The claim of loss of self-control: some challenges of the genetic-based defence to criminal responsibility

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Abstract

In this thesis, I will focus on one important piece of genetic evidence, concerning the Monoamine Oxidas Acid A (MAOA) gene, unscientifically known as the ‘warrior’ gene. In 2002, a famous study by Caspi and his colleagues suggested that individuals who have one variation of MAOA, and were severely maltreated during childhood, have a greater predisposition to antisocial behaviour compared to other groups in the study. It was the first study to measure the effect of the combination of genetic and environmental factors (GxE) on the further development of antisocial behaviour. I will refer to this discovery as GxE evidence.

A fundamental dispute, influenced by scientific advances such as the discovery of GxE, is the age-old philosophical schism between free will and determinism. It has been suggested that science will be able to indicate that agents’ actions are determined by their genes and the notion of free will is an illusion. That claim has alarming implications for the criminal law. The fundamental premise of criminal law is that people are responsible for the outcome of their conduct. That responsibility depends on the extent to which agents knowingly and voluntarily choose the outcome of their conduct. If science can indicate that human’s conduct, far from being knowingly and voluntarily chosen, is predetermined genetically, then considering any role for criminal responsibility must be controversial. A part of this thesis will consider the legal response to the free will/determinism debate.

Setting aside the imperious challenges of science, and the free will/determinism debate, I will look at other scientific challenges which are relevant to the present categories of criminal responsibility and which can improve, but not dictate, the criminal law. Specifically, I will focus on the issue of loss of self-control. That issue has been chosen because scientific researchers have indicated that individuals’ ability to exercise their self-control is affected to some degree by GxE. There are other advances in science which trigger the issue of loss of self-control but I am looking at only GxE evidence. Loss of self-control can be considered as the basis for two defences.

Firstly, loss of self-control can take the form of a claim of complete inability to control impulses. In some jurisdictions the total inability to control impulses is recognised as a full defence, called volitional insanity (V-insanity). In those jurisdictions, if an individual is unable to completely control his/her impulses, he/she is not considered criminally responsible. In stark contrast, neither New Zealand nor English law – the focus of this thesis – recognises V-insanity; they recognise cognitive insanity (C-insanity) only. C-insanity is only a defence where a person is unable to appreciate the nature – factual or moral – of his/her conduct. As a result of the non-recognition of V-insanity, if an
individual is not able to control his/her impulses, and if he/she cannot establish any other defences, the person will be treated as fully criminally responsible. For the first time in New Zealand law, I will develop an argument in favour of the introduction of V-insanity as a defence.

The second form of the claim of loss of self-control, which is relevant to GxE evidence, is the claim of significant impairment in controlling impulses. This is the basis for the defence of diminished responsibility (DR) as it is recognised under some common law jurisdictions such as English law. The difference between DR and V-insanity is that for V-insanity it is impossible for a person to control his/her impulses but in the case of DR it is not totally impossible for a person to control them. Instead, in the case of DR, it is seriously difficult for a person to control his/her impulses. Under English law DR, which is available only for murder charges, is a partial defence. It reduces, but does not totally exempt, a person’s criminal responsibility. However, DR is not accepted under New Zealand law and a person who has significant difficulties in controlling his/her impulses, is considered fully criminally responsible. In this thesis, building on the academic literature, I will argue that New Zealand should adopt the DR defence.

Having argued that New Zealand should adopt the defence of V-insanity and DR, I will analyse GxE evidence as the basis for those defences. To date, there has been no such discussion in the scholarly discourse. It is not my aim to definitely determine whether GxE evidence as the basis for the two defences should be accepted or not. Rather, my goal is to highlight legal requirements for establishing those defences where GxE is concerned. The legal prerequisites I propose are not just applicable to the assessment of GxE as a basis for the aforementioned defences, but also to any form of genetic defence.
Preface

This doctoral research was inspired by my 2009 Masters dissertation, entitled ‘Biological Factors of Antisocial Behaviour; with the Emphasis on Genetic Factors’. In that dissertation, I reviewed the contemporary scientific literature which suggested a genetic contribution to antisocial behaviour. Afterwards, my curiosity grew and I became interested in the issue of criminal responsibility of genetically predisposed criminals. As the issue of genetic predisposition to crime was exceedingly broad, I decided to specifically consider one famous example of genetic predisposition to antisocial behaviour; the combination between a set of genetic and environmental factors as they relate to antisocial behaviour. To explore this issue, I applied to undertake doctoral studies at the University of Otago’s Law Faculty, New Zealand, in particular at the Faculty’s Centre for Law and Policy in Emerging Technologies. I felt privileged to have that application accepted.¹

¹ For citation in this thesis, I used the New Zealand Law Style Guide which is published by the New Zealand Law Foundation. This is available at http://www.lawfoundation.org.nz/style-guide/
Dedication

To my mother (Shahrbanoo Mehraban),
my father (Abdullah Bastani),
my wife (Vahideh Karimirad) and my son
(Nikan Bastani)
Acknowledgement

I would like to thank to the University of Otago for awarding me a generous Otago Doctoral Scholarship which has supported me throughout my study. I also wish to thank the University’s Faculty of Law for an extra two months’ funding to complete this research. I also wish to thank the Faculty for financial assistance to travel around New Zealand to attend, and present, at conferences.

This research would not have been finished without the support of a number of thoughtful people. I wish to express my gratitude to my supervisors, Professor Mark Henaghan, the Faculty’s Dean, and Associate Professor Colin Gavaghan, the director of the New Zealand Law Foundation Centre for Law and Policy in Emerging Technologies. Both my supervisors provided me with great insights and guidance in relation to academic research and writing. Special thanks to Dr. Gavaghan for his guidance and unwavering help from the beginning to end. Nevertheless, any mistakes in the thesis are mine only.

I also wish to express my thanks to all staff at the University of Otago, particularly the law librarians, for their help in obtaining research materials, not only from New Zealand, but also from overseas. Also, special thanks to Jessica Palmer, the Faculty’s Postgraduate Coordinator for her near endless support. I am obliged to Professor Martin Kennedy, the director of the Carney Centre for Pharmacogenomics and the Gene Structure and Function Lab, based at the University of Otago, for his guidance in analysing genetic literature. I would like to acknowledge Professor Grant Gillett, from the Bioethics Centre of the University of Otago, Professor John Dawson and Simon Connell, both from the Faculty of Law of the University of Otago and finally John Pearson, from the Department of Population Health of the University of Otago, for very helpful comments on earlier drafts of part of this thesis.

I wish to thank two blind reviewers of the peer-reviewed Journal of New Genetics and Society for their helpful comments on my paper which was extracted from a Chapter of this Thesis. Their feedback helped me to strengthen my argument not only in the paper which was submitted for publication, but also in the relevant Chapter of my thesis. My sincere thanks to Drew Snoddy and Dr. Mary Foley for their invaluable efforts in proofreading the final draft of this thesis and providing me with constructive feedback. Next, I am grateful for the opportunity to have met the staffs and postgraduate students at the Faculty of Law. I am grateful for the Faculty’s collegial environment.

I would like to express my appreciation for my father and mother for their sacrifices long ago. I am grateful to my wife, Vahideh Karimirad. Although undertaking her own doctoral studies, she has provided me with support throughout. Special thanks to her for her extraordinary love and support at the last stage of writing this thesis while she was also taking care of our new born son, Nikan Bastani. I would like to thank Nikan for his delightful smiles which relieved all my tension. I would like to thank all of my family in
Iran for their thoughts and emotional support while I have been undertaking my doctoral study. Finally, it would not have been possible for me to finish this thesis without the support of a number of friends. I would like to thank Clare Gore, Garry Mitchell and his family, Richard Hare, Annie Staurt, Jenny Haydon, P J Clarke, Gwynna Whiteowl, Peter and Jessica Crothall for their endless support.

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**English law**

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**Australia**


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Italian Penal Code.
Poland Penal Code (1932).
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The German Criminal Code of 1817.
The Statutory Criminal Law of Germany 44, Comment (1946).
Yugoslavia Penal Code (1951).
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R v Byrne [1960] 2 QB 396.


R v Reid HC Auckland CRI-2008-090-2203, 4 February 2011.


English law


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R v Davis [1881] 14 Cox C C 563.

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R v Flavell (1926) 19 Cr App Rep 141, CCA. Cf.


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R v M’Naghten 10 Clark & F 200, 2 Eng Rep 718 (HL 1843).

R v Parks (1990) 56 CCC (3d) 449 (Ont CA).

R v Quarmby (1921) 15 Cr App Rep 163, CCA.


Reg v Burton (1863) 3 F & F 772, 780.

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*HM Advocate v Savage* (1923) JC 49.


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Australia

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*R v Moore* (1908) 10 WALR 64.

*R v Radford* (1985) 42SASR 266.

*R v Smith* (1906) TS 783.


*R v Tolson* (1889) 23 QBD 168.


*Reberger v The Queen* [2011] NSWCCA 132.


*Wray v R* (1930) 33 WALR 67.

The United States


People v Farley Indictment No. 1827, Sup. Ct., Queens Cty, Apr. 30, 1969.


R v Spivey (692 N.E.2d 151 (Ohio 1998).


United States v Hinckley 672 E2d 115 (D.C. Cir. 1982).

Turpin v Mobley 502 S.E.2d 458, 461 (Ga. 1998).


Williams v Stewart 441 F.3d 1030 (2006).

Other common law jurisdictions

Boylan [1937] IR 449.


R v Creighton (1908) 14 CCC 349.

R v Hay (1899) 16 SC 290.


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<th>Full Form</th>
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<tbody>
<tr>
<td>ABA</td>
<td>American Bar Association</td>
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<tr>
<td>AofMF</td>
<td>Abnormality of mental functioning</td>
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<tr>
<td>ALI</td>
<td>American Law Institute</td>
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<tr>
<td>ASB</td>
<td>antisocial behaviour</td>
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<tr>
<td>C-insanity</td>
<td>cognitive insanity</td>
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<tr>
<td>CJA 2009</td>
<td>Coroners and Justice Act 2009</td>
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<tr>
<td>CA 1961</td>
<td>Crimes Act 1961</td>
</tr>
<tr>
<td>CPMIPA</td>
<td>Criminal Procedure (Mentally Impaired Persons) Act 2003</td>
</tr>
<tr>
<td>D</td>
<td>a defendant</td>
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<tr>
<td>DVS</td>
<td>defective volitional states</td>
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<tr>
<td>DR</td>
<td>diminished responsibility</td>
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<tr>
<td>DofM</td>
<td>a disease of the mind</td>
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<tr>
<td>DSM-IV</td>
<td>Diagnostic and Statistical Manual of Mental Disorders IV</td>
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<tr>
<td>EEG</td>
<td>Electroencephalogram</td>
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<tr>
<td>GxE</td>
<td>the combination of genetic and environment</td>
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<tr>
<td>HA 1957</td>
<td>Homicide Act 1957</td>
</tr>
<tr>
<td>ICD-10</td>
<td>International Statistical Classification of Diseases and Related Health Problems, Tenth Revision</td>
</tr>
<tr>
<td>LC</td>
<td>Legal Compatabilism</td>
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<tr>
<td>MAOA</td>
<td>Monoamine Oxidase Acid A</td>
</tr>
<tr>
<td>MAOA-H</td>
<td>high variation of MAOA</td>
</tr>
<tr>
<td>MAOA-L</td>
<td>low variation of MAOA</td>
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<tr>
<td>NGRI</td>
<td>not guilty by reason of insanity</td>
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<tr>
<td>NZLC</td>
<td>New Zealand Law Commission</td>
</tr>
<tr>
<td>PPO Bill</td>
<td>Public Safety (Public Protection Orders) Bill</td>
</tr>
<tr>
<td>RP</td>
<td>readiness potential</td>
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<tr>
<td>SA 2002</td>
<td>Sentencing Act 2002</td>
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<tr>
<td>SM</td>
<td>severe maltreatment</td>
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V-insanity : volitional insanity
WHO ICD : World Health Organization International Classification of Diseases
XYY : the extra Y chromosomal abnormality
Chapter One: introduction to the thesis

Introduction

In the last of his famous dialogues, The Laws, Plato made reference to an intriguing aspect of Classical Greek law:1

As a rule, penalties and disgrace incurred by a father should not be passed on to any of his children, except where a man’s father, grandfather and great-grandfather have all in turn been sentenced to death.

It is not clear whether Plato approved of this rule, or was merely describing what the law or the courts actually did. Neither is there any clue in Plato’s writing as to the reason for such a rule. On the face of it, though, it seems that the rule makes some intriguing assumptions about the hereditary nature of criminality.

Of course, the scholars of ancient Athens had none of our present knowledge of behavioural genetics, or of the complex interplay between genes and environment. But implicit in this rule seems to be a recognition that the factors that lead people to commit serious crimes can be passed down through families. As such, we may see this as the first recognition, however imprecise, of the idea of something like a ‘criminal gene’. In the modern era, there is increasing evidence suggesting that antisocial, and perhaps criminal, behaviour can be attributed to the complex interaction of genetics, and neurological and environmental factors, acting individually or synergistically.2 There is now a sizable body of research suggesting that heritable factors impact on antisocial behaviour.3 For instance, it has been suggested that a number of genetic factors, such as Dopamine receptor D4 gene (D4DR), serotonin-transporter-linked polymorphic region (5-HTTLPR), serotonin transporter gene (SLC6A4), the CDH13 gene and Monoamine Oxidas Acid A (MAOA), are to some degree related to such behaviour.4

In a criminal trial, genetic evidence can serve different purposes. To provide one example, genetic evidence can be used by a prosecutor to place a defendant (D) at the scene of a crime. Imagine that A was killed and B was charged for the killing of A. B denied the commission of the crime. To prove that B was at the scene of the crime, the

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2 Adrian Raine "From Genes to Brain to Antisocial Behavior" (2008) 17(5) Curr Dir Psychol Sci 323.
prosecutor can rely upon various types of evidence including genetic evidence. However, that way of using genetic evidence in criminal trials is not important in this thesis. Rather, this thesis is concerned with using genetic evidence in the form of genetic-based defence, which is related to the issue of criminal responsibility.

Plato was writing about a rule that treated hereditary criminality as a basis for punishment. It is also possible, though, that the connection between particular genetic factors and criminal or antisocial behaviour could be used in other ways. Researchers who have assessed the role of behavioural genetics in criminal law have identified five possible roles that such evidence could play in criminal trials. Firstly, genetic evidence could be used to inform a decision as to D’s unfitness to be tried (competency to stand trial requires that D understands the purpose and nature of the legal proceedings against him/her and be able to effectively cooperate with counsel in his/her defence). Secondly, genetic issues could be introduced by D as a mitigating factor (mitigating factors are information or evidence presented to the court regarding D’s condition or circumstances of the crime that might result in a lesser sentence). Thirdly, genetic evidence could be utilised as a basis for full or exculpatory defences. (Exculpatory defences are defences which absolve a person of criminal liability even though all the elements of the crime have been proved). Fourthly, genetic evidence could be utilised as a basis for partial defences (partial defences, such as diminished responsibility (DR) which will be explained later, have the effect of reducing a specific charge to a less serious alternative). Finally, as the genetic evidence could be used by D to demonstrate that he/she is significantly predisposed to antisocial behaviour, a prosecutor, ironically, might

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5 To this end, the prosecutor through various witnesses must show a chain of custody (i.e., a process that must be followed for evidence to be legally defensible) to prove that the evidence is genuine and authentic and has not been tampered with. Also, the prosecutor must show that the genetic evidence could only have been impressed when the subject crime was committed. Thomas Gardner and Terry Anderson Criminal Evidence: Principles and Cases (Cengage Learning, United States, 2012) at 443.

6 See Nita A Farahany and William Bernet "Behavioural Genetics in Criminal Cases: Past, Present, and Future" (2006) 2(1) Genomics, Society and Policy 72; Nita A Farahany and James E Coleman "Genetics and Responsibility: to Know the Criminal from the Crime" (2006) 69(1/2) LCP 115; D W Denno "Courts' Increasing Consideration of Behavioral Genetics Evidence in Criminal Cases-Results of Longitudinal Study" (2011) 2011 Mich L Rev 967. Note should be taken that all these five purposes are only potential claims of the criminal accused. The potentiality of those claims does not mean that courts should accept genetic evidence as the basis for those five categories.


10 Card, above n 7, at 256.
use the link between D’s genes, and tendency to antisocial behaviour, as aggravating factors which result in a harsher sanction. It is with the third and fourth of these uses that this thesis will be concerned – i.e., the use of genetic evidence to establish some form of ‘genetic-based defence’.

