

My Brain Made Me Do It

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Neuroscience has found that people's brains finish their work before people are aware of it. This finding addresses an issue: do people's minds have free will that will enable them to control the brain's automatic work? If the brain does the work, are people still responsible for their actions because of a brain disfunction? Past scientific studies have shown that people have little control over their brains because the brain does the decision work before people are conscious of it. However, in the Ethical Brain, Michael Gazzaniga claims that responsibility exist only in social context, which is not related to neuronal structures of the brain. Therefore, although the brain is an automatic processor and always ahead of people's consciousness, people are still free to make their own decision and responsible for the outcomes.

According to Gazzaniga, neuroscience is the scientific study of the nervous system, and it offers new ways to study people's behavior (Gazzaniga 89). The new findings appear to oppose free will versus personal responsibility. Philosophers present this logic: "The brain determines the mind, and the brain is a physical entity, subject to all the rules of the [physical universe]" (Gazzaniga 88). The physical world is determined, so our brains must also be determined. This logic suggests that free will might be just an illusion. Neuroscience also explains certain violent or criminal behaviors in terms of distorted brain function. This "the brain enables the mind" argument is solid with the work of Benjamin Libet in the 1980s (Gazzaniga 92). In Libet's experiment, he measured brain activity with voluntary hand movements. His data showed that the 500-1000 milliseconds before people actually moved their hand, there were waves of brain activity. Libet explain that this 500-1000 milliseconds "time  $t$ " was the time when people made the conscious decision to move their hands (Gazzaniga 92). However, Libet found that before time  $t$ , people's brains were active, about 300 milliseconds before conscious decision-making (Gazzaniga 93). It appeared that the brain knows the "decision" before people were aware of it.

These findings favor the “free will just an illusion” idea. Rejecting the “free will just an illusion” idea, Libet argued that the time for the readiness potential to transfer the message to the actual hand movement was about 500 ms, and it took 100 ms for the neural signal to travel from the brain to the hand, so there were still about 100 ms left for the conscious self to decide whether to go with the unconscious decision or veto it (Gazzaniga 93). Therefore, Libet argued that “free will” existed in the 100 ms time period.

Michael Platt and Paul Glimcher at New York University did a similar experiment on monkeys’ brains. They examined the activity of the neurons in the inferior parietal lobule of monkeys’ brains (Gazzaniga 93). They moved a bar of light in front of the monkey and observed the firing patterns of the neurons, and these firings happened long before the animal decided what to do. Their findings are similar to Libet’s, which again shows that the brain can act on its own before people have awareness. The author demonstrated another experiment supporting this point. In his experiment, he suggested that if the word “he” is to the left of the people’s visual view and the word “art” to the right, then the subject would perceive the word “heart” by the brain. Gazzaniga and his lab collaborators found that one’s brains achieved this integration without one’s conscious awareness (Gazzaniga 94).

These findings lead to a question: are people responsible for their acts if they have brain disfunction? Gazzaniga believes that, although brains are automatic, determined “devices”, people are responsible and free to make their own decisions (Gazzaniga 90). He claims that neuroscience will never find the correlation between the brain and personal responsibility (Gazzaniga 90). Responsibility is a human construct that exists in the social world and it is a moral value that the human society demands and follows (Gazzaniga 101). The brain scientist can tell one’s mental state but cannot tell whether one is too ill to be responsible. The author

concludes that “no one person is more or less responsible than any other for their actions” because the idea of responsibility exists in the rules of a society, not in the neuronal structures of the brain (Gazzaniga 102). Ethics also defined by humans and the society, and it only exist in the social world. Then, each person should have his or her own ethical value disregard of his or her brain ability.

Scientists and neurologists today still have a very limited knowledge of how the brain works; although a certain portion of the brain has been mapped based on which of its regions governs a particular part of the human body, there exist too many unknowns to properly identify the relationships between neurons or neurological pathways and the thought process. In the current century we have invented many tools and methods to attempt to read other people’s minds. The tools used are not practical and therefore are only used when absolutely necessary, like in a courtroom; methods like lie-spotting or involving the psychic realm, on the other hand, do not provide concrete evidence of its validity to hold in a courtroom setting. However, when used for lie-detection, knowing the brain patterns for both lying and telling the truth may be sufficient. The brain literally governs the body. Every single action or thought stems from the brain, thereby making it very feasible to determine whether a person is lying by looking at its patterns.

