

Chapter Four: Free Will and Determinism

by Don Wharton

In a 1930 article, Albert Einstein wrote, “A God who rewards and punishes is inconceivable to him (one who is convinced of the universal law of causation) for the single reason that a man’s actions are determined by necessity, external and internal, so in God’s eyes he cannot be responsible any more than an inanimate object is responsible for the motion it undergoes.”¹

There is a deep reluctance to accept that all our thoughts are a direct result of our brain functions and that our brains are the result of evolution just as is all other organs of all organisms. This is the view of Daniel C. Dennett in his excellent book *Freedom Evolves*.²

The intensity of this reluctance dramatically hit home on one occasion when I attempted to discuss free will and determinism while driving in my car. The passenger in my car became visibly upset and started to issue commands for me to drive in odd ad-hoc directions. Apparently the purpose was to document that I could act in an unplanned and unpredictable manner. Since I knew that predictability and determinism are radically different concepts, I tried to calmly point out that the suggested actions would not prove anything. I was shortly astonished to find myself wrestling for the control of my steering wheel.

After I regained control I was told, “All you proved is that you are stronger than I am.” I was hardly trying to document my strength. I just wanted to keep my car and body from getting smashed by oncoming traffic.

¹Albert Einstein, *New York Times Magazine*, September 1930.

²Daniel C. Dennett, *Freedom Evolves* (Viking Penguin, 2003).

Apparently the notion of determinism is felt by some to be a deep insult to the dignity of the human spirit. I was told, "If you believe that, then you might as well just sit back and just watch what happens." Well no, we still must make many choices and we have to do the hard work to put those choices into practice. Our choices have consequences and we have ample reason to prefer some consequences to others. A major purpose of this essay is to demonstrate that our dignity as humans is not diminished in the slightest if these choices are made within a deterministic universe.

The "mind/body" problem is never going to go away as long as this intense emotional response dominates our thinking about determinism. Dennett cites the religious concept of soul as he discusses this reluctance to accept what is real. I think it is more accurate to include the soul in a trio of related superstitious concepts:

1. Soul – Immortal and non-material container for consciousness – religious conception.
2. Mind – as proposed by René Descartes -Cartesian duality.
3. Free Will – Freely chosen and uncaused action.

The soul is a spiritual entity that is presumed to survive our death. The concept of mind is often used without this presumption of life after death. Cartesian duality presumes that there are two categories of existence in this universe, that of mind and matter. Mind will include ideas, abstractions, memories, sensation, yearnings and all the nuances of subjective experience. In these ways the concept of soul and mind are relatively interchangeable. The concept of free will is often used without the presumption of either life after death or a non-material domain for its existence. There is just the simple supposition that actions are freely chosen and uncaused. As such it is the least superstitious

concept of the three. However, freely chosen and uncaused action is included in both the religious concept of soul and the Cartesian model of mind.

In all cases there is a major problem in understanding the interaction with the body. If the mind or soul are not material how do they cause our actions? There is the “Casper the Friendly Ghost” problem. Casper can go through walls without interacting but then pick up an object. How can something be non-material and not interact with other matter but then interact as if it has become matter. If free will exists purely within the physical brain then there is a problem in finding out how this will could act in a manner that is not caused by the laws that apply to all physical matter. This can work well in a cartoon. It does not work in the real world.

What is determinism? Dennett proposes that determinism is the theory that at any point there is exactly one possible future. I am not fond of that definition because it would mean that the killing of JFK by Lee Harvey Oswald was already determined at one second after the Big Bang. It is more likely that all that is determined at one second after the Big Bang is some modest structure to the distribution of future galactic clusters. We know that very small scale phenomenon are extremely random due to quantum mechanics. Very small differences at a particular time can create radically different outcomes at a later time. At one second after the Big Bang it is not determined that there would even be an Earth or our solar system or even our galaxy in its current location.