**The background to the research**

In this thesis, it is not possible to focus on all of the suggested gene-behaviour interactions which may have some bearing on criminal responsibility. Accordingly, I will focus on what currently appears to be the most promising candidate: the MAOA gene, which has been unscientifically and controversially referred to as the ‘warrior gene’.11 The MAOA gene encodes the MAOA enzyme, which in turn regulates particular neurotransmitters. These neurotransmitters – including serotonin, norepinephrine and dopamine – are believed to play a significant role in balancing mood, in motivation, reward and punishment and the fight-or-flight response.12 The most important study on MAOA is the 2002 study by Avshalom Caspi and his colleagues (the Caspi Study).13 This team of researchers found that individuals who had the relatively common low variation of MAOA activity (MAOA-L), and who had been severely maltreated during childhood, exhibited a greater tendency towards antisocial behaviour than other groups in the study.14

The Caspi Study was the first study which tested the effect of the interaction between genetic and environmental factors (GxE)15 on the subsequent development of antisocial behaviour. It was regarded as a landmark study. Dean Hamer, for instance, a behavioural geneticist, identified the Caspi Study as one of three studies paving the way for the future of human behavioural genetics.16 Robert Stone, a legal scholar, predicted that “… although the predictive power of genetics has been discussed many times before, the Caspi Study may prove to be the beginning of a new era.”17 Also, Erik Parens, a

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13 A Caspi and others "Role of Genotype in the Cycle of Violence in Maltreated Children" (2002) 297(5582) Science 851.
14 At 853.
bioethicist, wrote that: “It might not be an exaggeration to say that, if replicated, [the Caspi Study] will turn out to have been a watershed event in the history of behavioral genetics.”

The significance of the Caspi Study’s empirical results received wide attention among various disciplines. David Wasserman, for instance, wrote a paper on the bioethical implications of the Caspi Study, entitled: “Is There Value in Identifying Individual Genetic Predispositions to Violence?” Jonathan Moreno addressed the Caspi Study and warned that “Prospective parents might therefore test embryos for the MAOA marker before implantation to avoid giving birth to a child with this particular potential for criminality.” In this thesis, however, I will concentrate on the criminal law’s response to the evidence presented by the Caspi Study. Before outlining how I am going to assess GxE evidence in the context of the criminal law, I will discuss some implications of GxE evidence, and the manner in which it could challenge the issue of criminal responsibility.

The use of GxE evidence may present some challenges to notions of criminal responsibility. In an extreme form, such evidence can reignite the free will versus determinism debate. To understand the nature of that debate, consider this example. Alice is browsing the library catalogue when her attention is caught by the title of this thesis. Immediately, the system of glands, which controls her hormonal system, has been activated. Then, her nervous system starts to transfer signals to her brain. Alice forms the intention to read the thesis. She walks to the shelf to retrieve it, and commences reading.

Two accounts can explain the process of events that led to Alice eventually reading the thesis. On the one hand, a deterministic account would describe this outcome as being the inevitable result of a chain of prior causal events, completely determined by factors beyond Alice’s control. While Alice may have thought that she freely decided to read the thesis, the real causes lay elsewhere. Some determinists may point to a series of chemical and electrical signals in her brain. Others may point to events in her childhood, or chance encounters earlier that day. Yet others would seek to trace the origins of this state of affairs to events long before Alice was even born. What these have in common is that none of them leave any room for the possibility that Alice could have chosen not to read the thesis.


19 The Caspi Study has been cited over 3619 times by scholars in various disciplines (search in Google Scholar, 24.02.2015).


On the other hand, a free will account would say that even if several factors, such as the existence of the library catalogue, the availability of the title of the thesis on the catalogue system, the action and reaction of the hormonal and nervous systems, the presence of the thesis in the shelf, have provided preliminary elements for reading the thesis, at the final stage, Alice decided to read the thesis and did so. At every step, she could stop herself from reading the thesis and do something else.

On the face of it, the free will and deterministic accounts contradict each other. If the reader’s action was determined, he/she had no free will over his/her conduct. If the reader had free will, his/her action was not deterministically caused.

The free will and determinism question is an age-old one, but it has been rekindled by advances in genetics and neuroscience. It has been suggested that behavioural genetics may introduce a significant deterministic challenge to legal institutions, and that neuroscience may ultimately posit that “… free will … is an illusion.” The long-term aim of neuroscience was described by one commentator as “… to draw upon the tools of … [its] discipline to embarrass, discredit, and ultimately overthrow retribution as a distributive justification for punishment.”

The free will versus determinism debate could have alarming implications for the law. The basic notions of legal responsibility and blame – at least in the legal systems on which this thesis focuses – depend on the extent to which agents are responsible for their conduct. Legal responsibility mainly depends on the extent to which the agent’s conduct was voluntarily and knowingly chosen. If it is true that science – by means of genetics or neuroscience – might be able to prove that human conduct is predetermined and not voluntarily and knowingly chosen, then it seems that the notions of punishment, blame and responsibility cannot play any role.

Discoveries in behavioural genetics or neuroscience may, for some commentators, pose a challenge to the whole structure of choice and voluntariness upon which the current ideas of responsibility, morality and blame depend. In this thesis, I will refer to those extreme challenges of science, those which would lead to a paradigm shift in the construction of criminal responsibility, as ‘external challenges’. With respect to ‘external challenges’, some scholars have adopted the doctrine of ‘radical reappraisal of notions of

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responsibility’. Proponents of this doctrine insist that the concept of criminal responsibility must be reconstructed to conform with a more scientifically thorough understanding of human behaviour. For instance, Richard Lowell Nygaard has speculated that society may have to design a totally different system of legal accountability based on an agent’s behaviour. Likewise, Marcia Johnson has suggested that the legal underpinnings of the current system of law must be recast, while Steven Friedland has argued that genetic discoveries may force society to substantially alter the concept of responsibility, thus revolutionising the entire system of criminal justice.

The notion of ‘reaffirming current criminal law’ is in direct opposition to the claim of the radical school. Advocates of this notion have argued that the law should resist the ‘external challenges’, and they have rejected the claim that the law should be reconstructed on the basis of scientific notions. For instance, H L A Hart proposed that:

Till we have developed this sense of the complexity of punishment … we shall be in no fit state to assess the extent to which the whole institution has been eroded by, or needs to be adapted to, new beliefs about the human mind.

Hart wrote this before advances in genetics and neuroscience, which constitute ‘external challenges’ to the law, were available. Some academics still follow his approach.

Between the positions of ‘radical reappraisal of notions of responsibility’ and ‘reaffirming current criminal law’, however, there is a third approach, one that I will refer to as ‘expanding existing categories’. The basic premise of this approach is that the current notion of responsibility that underpins criminal law is capable of withstanding the ‘external challenges’ of science. However, advances in science may inform, or even to some extent amend the current responsibility criteria. In this thesis, it is with these so-called ‘internal challenges’ to criminal responsibility that I am concerned.


29 Murphy, above n 25, at 4.


31 Farahany and Coleman, above n 6.

32 See generally Murphy, above n 25 at 5.
One example of an ‘internal challenge’, and the one which will form the central question of this thesis, is the challenge of loss of self-control. Whether or not anyone can truly exercise free will, there is a strong and long-standing consensus that some people cannot control their impulses, at least some of the time. Most legal systems already acknowledge this, and make provision for it through defences such as automatism, insanity or DR. In recent times, scientific research has suggested that certain biological mechanisms may explain some instances of loss of self-control – for example, certain GxE combinations. It is with these suggested explanations that I am concerned.

It needs to be clarified from the outset that my purpose in this thesis is not to propose that any particular GxE interaction should form the basis of any specific criminal defence. Rather, my main purpose is to consider what would be required for any defence of this nature to be even theoretically acceptable by a criminal court.

In this thesis, I will first review the history of genetic-based defences and in particular I will focus on cases in which criminal Ds have relied upon GxE evidence to claim difficulties in exercising self-control. I will also review scientific literature which has suggested that GxE, to some degree, has an effect on the loss of self-control. I will then review the legal basis for excusing on the basis of loss of self-control.

Research questions and Chapters layout

In Chapter Two, I will begin with some scientific background to the study of behavioural genetics, particularly the research on the MAOA gene. Then, I will review those criminal cases which have relied upon genetic evidence. This Chapter will function as a literature review. I am not concerned with any specific question and I only review criminal cases. Nor will I focus on any specific question in Chapter Seven (which is the conclusion of the thesis). Apart from those Chapters, every other Chapter of the thesis contains one specific question, argument and conclusion.

In Chapter Three, the main question is this: in response to the question of free will and determinism, which has been reawakened by advances in genetics and neuroscience, what approach does the law take? I will argue, along with most commentators on this question, that New Zealand and English law (the two jurisdictions which are the focus of this thesis)33 – in common with that of other common law systems – takes a Compatibilist position. That position avoids having to take sides in the higher level debate, and insulates the legal system from some of the ‘external challenges’ that acceptance of determinism would bring.

33 I chose English law as it forms the basis of New Zealand law. It is common to cite English law and not English and Wales Law. Therefore, references to English law in this thesis should be read as applying to the law of England and Wales.
In Chapters Four and Five, I will focus on one type of ‘internal challenge’ – the claim that the current legal approach to loss of self-control should be reformed to reflect recent evidence from genetics and neuroscience. Chapter Four will consider a form of full defence deriving from loss of self-control: volitional insanity (V-insanity) (see graph 1.1). At present, this is accepted neither in New Zealand nor English law, but in this Chapter I will scrutinise the reasons for that rejection.

In Chapter Five, I will analyse a second form of ‘internal challenge’ concerning loss of self-control: the ‘partial defence’ of DR (see graph 1.1). Again, I will consider the case for accepting such a defence into New Zealand law.

In Chapter Six, I will draw together the various legal, philosophical and scientific strands of the previous Chapters, in an attempt to answer the major question of this thesis: what would have to be shown if GxE evidence were the basis for the defences of insanity and DR? While the focus of this Chapter is GxE evidence, in my view, my arguments would apply similarly to any genetic-based defence.

Graph 1.1. The scope of Chapters Four and Five.

The aims of the thesis

In this thesis, therefore, I aim to contribute to the existing literature in several ways. First, I hope to provide substantial grounds for introducing the full defence of loss of self-
control (V-insanity) and the partial defence of DR into New Zealand law. Second, I provide a careful examination of what would be required were genetic evidence to form the basis for such defences.

**The form of the research**

After describing the research questions and aims, I can describe the method of research. The sources of data applied in this doctrinal qualitative research can be classified as follows:

- The legal statutes and court judgments.
- Published academic research in the field of criminal law, Government reports, media articles and results from Internet searches. I will not analyse the validity of the published articles in the fields of genetics and neuroscience; my aim is only to review them.

**Outside the scope of the thesis**

As mentioned before, I will discuss the full defence of V-insanity and the partial defence of DR in Chapters Four and Five, respectively. In those Chapters, I will analyse the theoretical basis for the rejection of those defences and then provide arguments for adopting those defences. However, I will not elaborate on the form such defences could take as that could potentially occupy the space of two further PhD theses. I hope the arguments of the thesis encourage further research into that aspect of the defences in New Zealand law.

In Chapter Six, I will assess the link between GxE evidence and two forms of loss of self-control. I will not be searching for the scientific aspects of GxE evidence and the clinical examination of the effect of that evidence on the affected person’s mental state. These issues are in the domain of medical examiners. In Chapter Six I am only concerned with the legal requirements for establishing DR and insanity.

**Terminology**

In this thesis, one key term that will be used frequently is ‘crime’. It is imperative to clarify what is meant by this term. Other essential terms will be clarified in each Chapter. Generally speaking, there are four types of crimes: impulsive violent crimes; impulsive non-violent crimes; planned violent crimes and, finally, planned non-violent crimes (see graph 1.2).
Graph 1.2. Four general categories of crimes.

Providing examples for each category helps to understand them. Impulsive violent crimes are crimes like stabbing a person with a knife when it is unplanned. Impulsive non-violent crimes are crimes like shoplifting. Planned violent crimes are crimes like kidnapping, terrorism and hijacking. Planned non-violent crimes are crimes like copyright infringement and insider trading.

In this thesis, I will mainly concentrate on impulsive crimes in the form of violent and non-violent crimes. In the context of the history of the genetic-based defence of GxE, and the debate over determinism and free will, (the subjects of Chapters Two and Three, respectively) the definition of the crime does not really matter. However, when I discuss the defences of V-insanity and DR in Chapters Four and Five, I will be looking at the impulsive end of the offending spectrum – i.e., not planned crimes (see graph 1.2).
Chapter Two: contextualizing the state of the genetic-based defence of genetic and environmental interaction (GxE)

Scope of the Chapter

In this Chapter, my object is to examine the scope of genetic-based defences. These are a form of defence which rely on evidence from behavioural genetics in a variety of ways: either as an excuse, as a mitigating factor or as evidence of incompetency to stand trial. As mentioned in Chapter One, while genetic evidence can serve other purposes in a criminal trial – such as placing the defendant (D) at the scene of the crime – my concern in this thesis is only with those genetic defences that relate to the D’s culpability. While my focus is on the use of such evidence by the defence, it should be kept in mind that it could serve the opposite purpose. The genetic evidence in question will often be used to demonstrate that D is strongly predisposed to criminal aggression; the introduction of such evidence therefore runs the risk that prosecutors might seek to use the link between aggressive behaviour and genes as aggravating factors, justifying harsher punishment.¹

In this Chapter, I will review two important genetic defences. First, I will review, briefly, the first prominent attempts at such a defence, the so-called extra Y chromosome (XYY) cases. In these cases, the accused relied on the presence of the XYY syndrome. The reason for the brief review of XYY cases is that the academic literature has already thoroughly examined those cases.² Then, I will review more thoroughly those cases in which the accused relied on the genetic evidence of Monoamine Oxidase Acid A (MAOA). I will review MAOA cases because MAOA is the main part of this thesis. As I will explain, the main study on MAOA looked at what effect the combination of MAOA and environmental maltreatment (GxE) had on the future development of criminality. That evidence is the major focus of this thesis, hence the Chapter’s title is ‘Contextualising the state of genetic-based defence of GxE’.

This Chapter reviews cases concerning these two defences without analysing court’s decisions in depth. For searching GxE cases, I selected the keywords of MAOA and combined it with keywords including crime, offence, accused and charge. For environmental maltreatment, I combined terms such as genes, genetic background and

¹ The above point about the genetic evidence being used in a variety of ways has been taken from the literature. See, for example, Nita A Farahany and William Bernet "Behavioural Genetics in Criminal Cases: Past, Present, and Future" (2006) 2(1) Genomics, Society and Policy 72; Nita A Farahany and James E Coleman "Genetics and Responsibility: to Know the Criminal from the Crime" (2006) 69(1/2) LCP 115.

family history with aggravating factors, future dangerousness and likelihood of committing crimes. For MAOA cases I searched through two of the main legal databases, LexisNexis and Westlaw. These databases are designed for published cases in some common law jurisdictions. To search unreported and unpublished cases from common law and other jurisdictions, I searched through Google Scholar and Google. They covered journals, newspapers, popular articles and the like.

The scope of this Chapter is not limited to any particular legal jurisdiction.

**Introduction and background to human behavioural genetics**

Human behavioural genetics is a subfield of behavioural genetics. It studies the effect of an organism’s genetic structure on its behaviour, and the interaction of heredity and environment insofar as they affect behaviour. It also studies genes that code for behavioural traits, their physiological processes and how those genes interact with environmental factors. The discipline is an overlap between genetics and psychology. Simply put, behavioural geneticists study the inheritance of behavioural traits.

Four important areas of research in human behavioural genetics are: research into intelligence, personality traits, sexual orientation and antisocial behaviour. In terms of antisocial behaviour, the subject of this Chapter, behavioural genetic investigations include research into juvenile delinquency and adult criminal, psychiatric abnormalities which are linked to antisocial behaviour and trait aggression in both children and adults. The scope of the definition of antisocial behaviour varies widely across the studies, ranging from violations of rules and social norms of different forms of aggression to other reactive and proactive behaviours like bullying. Moreover, definitions of antisocial behaviour have included serious forms of disruptive and aggressive conduct, such as those observed in antisocial personality disorder and conduct disorder. Methods of measuring antisocial behaviour include quantitative and qualitative research, twin studies...
and family studies. Different studies in human behavioural genetics use various methods; some studies are grounded in official records like school records, police arrests, and court convictions, whereas others are based on behavioural ratings provided by parents or teachers or on self-reporting.

