

## CHAPTER FIFTEEN

# NOLITIONAL FREEDOM AND THE NEUROBIOLOGY OF SIN

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*Ron Choong’s research interests include the emergence of intelligence and evolution of moral cognition as well as the neurotheology of human consciousness. Here he brings all these together in addressing perhaps the toughest problem at the interface of science and theology, the moral responsibility of a biologically-selected and electrochemically operating brain/mind.*

### **The essential paradox**

Are we free not to sin? In both popular imagination and theological doctrine, freedom of will and sin are intertwined. However, the received wisdom of the 21<sup>st</sup> C is that we are born as doomed and determined sinners, but punished as agents of free will who consciously choose to reject God’s grace – biologically determined to sin yet theologically punished for it. This paradox has never been satisfactorily accounted for.

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However, with advances in neurobiology, it has come under scrutiny. Can studies into how our behaviour may respond to electrochemical changes in our brains explain, or explain away, why we do what we are sure we ought not to do? Does the electro-chemistry of brain functions determine our behaviour and hence our soteriological<sup>1</sup> status?

### **Guilt in theology and law**

If we are deemed to be sinful because we commit sins, that implies that when we do so we are guilty before God. On the other hand, if we sin because we are made sinful, we are merely living out our biologically created destiny.

Again if, as humans, we were made to be different from animals, i.e., *to possess a moral grammar and to respond to the divine order*, are we also given the capacity of performance to meet this divine demand, and the judgement to know the difference between it and our biological makeup? If not, ought we to be deemed guilty? The practical implications of this issue range from criminal justice to jurisprudence, from doctrinal theology to philosophy of mind, from treatment for psychological distress to matters of public health, and of course the doctrine of salvation itself. Central to this doctrine is the idea of guilt.

The notion of guilt is one of the pillars of modern societies because the justification of punishment relies on the existence of guilt. The effective operation of justice is obviously crucial in the successful development of societies because it elicits trust in the social institutions of government and rule of law; only thereby do people feel they can sleep in peace, safe in the knowledge that justice protects the innocent, i.e., the non-guilty. If no one is guilty, no one can be punished and the innocent cannot expect justice. So society's quick answer to the question above may be that *we are sinful because we sin*. This formulation entails the possibility of not sinning, and directly challenges the view that all humans are born in sin, i.e., doomed to exercise their propensity to sin and therefore, in need of salvation through divine forgiveness. In this first view, some of us can die never having actualized our potential for sin, so that while we are born with the capacity to sin, we never become sinners: examples would be when we die before we are capable of resisting God's grace (infant deaths) or we are unable to retain conscious resistance to that grace (mentally challenged from birth).

Many traditional Christian doctrines of atonement deny any human capacity, *per se*, to accomplish the goal of not having ever sinned. This

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<sup>1</sup> Soteriology = the doctrine of salvation

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second view, that *we sin because we are innately sinful*, implies that even though we are morally conscious beings, we do not enjoy the capacity to behave morally all the time, and hence, are in need of salvation. Some have taught that we are morally deficient because we are spiritually immature. Only when we will to believe God and receive forgiveness may we be deemed righteous. But is this responsibility to believe an act of free will or are we evolved to such a volitional act?

In contrast, some contemporary doctrines of the atonement suggest that we evolved what moral cognition we possess, and cannot be blamed for our imperfect behavior since we are physiologically inclined to seek our biological survival, and this will often be to the detriment of others. Under this rubric, it is possible to hope that our evolving moral awareness will continue to increase and we shall one day meet the divine command for justice because God has made us capable of reaching the requisite capacity.

Fraser Watts' Christology (Chapter Four of this book) is an example of such an outlook. It relies on a Neo-Darwinian evolution of human consciousness in which Christ also influences the human power of increasingly good information-processing. This account seeks to avoid the teleological language of theology. But does such an evolutionary model, applied to Christ himself, survive theological scrutiny? Perhaps Watts refers to the works rather than the ontology of the incarnated Logos. If we take Christ to mean the incarnated second person of the divine order, then the evolution of Christ cannot violate the sanctity of an eternal member of the triune Godhead. This view of the evolution of Christological soteriology posits the Logos as having perfect ontological awareness but kenotically<sup>2</sup> experiencing an evolving epistemic<sup>3</sup> consciousness.