A more realistic theory of determinism would simply say that all of reality is determined by physical law (which includes the randomness of quantum mechanics). This does not mean that decisions are likely to be random for this reason. Out of 1,000 decisions the most likely number that would be different, if decided a second time from the same starting conditions, is zero. Quantum mechanics is not likely to make a change in a typical decision. A brain neuron is

already too big in most cases for the extremely small scale randomness of quantum mechanics.

We are an organism of approximately 100 trillion cells. Each of these cells are exquisite micro machines with very well defined tasks As Dennett points out not one of the cells knows who you are or cares. Where can “free will” come from under this condition?

What does current research say about cognition? Suppose that I am looking at a table. It is known that edge detection is a low-level function of vision. Shape determination is the next higher level function of the visual system. I see a flat surface with other shapes extending to the floor supporting the flat surface. If I wanted to recall the name of the object with that shape that is another mental task that makes use of our long-term memory of language. In all of these mental steps and many others there is no reason to presume any free will. The machinery of the brain will perform its tasks in a very predictable, determined manner. When we think of free will we assume that the concept applies to choices. Suppose that I consider standing on the table and jumping up and down. Suppose also that it is not my table and that it is a somewhat flimsy table. My ethical principles may preclude that choice. The choice not to do a destructive act is determined by my ethical principles. An ethical principle that does not determine action at such points is hardly a principle at all.

Dennett examines such choice acts in great detail. It is not just ethical principles that determine our actions. Our actions can be determined by any motivation that presents a clear reason for a particular choice. Dennett discusses the theory of Robert Kane³ as Kane attempts to resurrect a concept of free will.

Kane uses the rather dramatic example of Martin Luther. Martin Luther said, “Here I stand. I can do no other.” His

³Robert Kane, *The Significance of Free Will* (Oxford University Press, 1996).

conscience made it impossible for him to recant. Kane accepts the obvious fact that most choices are determined. Luther's action seems to be determined by his rather staunchly held and expressly reported moral principle. Luther may have been exaggerating but he expressly took responsibility and he obviously had strong reasons for his actions. Kane says that that free will still exists because of a prior free choice which he calls a self-forming action, or SFA for short. In this theory we choose our ethical principles and other values in a series of prior SFAs. He says that the will that determines the action is a will of one's own making and is in that sense "free." It is easy to agree with Kane that our actions enhance or diminish some aspect of our character. In this way they do form the self. The "free" action of one's own making is the part in question.

Kane defines in detail the requirements for these self forming actions.

1. The SFA must involve alternative possibilities. There must be a choice available at time t .
2. The SFA must determine action.
3. The SFA must be undetermined or the agent is not responsible.

If an action is already determined by prior motivation or ethical principle, there obviously is no alternative possibility. The alternative possibility condition then means that there is a fine balance in motivation between the alternative choices. Kane quotes William James as describing this point as "soul trying moments when fate's scales seem to quiver." This involves competing motivations such that the decision oscillates back and forth between the alternative choices. If you make your final choice at a time when the choice is for one side or the other then the action is still deterministic.

Your choice is determined by the preponderance of your motivation at time t when the choice is made.

This theory then requires a non-deterministic mechanism (condition 3 above) for selecting the time of the choice. Quantum mechanics can give us the indeterminacy required by this theory. It is possible for such random quantum events to occur in the brain. Kane wants to use that indeterminacy to break the chain of determinism. As a libertarian he feels that if determinism is true then we do not have free will and we are not responsible. He wants the agent to be personally responsible.

It is possible to include a quantum event in the identity of a person, but how is that a reflection of that person's intellect or character? If this is the source of free will then in Dennett's words, "it is a form of free will that is not worth having." It is just as accurate to say that such choices are simply a function of the innate and arbitrary wackiness of the universe at the level of quantum mechanics. There is also a major problem in finding any cases that we could know to satisfy Kane's definition of a self-forming action. Dennett says, and I agree, that there is no evidence that Martin Luther ever had an SFA as defined by Kane.