The scientific literature uses various terms like violent behaviour, aggressive temperament, aggressive behaviour, abnormal behaviour and antisocial behaviour interchangeably. In this Chapter, I use the term ‘antisocial behaviour’ as it is used in the scientific literature.

As this is a PhD thesis in law, and as I am a lawyer, I must be extremely careful when defining and using various terms. To follow that commitment, I need to clarify a point about using the term ‘antisocial behaviour’ in the context of this Chapter. In this Chapter, I mention some cases in which the criminal accused relied on scientific evidence which suggested that there is a relationship between a set of genetic factors and ‘antisocial behaviour’. They used that type of evidence in criminal trials for several purposes such as seeking to reduce their punishment. When using the term ‘antisocial behaviour’ and crime, in the context of this Chapter, I need to clarify that I am not proposing that it is simply possible to extrapolate directly from research on ‘antisocial behaviour’ to crime. There are some overlaps between ‘antisocial behaviour’ and crime, but they are not identical and distinguishing between them is a task which is not within the scope of this Chapter and will be explained in Chapter Six.

To date, behavioural genetic studies of ‘antisocial behaviour’ have provided some evidence of the effect of genetic factors – sometimes in combination with environmental

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11 See Rhee, above n 7, at 491-492.
12 See, for example, C Aslund and others "Maltreatment, MAOA, and Delinquency: Sex Differences in Gene-Environment Interaction in a Large Population-Based Cohort of Adolescents" (2011) 41(2) Behav Genet 262.
13 See, for example, JW Buckholtz and A Meyer-Lindenberg "MAOA and the Neurogenetic Architecture of Human Aggression" (2008) 31(3) Trends Neurosci 120.
14 See, for example, Tony Merriman and Vicky Cameron "Risk-taking: behind the Warrior Gene Story" (2007) 120(1250) New Zeal Med J u 2440.
15 See, for example, J C Shih, K Chen and MJ Ridd "Monoamine Oxidase: from Genes to Behavior" (1999) 22 Annu Rev Neurosci 197 at 197-199.
16 See, for example, A Caspi and others "Role of Genotype in the Cycle of Violence in Maltreated Children" (2002) 297(5582) Science 851 at 851.
factors – on ‘antisocial behaviour’.\textsuperscript{17} The most famous example of the influence of one chromosome on ‘antisocial behaviour’ is XYY. The most famous example of the interaction of genetic and environmental factors on ‘antisocial behaviour’ is the interaction between the MAOA gene and childhood maltreatment. The main focus of this Chapter is reviewing cases of MAOA and childhood maltreatment. Before that, however, I will briefly review cases in which the criminal accused relied on XYY.

\textit{The extra Y chromosome}

Each cell of every person has 46 chromosomes. Forty-four of these chromosomes control human body functions. Two of the 46 chromosomes, known as X and Y, are called sex chromosomes and they determine whether an individual develops male or female sex characteristics. Females normally have two X chromosomes (46, XX), and males normally have one X chromosome and one Y chromosome (46, XY).\textsuperscript{18} An individual inherits 23 chromosomes from each parent.

In 1961, Sandberg and his colleagues reported the first discovery of an individual with XYY.\textsuperscript{19} Three years later, scientists speculated about the link between some illnesses like Down, Klinefelter, and Turner’s syndromes and chromosomal defects like XYY. A series of studies was conducted to determine the characteristics of XYY.\textsuperscript{20} In 1966, a team of researchers posited that XYY individuals, who had a mental abnormality, outnumbered XY individuals who had no mental abnormality.\textsuperscript{21}

\begin{footnotesize}
\begin{itemize}
\item[\textsuperscript{17}] It has been suggested that some other genetic factors like Dopamine D4 receptor (D4DR) and the serotonin transporter gene (SLC6A4), are related to antisocial behaviour. See generally Gail S Anderson \textit{Biological Influences on Criminal Behavior} (CRC Press, Boca Raton, Fla, 2006).
\item[\textsuperscript{19}] A A Sandberg and others "An XYY Human Male" (1961) 278(7200) Lancet 488 at 488. The prevalence estimates of XYY are variable, ranging in live born men from 26 per 100,000 to 375 per 100,000. Walter B Goad, Arthur Robinson and Theodore T Puck "Incidence of Aneuploidy in a Human Population" (1976) 28(1) Am J Hum Genet 62 at 63; F Sergovich and others "Chromosome Aberrations in 2159 Consecutive Newborn Babies" (1969) 280(16) NEJM 851 at 852.
\item[\textsuperscript{21}] MD Casey and others, above n 20, at 642.
\end{itemize}
\end{footnotesize}
The question as to whether there is a connection between XYY and ‘antisocial behaviour’ first appeared in 1962, in the writing of Court Brown. He wrote a prescient and perceptive letter to the Lancet and asked:22

… whether the legal authorities should not now give some consideration to the problem of the numbers of individuals in the population who either have a normal sex-chromosome constitution but one which is grossly at variance with their sexual phenotype, or have an abnormal sex-chromosome constitution.

After reviewing some research which indicated that the incidence of criminal activities like ‘larceny, fire-raising and indecent exposure’ among the possessors of XYY is high, Brown concluded:23

Evidence that an abnormal sex-chromosome complement predisposed towards delinquency would raise the whole problem of whether such individuals could be held in law to suffer from a diminished responsibility by virtue of their abnormal constitution.

Following this, some studies claimed to indicate a correlation between XYY and ‘antisocial behaviour’. In a 1968 article, Mary Telfer described the features of an XYY individual as:24

… extremely tall stature, long limbs with strikingly long arm span, facial acne, mild mental retardation, severe mental illness (including psychosis) and aggressive, antisocial behaviour involving a long history of arrests, frequently beginning at an early age.

Similarly, the Australian and New Zealand Journal of Psychiatry suggested that there are some links between XYY and psychopathic personalities.25

The issue of XYY captured the public’s imagination following a number of cases in which the defence sought to rely on XYY – either in mitigation or as part of a case for an insanity defence. These cases were between 1968 and 1970 and, in chronological order:

23 At 509.
24 MA Telfer "Are Some Criminals Born That Way?” (1968) 34 Think 24 at 24. Likewise, John Money has designed a composite image of the XYY prisoner based on at least eleven variables. These include: "broken family; difficult child; school history of behaviour problems and under achievement; I.Q. average; E.E.G. [electroencephalography] probably abnormal; excessive daydreaming; socially alone; occupationally a drifter; unrealistic future expectations; impulsive aggression and/or violence, but not an aggressive personality; bisexual or homosexual and impulsive in sexual expression, with no depth or continuance of affection." J Money, RJ Gaskin and H Hull " Impulse, Aggression and Sexuality in the XYY Syndrome" (1969) 44(220) St John's L Rev 231 at 231.
25 The journal suggested that the study of XYY "... might well lead to the delineation of a clear cut constitutional psychopath from the present amorphous mass of psychopathic personalities." Bartholomew, above n 2, at 6.
In only one case – Hannell – did the court accept evidence of XYY. There the Supreme Court of Victoria accepted the accused’s claim of insanity, because of medical evidence which indicated that he had some neurological, genetic and psychological abnormalities. Only part of the presented medical evidence related to XYY.

Following the above-mentioned cases, the scientific community started criticising the research on the XYY chromosomal abnormality. Some scientists such as Telfar and Elwyn, Price, Kessler and Moos, and scientific organisations like the American Psychiatric Association, objected to methodological deficiencies in the XYY studies.
Firstly, it was claimed that the research into the XYY gene focused on convicted criminals, and left out comparative samples of XYY males in the general population. Secondly, these studies oversimplified the definition of human behaviours that are associated with aggression. Thirdly, they ignored and downplayed the environmental factors in criminal development. Fourthly, a larger body of research found no evidence to support the claim that there was any connection between XYY and aggressive behaviour. Lastly, the number of XYY males who had ordinary lifestyles and never went to prison, was significantly greater than XYY men with some mental abnormality and a history of criminality.

Following the objections of the scientific community, only a handful of cases relying on XYY were brought between 1970 and 1975. In *Tanner*, *Millard* and *Yukl*, the evidence of XYY was used as a basis for the insanity defence. However, in all of these cases, the courts rejected the claim of insanity, citing the contemporary scientific objections to the XYY evidence. It is useful to review the approach adopted by the court in *Yukl*, as it set forth a standard for the rejection of the XYY claim.

Charles Yukl was charged with murder. As part of the insanity defence, his lawyer sought the appointment of a qualified cytogeneticist to carry out the chromosomal testing of Yukl’s blood. With respect to such a request, the Supreme Court of New York decided that the most important task of the court was determining whether or not evidence of chromosome abnormality should be admitted as part of the insanity defence in criminal trials. The Supreme Court determined that the threshold question is this: “is the scientific theory, instrument, or test sufficiently established to have gained general acceptance in the particular field to which it belongs?”

In response to this threshold question, the Supreme Court reviewed the contemporary literature of the XYY evidence in this way:

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38 HA Witkin and others "Criminality in XYY and XXY Men: the Elevated Crime Rate of XYY Males is not Related to Aggression. It may be Related to Low Intelligence” (1976) 193(4253) Science 547 at 555.


40 At 474.

41 Witkin and others, above n 38, at 553-554.


46 At 317.

47 At 318
The existence of the XYY genetic phenomenon was firmly established in 1961. Early studies of chromosome imbalance focused almost exclusively on prison populations. The XYY male, in prison samples, appears to be a very tall, slightly retarded individual with a severely disordered personality characterized by violent, aggressive behavior. However, the sampling, thus far, has been inadequate and inconclusive. A built-in bias exists because samples comprised of institutionalized persons will, of course, contain more than a fair number of violent and aggressive types. The statistical significance to be attached to the results of these studies is in doubt until such time as adequate control group data can be compiled. Scientists and legal commentators appear to be in agreement that further study is required to confirm the initial findings and to concretely establish a causal connection between one's genetic complement and a predisposition toward violent criminal conduct.

Due to this background to the XYY evidence, the Supreme Court was reluctant to admit evidence of genetic abnormality as a factor to negate criminal responsibility.\(^48\)

In addition, the Supreme Court stated three reasons for its reluctance to admit the evidence of genetic deficiency as a factor to negate criminal liability:\(^49\)

First, the experts merely suggested that aggressive behavior may be one manifestation of the XYY syndrome. However, they could not confirm that all XYY individuals are involuntarily aggressive; in fact, some identified XYY individuals have not exhibited such tendencies. Second, the experts could not determine whether or not the defendant’s aggressive behavior even resulted from chromosome imbalance. Third, the experts were unable to state that possession of the XYY anomaly resulted in mental disease which would constitute legal insanity …

Finally, the Supreme Court set out a standard for future claims of such a defence:\(^50\)

Thus, in New York an insanity defense based on chromosome abnormality should be possible only if one establishes with a high degree of medical certainty an etiological relationship between the defendant’s mental capacity and the genetic syndrome.

Following the *Yukl* case, other criminal defendants sought to introduce XYY evidence, to request the XYY genetic test or to raise it in mitigation.\(^51\) However, courts rejected all those claims.

\(^{48}\) At 318.
\(^{49}\) At 319.
\(^{50}\) At 319.

\(^{51}\) See the *Knight* and *Roberts* cases in which genetic tests were requested: *Knight v State* 538 S.W.2d 101 (Tex. Crin. App. 1975); *State v Roberts* 544 P.2d 754, 758 (Wash. Ct. App. 1976). In the following cases, the criminal accused claimed mitigation by reason of XYY but, the courts rejected their claim: *R v Spivey* (692 N.E.2d 151 (Ohio 1998) at 170; *Williams v Stewart* 441 F.3d 1030 (2006); *Reberger v The Queen* [2011] NSWCCA 132; *Tanzi v State* No. SC10-807, No. SC11-81. LEXIS 755 (Fla 2012) at 16.
As can be seen, then, despite some scientific claims about the possible link between XYY and ‘antisocial behaviour’, by and large the attempt to use XYY in criminal trials has been unsuccessful due to a lack of scientific support. In the following section, I will review another genetic defence, namely reliance on evidence of MAOA and maltreatment.

The MAOA gene

MAOA is an important gene. It encodes the MAOA enzyme, which in turn metabolises some important neurotransmitters. Those neurotransmitters regulate emotion, mood, sleep, appetite, motivation, reward, punishment and the flight or fight response. In 1993, Brunner and colleagues (the Brunner Study) reported a relationship between MAOA deficiency and ‘antisocial behaviour’. Subsequently, one criminal accused relied on the evidence of MAOA to reduce his punishment. In the next section of this Chapter, I will review the Brunner Study, and the case that sought to rely on it. Thereafter, I will examine subsequent research which focused on the MAOA gene, and the more recent criminal cases in which that research was used.

The first clue as to the relationship between MAOA and ‘antisocial behaviour’

In 1993, the Brunner Study found a large Dutch family, spanning four generations, in which 14 men were affected by a complex behavioural syndrome. That behavioural syndrome exhibited itself in borderline mental retardation, behavioural abnormalities and impulsive aggressive behaviour. The study excluded females in that family because they apparently displayed none of these characteristics. The research divided males into two groups, affected and unaffected. Finally, only four affected males who exhibited a wide range of abnormal behaviour, including impulsive aggression, attempted rape, arson and exhibitionism, were examined.

Drawing on previous research, which indicated some connection between MAOA and ‘antisocial behaviour’, the Brunner Study hypothesised that the MAOA of the four

52 Shih, Chen and Ridd, above n 15, at 197.
54 Turpin v Mobley 502 S.E.2d 458, 461 (Ga. 1998) at 463-64.
55 Brunner and others, above n 53, at 579.
57 Ellis reviewed the evidence for connections between MAOA and eight antisocial conditions, encompassing impulsivity, defiance to punishment, childhood hyperactivity, risk taking, sensation seeking
affected males in the Dutch family might be defective. The result of the research confirmed that assumption and posited that the MAOA activity of the affected males was completely absent. On further analysis, the Brunner Study discovered a point mutation – one that disrupts the gene and renders it incapable of producing an active protein\(^{58}\) – in the MAOA activity of the affected males and suggested that there was a relationship between that mutation and ‘antisocial behaviour’.\(^{59}\) In contrast, there was no genetic deficiency among the unaffected males. The Brunner Study was regarded as a groundwork study since, for the first time, it found a link between the dysfunctional MAOA gene and ‘antisocial behaviour’ among affected males.\(^{60}\)

Instead of portraying the facts about the Brunner Study, the media portrayed the MAOA gene as the “aggression gene” and the “violence gene.”\(^{61}\) Obviously, placing the term ‘gene’ after aggression or violence implies that a gene is responsible for an aggression. Objecting to such a claim, which presupposed that MAOA causally created aggression, the principal author of the Brunner Study wrote that “The known biochemical affects [sic] of blocking MAOA activity do not support a simple causal relationship between the metabolic abnormality and the behavioural disturbance that we observed.”\(^{62}\)

To summarise, the result of the Brunner Study has some limitations which should be borne in mind. Firstly, it was limited to one family.\(^{63}\) Secondly, as Brunner, in a different paper noted, there is only correlation, not causation, between the MAOA mutation and ‘antisocial behaviour’ among the affected males.\(^{64}\) Thirdly, “Further studies are required to determine whether complete isolated MAOA deficiency is associated with similar
behavioral patterns in other families, or even in animal models." In spite of these shortcomings, many geneticists at that time were asked by lawyers to request testing on the MAOA gene for their accused or convicted clients. Importantly, one case was reported in which an accused relied heavily on the Brunner Study. I will review this case in the following section.

**Mobley v State**

Stephen Mobley grew up in an affluent family and had no history of child abuse. In 1991, he was charged with murder, aggravated assault, armed robbery and possession of a firearm during the commission of a crime. In 1992, he was tried for the crimes. The jury convicted him, and recommended the death penalty, a recommendation that was accepted by the trial court. After he was convicted, the Brunner Study was published. Mobley’s lawyer asked a geneticist to examine Mobley’s family. The examination revealed that the last three generations of his family had exhibited several criminal and aggressive behaviours, like murder, rape, armed robbery, substance abuse and spousal abuse. On that ground, the defence counsel requested a motion to provide funds for expert witnesses to testify as to this MAOA abnormality. The trial court rejected that request. Contrasting Mobley’s situation with that of the family in the Brunner Study, the judge concluded that “… the Netherlands family had a prevalence of mental retardation and Mobley’s family did not.” Afterwards, Mobley’s father offered to pay for the genetic testing himself, but Mobley’s lawyer declined.