Before the invention of brain imaging and neurological analysis a crude way to get suspects to tell the truth was by making them ingest truth serum. The contents of truth serum act as a narcotic that induces a state that makes it possible for one to communicate easier. The method seems to make sense: losing control of one’s mind would make one more open and more likely to speak the truth, similar to alcoholic inebriation. However, when inebriated the subject might just speak out what is on his mind; so long as he makes a conscious effort to hide the truth

the serum will likely not be effective. Truth serum, after all, does not inhibit the part of the brain that is responsible for fabrications and lying. But now functional magnetic resonance imaging (fMRI) yields better results by directly looking at the subject's brain patterns. It is always easier to tell the truth than it is to tell a lie because the truth comes so naturally, whereas additional precautions have to be taken to spout a lie. The purpose of fMRI scans is the identification of these sudden changes in the brain. There are other types of lie detection available to use, such as the computerized knowledge assessment (CKA). The CKA works by measuring the brain wave response called P300 to determine an answer. P300 brainwaves resonate to things familiar from the subject (Gazzaniga 110). For example, if the subject is shown a picture of a stranger and another of his or her spouse, their P300 response to the spouse would be more intense. This technique does not require a verbal response from the subject, so it is more direct than the truth serum and possibly the fMRI. This technique is so efficient that in an FBI case of six subjects, they determined that five had ties to the event in question with 99.9 percent statistical confidence and 90 percent for one (Gazzaniga 111).

These lie detection tools above are very efficient but not at all practical. A suspect would have to be taken to do fMRI (the equipment is about the size of a room) or CKA at some fixed place. This would not be efficient if an investigator or prosecutor wants to interrogate a suspect on the spot. In addition, at whose expense would all this criminal testing go to? According to [comparemricost.com](http://comparemricost.com), an fMRI scan may cost as much as \$3500 a scan. Anyone who has to bear with the expenses of performing any sort of MRI scan would be troubled to hear a cost so high. While these scans can certainly be cheaper, these tests have to be priced high enough to cover for the cost of the MRI machine itself as well as the space which it occupies; also from [comparemricost.com](http://comparemricost.com), an average MRI machine costs over a million dollars, and does NOT

include the cost of the space it occupies. It is assumed that there are not a lot of MRI clinics around the United States, so costs and time for transportation would also not be practical.

Critics also argue that using these techniques to peer inside the brain may be a violation of the freedom of thought. Precisely because the brain is still perceived as a black box, the idea of reading brain waves or amount of blood flow does not necessarily correlate to a suspect's intentions or knowledge of the crime. If what you say comes from your brain, wouldn't looking at your brain be a violation of the Fifth Amendment to the Constitution as well? Part of the Fifth Amendment that pertains to this notion states that nobody "shall be compelled in any criminal case to be a witness against himself." As Gazzaniga puts it, "Neuroscience reads brains, not minds. The mind, while completely enabled by the brain, is a totally different beast" (119). There may exist a spiritual element separate from the physical brain and body that ultimately decides if one should follow through with the action given by the conscience. The brain – as far as we know, a supercomputer of sorts – can only store and remember the history of our actions but may not be able to tell us how the decision-making process works. Therefore people who believe that lie-detection techniques, for all its hype and effectiveness, are mind-reading tactics would be thoroughly wrong and mistaken.

Gazzaniga explains to the readers a very good example of why merely looking at the brain does not correlate to the person intentionally committing a crime. He uses the example of Phineas Gage, who survived a tamping iron that penetrated through his brain, and the sudden change in his social attitude. Gazzaniga states that "It is possible that these people do not inhibit their impulses even though they could (and therefore should be held responsible for their actions)" (97). This supports the idea of free will because a person like Gage could have stopped himself from excessively swearing and making sexual remarks in public when his brain

functioned normally, but once impaired the part of the brain involved with inhibiting impulses can no longer stop him. With such a theory, how can one say that just looking at the brain is sufficient enough to determine his intentions? It is wholly possible that a person may not be mentally challenged yet still do not have enough inhibitory senses in the brain, thereby acting impulsively.

The human body is enslaved by the brain, which is enslaved by the mind. If the mind and all other ethereal bodies are part of the thought-process (whether or not we should follow through with actions that spontaneously come) then humans still have free will and control over themselves. Otherwise, would we not just be robots with an exceptional computing unit called a brain, operating upon a fleshy medium for the sole purpose of survival? All of the experiments describe above, including all lie detecting methods, measure only the functional brain and not anything higher; fMRI machines and its kind can only reveal the “data” contained inside, about the past and the present but never the future. Brain-mapping continues to be a major and popular field of study simply because of the amount of “gray matter” that has not been explored. Just like a treasure hunter venturing out into the unknown, it is possible that some sort of treasure can be found within this gray matter, providing a more direct link between the brain and the mind. Perhaps as neurologists continue to map the vast gray matter of the brain they might stumble upon information about its users, just like how a hacker can probe a person’s computer for personal information about its owner.

### Work Cited

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