

Free Will and Responsibility®

Clarence Williams, February 2, 2007

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All of us regularly make choices and see others do the same, often wondering, “What were they thinking?” Scientists give several names to this behavior whereby one course of action is taken from various alternatives, like voluntary, unconstrained, or free choice behavior. And most people believe responsibility and accountability depend on free will. I argue here that what is perceived as free will is, in fact, a natural, fully-caused process, which does not jeopardize important social structures supporting civility and moral responsibility, like law, sanctions and rewards.

First, causation must be understood. There are proximate causes, those immediately preceding the action, and ultimate or distal causes, those at the start of a causal chain. One thing leads to another, and distant causes are often difficult to identify, especially regarding human behavior. But thanks to advanced instruments and dedicated scientists, we now know behavior is directed by the mind, which cannot be dissociated from the brain, a body part composed (mostly) of neurons. It operates in a mechanical manner, whereby chemical reactions result in electrical charges, which in turn order behavior, from raising a finger to contemplating the universe. As a chemical process, the mind is subject to all physical laws of nature.

There are many who reject this view—often called dualists. They insist body and mind are different, with body being part of the natural world and mind (or “soul” as some prefer) being part of a metaphysical world. If you believe that free will depends on or is controlled by a non-natural, metaphysical source, then there is no foundation for a discussion since this view relies on something that cannot be subjected to observation. Since anything you say cannot be tested, it cannot be disproved, which ends the conversation. More importantly, though, this dualist view of the mind rejects free will entirely; this metaphysical force controls the mind so it cannot be free.

Since we are talking about observable, freely undertaken behavior, we can continue with down-to-earth explanations. Injuries, called lesions, first revealed the brain’s mechanistic nature. Common complex behavior, like personality, depression, social exchanges and others, changed with damaged

neurons (the lesions). In behavioral problems such as autism, addictions, attention-deficit hyperactivity disorder (ADHD), bi-polar disorder, schizophrenia, psychopathy and others, scientists have identified genes or neural structures unique to each disorder. And neuroscientists literally “see” the brain’s electrical activity before test subjects are conscious of a decision to act, even predicting a monkey’s behavior by noting a neuron’s polarity. Furthermore, experiments reveal that infants are born with a rich array of behaviors, and scientists have mapped the brain’s normal development, revealing sources for teenage confusion, defiance and risk-taking.

None of this, however, means the mind is uncontrollable. We can do things because we want to, but this mental activity only takes place within the framework of existing, learned knowledge—you can’t want what you don’t know. In learning, new neural connections are made or existing ones strengthened, and most learning is determined by your genes—“known at birth,” or learned the hard way by ancient ancestors and passed down by evolution—but many genes are ready-made to respond to external conditions and “re-wire” neurons accordingly. You are a life-long learning machine. Desire, or wanting, is a mental representation of a future bodily state, a dream, which is constructed from what you know about yourself and the environment. Imagine that your stomach “growls,” immediately bringing fond memories of food and the location of some. You form a mental representation of a satiated state, causing you to get up and go to the refrigerator. As you open the week-old container, the smell of spoiled food is repulsive (it is “learned in the genes”), thereby creating an undesirable mental representation, a “don’t want.” You have made a choice to eschew this food.

Of course, most choice is more complex because your genes have constructed your brain to literally “hunger” for new information. Thus, humans amass a wealth of possible behaviors, some learned and some present at birth (genetically learned). These potential behaviors often conflict in a given situation, leaving a choice. For instance, your genes have taught you to procreate, but you have learned to be circumspect in expressing this behavior. The resulting behavior, whichever choice you make, has resided in your mind for some time. Thus, no human has ever had an original thought, in the sense it arose from nothing. We do engage in novel behavior—consider Mozart’s music—but it is

composed of unoriginal thoughts, learned connections, and most often combined serendipitously.

A choice results in behavior, and scientists are still at work deciding how the brain selects one alternative over another. Most likely, the method depends on the circumstances. In some experiments, the stronger neural connection—chemically speaking—determined the choice. In others, various neural ensembles performed a cost/benefit analysis, with experience—acquired through learning and retained through memory—and the person’s current internal state, such as moods and health, as input factors. A third possibility has recently been discovered: random chemical events. Random chemical interactions at the single neuron level have been shown to guide some decision-making, when there is insufficient evidence from which to weigh costs or benefits (imprecisely called “unconstrained choice”). Most revealingly, this randomness evidently served an evolutionary purpose, has been “learned in the genes.” Thus, it is no freer than other methods of deciding between behavioral alternatives.

In none of these models of decision-making does the mind work free of learned inputs. Learning, in all its forms, is behind behavior, but learning is near the end of a long causal chain. So, if a miscreant is identified by proximate behavior—he or she definitely “wanted” to do it—, we should not attribute it to some mythical concept of free will. Instead, we must understand it from a distal perspective, realizing that the choice was ultimately driven by genes or the environment. These have failed us, not the miscreant. In designing social conventions and institutions attempting to elicit certain behavior, its fully-caused nature must be considered. While designing (or redesigning) such social structures is outside the scope of this essay, it should be apparent that we must use our uniquely human intelligence to build better learning environments, some of which require forced attention (e.g., jail) and repetition, but none of which accept the notion of a human will free of natural causes.