Mobley relied on the evidence presented by the Brunner Study and requested financial support so that genetic tests could be conducted. However, the Supreme Court of Georgia rejected the Brunner evidence on the ground that it could not satisfy the standard of the evidentiary admissibility and held that:

65 Brunner and others, above n 53, at 579
66 Cited in Carey and Gottesman, above n 60, at 346.
67 *Turpin v Mobley*, above n 54, at 463-64.
69 *Mobley v State*, above n 68, at 293.
70 *Turpin v Mobley*, above n 54, at 465.
71 At 465.
72 At 465.
73 At 465.
74 *Mobley v State*, above n 68, at 293.
… the theory behind the request for funds will not have reached a scientific stage of verifiable certainty in the near future and that Mobley could not show that such a stage will ever be reached.

Finally, the Supreme Court of Georgia rejected the evidence and reinstated the death penalty.\textsuperscript{75}

Overall, it can be seen that Mobley and his defence counsel presented several types of evidence to get the permission for the MAOA test. They tried different methods ranging from making an analogy between Mobley’s family and the subject family in the Brunner Study to the accused’s father offering to pay the cost of the test. The court was aware of the scientific aspects of the Brunner Study and stubbornly rejected the MAOA test. The basic reason for that rejection was that “… the theory behind the request for funds will not have reached a scientific stage of verifiable certainty in the near future and that Mobley could not show that such a stage will ever be reached.”\textsuperscript{76} The Supreme Court of Georgia rejected the MAOA genetic test on the ground of the lack of scientific support, which did not meet the standard for admissibility of such evidence. That standard will be briefly reviewed in Chapter Six of the thesis. There is not a great deal of point reviewing here the evidence presented in Mobley as the rejection of the evidence was based on the state of the science in 1998, seventeen years ago. As I will discuss below, the scientific knowledge about the MAOA evidence has significantly changed since 1998.

\textit{Discovery of the effect of GxE on ‘antisocial behaviour’}

In 2002, the Brunner Study was followed by another highly influential study into the effects of MAOA. Whereas the earlier study had focused on men who had a complete absence of MAOA activity, a team of researchers led by Avshalom Caspi (the Caspi Study) attempted to connect a more subtle variation in MAOA levels with ‘antisocial behaviour’. The Caspi Study also introduced an environmental factor; the subjects it considered did not just have low levels of MAOA but also adverse environmental circumstances during early life development.

The Caspi Study uses data from the Dunedin Multidisciplinary Health and Development Study (New Zealand). This is a longitudinal study that has tracked a birth cohort of 1037 male children at regular intervals. The Caspi Study began when participants were age 3. Cohort families represented the full range of socioeconomic status in the general population of New Zealand’s South Island. Follow-ups have been carried out at ages 3, 5, 7, 9, 11, 13, 15, 18, 21, and at age 26. At each age, participants were brought back to the research unit for a full day of individual tests and interviews. These data were

\begin{flushright}
\textsuperscript{75} \textit{Turpin v Mobley}, above n 54, at 465.
\textsuperscript{76} \textit{Mobley v State}, above n 68, at 293.
\end{flushright}
supplemented by questionnaires filled by persons who knew the study participants well and by official record searches.\textsuperscript{77} The focus of the study was the effect of the combination of MAOA and childhood maltreatment on the development of ‘antisocial behaviour’. This was the first study on the effect of GxE on the development of ‘antisocial behaviour’.\textsuperscript{78} As noted above, the Brunner Study concentrated on a rare mutation in the MAOA gene, which appeared to correlate with extreme intellectual and behavioural effects (the so-called “Brunner syndrome”).\textsuperscript{79} Instead of focusing on a very rare type of the MAOA mutation, the Caspi Study focused on the impacts of the two most common variations of MAOA (low variation of MAOA (MAOA-L) and high variation of MAOA (MAOA-H)). Normally, the 2-repeat allele and the 3-repeat allele of MAOA are grouped together as MAOA-L activity, while the 3.5-repeat allele, 4-repeat allele and 5-repeat allele are grouped as MAOA-H activity. Both MAOA-L and MAOA-H occur naturally in the human genetic makeup. As a result, they are common in everybody.\textsuperscript{80}

As for childhood maltreatment, the Caspi Study measured emotional, physical and sexual abuse during the cohort’s childhood and adolescent years. All participants of the study were divided into three groups: (1) severe maltreatment (SM), (2) no maltreatment and (3) probable maltreatment. As I mentioned, two forms of MAOA were examined: MAOA-L and MAOA-H. This resulted in six groups, but the ‘probable’ and ‘SM’ categories were merged, meaning four groups were used in the analysis: (1) MAOA-L+SM; (2) MAOA-L and no maltreatment; (3) MAOA-H and SM; and finally, MAOA-H and no maltreatment.\textsuperscript{81} The Caspi Study examined four indices of ‘antisocial behaviour’, namely conduct disorder, convictions for violent offences, disposition towards violence and antisocial personality disorder symptoms.

It found that “… the effect of childhood maltreatment on antisocial behavior was significantly weaker among males with high MAOA activity … than among males with low MAOA activity.”\textsuperscript{82} In other words, among the four previously mentioned groups, individuals who had MAOA-L+SM had a greater predisposition to ‘antisocial behaviour’ than other groups. Importantly, the investigators found that while only 12 per cent of the sample had MAOA-L+SM, they accounted for a full 44 per cent of the aggressive convictions of the whole study sample. Furthermore, the Caspi Study suggested that “…

\textsuperscript{77} A Caspi and others "Description of Methods and Measurements Used in the Dunedin Multidisciplinary Health and Development Study (supplementary materials)" (2002) 297 Science 297 at 3.

\textsuperscript{78} Amy L Byrd and Stephen B Manuck "MAOA, Childhood Maltreatment, and Antisocial Behavior: Meta-analysis of a Gene-Environment Interaction" (2014) 75(1) Biological psychiatry 9 at 13.


\textsuperscript{80} Aslund and others, above n 12, at 262-263.

\textsuperscript{81} Caspi and others, above n 16, at 853.

\textsuperscript{82} At 853.
maltreated males with the low–MAOA activity genotype were more likely than nonmaltreated males with this genotype to be convicted of a violent crime by a significant odds ratio of 9.8.” Based on that finding, some scholars speculated that a group of individuals with MAOA-L+SM, had a nine times greater predisposition to ‘antisocial behaviour’ than other groups.

Finally, the Caspi Study mentioned the caveat that the research should be replicated to ensure the reliability of its results. It suggested that:

> Replications of this GXE interaction are now needed. Replication studies should use valid and reliable ascertainment of maltreatment history and should obtain multiple measures of antisocial outcomes, in large samples of males and females. … Until this study’s findings are replicated, speculation about clinical implications is premature.

After the discovery of the effect of GxE on ‘antisocial behaviour’, several studies attempted to replicate the original result of the Caspi Study. While the Caspi Study only sampled males in New Zealand, the following studies attempted to sample both male and female participants in other parts of the world. There is no space to examine all those studies extensively here. I can only summarise the result of the most recent meta-analysis, which is a quantitative approach that combines the results of different research on the same topic. The 2014 meta-analysis, which was based on the previously published papers, including the Caspi Study, posited that MAOA-L alleles are related to ‘antisocial behaviour’ for males who were harshly maltreated as children. However, such a result was less consistent for females. Finally, as the 2013 meta-analysis suggested, the result of the Caspi still stands up to replication.

**The view of the media on MAOA after the Caspi Study**

The publication of the Caspi Study on the MAOA gene generated considerable interest in the popular media. In 2004, a scientific journalist, Ann Gibbons, in an article in *Science*

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83 At 853.


85 Caspi and others, above n 16, at 853.

86 J Lau, JP Ioannidis and CH Schmid "Summing up Evidence: one Answer is not Always Enough" (1998) 351(9096) Lancet 123 at 127.

87 For a detailed discussion of studies attempting to replicate the result of the Caspi Study, see Byrd and Manuck, above n 78, at 13.

88 At 16.
magazine, coined the term ‘warrior gene’ for the MAOA gene. She was writing not as a scientist, but as a populariser of science for ordinary people. In describing the gene in this way, Gibbons seemed to be implying that the gene causes, or is responsible for, aggression. The way in which she described the research led readers to concentrate on the term ‘warrior gene’, instead of the biological meaning and the importance of the gene.

Violence captures the imagination of readers; therefore, popular media gravitated towards the ‘warrior’ label and the violent feature of the gene. Headlines like these began to appear in media sources: “Man’s Genes Made Him Kill, His Lawyers Claim”, “Children and Violence: the Search for a Murder Gene” and “Dangerous DNA.”

In addition, racial stereotyping raised its unpleasant head with regard to the ‘warrior’ gene. For instance, the result of some studies which involved Māori people led to stereotyping of this native population of New Zealand. One study, which examined 17 Māori individuals to find the frequency of MAOA-L, purported to indicate that MAOA had already been “… strongly associated with risk taking and aggressive behavior” and was “… strikingly over-represented” in Māori males. On the basis of that study, several media outlets ran stories claiming that Māori males were inherently predisposed to “… violence, criminal acts, and risky behavior.” This was made worse when Rod Lea, the lead researcher of the study, was widely reported as suggesting that the MAOA gene “… goes a long way to explaining some of the problems Māori have. Obviously, this means they are going to be more aggressive and violent and more likely to get involved in risk-taking behaviour like gambling.” The potential stigmatic effect of such a study was compounded by media headlines.

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90 S Pinker "Genetics: are Your Genes to Blame?" Time (online, 20th January 2003).

91 MD Lemonick and A Park "Children and Violence: the Search for a Murder Gene" 20th January 2003)

92 E Yong "Dangerous DNA: the Truth About the 'Warrior Gene'" New Scientist Magazine (online, 7th April 2010) at 2755.

93 Hall D and others "Tracking the Evolutionary History of the Warrior Gene in the South Pacifc" (Paper presented at the 11th International Human Genetics Meeting, Brisbane, Australia, 2006). The abstract of the paper is not accessible and the quotation has been taken from Merriman and Cameron, above n 14.

94 Cited in Merriman and Cameron, above n 14.


96 After releasing such a headline, the authors of the study on Māori people announced that much of the controversy was unjustified and was due to an amalgamation of misinterpretation and mis-quotes of their study, reported in R Lea and G Chambers "Monoamine Oxidase, Addiction, and the 'Warrior' Gene Hypothesis" (2007) 120(1250) New Zeal Med J u 2441 at u 2441.
Finally, the appearance of the Caspi Study in a well-known film, “Born to Rage?”, produced by National Geographic, captured people’s attention on the issue of the MAOA gene. Transcript of the film is as follows:97

For a long time there were a lot of central debates about nature versus nurture, everything is caused by the environment in which we grow up or everything is caused by your biological predisposition.

Until recently, the scientific consensus leaned toward nurture, it’s our upbringing and environment that determines our behavior, and as society it’s something we can try to put right. But in recent years a new breed of genetic scientists is challenging that conventional wisdom like never before. The discovery of the warrior gene suggests that nature has a far bigger influence on our behavior than we would ever imagine.

The effect of GxE on reduced self-control

Following the publication of the Caspi Study, some scientists have attempted to provide explanations for why MAOA levels might affect behaviour.98 For instance, Meyer-Lindenberg and his colleagues analysed the interaction between specific structures of the brain – including the amygdala and orbitofrontal cortex.99 These brain regions are generally accepted as being effective in controlling behaviour.100 Scientists have identified that MAOA-L males have an eight per cent decrease in the volume of the anterior cingulate and the orbitofrontal cortex.101 Furthermore, the MAOA enzyme is involved in the breakdown of neurotransmitters102 such as dopamine and serotonin. It has been posited that dopamine and serotonin play a role in maintaining mood balance and

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100 Raine, above n 98, at 260; L M Williams and others "A Polymorphism of the MAOA Gene is Associated with Emotional Brain Markers and Personality Traits on an Antisocial Index" (2009) 34(7) Neuropsychopharmacology 1791. In the above, I tried to simply outline how various brain structures may be involved in controlling cognitive and behavioural risk factors for aggression. For more information see Raine, above n 98, at 260.

101 Meyer-Lindenberg and others, above n 99, at 6271.

102 Neurotransmitters are endogenous chemicals that transmit signals from a neuron to another neuron: Brenner, Miller and Broughton, above n 4 at 4.
the ability to exercise self-control. The MAOA-L form of the gene appears to have reduced expression, and therefore perhaps reduced effectiveness, at metabolising of such neurotransmitters. Further, the Caspi Study indicated that MAOA-L individuals who had been harshly maltreated have a higher tendency to exhibit ‘antisocial behaviour’ than other groups in the study. There is, therefore, quite compelling evidence that MAOA-L+SM has some effect on brain functions; specifically, it may affect areas related to behavioural control. To sum up, there is evidence to support the contention that MAOA-L+SM does reduce the ability to self-control, and there are several possible explanations for this.

**Criminal cases following the Caspi Study**

Between 2006 and 2011, four criminal accused sought to make use of evidence presented by the Caspi Study. As mentioned before, in *Mobley*, the court rejected an analogy between his family and the sample family of the Brunner Study, and did not accept the MAOA test. In the cases following *Mobley*, other courts accepted GxE evidence or MAOA alone. In those cases, which I will discuss next, the accused introduced evidence of MAOA alone, or a combination of MAOA-L+SM.

An anonymous case

Bernet and his colleagues arranged for MAOA and other genetic testing of 15 criminal accused. The study took place between August 2004 and October 2006 at the Faculty of Vanderbilt Forensic Services in Tennessee. In the case of one accused, referred to by the authors as DD, the court accepted evidence of MAOA-H and the evidence of one other gene. This case is important because the court found the genetic information useful. It stated;

> The Court recognizes … the possibility that this information … might have influenced the jury’s decision in the penalty phase of the trial as to whether to select death as the proper punishment for [an anonymous accused]. … The Court finds, as a matter of law, that the expert services sought are necessary to ensure that the constitutional rights of the Defendant are properly protected.

As can be seen in this case not only was the genetic test accepted, but the court mentioned that it might be considered an expected element of a person’s defence. As I


104 Shih, Chen and Ridd, above n 15, at 197-198.


106 At 1369.
mentioned in the Chapter’s Introduction, my purpose is to review genetic-based defence cases. Without criticising the court’s decision in the DD case, and bearing in mind that the complete report of the case is inaccessible, it seems that the court recognised the evidence of MAOA-H. Yet, the Caspi Study has suggested that the combination of MAOA-L+SM has a greater tendency to ‘antisocial behaviour’ than other groups, including MAOA-H. Without criticising the decision of the court, it is worth mentioning that the evidence of MAOA-H was accepted, although it is the MAOA-L version that has been associated with antisocial behaviour.

The Waldroup case

In Waldroup, the court not only accepted the MAOA evidence during the guilty phase of the trial, but the court took the evidence into consideration when reducing the charge from first degree murder (a capital sentence) to voluntary manslaughter.107 In 2006, Bradley Waldroup shot his ex-wife’s friend eight times with a rifle and sliced her head open with a machete. Waldroup then chased after his wife with a machete and chopped off her finger.108 In 2008, the Polk County charged him with several crimes including first degree murder. Waldroup conceded that he killed his ex-wife’s friend and attacked his wife.109

Waldroup’s lawyer presented evidence of psychiatric examination and genetic test which indicated that Waldroup had the MAOA deficiency. The lawyer claimed that: “His genetic makeup, combined with his history of child abuse, together created a vulnerability that he would be a violent adult.”110 In addition to the genetic claim, his lawyer claimed that Waldroup was suffering from intermittent explosive disorder, that he was depressive and that he acted in the heat of passion.111

The trial judge’s instruction to the jury is not clear because the case report is unpublished. After hearing Waldroup’s claim of MAOA, history of childhood maltreatment, depression and intermittent explosive disorder, the jury decided that his conduct was significantly affected by his genetic and psychiatric makeup and found him guilty of

107 Because the Polk County sentenced the accused, the report was not published by two of the main legal databases, Lexis Nexis and Westlaw. The available resource citing the trial court of the case is a newspaper: Barbara Bradley Hagerty "Can Your Genes Make You Murder?" (2010) . The audio version of the testimony of psychiatrists and the defence attorney and lawyer is available from: http://www.npr.org/player/v2/mediaPlayer.html?action=1&t=1&islist=false&id=128043329&m=128232579. (Accessed 28 October 2012) at 110.

