Ordinary minds, extraordinary violence

How the human mind permits ordinary people to commits acts of unspeakable horror

By William Gehring

Does it make sense to look for causes of genocide in the inner workings of the human brain?

Certainly the most obvious causes of genocide are large-scale forces acting on societies, such as authoritarian and hateful political and cultural belief systems. Still, for genocide to occur, those belief systems must somehow affect how individual minds make decisions.

The use of imaging technologies to understand how the brain carries out thought and behavior has advanced considerably over the last 20 years. Could such advances lead to a better understanding of the individual decisions that lead to genocidal killing?

Just following orders

Much current thinking about the psychology of genocide is based on social psychologist Stanley Milgram's research in the 1960s on obedience to authority. Men and women of varying ages and professions were recruited for a memory study. An experimenter asked each subject to act as a teacher in giving a memory test to another subject — the learner — seated in an adjoining room. The test required the learner to listen to four words and indicate which one had appeared on an earlier list. The learner's arm was strapped to a shock plate, and the teacher controlled an imposing machine with 30 switches ranging from "15 Volts: Slight Shock" to "420 Volts: Danger Severe Shock," with a final switch labeled "450 Volts: XXX." For each error, the teacher was to punish the learner by flipping a switch to administer a shock, increasing the voltage every time. The shocks appeared to be effective: Groans, protests and agonized screams came from the learner's room. At 300 volts, the learner quit responding, although the teacher was told to continue to 450 volts, treating each nonresponse as an error.

However, the memory test was a ruse. The learner was in reality an actor who did not receive any shocks. The experimenter was also an actor whose job was to say things like, "The experiment requires that you continue" when the teacher expressed reluctance. The real question was, would people obey the experimenter despite the suffering of the learner?

Before the study, a group of psychiatrists predicted that only a fringe few would proceed to the highest level of shock. So it was a disturbing surprise, even to Milgram, when 27 of the 40 subjects continued to the most extreme level of shock, well beyond the point at which the learner stopped crying out and became silent. In other words, roughly two-thirds of a group of average people were willing to injure or even kill a stranger simply because an experimenter in a lab coat had asked them to.

The role of ordinary men

Around the time of Milgram's study, German-American political philosopher Hannah Arendt published her account of Adolf Eichmann's trial for Holocaust war crimes. Her notion of the "banality of evil" and Milgram's findings seemed to dovetail: Genocide is carried out not because of psychopathology or murderous hatred, but because ordinary people assume an unquestioning role of obedience to authority. In his book *Ordinary Men*, historian Christopher Browning came to a similar conclusion regarding members of Police Battalion 101, a group of middle-aged reserve policemen ordered to gun down 1,500 Polish Jews — mostly women, children and the elderly — in the early stages of the Holocaust.

Nevertheless, although many who followed orders were ordinary, the few who resisted authority were just as ordinary. It is remarkable and puzzling that in obedience experiments, very few background or personality characteristics consistently distinguished people who obeyed from those who did not. What caused some ordinary individuals to follow orders and others to disobey?

One clue may lie in the signs of internal conflict and tension exhibited by Milgram's subjects — obedient as well as defiant — such as sweating, nervous laughter and exclamations of reluctance to continue. Similarly, members of Police Battalion 101 showed extreme levels of stress when asked to shoot innocent Jewish families.

Scanning the moral brain

There have been many recent advances in neuroscience toward understanding how the human brain monitors and deals with internal conflict. The brain consists of many diverse subsystems; researchers have identified cognitive control systems in the human frontal lobe that detect when different neural subsystems call for incompatible actions. The idea is similar to the everyday notion of "self control," thought to be necessary when one's desire to do something conflicts with one's knowledge that it is unwise. When inner signals call for conflicting actions, cognitive control suppresses the undesirable actions. Indeed, damage to frontal lobe areas can result in anti-social and aggressive behavior because such behavior is no longer suppressed.

A group of cognitive neuroscientists led by Joshua Greene and Jonathan Cohen used brain-imaging methods to understand how cognitive control is involved in difficult moral decisions.

Subjects' brains were scanned as they contemplated moral dilemmas. For example, subjects were asked to imagine they were holding a crying baby in a town being patrolled by enemy soldiers with orders to kill civilians. Letting the baby cry would attract the soldiers, causing the deaths of several nearby people. Covering the mouth of the baby to keep it quiet would smother the child. What should one do? Difficult moral decisions such as this caused activity in areas of the brain related to emotion and social thought and in the frontal lobe system for cognitive control, including the anterior cingulate cortex and prefrontal cortex, which monitor internal conflict and exert control over behavior. Subjects may have felt a conflict between their aversion to harming others and the competing higher purpose of saving lives.

The minds of Milgram's subjects and of the men in Police Battalion 101 were teeming with conflict. Some of the conflict came from automatic emotions and predispositions, such as aggressive tendencies, a strong predisposition to obey and revulsion toward killing. Conflict also came from beliefs about the legitimacy and purpose of the authority, the morality of killing other humans, and, during the Holocaust, the dehumanization of the victims.

Perhaps one way in which obedient and defiant individuals differ is in how effectively frontal lobe cognitive control monitors and regulates internal conflict in extreme circumstances. Extraordinary conflict may push the cognitive control of some people past its limits. Subjects in Milgram's study and members of Police Battalion 101 experienced such conflict amidst strong situational demands for obedience. A breakdown in cognitive control would weaken the brain's ability to override these demands and the predisposition to follow them. Subtle differences in the human capacity for cognitive control that are not readily apparent in everyday life might become exaggerated in extraordinary circumstances. When that happens, cognitive control may help to determine whether the balance tips toward good behavior or toward evil. ■

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Violence on your mind

There is no one switch for turning on or off violence in the brain. Instead, different centers interact to produce complex behaviors.