What is at stake here? Apart from the sociological, legal and cultural implications, there also exists an important theological matter. This involves both the affirmation of Jesus' historic resurrection and the hermeneutical<sup>4</sup> approach to the texts. Did the writers of the Gospel record historical and chronological events as they perceived them or did they take poetic license in weaving a theological account? Richard Bauckham (2006) warns us against abandoning the historicity of the gospels. He is right to offer such caution, yet himself must rely on selective records to make his case. The reality is that we cannot know with certainty what happened. We adopt the authorities of testimonial witnesses of the past and either receive or reject the accounts with various degrees of trust. I am

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<sup>2</sup> Kenosis = self-limiting of divine power and attributes in incarnation

<sup>3</sup> Epistemic = knowing/understanding

<sup>4</sup> Hermeneutical = expository, interpretative

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indebted to both Steven Mithen (Chapter One) and Fraser Watts for their defenses of the *metaphorical priority of compositional language* (or what I prefer to call speech). A metaphorical reading of the Bible may be the primary code of linguistic intelligence but, more importantly, metaphor both escapes the rigidity of contextual meanings and transcends the boundaries of cultural expression. Metaphor in fact contains a precision that literality cannot sustain. The biblical writers were not writing chronological accounts but rather *kairological* accounts – describing historical events as having theological import.

How can we make rational sense of the scriptural texts? With advances in neurobiology, another resource of rationality emerges. But with what measure of assurance may we subject the Gospels to neurobiological inferences? Theological reflection demands a measure of fidelity to divine revelation that science cannot and need not meet. A discipline of inquiry that advances with new tentative conclusions replacing older tentative conclusions bears a different burden from a discipline of inquiry that takes its cues from the received texts of adopted authority. Any attempt to draw from both resources to assess interdisciplinary reasoning strategies must note the characteristics of these distinctive methods, which offer qualitatively differing sources of knowledge for understanding. With this caveat, let us consider what hints can be had from neurophysiology concerning the relationship between freedom, consciousness and sin.

### **Libet's experiment and its implications**

What we think brain science can tell us depends on what we already believe about the fabric of reality. This does not mean that scientific investigation cannot advance our self-understanding, but that any hasty interpretation of the neurobiology of sin is fraught with the danger of bias and prejudice. A quest for convergence between science and theology offers a more robust prospect of understanding when undertaken under the critique of philosophy. The scientific aspect is reductionist but testable/falsifiable while the theological aspect is holistic but needs to meet the test of coherence. While each field of inquiry, on its own, need not submit to the tests of the other, a true interdisciplinary engagement demands a disciplinary generosity which makes even core beliefs vulnerable and accountable.

So, is consciousness merely a side-effect of neuronal functions – an epiphenomenon of brain states? I think not. But we have difficulty in even defining consciousness, and this is a clue to the complexity of awareness. Freedom of will demands awareness of our volitional actions, and there is

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a presumption of immediate cognitive awareness in Christian theological reflection. However, full mental awareness is obviously not a universal trait. Furthermore, focus on volition has undermined the importance of *cognitive nolition*, the capacity to veto a will to act. In the broad sense it is true that freedom demands awareness of our volitional actions. However, any capacity for judgement must involve nolitional as well as volitional freedom. The idea behind nolitional freedom is drawn from the work of Benjamin Libet. This becomes important as we consider the scientific aspect of sin and how we may move towards an approximate measure of what constitutes, for lack of a better term, the threshold for the “readiness potential” of sinful behavior.

In several experiments on consciousness which continue to baffle many commentators, Benjamin Libet (1985) registered a time delay of about 500 milliseconds between a measured mental activity and the conscious awareness of that activity<sup>5</sup>. This suggests that unconscious electrical processes in the brain (“readiness potentials”) precede conscious decisions to perform some volitional, spontaneous acts. These experiments, performed more than 20 years ago, have not to date been successfully falsified.<sup>6</sup> Their simplistic interpretation is that unconscious neuronal processes precede, and potentially cause, volitional acts which are retrospectively felt to have been consciously motivated by the subject. Neurophysiology thus suggests that our sense of conscious instigation for our acts is an illusion of retrospection. But one question is: does priority entail causation? Does the chronological priority of the readiness potential indicate its causal role for the posterior conscious awareness? Typical treatments in scientific studies tend to explain moral choices as sociobiological survival strategies and vestiges of adaptive advantages. This is in part due to the methodological naturalism that scientific investigation entails. But in an interdisciplinary dialogue where methodological naturalism is temporarily suspended, how does Libet’s experiment on consciousness inform theological reflection on sin?