108 At 110.
109 At 110.
110 At 110.
111 At 110.
voluntary manslaughter instead of murder.\textsuperscript{112} Because the trial court’s judgment is inaccessible, the precise effect of the evidence of MAOA and SM on the jury’s decision is not clear. Finally, the judge sentenced Waldroup to thirty-two years imprisonment and the Court of Appeal upheld this.\textsuperscript{113}

The \textit{Bayout} case

Abdelmalek Bayout was an Algerian Muslim citizen who immigrated to Italy in 1993. In 2007, Bayout was assaulted by a group of South American youths over the kohl eye make-up he was wearing for religious reasons.\textsuperscript{114} After verbally abusing him, the group attacked him physically, inflicting bruises and cuts. Thereafter, Bayout went to his house, changed his clothes and bought a knife. Bayout followed the victim – a Colombian man living in Italy – in the street, repeatedly stabbed him, and killed him. Bayout acknowledged he committed the crime but claimed he mistakenly believed the victim was one of his assailants.

Bayout was examined by psychiatrists several times. Those examinations posited that he was suffering from personality disorders with cognitive-intellectual disabilities. The Italian court held that Bayout was guilty. It sentenced him to nine years and two months in prison on the basis he had significant difficulties in understanding and controlling his actions. On appeal, the evidence of genetic deficiencies and a vulnerability to impulsive behaviour was introduced as follows:\textsuperscript{115}

This investigation, by all means innovative compared to the level of in-depth examination in the ordinary judicial investigations, would have allowed to verify that the defendant ‘shows to have, for each one of the … [gene] taken into consideration, at least one, if not both alleles that, according to many international researches recorded in this field, have been held responsible for the significant increase of the risk to develop an aggressive, impulsive (socially unacceptable) behaviour. Moreover, carrying the allele with a low range activity for the gene MAOA

\textsuperscript{112} The Tennessee Code defines “voluntary manslaughter” as “the intentional or knowing killing of another in a state of passion produced by adequate provocation sufficient to lead a reasonable person to act in an irrational manner.” Tenn. Code. Ann., § 39-13-211.


\textsuperscript{114} \textit{Bayout v Francesco} 2009, RGAssise App. 6/2008 RGNR1685/2007, RG. sent 5, dd 18 settembre 2009. [Internet]. Available from: http://www.personaedanno.it/attachments/allegati_articoli/AA_016153_resource1_orig.pdf [Accessed 6 January 2014] at 4. The translation of this case was obtained from the original document in Italy.

\textsuperscript{115} At 4. The translation of this case was obtained from the original document in Italy.
(MAOA-L) could make the subject more likely to manifest aggressiveness if provoked or socially marginalized.

As to the environmental factor, the defence pointed to the fact that Bayout grew up in a different culture and in Italy he had been marginalised. However, the Appeal Court rejected that argument, holding that: “The cultural differences and his religious faith cannot set up a justification for a homicide aggression executed with a knife after the provocation of the mock.” However, it did accept the MAOA-L evidence and reduced the sentence from nine years and two months of detention to eight years and two months.

The Albertani case

In 2009, Stefania Albertani, a twenty-year-old Italian woman, killed her sister and then destroyed her corpse. She then attempted to kill her parents. Albertani was charged with several crimes, including murder of her sister and attempted murder of her parents. It was self-evident that the accused killed her sister. She claimed that she was unable to control her impulses and understand her action. The court ordered a scientific examination to determine her ability to understand and to exercise self-control.

Full psychological, neurological and genetic tests were conducted on Albertani. The result of the genetic test posited the presence of MAOA deficiency and susceptibility to impulsivity. In addition to MAOA, other genetic factors associated with increased impulsivity were identified:

According to international science research, ... unfavourable genetic deficiencies [including MAOA] are associated with a more significant risk of impulsive, aggressive and violent behaviour.

After the court took into account all types of evidence, encompassing psychological, neurological and genetic evidence – Albertani did not introduce evidence of environmental maltreatment – the court determined that she had committed the crimes while her ability to exercise self-control was significantly impaired. It held that the punishment for the crimes should be reduced from life imprisonment to thirty years in jail.

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116 At 4. The translation of this case was obtained from the original document in Italy.


118 The exact Italian term for this is: ‘parziale incapacita di intendere e volere’.

119 It is not evident from the report of the case whether Albertani had MAOA-L activity or MAOA-H activity.

120 Gip di Como, above n 117.
because of several factors, including MAOA. This case was the second in which an Italian court accepted the MAOA evidence.

Without criticising the decision in Albertani, two points about it are worth mentioning. Firstly, Albertani was a woman. Not only the Caspi Study, but also the majority of studies which tried to replicate the result of that Study, found the effect of GxE interaction on ‘antisocial behaviour’ among males only. A few studies sampled females but they could not replicate the finding of the Caspi Study. In other words, they could not indicate that MAOA-L is related to ‘antisocial behaviour’ in females who were severely maltreated. Secondly, Albertani did not introduce any evidence about her environmental maltreatment and it seems that the court did not elaborate on that type of evidence. However, as noted already, the combination of both GxE has some effect on the predisposition to ‘antisocial behaviour’, not MAOA alone. It is interesting to ask how the court was persuaded to accept MAOA evidence on behalf of a woman with no evidence of environmental maltreatment.

**Conclusion**

In the 1960s, as part of a genetic-based defence, several accused attempted to rely on scientific speculations about the possible connection between the possession of an extra Y chromosome and ‘antisocial behaviour’. In the majority of cases, the claim of XYY was rejected by criminal courts because of the lack of scientific support to posit the link between XYY and ‘antisocial behaviour’. In contrast, the accused based on MAOA evidence, after an initially unpromising start, have had more success. Typically, such claims have relied on evidence of the MAOA-L variant of the gene, accompanied by evidence of childhood maltreatment. However, in the most recent instance – the Albertani case – the Italian court accepted the genetic evidence without supporting evidence of environmental maltreatment.

As mentioned in this Chapter, there are some explanations for why GxE might affect behaviour. Some theories speculate that GxE can reduce the ability to exercise self-control, which can be expressed as a tendency to ‘antisocial behaviour’. As a result, I will focus on the claim of loss of self-control which was triggered by GxE evidence and I will assess that claim in Chapters Four and Five. Before doing so, in Chapter Three, I will consider the claim of genetic determinism. Some scientific literature, like the Caspi Study, suggests that genetic factors, along with environmental factors, affect an individual’s conduct, like a tendency to ‘antisocial behaviour’. Someone might therefore

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assume that genetic and environmental factors are deterministically manipulating individuals and individuals have no free will. If that were accepted, saying that people are responsible agents is fundamentally problematic. In the next Chapter, I will try to find the legal response to such a deterministic claim which undermines the foundation of criminal responsibility.
Chapter Three: theoretical basis of criminal law: responses to the claim of scientific determinism

Scope of the Chapter
The main question in this Chapter is: in response to the vexing question of free will and determinism which has burgeoned with new advances of science, what approach does the law take?

What is at stake in the debate over free will

Determinism and free will
To understand what is meant by determinism and free will, consider the following example. A, a defence lawyer, got up and ate breakfast. Then, he checked his diary and noticed that he needed to prepare a letter to defend his client. A picked a pen up and started to write a letter. Two different accounts can describe A’s action of writing a letter:

Firstly, after eating breakfast, A got energy from the food, his schedule showed that he needed to prepare a letter. A’s motivation to prepare a letter to defend his client (proving the client’s innocence, earning money, and so on) had some effect on the action of writing a letter. These motivations activated the endocrine system (the system of glands each of which secretes various types of hormones directly into the bloodstream) and the nervous system (which coordinates the actions of, and transmits signals between, various parts of the body). The presence of paper and pen was the last factor in the chain of events. On this account, A’s writing of a letter could be explained in this way: several conditions were involved in the action of writing; such that, given those conditions, nothing else could happen. Therefore, as a theoretical matter, it is reasonable to assert the process of decision making for writing a letter in this manner: writing a letter is itself, in every situation, fully determined by factors beyond the control of a writer, and A could not have done otherwise. From a philosophical point of view, this description is called determinism.¹

¹ See generally John Hospers "What Means This Freedom?" in Bernard Borofsky (ed) Free Will and Determinism (Harper and Row, New York, 1966) 357 at 359. Determinism represents the idea that all human actions are the “product of the broad array of causal factors that govern the choices we make” and are thus determined by the causal elements leading to human choices. A Jeffery Kovnik "Juvenile Culpability and Genetics" in Jeffrey R Botkin, William M McMahon and Leslie Francis (eds) Genetics and Criminality: the Potential Misuse of Scientific Information in Court (American Psychological Association, Washington, 1999) 211 at 213 (emphasis added). It needs to be mentioned that there are different definitions and explanations of the term determinism. It is not the aim of the current thesis to
Broadly speaking, determinism claims the following:

1- All events have an antecedent cause.
2- All human actions are events.
3- Hence, all human actions are caused by antecedent events.
4- If events are caused, they are deterministically caused, or in some way necessary.
5- Hence, human beings are not free to choose an action from an array of possible events.

In contrast, the second account describes that even though several factors; including digesting breakfast, getting energy from food, noticing the appointment, motivation to defend a client’s innocence, earning money and the presence of pen and paper have provided the preliminary elements for writing a letter, at the final step, A freely decided to write a letter. On every occasion, A could stop himself writing a letter and do something else. This type of explanation, from the philosophical perspective, is called free will.

Free will and determinism seem to contradict each other. If A had free will, his action was not determined. Similarly, if A’s action was deterministically caused, he had no free will over his action and no alternative than to behave as he did.

The tension between free will and determinism is certainly not a new one, and it has been widely debated throughout history. However, the introduction of behavioural genetics and ‘genetic-based defences’ which challenge the responsibility of an actor, have made the dispute especially topical and important for legal scholars. Some scholars argue that the behavioural scientific view of humans, as physical mechanisms whose behaviour is controlled by laws of nature, undermines the idea of free will.

For instance, review all of them, rather the goal is to review a simple definition of determinism for the law. For more information on various definitions of determinism see Paul Edwards The Encyclopedia of Philosophy (The Macmillan Company & the Free Press, New York, 1967) at 359-378. To see a list of varieties of determinism see Bob Doyle Free Will: the Scandal in Philosophy (I-Phi Press, Cambridge, 2011) at 145.

Similar to the explanation on the definition of determinism, it needs to be stressed that there are several concepts of free will and it is not the aim of the current Chapter to discuss them. Rather, just providing a simple definition for the law is important here. For detailed elaboration on free will see Edwards, above n 1, volumes 1-2 at 359-378 and Volumes 3-4 at 221-225.

For some reading on the history of determinism and free will see Ilham Dilman Free Will an Historical and Philosophical Introduction (Routledge, London, 2013).

Blumoff addressed MAOA and argued that, sometimes, individuals with the MAOA deficiency, who do not generally reach the level of gross and verifiable psychopathology, genuinely could not choose to act otherwise. The deterministic model can also be extended to the field of cognitive neuroscience and neurology. In this Chapter, instead of focusing on the deterministic account developed from the genetic-based defence of MAOA, I will focus on the deterministic account of cognitive neuroscience. In particular, I will concentrate on a study by Libet which is one of the more notoriously debated studies in terms of deterministic reason for decision making. Generally speaking, the deterministic accounts of cognitive neuroscience and genetics are similar: they both claim that because of scientific factors, humans’ actions are deterministically determined. Therefore, the debate over cognitive neuroscience is extendable to genetics.

**How the debate over free will and determinism became a hot topic again**

Scientific examinations of how the brain works during decision-making have achieved a lot of progress, and attention, in recent years. They have also featured some contentious claims. One of the most influential, and contentious, derived from the works of Libet and his colleagues (the Libet Studies). In a pioneering experiment, Libet and colleagues applied neurophysiological methods to examine the connection between the...
electrophysiological brain activity connected with voluntary movements and conscious intentions. The focus of the research was the temporal relationship between movement-related brain potentials, as monitored with electroencephalogram (EEG), and the conscious feeling of intending to do. Therefore, the main question was: when do individuals become aware of their own decision to do a particular action?

Libet and co-authors developed a method to compare subjective self-reports with brain activity. In the experiment, researchers asked participants to sit in front of a screen displaying a clock with a speedily moving marker and participants were requested to execute a rapid action spontaneously (a wrist flexion), at will. Then, participants were requested to report what time it was (determined by the position of the marker on the clock) that they had the first subjective experience of intending to act (see graph 3.1). Libet referred to this time as the will judgment (w-judgment). Simultaneously, movement-related cortical potentials were monitored by sensors situated on participants’ scalp.

Graph 3.1. Diagrammatic representation of Libet’s clock. A cursor is moving clockwise around a clock face. 1) Participants make a spontaneous and voluntary finger action while watching a cursor. 2) At the variable time after finger action, the cursor stops. 3) Finally, participants were asked to report the position it was once they had the first intention to make the action.

Libet mostly stressed on cortical potential or readiness potential (RP). The RP is an increasing negative potential which begins up to 2 seconds prior to voluntary and spontaneous actions. In Libet’s experiment, participants’ voluntary actions were preceded by the RP starting 500 ms to around 1000 ms prior to action onset. The w-

9 Benjamin Libet and others "Time of Conscious Intention to Act in Relation to Onset of Cerebral Activity (Readiness-Potential). The In conscious Initiation of a Freely Voluntary Act" (1983) 106(3) Brain 623.

10 Movement-related brain potential is normally interpreted as an electrophysiological sign of preparation, initiation and planning of voluntary action, and it has been replicated with a various form of bodily actions, including flexing a finger or wrist and vocalizing a syllable. See Andrew M Colman A Dictionary of Psychology (Oxford University Press, Oxford; New York, 2006).
judgment, referring to the time when participants had their first intention to act, was roughly 200 ms before the motor response. Finally, the brain potentials reflecting motor preparation started about 300 to 800 ms before the individual consciously intended to act. On the face of it, Libet and coauthors, reached the conclusion that conscious intentions are a latecomer in the process of decision-making rather than the beginner of the action. On this basis, in their following studies, Libet and colleagues contended both that; “… the brain ‘decides’ to initiate or, at least, to prepare to initiate the act before there is any reportable subjective awareness that such a decision has taken place” and, “… if the ‘act now’ process is initiated unconsciously, then conscious free will is not doing it.”

Finally, the Libet Studies concluded that; “… our overall findings do suggest some fundamental characteristics of the simpler acts that may be applicable to all consciously intended acts and even to responsibility and free will (if the latter do exist).” The Libet Studies claimed that their studies indicated that individuals’ decisions to act were previously decided and initiated by their unconscious mind. The mind unconsciously decides to act. Therefore, the existence of free will was directly challenged by the Libet Studies.

The findings of the Libet Studies have been used by several scholars in defending their theses that free will is an illusion; using their results to indicate that the decision to act is made unconsciously, before any awareness of conscious will. The Libet Studies have often been used to say that we lack free will. Azim Shariff and colleagues reported that; “Almost all of the works involved in the recent deluge of anti-free will arguments

11 Libet and others, above n 9.
12 Libet, above n 8, at 536.
13 Libet and Searle, above n 8, at 62 and Libet, above n 8, at 136 (emphasis added).
14 Libet, above n 8, at 563 (emphasis added).
have referenced” the Libet Studies. The editors of a volume ‘Does Consciousness Cause Behavior?’ described the Libet Studies as: “The wide promulgation of two new lines of genuinely scientific … evidence has seized the philosophical and scientific imagination and again brought the whole question [whether conscious causes behaviour] to the forefront of intellectual debate.” The Libet Studies have reignited the debate over free will and determinism, and opened the door to a series of questions, many of which have challenged legal scholars.

Several intellectuals have endorsed the Libet Studies. In reference to a handful of them, Libet mentioned: “… many of the world’s leading neuroscientists have not only accepted our findings and interpretations, but have even enthusiastically praised these achievements and their experimental ingenuity”; Libet specifically named twenty such individuals.


17 Susan Pockett, William P Banks and Shaun Gallagher Does Consciousness Cause Behavior? (The MIT Press, Cambridge, 2009) at 1. The quotation by Pockett locates both Libet and Daniel Wegner at centre stage in the controversy about human action. Daniel Wegner, a psychologist, is supporting the idea that free will is just an illusion. In the introduction to his 2002 book ‘The Illusion of Conscious Will’, Wegner states; “The idea of conscious will and the idea of psychological mechanisms have an oil and water relationship, having never been properly reconciled. One way to put them together – the way this book explores – is to say that the mechanistic approach is the explanation preferred for scientific purposes but that the person’s experience of conscious will is utterly convincing and important to the person and so must be understood scientifically as well. The mechanisms underlying the experience of will are themselves a fundamental topic of scientific study. We should be able to examine and understand what creates the experience of will and what makes it go away. This means, though, that conscious will is an illusion. It is an illusion in the sense that the experience of consciously willing an action is not a direct indication that the conscious thought has caused the action. Conscious will, viewed this way, may be an extraordinary illusion indeed – the equivalent of a magician’s producing an elephant from folds of his handkerchief.” Wegner, above n 15, at 2-3 (emphasis in original).