Benjamin Libet and others made a significant impact on consciousness studies in 1999⁴. In their study they documented a simple wrist flick motion along with the time at which subjects were aware of the choice to flick their wrist. At the same time EEGs were taken to document brain activity. A readiness potential (RP) was noted on the EEG that occurred as much as 800 milliseconds before the awareness of intention. The average delay of the reported decision was 300 to 500 milliseconds after the RP was noted on the EEG.

⁴Benjamin Libet, Anthony Freeman, and Keith Sutherland, *The Volitional Brain: Toward a Neuroscience of Free Will*, (Imprint Academic, 1999).

The reported time of the decision occurred significantly after the initial brain activity associated with the action. It seemed as if the self that was reporting the intention to act was more of a commentator or a press secretary than a president or boss who was making the real decision. Our perception of making decisions was perhaps more like a movie screen on which we see decisions that have been in the process for some while. We are being informed of what had already been decided.

This may be exactly what is happening. Perhaps the self is an evolving communications module that allows us to communicate with others. Those communications do not require an in-depth awareness of what goes on in the unconscious. Why should we imagine that we are aware at this level beyond the point that was evolutionarily required? We have the modern story that we are the master of our life, that we make our own decisions. What really mattered historically was simply that the decisions be sufficiently good that our ancestors survived and reproduced. Evolution does not have the slightest care that this mechanism support a modern story of “free will.” The important evolutionary mechanism that selected for this communications module that we call the self was the added coordination and cooperation that was possible in groups that hunted or gathered food. Our ancestors had greater evolutionary fitness because they could talk to each other.

The evidence for a deterministic universe has existed literally for centuries. The more current findings of empirical science and philosophical inquiry simply add to a case that has been established for a long time. This does not mean that the “mind/body” problem is going to go away any time soon. This problem will remain in part because folk language overwhelmingly presumes that there is a separate existence of some type for mind or consciousness. We obviously do not relate to each other as if we were just complex machines.

We have a theory of mind that makes presumptions concerning the internal experience of others. When we build

a positive understanding and appreciation for the perspective of others, we build a bridge that can cement a positive social relationship. Since we cannot predict the actions of others, there is a built in presumption that they could act in ways that we would not predict. This intuitive assumption of liberty in choice is similar to a theory of “free will.” It is similar in that we treat other people in the same or similar manner under either assumption. However, a presumption of unpredictable liberty is logically compatible with determinism while a concept of free will as uncaused action is not compatible.

People can be forgiven for the confusion created by the intuitive experience of consciousness. First person experience seems obviously different from objective third person knowledge about the world. René Descartes said that it was possible to have doubts about all presumed facts about the world. In his 1637 *Discourse on Method* he noted “...that all the thoughts we have when awake can come to us also when we sleep without any of them being true...”. This was a radical use of doubt. He thought that it was not possible to doubt our own minds. This gave rise to his famous first principle of philosophy “I think, therefore I am.” This is the basis for the distinction in his dualism. The asserted absence of doubt about the mind is his reason to say the mind is categorically different from all knowledge of the world.

Is this really true? Is internal information really so different from external information? Can radical doubt can be applied to the conception of “I think”? Objective psychological research has documented repeatedly that memories are not always reliable. Descartes’ reason to doubt his knowledge of the world is actually doubt concerning his internal state. He does not know for certain if he is dreaming or not. Dennett is fond of saying that we can make the conception of “I” either really small or as large as possible. My memories can be something that “I” do, or they can be seen as something external that “I” watch. However, at any instant we could doubt any and all memory. Perhaps the

entirety of my existence is a simulation on some alien computer system. If that alien stopped the simulation at any point I would never be able to tell. I would be left with my memories of a recent past and the presumption that time is continuing to flow. If the simulation restarted a century later, I would never be able to tell that it had been paused. If that is possible then it is also possible that there is no past. The simulation may be only of a single moment with its fake memories.

