelevant objection is to point to the limitations of technology and enforcement. Enforcement limits the utility of speeding tickets if they are given out even when speeding is perfectly safe. Technology may never be able to detect neural abnormalities of the sort described. OK, so let's stipulate (as the lawyers say) that such a technology exists. We really can detect criminals in advance of their crime.

But the other two objections, one moral one scientific, seem to me more serious. The moral objection is surely obvious: who is to decide what's "normal"? After all, even homicide may be justified under some conditions and the definition of "crime" changes from country to country and culture to culture. The Soviet Union notoriously placed dissidents in mental hospitals, and many Soviet citizens sincerely believed behavior we might find perfectly normal, even admirable, to be a sign of mental derangement. Islamists consider many secular beliefs to be criminal. In short, there is little consensus on "normal" behavior.

The second objection is scientific. By eliminating deviants one also reduces the variation in the population and thus also limits evolution – cultural, and possibly even genetic. If someone deemed dangerous to life may be imprisoned for life, his genes are subtracted from the gene pool, his intellectual production probably deleted from the culture. Since we are the product of biological and cultural evolution, and since we rightly judge ourselves less than perfect, surely we would not wish to bring further evolution to a halt? (Of course, this is also a moral objection, really, since we are valuing our current stage and judging it to be less good than it might be – the anti-Pangloss position.)

At a practical level, the issue is a quantitative one: How good is the prediction, how bad and how imminent the outcome and with what confidence can one make these judgements? If we can predict with certainty that unprovoked murder will occur within the hour, it would be hard to object to restraining the to-be killer. But what about speeding and stop signs? Should people be punished for behavior that is merely risky but has not in fact caused harm? This is surely a matter for debate. A utilitarian argument can be made that we are all better off if people are deterred from risky or dangerous behavior. But in practice defining "dangerous" is often far from obvious and there are societal effects of punishing people for behavior that is manifestly safe, though illegal (such as speeding on an empty road in perfect weather), that cannot easily be assessed. Are we training people to ignore silly laws? – a practice that may eventually cause

them to disregard laws that are not so silly. If they obey signs and speed limits even when they make no safety sense, are we training them to look at signs and for police cars rather than at the traffic?

My guess is that Heinlein was probably correct: no one should be manipulated merely for being a risk, or engaging in risky behavior. At the very least, we should think much more carefully than we do before inflicting punishment for behavior, or a characteristic, neural or otherwise, harmless in itself, that is deemed predictive of harm.

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