19 Benjamin Libet "The Timing of Mental Events: Libet's Experimental Findings and Their Implications" (2002) 11(2) Conscious Cogn 291 at 292. Libet mentioned the name of some of them as: Journal of Neurophysiology, Science, Electroencephalography and Clinical Neurophysiology, Brain, etc.). Individual
In spite of the above-mentioned endorsements, some scholars argue over the methodological and scientific weaknesses of the study. For instance, the work of Pockett and Purdy is worth explanation here. The method that Pockett and Purdy used in their studies was slightly different from the Libet Studies. The Libet Studies demonstrated that event-related potential associated with a spontaneous action (the readiness potential or the RP) commences approximately 350 ms before the subject reports having consciously willed the action. In contrast, Pockett and Purdy demonstrated that when the same action is made not spontaneously but as the result of a particular decision, the RP preceding the action becomes so much shorter that it commences at around the same time as the reported conscious decision to make the action. This may be explained by the fact that the earlier-onset parts of the RP related more to expectation or readiness (to act) than to the initiation of a particular action. As Pockett explained: “…the subject is so occupied with actually making the required (fairly complicated) decision that they have no processing capacity to spare for getting ready to move.” The results of Pockett and Purdy’s study, countering the findings in the Libet Studies, indicate that consciousness does directly cause actions.


20 Pockett and Purdy are referencing to the work of Libet and colleagues in 1985. In that experiment, subjects were regularly encouraged to flex their wrists whenever they wished. In these subjects, who do not report any ‘preplanning’ of flexing, electrical readings from the scalp (EEGs), show a shift in ‘readiness potentials’ (RPs) that starts around 550 milliseconds (ms) before muscle motion Libet, above n 8, at 529-530. These groups called ‘type II RPs’ at 531. Subjects who were not regularly encouraged to act spontaneously or who report some preplanning, initiate RPs that start around half a second earlier (type I RPs). The same result was applicable to subjects instructed to flex at a ‘preset time’. Moreover, subjects were instructed to “recall … the spatial clock position of a revolving spot at the time of [their] initial awareness” of something, Y, that the Libet Studies illustrated as a decision, intention or wish to move at 529. In the case of type II RPs, ‘RP reset’ precedes what the subjects report to be the time of their initial awareness of Y by approximately 350 ms. Reported time of the intention to act, then precedes the start of muscle motion by around 200 ms (see below graph).

To paraphrase, the subjects’ brains, unconsciously, initiated and decided the muscle motion about 350 ms (the gap between RPs and reported time in the above graph) prior to the time the subjects became aware of the movement at 563.

21 Susan Pockett "If Free Will did not Exist, it Would be Necessary to Invent it” in Gregg D Caruso (ed) Exploring the Illusion of Free Will and Moral Responsibility (Lexington Books, United Kingdom, 2013) 250 at 268.

Chun Siong Soon and colleagues expressed another methodological critique. They stated that the methodology of the Libet Studies can be criticised with respect to both the reliability of subjective reports as measurements of the initiation of the conscious decision and with respect to the hypothesis that the RP is a causally sufficient reason for the action. This latter point is relevant because the Libet Studies concentrated only on the supplementary motor area. Furthermore, the Libet Studies examines only one of the variables engaged in conscious decision-making – the ‘when’ rather than the ‘what’ of the action. In a similar line of investigation, Daniel von Wachter in his recent article entitled “Libet’s experiment provides no evidence against strong libertarian free will because readiness potentials do not cause our actions”, argues that the RP does not cause human’s action and the Libet Studies are fundamentally flawed. Lastly, the Libet clock method has received significant criticism. As a conclusion, the method of the Libet Studies is subject to considerable criticism.

Along with methodological doubts, some scholars have rejected the Libet Studies substantially. For instance, Grant Gillett fundamentally challenged the Libet Studies. Gillett expressed some substantial objections, to the Libet Studies’ conclusion that human behaviour can be explained as a result of physicalist determinism. These objections turn on the role of the contents of thoughts and experiences in describing human behaviour. He believes that mental or physical content is correlated by role-following and not just causal laws. By role-following he means “… an activity which invokes the role of the thinker as rational agent and this is not a causal type of


24 At 545.

25 Daniel von Wachter "Libet's Experiment Provides no Evidence Against Strong Libertarian Free Will because Readiness Potentials do not Cause our Actions” (2012) Not yet accepted.


27 For more elaboration on methodological critiques see Alfred Mele who argues that the Libet Studies are methodologically flawed. Namely, (1) the Libet Studies vary widely from trial to trial, even from individual participants, and (2) the report time of the initiation of conscious awareness of intention can be manipulated by stimulation to the brain after action. See Alfred R Mele Effective Intentions: the Power of Conscious Will (Oxford University Press, New York, 2009). For more elaboration on methodological weaknesses see Roskies, above n 22, at 129-140.
Finally, from Gillett’s perspective, neuroscience cannot claim priority (as claimed in the Libet Studies) in describing human behaviour.

Moreover, Alfred Mele in his recent book ‘Effective intentions: the power of conscious will’ argued with the Libet Studies. Mele reached the conclusion that the Libet Studies did not undermine the common-sense view that some conscious intentions cause the intended actions. Mele also argues with the definition of free will applied in the Libet Studies. Mele believes that free will in the Libet Studies was defined as ‘not coerced’, or that ‘the person could have done otherwise at the last moment’. However, his observation is that the existence of these types of free will is contentious. In another line of critique, Tim Bayne argued that “The discovery that Libet-actions are not freely performed would not itself show that none of our actions are freely performed, but it would go some way towards vindicating free will skepticism.”

To conclude, the Libet Studies have come under substantial criticism.

A legal reader might ask what conclusion could be drawn from the Libet Studies for the law. My answer is nothing at the present time. Three main reasons support my reply: firstly, the Libet Studies are methodologically debatable and contentious. Such a debate is ongoing. Secondly, even if the methodology of the Libet Studies is flawless, the conclusion of the study is not clear at the moment. As reviewed before, there are several substantial arguments against the Libet Studies which make drawing a conclusion for the law difficult. Thirdly and most importantly, it seems that the findings of the Libet Studies can be explained in this way: something was happening in the brain before conscious awareness of the action (finger movement) happens. However, that discovery would not itself indicate that voluntariness does not exist. In other words, the series of studies did not deny ‘the notion of responsibility’. Imagine that human nervous system, and genes, and endocrine system are like a jigsaw puzzle, the Libet Studies examined just one piece of that jigsaw puzzle, and is not sufficient to deny human voluntariness. Consider the critique of Chun Siong Soon and his colleagues who argue that the Libet

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28 Grant R Gillett "Free Will and Events in the Brain" (2001) 22(3) Journal of Mind and Behavior 287 at 287.

29 At 287. For similar argument see Grant Gillett Subjectivity and Being Somebody: Human Identity and Neuroethics (United Kingdom, Exeter, 2008) at 112-117.

30 Mele, above n 27. In the view of Mele, the common-sense view is the folk psychology view which will be described later in this Chapter. See generally Walter Sinnott-Armstrong and Adina Roskies "Alfred R. Mele's Effective Intentions: the Power of Conscious Will" (2010) 51(3) Phil Books 127 at 130.


32 The full description of the notion of responsibility will be mentioned later.
Studies only focused on supplementary motor area, without examining other parts of the brain. As a conclusion, in order to argue with the law, finding more robust evidence is required. A series of studies subject to such substantial criticism, is insufficient.

Taking determinism seriously: destruction of the blame and praise system

In the previous section it was shown that the determinist thesis holds that the actions humans perform have been caused by a chain of causation over which people mostly have no choice. If accepted, this thesis poses a fundamental challenge to many basic moral and legal principles. What are the consequences of such a thesis? Two major dilemmas need to be considered about the implications of such a deterministic approach for the general views about human freedom and responsibility.

The first concern is that the deterministic approach undermines people’s beliefs in human freedom and responsibility. More precisely, challenging the conception of people as responsible agents, that underlie many of our moral and legal beliefs and practices, including important parts of criminal law. The second concern is that the deterministic view undermines the justification for considering people as free, responsible agents, and erodes away the justification for the moral and legal principles and practices that embody this perspective. To paraphrase, the first worry is about the actual effect on beliefs and practices of freedom and responsibility; the second is related to the effect on justification of those beliefs and practices. Since undermining the justification for people’s beliefs and practices of freedom and responsibility also undermines people’s beliefs in them as well, both concerns are related to each other.

In most modern societies, humans conceive of themselves as responsible agents, morally and legally responsible. The conception that people have of themselves, as responsible agents is reflected in the value given to common moral beliefs, important legal and social institutions, practices and to individual autonomy or self-determination. This pervasive concept of self, as being responsible, is embodied in the practice of holding people morally and legally responsible for the actions that they perform. Proving and applying a deterministic view on individuals’ action would have disastrous consequences for these practices. If a deterministic view came to be accepted, it would,

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33 Soon and others, above n 23, at 543.


at first glance, leave no room for free will, and the entire system of blame and praise, and that of legal responsibility, would be rendered meaningless. If human action is not the product of choice, then where is the rationale for moral and legal blame and punishment? In other words, the current moral and legal system cannot survive in a deterministic universe.

In this section the major concern that threatens criminal responsibility has been identified. In the following sections, I will investigate how the dominant approach in criminal law, compatibilism, keeps room for responsibility, while taking determinist claims seriously.

**How compatibilism saves the day for responsibility**

*Libertarian free will and determinist views*

The debate about free will and determinism attracts a range of different perspectives. On one side of the debate, proponents of libertarian free will hold that, except for some conditions like unconsciousness or compulsion, humans are free and reject the notion of determinism. For proponents of this view, it is not hard to see how ideas of responsibility can be accommodated within the law. If we are (generally) free to choose how we act, then we can be held to account for the choices we make.

On the other side of the debate, for determinists, the issue is more difficult. The next section will explain how different schools of determinist thought (hard and soft determinism) have approached the question of responsibility for actions.

*Incompatibilist determinism and hard determinism*

Incompatible determinism is the doctrine that the deterministic world is completely in contrast with the notion that humans have free will. On this view, there is a dichotomy between determinism and free will, and philosophers must select one or the other. The logical conclusion is that individuals should be held responsible, only if they could have behaved otherwise than they did. So if this view of determinism is taken as true, and they could not have behaved differently, (because of a chain of events like genetic,

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36 It needs to be mentioned that a part of the practice of holding people morally responsible for their behaviour and also holding them legally responsible for conforming to the law, is a set of important attitudes that people internalise: guilt, shame, praise and pride. See generally John Rawls *A Theory of Justice* (Oxford University Press, Oxford, 1999).

neurology, psychological factors which are involved in manifestation of any action) people cannot be held responsible.  

Hard determinism, as one of the derivatives of incompatibilist determinism, denies that any free will exists. The theory of hard determinism holds that free will and determinism are inconsistent and people cannot be held responsible for their actions. Hard determinism does not explain or justify the notion of responsibility. It simply presupposes that genuine responsibility is metaphysically unreasonable. To explain hard determinism, consider the example of A, the lawyer from my first example, who wrote a letter. A supporter of incompatibilist determinism would go on to argue that A does not bear ultimate or genuine responsibility. Prior facts meant that A had no choice other than to write a letter; so there is no responsibility. It has, however, actually been found that the majority of philosophers do not believe that hard determinism is true.


1- Free will engages the capacity to choose how a person has acted otherwise than he/she did indeed.

2- Similar to all sorts of universal phenomena, human behaviour is causally determined. For instance, human behaviour was causally determined by genetic, neurological and psychological factors that are involved in manifestation of any action.

3- If human conduct is causally determined, then given primary conditions and causal rules, no person could ever have acted otherwise than he/she did indeed (some philosophers called this contra-causal free will which means that the decision is free if it is not causally determined).

4- Regarding 1, 2 and 3, it is fair to say that no person could ever act otherwise than he/she does. Hence, free will is a fallacy because individuals only be held responsible when they could actually have chosen otherwise.

5- If no person could ever act otherwise than he/she does, it follows that no person can ever justifiably be held responsible for his/her actions.

The above explanation taken from Brock and Buchanan, above n 34, at 67-68.

39 The other two theories of determinism are; libertarian which rejects that the universe is deterministic, and pessimistic incompatibilist which denies both that the universe is determined and that free will exists.


41 Morse, above n 38, at 16.

42 Anonymous "Philosophical Research Online". The PhilPapers Surveys. ([Internet]. Available from: http://philpapers.org/surveys/results.pl [Accessed 6 January 2015] (presenting the results of the 2009 survey of the professional philosophers which demonstrate that only a minority of them are believe in determinism).
**Soft or compatibilist determinism**

Soft or compatibilist determinism holds that “… determinism is true, yet responsibility is possible.”¹³ Unlike advocates of incompatibilist determinism, some believers in compatibilist determinism claim that the relevant notion of *could have done otherwise*, essential for free will and responsibility, is consistent with determinism.⁴⁴ On the other hand, some compatibilists would not agree with the *could have done otherwise* claim. Instead, they claim that humans are responsible for their actions because humans are not impeded in what they are trying to do. Ted Honderich, one follower of this type of theory, tried to solve the tension between free will and determinism in this way:⁴⁵

The solution of those who hold what we may call the compatibility theory is that these two beliefs [determinism and free will], contrary to what is supposed, are perfectly consistent. They can both be true. To see this we need only be clear about the correct meaning of the word ‘free’ and related words. The word ‘free’ is taken, by those who hold the compatibility theory, to mean something like ‘unconstrained’ or ‘uncompelled’, and it is claimed without fear of denial that there is no incompatibility between the claim that all decisions are the necessary consequences of preceding causes and the claim that in general we are not constrained or compelled to decide as we do.

Compatibilist determinism has three primary answers to incompatibilist determinism. Firstly, it has been contended that responsibility and related practices are formed by

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¹³ Stephen J Morse "Rationality and Responsibility" (2000) 74(1) S Cal L Rev 251 at 259. Morse mentioned that compatibilism is also called “soft determinism.”

⁴⁴ Wallace, above n 38; James Lenman "Compatibilism and Contractualism: the Possibility of Moral Responsibility" (2006) 117(1) Ethics 7 at 21. Lenman holds that responsibility is possible in a deterministic universe even if humans lack libertarian free will. Rachel J Littman "Adequate Provocation, Individual Responsibility, and the Deconstruction of Free Will" (1997) 60 Alb L Rev 1127 at 1134. Soft determinism posits that determinism and freedom are not incompatible. Compatibilists believe that freedom exists even if determinism is true. Thus, even if the individual’s character is partly produced by external or past events, the individual’s actions need not necessarily be caused by those events. Their actions are still ‘free’ to the extent that they are not compelled, even if are still committed according to the individual’s desires and wishes. Thus, social or environmental factors may influence a person’s character, but that does not prevent them being responsible for their actions that may nonetheless have some causal link to their character which is formed by factors beyond their control. See also Sue T Hegyvary "Freedom and Responsibility" (1991) 7(1) J Prof Nurs 7; Jay R Wallace Responsibility and the Moral Sentiments (Harvard University Press, Cambridge, Mass, 1994) at 58-62; and John Martin Fischer "Recent Work on Moral Responsibility" (1999) 110(1) Ethics 93 (all of the last three authors subscribe to the view that determinism is probably true, but believe that responsibility is still possible in a determined world).

human actions and they do not need to satisfy any metaphysical realities about genuine responsibility. Secondly, compatibilist determinism believes that positive doctrines of responsibility are consistent with determinism. Thirdly, compatibilist determinism holds that responsibility theories and practices are normatively consistent with legal theories. In sum, returning to the example of A’s letter, from a compatibilist point of view, the action of writing a letter was the product of deterministic causal forces, but A was responsible for writing anyway. Several philosophers believe in soft determinism.

The compatibilist position was nicely summarised by Honderich. He defines a free action as:

… one that flows from the desires, personality and character of the agent, rather than being somehow against those things. The agent is not in jail, not the victim of a man with a gun, not subject to an inner compulsion he wants not to have. He is acting in such a way that his actions in a clear sense flow from himself.

Honderich goes on to define that, such a free action “… is indeed logically consistent with determinism. Determinism doesn’t say that there are no actions that flow from the agent. It just says that there is some causal background that fixes the outcome.”

In order to understand differences between compatibilism and incompatibilism and hard and soft determinism, see table 3.1.

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48 Morse, above n 46, at 443-444.