The theological concept of sin defines it as the conscious rejection of God’s grace. Does Libet’s proposal that we are never conscious of the present; that our visual perception is itself illusory so that we do not see what we are currently seeing; and that we never experience or know the

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<sup>5</sup> See also Introduction, and Chapter Seventeen

<sup>6</sup> Several attempts have been made. At the Center of Consciousness Studies 2008 Conference in Tucson, Arizona, Sue Pockett (University of Auckland) examined Libet’s experiments to look for evidence of retrocausation, to no avail. Others such as William Banks (Pomona College) and John Jacobson (UCSD and Salk Institute) likewise failed to falsify Libet’s empirical findings.

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“now”, threaten this biblical/theological account of moral cognition, which seem to require immediate conscious volitional awareness? Do the biological accounts of how the brain works strain current theological interpretations of the story of a historic “Fall” in Genesis? The Augustinian posit of an acquired and transferable original sin in a Fall event continues to dominate contemporary thought. Current biological, psychological and philosophical accounts of how the brain works all strain this conservative literalistic interpretation of the Genesis account. An analysis of how the doctrine of *imago Dei* was understood through the ages provides a possible solution to the impasse (Middleton, 2005). The phrase “falling upwards” embodies a more optimistic understanding of the Fall metaphor. This recovers an ancient interpretation which understood the Fall metaphorically and, indeed, describe it as a necessary event to culminate in moral maturity. Could moral cognition (like an inhibitor in synaptic transmission!) operate not only as a cognitive sensor guiding us *on what we will* in our choices but *also on what we nill*, i.e., on restraining our the exercise of freedom of choice? *Negation of will follows prior freedom to will*, i.e., pre-conscious volition precedes conscious nolition but on can be vetoed by it. The analogy should not be lost to any biblical scholar who notes the divine gift of freedom in the Garden of Eden followed by the qualifier that Adam and Eve should nill any desire to eat of the fruit of knowledge of good and evil.

Benjamin Libet himself believed that while we cannot be responsible for our unconscious urges, we can certainly be responsible for our consciously controlled choices. Perhaps moral cognition and the divine call to holiness involve the choice to nill as well as to will. It appears that neurobiology has not done away with the notions of sin and guilt because freedom of choice remains intact despite Libet’s *prima-facie* challenging observations.

I propose a model in which we acknowledge the existence of preconscious volition but note the conscious power of veto permitted by the time-delay of consciousness. This preserves the theological demand for personal guilt while also accounting for the evolutionary emergence of moral cognition as the necessary result of increasing sentience. Central to this argument is the claim that human consciousness is subjectively irreducible.

Is there then a neurobiology of sin and does it explain the arrow of causality? I think a reflective theological account must maintain the primacy of sin and guilt because we enjoy the power of cognitive veto. Therefore, we are sinful because we sin. I conclude that the Christian doctrine of sin remains a sustainable teaching – that as creatures with a

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modicum of free will and the capacity for moral discourse, we bear responsibility for our volitional volitions.<sup>7</sup>

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<sup>7</sup> In another paper, I consider the analogue of volitional volition in the theological language of resisting temptation. If temptation is a cognitive function of the mammalian adaptive mind conditioned for optimal survival strategies aimed at propagating our genetic pool, then our capacity for moral judgement enables us to transcend and therefore, resist such urges that societies have come to consider 'immoral'. The development of crime and wrongdoing therefore emerges as solution to Hobbes' concern for anarchy in his *Leviathan*. I posit a convergent framework to show that evolutionary biology, understood as the product of divine creation, may clue us to a better understanding of what it means to be saved from sin. A clearer definition of guilt that makes sense in a world where so many people survive with damaged brains leading to diminished cognition will serve the church better to face the challenges of skepticism within as well as without the community of faith. The positive value for the sciences is an opportunity to position itself as a help rather than a hindrance for a world where over 80% of humanity believe in some form of metaphysical being.

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### References

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