Descartes can doubt objective reality because he creates an alternative hypothesis (I might really be dreaming) that casts doubt on the perceived qualities of that reality. My presumption that I think derives from memories of thinking through complex issues and finding a solution. The possibility of being a frozen simulation of a moment in time casts doubt on these memories of thinking. The same is true for any and all memories that I might have concerning my rich concept of self. We cannot be certain of any property included in either "I" or "think." It is always possible to imagine how things could be otherwise. This shows that the properties of first person experience can be doubted in the same manner as all objective third person information. All we know is that something exists because there is a possibly illusory perception of something. There is no certain knowledge of any particular thing or the properties of a possible perceiver. If radical doubt undermines the asserted certainty of a concept of self and thought then Descartes' most famous saying is also in doubt. With this doubt the reason given for his dualism ceases to be valid.

Radical doubt seems to be a rather useless philosophical tool. The only reason that that it was ever given any credibility is because René Descartes seemed to be successful when he used it very selectively.

David Chalmers is another philosopher who stumbled badly in attempting to understand first person experience. He tried to separate the problems of consciousness into easy

problems and the “hard problem”⁵. The easy problems were the ones that could be explained in terms of computational or neural mechanisms. The “hard problem” is the explanation of experience itself. Chalmers states that even if we can explain all of the functions that are part of experience, we have not explained how those functions create experience. Chalmers very seriously asks us to imagine a person-like object that had all of the functions of consciousness but is not conscious. This “zombie” would have all of the behaviors and appearance of a real person. But Chalmers does not see that there is an implicit assumption of dualism in his statement. He has assumed his conclusion in the process of framing his question.

Is there a “hard problem”? There is no real problem but there has been a substantial and heated discussion in the field of consciousness studies. Most materialists simply say that there is no special problem with consciousness. People such as Dennett⁶ and Thomas Clark⁷ assert that if the functions of the brain are explained we will have an explanation for consciousness. Dennett suggests an imaginary philosopher supposing that there could be something that would have all of the functions of life, reproduction, growth, etc., but not be alive. Obviously such an organism would be alive by any normal standard.

Dennett’s analogy to Chalmers’ position does not faze Chalmers. He states that for life the problem is understanding the functions of life. Somehow he asserts that this is not the case for consciousness. He does not see that his imaginary zombie would not only exhibit all of the

⁵David Chalmers, “Facing Up to the Problem of Consciousness,” *Journal of Consciousness Studies*, Vol. 2 No. 33, 1995, pp. 200-219.

⁶Daniel Dennett, Daniel C., “Facing Backwards on the Problem of Consciousness,” *Journal of Consciousness Studies* Vol. 3 No. 1, 1996, pp. 4-6.

⁷Thomas W. Clark, “Function and Phenomenology: Closing the Explanatory Gap,” *Journal of Consciousness Studies* Vol. 2 No. 3, 1995, pp. 241-55.

functions of consciousness, he would report to us that he is conscious in the same manner as any other person. The reportability of cognition is one of the major functions of consciousness. Chalmers himself accepts this. The assumption of a possible zombie that would have all the functions of consciousness yet not be conscious seems to be just as silly as the concept of something that would have all the functions of life but not really be alive.

The notion that consciousness is a categorically different category of existence in the universe is implicitly dualism, with the nearly impossible task of explaining how the dual aspects of the universe relate to each other. Chalmers' assumption of dualism is confirmed when in a letter in the *New York Review of Books*, May 15, 1997, he said that "consciousness is a nonphysical feature of the world." This is really a matter of faith, not science. It can be argued that the materialist is also making an assumption based on faith. However, the materialist assumption has worked for every other branch of science and there is no reason to believe that it would not work for consciousness. A materialist need not struggle with the non-existent "hard problem." Chalmers and his supporters will just continue twisting in the wind of a problem that they create with their own assumptions. It has all the appearances of being insoluble because the problem rests with the initial assumption of Cartesian style duality. The fact that many people accepted that there was a "hard problem" underscores the extent to which anti-materialism is built into much of our language and culture.