49 The theory of compatibilism is supported by many philosophers. See Morse, above n 46, at 260. Compatibilism was predominant among many philosophers and legal theorists. See, for example, Daniel Dennett Elbow room: the Varieties of Free Will Worth Wanting (Clarendon Press, Oxford, 1984) at 153-172. John Martin Fischer The Metaphysics of Free Will: an Essay on Control (Blackwell, Cambridge, Mass, 1952). Harry G Frankfurt "Freedom of the Will and the Concept of a Person" (1971) 68(1) J Phil 5 at 18-20; Anonymous, above n 42 (Representing the results of the 2009 survey of the professional philosophers which show that most of them are either compatibilists or tend toward compatibilism).

50 Julian Baggini and Jeremy Stangroom What Philosophers Think (Continuum, London, 2003) at 174 (emphasis is in original).

51 At 174 (emphasis in original).

52 One difference between libertarianism and compatibilism needs to be stressed here. Libertarianism rejects the evidence of determinism but compatibilism suggests that it does not matter whether determinism exists or not. The important issue is that compatibilism does not care about that.
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<th>Compatibilist</th>
<th>Incompatibilist</th>
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<tr>
<td>Believe in libertarian free will</td>
<td>Would still believe in responsibility even if wrong about free will.</td>
<td>Would have to reject responsibility if wrong about free will</td>
</tr>
<tr>
<td>Believe in determinism</td>
<td>‘Soft’ determinism: regards this as compatible with responsibility</td>
<td>‘Hard’ determinism: doesn’t accept responsibility, but would have to accept it if wrong about determinism.</td>
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Table 3.1. Compatibilist and incompatibilist views on free will and determinism

**How the law deals with free will and determinism**

After reviewing the various philosophical answers to the question of free will and determinism, it is essential to consider what approach the law takes to address this question. Several types of argument will be proposed to show the law’s approach.

*Legal compatibilism (LC): responsibility is possible and it is independent from determinism*

LC is the viewpoint which contends that questions of responsibility cannot be affected by claims about causation. From this view, *even if* determinism is true, responsibility can survive anyway. A legal scholar, Stephen Morse, defined LC as:

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53 Most scholars believed that determinism is completely compatible with criminal responsibility. See, for example, Peter F Strawson "Freedom and Resentment" in Gary Watson (ed) *Free Will* (Oxford University Press, Oxford, 1982) 78; Wallace, above n 38. It needs to be stressed that assessing the relationship between compatibilism adopted by philosophers and LC is not the centre of the current debate.

54 Anders Kaye "The Secret Politics of the Compatibilist Criminal Law" (2007) 55(2) U Kan L Rev 365 at 365-428. LC has been called “compatibilist criminal law” by Kaye. In the current thesis, the definition of LC is used in line with the meaning of the term as commonly used by legal scholars. At every point, that I want to put a different definition of LC, I will highlight that.

Our criminal responsibility criteria and practices have nothing to do with determinism or with the necessity of having so-called ‘free will’. Criminal responsibility involves evaluation of intentional, conscious, and potentially rational human action. And almost no one in the debate about determinism and free will or responsibility argues that we are not conscious, intentional, potentially rational creatures when we act. We may be deterministically caused to be the type of creature that acts intentionally, but determinism is not inconsistent conceptually or logically with the possibility of mind-brain causation of behavior. . . . Our current responsibility concepts and practices use criteria consistent with and independent of determinism.

Likewise, several other scholars have subscribed to the view of LC and suggested that LC is consistent with determinism.56

Hence, the law – at least in both New Zealand and English law (examples of these two jurisdictions will be provided later) – takes a neutral position in the debate over free will and determinism. In order to understand the difference between LC and the philosophical debate over free will and determinism, consider the example of writing a letter in two different situations.

In one situation, B writes a letter because he wants to tell his mother some good news. B has freely decided to write a letter and did so. In another situation, someone put a gun to B’s head and instructed B to write a letter or he would be killed. As a result, B was forced to write a letter.

56 See also Michael S Moore "Causation and the Excuses" (1985) 73(4) CLR 482 at 490-495 (investigating several compatibilist perspectives by which the truth of determinism is not seen as a challenge for the criminal law). Also Moore explained that “persons can be agents who act for reasons even in a world in which all mental states and all physical events are caused.”At 1127; Steven I Friedland "The Criminal Law Implications of the Human Genome Project: Reimagining a Genetically Oriented Criminal Justice System" (1997) 86 Ky LJ 303 (free will and moral responsibility should be embraced, even though deterministic genetic evidence of human behaviour is reasonable); Andrew E Lelling "Eliminative Materialism, Neuroscience and the Criminal Law" (1993) 141(4) U Pa L Rev 1471 at 1530-1539 (depicted how current legal concepts may be re-described without constructive changes even though determinism is true); Pilsbury mentioned “Regardless of the arguments that can be mounted against it, responsibility for choice is fundamental to the human condition; we cannot do without it.” Samuel H Pilsbury "The Meaning of Deserved Punishment: an Essay on Choice, Character, and Responsibility" (1992) 67 Ind L J 719 at 721; Fingarette explained that whatever degree of causality exists between different factors in the universe, the law’s level of concern is different. He suggested that LC was adopted against the attack of determinism. Addressing determinism and complexities of its definition and its relationship between free will, Fingarrette stated that “our task at this point is to note that the conclusions, whether valid or not, are fundamentally at variance with the criminal law, to see, in fact, that they are irrelevant to the criminal law:” Herbert Fingarette The Meaning of Criminal Insanity (University of California Press, Berkeley, 1972) at 73.
Our explanation of B’s writing of the letter in the two situations will be different from the perspectives of various doctrines. A determinist would argue that B’s actions in both scenarios were caused by factors beyond B’s control. An incompatibilist determinist would go on to argue that this means that in neither scenario does B bear *ultimate or genuine* responsibility for his conduct. Prior facts meant that B had no choice other than to write the letter. Of course, the precise nature of those prior facts differed between the scenarios, but in neither case did B have a real choice other than to write the letter, and in neither case should B be held responsible for writing it. Furthermore, the same would be equally true in the second case of the person whose threats coerced B into writing the letter. Nonetheless, the law, certainly New Zealand criminal law, would distinguish between these two scenarios. Section 24 of *the Crimes Act 1961* allows a defence of compulsion under circumstances like writing a letter under the force of a gun. Therefore, only in the first situation is B responsible for writing. B had consciously wanted to write and that decision led to his action. In contrast, because in the second scenario B acted under the threat of a gun, B is not responsible.

Importantly, this distinction has been drawn by the law *without explicit consideration* of whether determinism is true. This is despite the fact that incompatibilist determinist philosophy contends that in neither the first situation nor the second did B have any free will, and therefore should not be considered truly responsible in either. How, then, does the law reject this conclusion, while remaining neutral as to the truth of determinism?

Many scholars subscribe to beliefs within a grey zone of compatibilism.57 Compatibilism is a much disputed idea, both in terms of its definition and its logic as an approach to these types of questions. Nonetheless, it has almost certainly emerged as *the dominant approach* in courts and among philosophers. As such, in this thesis, I subscribe to a view common to all varieties of compatibilism: that responsibility is possible even if determinism is true.58 To support my argument, I will provide three reasons: firstly, the law avoids any direct involvement with questions of determinism and free will. Secondly, LC denies any incompatibility between determinism and

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responsibility. Thirdly, instead of dealing with determinism and free will, the law tries to distinguish between voluntariness and involuntariness.

The first reason: avoiding direct engagement with questions of determinism and free will

The ultimate question of free will and the debate over free will and determinism is never directly addressed by the law.\(^{59}\) Likewise, some questions that are related to determinism and free will, like whether people have genuine free will or whether the action was deterministically caused by a chain of events, have never been addressed by the law. As George Fletcher, a legal theorist, has written:\(^{60}\)

In order to defend the criminal law against the determinist critique, we need not introduce freighted terms like ‘freedom of the will’. Nor need we ‘posit’ freedom as though we were developing a geometric system on the basis of axioms the way we live.

In this thesis, I refer to ultimate questions of free will and determinism as ‘high level questions of responsibility’.

In contrast, there are other relevant questions for the law. As Morse pointed out:\(^{61}\)

… law addresses problems genuinely related to competence and responsibility, including consciousness, the formation of mental states such as intention, knowledge and comprehension, the capacity for rationality, and compulsion, but it never addresses the presence or absence of free will, the alleged ability to act uncaused by anything other than one’s own self.

Hence, questions like whether the accused had consciousness at the time of the crime, intended to commit a crime, or had knowledge to the nature of the crime are important for the law. In this thesis, these types of questions are referred to as ‘intermediate level

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\(^{59}\) Emphasis is placed on directly here because at least some scholars like Maureen Coffey, John Hill and Larry Alexander would argue that the law is underpinned by some major assumption about free will. Their claims will be highlighted and reviewed at the end of the Chapter.

\(^{60}\) George P Fletcher Rethinking Criminal Law (Little, Brown, Boston, 1978) at 801-802 (emphasis added). This view was shared by Morse. He suggested that solving the problem of free will and determinism “is not a criterion of any criminal law doctrine.” Stephen J Morse "Mental Disorder and Criminal Law" (2011) 101(3) J Crim L & Criminology 885 at 898. Similarly, Fingarette addressing determinism stated: “we need not enter into the nest of double meanings, non sequiturs, and unfounded assumptions of which these arguments largely consist.” Fingarette, above n 56, at 75.

\(^{61}\) Morse, above n 60, at 897. Many legal scholars stress that the law’s level of attention rests on the intermediate level of mental states. See generally Owen, above n 57, at 92.
questions of responsibility’ (see graph 3.2 for the distinction between these two different questions of responsibility and the level of law’s attention).  

Graph 3.2. Difference between two types of questions and the level of law’s attention.

The above claim – that the law never directly addresses ‘high level questions of responsibility’ and instead concerns itself with ‘intermediate level questions of responsibility’ – is not a new approach. Historically speaking, the oldest code of laws in the world, the Code of Hammurabi (about 1750 B.C.), recognised that people are responsible for their behaviour. For example, Hammurabi article 196 reads: “If a man has destroyed the sight of another similar person, they shall destroy his sight.” When someone caused the loss of someone else’s eye, the Code of Hammurabi did not ask whether the person’s behaviour has already been determined or whether he had free will. In addition, for non-responsibility, the law of Hammurabi did not examine whether the accused’s action was causally determined. Consider this situation in article 206 of the Code of Hammurabi: “If a man strikes another man during a brawl and inflicts upon him

62 The distinction between ‘high level questions of responsibility’ and ‘intermediate level questions of responsibility’ has been made by some other scholars. For instance, see Fingarette, above n 56, at 72-73.

a wound, he shall swear ‘I did not strike intentionally’, and he shall be responsible for the physician’ (i.e., pay his fees). According to this provision, the law considered that if a person unintentionally killed another, the person was not responsible (for murder). The law did not ask whether the action of the person was determined or whether the killer who swore that the action was unintended had free will. It is imaginable that people in Mesopotamia, where the Code of Hammurabi was applied, had speculated about the reasons for the action (describing the action in line with a chain of events, similar to a deterministic approach). However, the law did not pay attention to these questions and only examined ‘intermediate level questions of responsibility’.

The above approach has been followed and adopted in several modern legal systems. This Chapter will investigate the application of this approach to legal responsibility, in New Zealand and English law, in two different stages. Reported case law and legislation, within New Zealand and English legal systems, will be examined to find whether free will and determinism are considered in the legal criteria for assessing responsibility.

**Searching through legal cases**

Thorough searches through two of the main legal databases for both New Zealand’s and English reported online cases, showed that, nowhere did the courts make specific reference to free will as a reason to consider an accused as criminally responsible. Similarly, I found no case in which an accused was treated as being non-responsible because his/her action was (as a matter of philosophy) determined.

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64 Roth Martha Tobi *Law Collections from Mesopotamia and Asia Minor* (Scholars Press, Atlanta, 1997) at 122 (emphasis added).

65 For my search, I selected two keywords: ‘determinism’ and ‘free will’. For New Zealand law, I chose LexisNexis and Westlaw for my searches (cases in LexisNexis and Westlaw were dated back to 1880s and 1896 respectively). For English law, I used Westlaw (cases in Westlaw were dated back to 1500s). In both jurisdictions my search was confined to criminal cases. In both jurisdictions, among published cases which are available online, I could not find any case in which the courts cited either of two above-mentioned terms. In addition, I searched through New Zealand and English legislation to find whether free will and determinism were the legal criteria for responsibility and non-responsibility. I could not find anywhere in which free will and determinism were considered as legal criteria.

In addition, among main important legal sources, in New Zealand, I chose Bruce Robertson (ed) *Adams on Criminal Law* (looseleaf ed, Brookers) and Andrew Simester and Warren J Brookbanks *Principles of Criminal Law* (4th ed, Thomson Reuters, Wellington, 2012). For English law, I reviewed *Halsbury’s Laws of England*. Neither free will nor determinism was used as a reason of responsibility/non-responsibility: *Halsbury’s Laws of England* (5th ed, 2010) vol 25 Criminal Law. The last update of search for all of the aforementioned sources was 14.12.2014. It needs to be mentioned that in some case, like *R v Kennedy*, the term free will was used. Later in the context of this Chapter, I will mention referencing to free will in the case of *R v Kennedy (Simon)* [2007] UKHL 38 at 14.
In saying this, though, it must be acknowledged that sometimes, in some common law jurisdictions, courts have in fact made specific reference to free will. For instance, consider the Australian case of *R v Falconer*, 1990. Falconer, the defendant was accused of illegally discharging a gun. The court determined that she:

is criminally responsible for discharging the gun only if that act were ‘willed’, that is, if she discharged the gun ‘of [her] own free will and by decision’ … or by ‘the making of a choice to do’ so ….

The court, however, did not mean free will in the same way as used by exponents of contra-causal free will. To explain the view of supporters of contra-causal free will, they hold that if human conduct is causally determined, then given primary conditions and causal rules, no person could ever have acted otherwise than he/she did indeed. To sum up, the way that the court used the term free will was not addressed to ‘high level questions of responsibility’. Rather, free will was only used as a proxy for voluntariness.

Morse, in trying to disentangle the confusion around using the term ‘free will’ in a legal context, explained:

When most people use the term free will or its lack in the context of criminal law, they are typically using this term *loosely* as a synonym for the conclusion that the defendant was or was not *criminally competent or responsible*. They typically have reached this conclusion for reasons that do not involve free will, such as that the defendant was legally insane or acted under compulsion. But such usage of free will only perpetuates misunderstanding and confusion ….

It needs to be mentioned that at every point in this Chapter that I used or cited the concept of free will, I addressed the way philosophers used it – to denote the ‘high level questions of responsibility’. The only exception that I cited the term free will, as it is used as proxy for voluntariness or consciousness, was the above-mentioned case of *R v Falconer*.

**Searching through legislation**

The criteria for responsibility in New Zealand legislation is not free will in the philosophical sense. For example, s 167 of the *Crimes Act 1961* states:

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68 Morse, above n 60, at 897 (emphasis added). Morse’s view that free will is not important in the law was followed in a stream of papers published by him. For example see Stephen J Morse "Criminal Responsibility, Criminal Competence, and Prediction of Criminal Behavior" in SJ Morse and AL Roskies (eds) *A Primer on Criminal Law and Neuroscience: a Contribution of the Law and Neuroscience Project* (Oxford University Press, Oxford, 2013) 150 at 153.
Culpable homicide is murder in each of the following cases:
(a) if the offender means to cause the death of the person killed:
(b) if the offender means to cause to the person killed any bodily injury that is
known to the offender to be likely to cause death, and is reckless whether death
ensues or not:
(c) if the offender means to cause death, or, being so reckless as aforesaid, means to
cause such bodily injury as aforesaid to one person, and by accident or mistake kills
another person, though he does not mean to hurt the person killed:
(d) if the offender for any unlawful object does an act that he knows to be likely to
cause death, and thereby kills any person, though he may have desired that his
object should be effected without hurting any one.

