

## Free will as an Achievement

I expect you all know the game of Rock Paper Scissors. It originated perhaps a thousand years ago in China, and is played all over the world, under various names. Imagine playing the game against somebody who *always won*. This would be alarming. If someone could read your mind like this, it would seem that they could control you. They could usurp your autonomy. Could anybody actually have this power? How could they do it?

If the laws of Newtonian physics determine the results of all physical processes—all the collision of atoms and gravitational attractions—then the future is already fixed by the past, and anyone who knows the laws and the physical state of the universe at one instant will be able in principle to predict each future instant from then till eternity. That is the idea of *determinism*, and it was vividly captured in the 19<sup>th</sup> century by Pierre-Simon Laplace, who imagined a being—now called Laplace’s Demon—who could predict your future so long as it didn’t interact with you, which would require it to predict its own future, which it cannot do without having a complete knowledge of its own state, which is impossible, something Alan Turing proved in 1936, as he was inventing the computer. We can concede that in principle, if physics is deterministic, Laplace’s demon could anticipate our future—but it could not reach into the world to control us. Whew!

A less omniscient agent who only knew the exact state of your brain in the time just before you made your move in Rock Paper Scissors might well be able to predict your move in time to make the winning counter-move. So here is a bit of practical advice: never play Rock Paper Scissors for high stakes when your head is inside a brain scanner! Neuroscientists cannot *yet* get their technology to work fast enough to predict your moves, but it is possible in principle.

Your brain is the control center of your body of course, and it is almost unimaginably complex; at any moment there are Vast numbers of things you *could* decide to do, if you wanted. These are the *degrees of freedom* that you are blessed with, and you’ve been learning how to control them since you were an infant. For several years you crawled and bumbled about, under the watchful eye of your caretakers, learning how to walk, to talk, to make your desires known, and particularly, to respond appropriately to advice and warnings and offers from those around you. Your parents and your peers have shaped you, through years of interaction, to avoid dangerous or foolish actions, to keep your counsel, not to divulge personal information to strangers, to keep your promises, to obey the laws and customs of society. Over the early years of your life you gradually achieved a level of self-control that convinced society to grant you full adulthood. You are, in short, a responsible and well-informed citizen, and this confers on you a special status: you are free to choose your friends, make promises, sign contracts, buy and sell things, move through the world pretty much wherever and whenever you want. That is *one kind* of free will, and it’s the most important kind, very much worth wanting. Not everybody has it; some folks have brain damage or are psychotic or in other ways unable to control themselves; they are *not* allowed to choose their own circumstances but are put under the care of guardians of one sort or another. One of the saddest rituals of modern life is the legal process that recognizes

that one of us is no longer able to care for herself or himself, no longer competent to sign contracts or make major life decisions.

This is the variety of free will worth wanting, and it is not a metaphysical property that depends on some magical exemption from the laws of physics; it is an achievement, endorsed by society, and it is a blessing you can lose. For several thousand years philosophers and scientists have debated free will under the confused assumption that free will isn't *really* free will unless it is somehow exempt from the laws of physics. In my opinion, this is one of the most unfortunate cases of unintended misdirection in the history of thinking, since it has encouraged folks to ignore a genuine and pressing threat to their cherished free will while speculating about physics and quantum indeterminacy—fascinating topics that have nothing to teach us about the free will that matters.

I've been writing about free will—the varieties of free will worth wanting—for half a century, and I still run into highly resistant pockets of resistance to my main point, but sometimes these can be put to good use. A few years ago, my friend Sam Harris published a little book on the topic, entitled FREE WILL, the cover of which showed the letters “F” “R” “E” “E” “W” “I” “L” “L” dangling from puppet strings. His thesis was breathtakingly dismissive of my theory (known as compatibilism) and he summed up what he thought was wrong with my view in a single sarcastic line. According to Dennett, he said, “a puppet is free as long as it loves its strings.” I think he saw this as a refutation, but I saw it as a fine explanation of my view.

Do you want to be a puppet? I don't. And I don't think you want to be a puppet either. (A memorable moment in the awful third debate between Hilary Clinton and Donald Trump came when Clinton called Trump Putin's puppet, and he stupidly responded “no puppet, no puppet. You're the puppet.” I think we can now see who was the puppet then.) Puppeteers know that controlling a puppet requires great dexterity and feedback, and depends on limiting the *degrees of freedom* you have to control. (Drones are puppets with electronic strings, and they are possible precisely because many of the delicate and time-sensitive decisions required to keep a drone flying are handled by brilliantly engineering onboard control systems, leaving only a handful of degrees of freedom for the remote operator to control.)

You have many more degrees of freedom than any drone, so remote control of you is a much more daunting task, thank goodness. Still, would-be puppeteers are discovering more and more ways to simplify their task. The first rule of thumb for controlling something remotely is to *clamp* as many degrees of freedom as you can, so you don't have to think about them. How do you clamp degrees of freedom of another human being? By *capturing their attention*. You've encountered this fact since you were a baby. Infants often get stuck with their attention captured by something in their immediate vicinity, and they just can't stop looking at it and reaching for it. They are locked in until mother or father finds a substitute shiny thing to distract them. Gradually children learn to control their attention on their own, and this is an important step in their growing maturity.

Today, the most effective puppet strings ever invented are right in front of your eyes: mobile phones. Probably most of you have one in your pocket right now. There are many thousands of clever designers trying to create ever more effective and personalized attention-

grabbers as I speak. Click-bait? Of course. But much more; many levels of customized scaffolding designed to lead *you* into a narrower and narrower set of targets of attention.

Have you ever seen video of an anglerfish? They typically lie motionless on the ocean floor with a little fishing pole stalk dangling in front of their closed mouths, on which a wiggly little bit of bait lures other fish closer and closer, to see if this squirmy worm is food. When the curiosity gets the better of them the anglerfish snaps, and has breakfast in his mouth. I've shown videos of anglerfish to my grandchildren, telling them that the world is filling up with anglerfish that all want to lure them into close range so that they can control them. I'm serious. This is a really new threat, and we should spread the word far and wide! Parents have always warned their children about smooth-talking strangers who will try to take advantage of them, and the world's literature is well-stocked with cautionary tales about what happens to innocent children who get lured in, but the threat today is, I think, an order of magnitude greater.

So my message for you all is, *love your strings!* Protect them from would-be puppeteers, so that you can preserve your autonomy, your free will, instead of becoming the unwitting tool of some other agent. That is the only free will you need.