We have dealt with some of the problems asserted for determinism. We know that we should not use materialism as an excuse to just sit back and watch the unfolding universe. That would not meet our very real needs. We also know that determinism does not imply predictability and for that reason we must respect the ability of others to act with liberty outside of any expectations that we might have. This does not exhaust the implicit problems that people see with materialism.

What about criminal responsibility? It is fine to treat people as if they are making decisions under a condition of liberty, but if the fact is that actions are determined, then can we actually hold people responsible for criminal actions? The meaning and purpose of the criminal justice system is the maintenance of social order. Legal responsibility is based on the specific ability to understand the difference between right and wrong. This defined condition for legal responsibility will still exist in a deterministic universe.

Criminal defense attorneys might love to change the definition of criminal responsibility to benefit their clients. They have repeatedly attempted to do this and will obviously continue their attempts in the future. Their efforts have failed to make any substantial impact on actual court decisions. It is not likely that they will have any better success if people understand that criminal action is not a result of free will as classically defined. Society has a continuing requirement to maintain social order. We must continue to legally define standards of right and wrong and we must act to prevent destructive actions that violate those standards.

Determinism has the unfortunate appearance of undermining any reason to praise or blame the results of any action or the people that choose those actions. After all, if actions are “caused” by the laws of nature why should we either praise or blame actions that are not “freely chosen”? We do so because our discussions about values are a needed part of a shared social discourse. Society works because we discuss our values and find broad agreement on those values. Most choices made by people are filtered through their acceptance of some subset of a wider social value system.

People are still agents that will their actions after consideration of the choices available. Determinism does not diminish that in the slightest. Willed actions in a deterministic universe are still willed actions. If we are to have a society that works we must have a discussion about how we accomplish that. This means that we must have reasons to praise actions that make a positive contribution

and to disapprove of actions that don't. A public discussion that allocates praise for the positive and blame for the negative is an essential part in the evolution of our shared values.

In each case the deep visceral reactions against determinism are not grounded in fact. People must still make choices as if they had complete and total freedom in those choices. The values that we create for ourselves and others remain as results of our willed action. We have the same reasons to treat other people and their choices with dignity and respect. People do not become unthinking automatons just because we have a naturalistic worldview that rejects choice as uncaused action. The richness of thought remains as does the unpredictability of our human action. We have the same reasons to approach our relationships with the same warmth, affection and concern for shared values. The criminal justice system will remain just as functional. We do not lose our ability to maintain social order just because we realize that all events are determined by the regularity described by physical law. For all these reasons, we lose nothing of value because of a belief in determinism.

We do however lose a classical reason to believe in a personal god. If our mind is simply the behavior of our brain then there is no soul that will survive our death. There is then no reason to believe in a god that will save our soul after we die. Einstein asserted that he was a deeply religious person. One of his more famous quotes is "Science without religion is lame, religion without science is blind." However, his reverence was for a concept of god that acted with the extreme and elegant regularity of natural law. What we lose is the false concept of a god that can act arbitrarily and miraculously.

What we can gain is a deep reverence for the natural order itself. It includes the great chain of causation called evolution that has resulted in the universe becoming self-aware. We have developed tools to understand the most remote depths of the universe. We are very near to an

integration of all physical law into a single theory of quantum gravity that would explain the earliest moments of the birth of the universe. Our awareness is part of a wider civilization that is evolving at a speed that is orders of magnitude faster than the biological evolution that made it possible. We now know the genetic code that defines the recipe for our own bodies. The mysteries of life are being solved at a speed that would seem dazzling only a decade ago. These achievements are all derived from a deterministic universe.

What does this say about our dignity as humans? Is it diminished in the slightest by the fact of determinism? I think not.

Don Wharton is retired from a career in computer programming, systems analysis and information systems planning. He finds secular philosophy and his secular friends to be enormously gratifying.