In addition, for assessing non-responsibility, the law does not consider the accused to be
non-responsible because of determinism. Instead, some conditions have been recognised
as justifying a finding of non-responsibility.\(^{70}\) For instance, consider s 23 (1 and 2) of the
New Zealand Crimes Act 1961:\(^{71}\)

\(^{69}\) Crimes Act, 1961, s 167. Broadly speaking, the criteria for establishing a murder in English law is equal
to New Zealand. See David Ormerod Smith and Hogan's Criminal Law (12th ed, Oxford University Press,

\(^{70}\) These conditions are limited. Under the law of New Zealand, insanity, intoxication, compulsion, duress
of circumstances, necessity, mistake, self-defence and defence of property under some specific conditions
can be used as a reason for non-responsibility. Some of these are viewed as justifications rather than
excuses, which are – in jurisprudential terms – slightly different things, and arguably further away from
any considerations of free will. At first glance, someone might assume that the reason for non-
responsibility is finding determinism in the defendant’s action. However, some scholars like Morse and
Moore who examined the American law (which is, broadly speaking, similar to New Zealand and English
law in terms of specific defences for non-responsibility), took a different view. In response to the question
what are the criteria that the law uses to determine whether an agent should be treated as non-responsible,
Morse, Moore, John Martin Fischer and Mark Ravizza, by using different terms, state that the central issue
in the law is the level of reasoning rather than determinism. Level of reasoning means that the law only
considers the mental capacity of the defendant and the degree of reasoning and rationality rather than
determinism. Morse, above n 60, at 252. Fischer and Ravizza, above n 58; Moore, above n 57. Therefore,
following the approach of the above-mentioned scholars, in the current thesis, I accept that, in New
Zealand and English law, the reason for adoption of some exculpatory defences is not the truth of
determinism.

\(^{71}\) By and large, the approach of English law to the insanity defence is similar to New Zealand. The basic
propositions of the law of insanity to be found in the M’Naghten rules. The rules which were adopted by
the House of Lords stipulated that: “The jurors ought to be told in all cases that every man is presumed to
be sane, and to possess a sufficient degree of reason to be responsible for his crimes, until the contrary be
proved to their satisfaction; and that to establish a defence on the ground of insanity, it must be clearly
proved that, at the time of the committing of the act, the party accused was labouring under such a defect
of reason, from disease of the mind, as not to know the nature and quality of the act he was doing, or, if he
did know it, that he did not know what he was doing was wrong.” R v McNaughten 10 Clark & F.200, 2
(1) Every one shall be presumed to be sane at the time of doing or omitting any act until the contrary is proved.

(2) No person shall be convicted of an offence by reason of an act done or omitted by him when labouring under natural imbecility or disease of the mind to such an extent as to render him incapable—
   (a) of understanding the nature and quality of the act or omission; or
   (b) of knowing that the act or omission was morally wrong, having regard to the commonly accepted standards of right and wrong.

In order to establish criminal responsibility, the prosecution never needs to prove that the accused had free will, in the sense that philosophers are using the term for addressing to ‘high level questions of responsibility’. On the other hand, to establish absence of responsibility by reason of specific defences, for example insanity, the party never needs to prove the presence or absence of free will. To defeat the prosecution’s establishment of crime, the accused must deny either intentional action, elements of consciousness or mens rea. Moreover, to establish a specific defence, the accused must offer sufficient evidence to meet the burden of proof for that defence.

To sum up, for assessing responsibility in New Zealand and English law, ‘high level questions of responsibility’ and concepts like free will and determinism are not what the law is overtly concerned about. Beliefs or assumptions about such things might be affecting how judges and legislators approach their duties. But at least it seems to me that courts do not ask about such things, concerning themselves only with certain kinds of freedom and certain kinds of causes for actions. Whether an action is ultimately free is never something that is explicitly addressed. Such a conclusion is backed up by the conclusion of Morse who wrote: “… free will is not a criterion in any criminal law doctrine.”

It is impossible to compare the scope and depth of knowledge, both scientific and philosophical, available to humans today, and to those governed by Hammurabi and his code of laws (circa 1750 BC); however, the approach of the law regarding issues of free will and determinism has remained constant. Over the centuries the concepts of presumed personal and legal responsibility (as well as the recognition of exceptional circumstances which counter those presumptions) have gone fundamentally unchanged.

The second reason: denial of any inconsistency between determinism and responsibility by LC

The contradiction between determinism and responsibility is a serious issue for the law. If deterministic explanations of human behaviour were really to be accepted, then – it is

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72 Morse, above n 60, at 897 (emphasis added).
often thought – this would present a major challenge for law’s assumptions about responsibility and culpability.

Choices that humans make are not quite so clear. Choices might be caused by several factors. Returning to my first example of lawyer, A, writing a letter, if the deterministic viewpoint is really to be accepted, writing the letter is both subject to and the result of a number of causal factors. The availability of paper and pen, action and reaction of the endocrine system, and neural activity all factor into the writing of the letter. If determinism were to be accepted its effect, at first glance, would be absolutely horrifying for the law.

Nonetheless, any inconsistency between determinism and responsibility is denied by Legal Compatibilism. Michael Moore contends:

Neither lawyers nor psychiatrists very often perceive that they need not make such extreme choices [as between determinism and responsibility]. They need not throw out the window that entire sphere of experience we call our moral life, on the grounds that it rests on an illusion; nor need they, in order to validate that moral experience, engage in a bit of speculative metaphysics of a highly dubious sort. The obvious alternative to either of these extreme views is to deny that there is any inconsistency between determinism and responsibility. … We are fully responsible no matter what causes may exist for our behaviour, be they physiological, behaviouristic, or psychoanalytic.

In order to clarify the law’s position in the debate between free will and determinism, some legal scholars have described two solutions to questions of responsibility in the law, namely, the ‘as if’ view and the ‘folk psychology’ approach. These doctrines provide the approach of criminal law towards questions of responsibility. Both of these approaches will be examined, though it is not the mission of the Chapter to elaborate on scrutinizing the differences and similarities between these two doctrines or attempt to find which one is the dominant approach in the criminal law.

**The first doctrine: the ‘as if’ view**

In an effort to reconcile determinism and responsibility, a number of criminal law theorists have adopted what has been called the ‘as if’ view. As Moore explains, according to this approach, even if we accepted that determinism was true, “… we can

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73 Moore, above n 57, at 360-361 (emphasis added).

74 Michael Moore wrote that in contrast to the “causal theorist” which is committed to the incompatibility of causation and responsibility, the ‘as if’ view tried to reconcile the problem between determinism and responsibility. Moore, above n 57, at 1121.
design our institutions as if human action were not determined.”\textsuperscript{75} Packer as a proponent of the ‘as if’ view suggested that:\textsuperscript{76}

Neither philosophical concepts nor psychological realities are actually at issue in the criminal law. The idea of free will in relation to conduct is not, in the legal system, a statement of fact, but rather a value preference having very little to do with the metaphysics of determinism and free will. \ldots. Very simply, the law treats man’s conduct as autonomous and willed, not because it is, but because it is desirable to proceed as if it were.

The suggestion that the law assumes people are responsible is also shared by Alexander and Staub:\textsuperscript{77}

We may for practical purposes hold the individual responsible for his acts; that is to say, we assume an attitude as if the conscious Ego actually possessed the power to do what it wishes. Such an attitude has no theoretical foundation, but it has a practical, or still better, a tactical justification.

Similarly, some judges have apparently subscribed to the ‘as if’ view. Lord Bingham in \textit{R v Kennedy} stated: “The criminal law generally assumed the existence of free will and, subject to certain exceptions, informed adults of sound mind were treated as autonomous beings able to make their own decisions on how to act.”\textsuperscript{78}

The idea behind the ‘as if’ approach is that treating people as responsible agents, and rewarding or punishing them appropriately, will better promote legal objectives. This is

\textsuperscript{75} Moore, above n 57, at 1121 (emphasis added).

\textsuperscript{76} Herbert L Packer \textit{The Limits of the Criminal Sanction} (Stanford University Press, California, 1968) at 74-75.

\textsuperscript{77} Franz Alexander and Hugo Staub \textit{Criminal, the Judge, and the Public: a Psychological Analysis} (Continuum, London, 1931) at 72-73. In this vein, see also Jules B Gerard "The Usefulness of the Medical Model to the Legal System" (1987) 39(2-3) Rutgers L Rev 377 at 395. Gerald suggested that the legal model assumes that people possess the capacity to choose to involve or refrain from untoward behaviour. In the legal context, free will is presumed, and only in some extreme limited situations is the assumption rebuttable. See at 395. Similarly, Farahany and Coleman distinguished between ‘legal free will’ and ‘theoretical free will’. In their view, ‘legal free will’ was considered as not compatible with the metaphysical, philosophical or biological (among many other fields) notions of free will. The criminal justice system, grounded on sets of standards, principles and laws, depends on individuals to choose whether or not to violate those standards and if caught be punished. On the other hand, in the view of Farahany and Colleman, ‘theoretical free will’ was considered as the philosophical, metaphysical, psychiatric and biological perspectives on the notion of free will. Nita A Farahany and James E Coleman "Genetics and Responsibility: to Know the Criminal from the Crime" (2006) 69(1/2) LCP 115. See also Horder who argues that: “our system of criminal law … presupposes that to become criminals people must be responsible for harm, and not just cause it.” Jeremy Horder "Pleading Involuntary Lack of Capacity" (1993) 52(2) Cambridge L J 298 at 299.

\textsuperscript{78} \textit{R v Kennedy (Simon)}, above n 65, at 14.
also true of its adoption in criminal law. Providing greater individual liberty, better social arrangements and protecting public interests are a few of the primary objectives of the criminal law.\textsuperscript{80} Criminal law seeks to protect the life of citizens, to that end, the law establishes that crimes such as homicide and other violations against the life and well-being of other citizens, are illegal, and offenders will suffer penalties or punishment accordingly. As Hart suggests that, criminal law is a \textit{choosing system} in which people are aware of the costs and benefits of different courses of action.\textsuperscript{81} At this point, Hart returns to similarities between conditions which excuse what would be criminal behaviour under the criminal law, and those which invalidate contracts. In the absence of recognized invalidating conditions, contracts entered into without the proper consent of one party (due to mistake, distress, incapacity, etc.) would still be held valid and enforced upon the non-consenting party. Likewise, by attaching justifying/excusing conditions to criminal culpability, the law increases the odds of a person successfully predicting whether sanctions will be applied to his/her conduct. In this situation, the choice becomes one of the factors which determines the applicability of criminal sanctions. From the viewpoint of Hart, no form of determinism can throw doubt on the satisfaction of the choosing system of criminal law.\textsuperscript{82}

That choosing system is what scholars have called \textit{a carrot and a stick approach} in the criminal law: the criminal law commands citizens to abstain from prohibited behaviour by threatening punishment, while also reflecting social standards to promote more law-abiding conduct.\textsuperscript{83}

To paraphrase, the ‘as if’ suggests that the law should proceed \textit{as if} free will were true, because it better orders society if we proceed on that basis. Of course, if determinism is really true, then we don’t really have a choice in the matter of what we do.

\textsuperscript{79} Packer, above n 76, at 74-75.


\textsuperscript{82} At 44.

\textsuperscript{83} Brock and Buchanan, above n 34, at 69-75.
The second doctrine: ‘folk psychology’

‘Folk psychology’ is the term used by some scientists and philosophers to describe the attitudes that many lay people have about the mind. Although the term can be used to describe several distinct concepts, for present purposes, ‘folk psychology’ can be taken to refer to the instinctive process of attributing mental states to other people with whom we interact. I will provide a simple example to describe it more. From a relatively early stage in their development, children will draw distinctions between people who bump into them by accident, and those who push them on purpose. How they will respond to that person will depend upon the judgments they make about that person’s intentions.

Of course the fact that most people engage in judgments about presumed intentionality does not in and of itself prove that their judgments are right, nor indeed does it prove that any actions are intended in the sense of being indicative of ‘libertarian free will.’ However, as Malle and Knobe explained, regardless of their relationship to free will, such judgments “… permeate … social behavior.” Furthermore, as he explained, “… the law relies on this concept as well, most notably in the distinction between intentional murder and manslaughter.”

Before describing how ‘folk psychology’ views human actions and the law, reviewing various ways for describing actions is essential. Generally speaking, there are two explanations for describing actions; ‘reason-giving’ explanations which posit that actions are the result of human’s conduct, and ‘mechanistic’ explanations which hold that actions are the result of mechanical processes.

Consider the following example: C enrolled in a university to get a degree in law. Why did C do this? ‘Reason-giving’ explanation would describe that C wishes to become a lawyer. Taking this explanation a step further, C wishes this because he believes that formal legal education is a great opportunity to learn the skills necessary to defend

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85 At 134. It is worth noting that the term ‘folk psychology’ can be used to describe very different things depending on the context or field in which it is used. See generally, Ian Ravenscroft and Edward N Zalta (ed.) “Folk Psychology as a Theory” (Fall 2010 Edition. The Stanford Encyclopedia of Philosophy. [Internet]. Available from: http://plato.stanford.edu/archives/fall2010/entries/folkpsych-theory/ [ Accessed 2 February 2015]).
87 At 101–121.
himself and others in a court of law. A step still further would tell us that C considers protecting the weak and vulnerable an important moral principle.88

On the other hand, the ‘mechanistic’ explanation would describe that C’s decision was caused by some sequence of chemical activities in C’s brain. A further level of explanation would attribute this to a combination of C’s genes, the physical structure of C’s brain, certain facts about his upbringing and perhaps even to a long series of prior events stretching far beyond the time of C’s birth. All of these prior facts meant that C’s ‘decision’ to study law was just as predictable as the movement of planets in the universe.89

After reviewing two ways of describing actions, now I turn to the ‘folk psychology’ view. The ‘folk psychology’ approach accepts that there is more than one way to account for the reasons why something happened. ‘Folk psychology’ rejects ‘mechanistic’ explanation as a way of describing human action in law.90 However, it is not that the ‘mechanistic’ explanation is wrong, rather that it does not answer the sort of questions that the law usually asks.91

In the view of ‘folk psychology’, the law is primarily a normative endeavour that has mainly concerned itself with the ‘reason giving’ explanation.92 Such an approach stems from two aspects: the law’s approach to human action (and responsibility for that action) and the nature of the law itself. ‘Folk psychology’ believes that humans are rule following beings who have beliefs, desires and intentions.93 As Morse described, people are practical reasoning and rule-following who “… act for and consistently with their reasons for action and who are generally capable of minimal rationality according to mostly conventional, socially constructed standards.”94 Finally, the view that the legal


90 It needs to be mentioned that Morse, as a proponent of ‘folk psychology’, believes that on occasions the law appears to apply a mechanistic causal explanation of conduct.

91 Morse, above n 88, at 338-339.

92 It needs to be mentioned that Morse, as a proponent of ‘folk psychology’, believes that on occasions the law appears to apply a mechanistic causal explanation of conduct.

93 Morse, above n 88, at 339.

94 At 339. However, as Morse suggested, it does not mean that all human actions are always entirely the reason-giving. Some exceptions like the insanity defence have been described earlier. Therefore, it is fair
perspective is based on the ‘folk psychology’ view has also been expressed by some scholars like Gillett and Brookbanks.\(^95\)

The law views human conduct as a lay person would, and does not care about an endless chain of events which led to his/her behaviour.

**Voluntary v involuntary actions**

Imagine four different persons: D, E, F and G. D throws a pan to the floor in anger. E who was suffering from a mental disorder, but could appreciate his actions throws a pan to the floor in anger. F, who was suffering from hallucinations and lost his knowledge, dropped a pan. Finally, G drops a pan because it was too hot (or because of a muscle spasm).

For hard determinists, none of these actions is *free*, because all actions are causally determined. In daily life, though, we intuitively distinguish between D’s intentional action and F or G’s unintentional action. In the same line of thinking, the law, applying folk psychology’s approach, draws a distinction between those actions. The thing that is distinguishable between those actions is *voluntariness* and the *various degrees of voluntariness*.

The terms voluntariness and involuntariness need to be defined. In the words of Honderich, voluntary action is defined as the action which is not determined, it remains in the control of the agent which means that the agent can at every moment decide to act differently.\(^96\) Specifically, voluntary action was described as the action that:

> flows from the desires, personality and character of the agent, rather than being somehow against those things. The agent is not in jail, not the victim of a man with a gun, not subject to an inner compulsion he wants not to have. He is acting in such a way that his actions in a clear sense flow from himself.

It can be surmised that voluntary action is action made in the absence of constraints. Involuntary action is exactly the opposite of voluntary action.

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\(^97\) At 1.
Applying these concepts of voluntariness and involuntariness, D’s action is voluntary because of the absence of any significant constraints, as he had control over his action all the time (one end of the spectrum). F’s action was not voluntary (involuntary) because he had no control over his action and he was unable to decide to act differently. The same is true for G’s action. As for E, he had control over his action, throwing flows from his desires and intention, and he could behave differently. However, because of E’s mental disorder, in the view of some legal jurisdictions, he could be entitled to mitigation (E’s action falls between two ends of the spectrum).  

In New Zealand and English law, the distinction between voluntariness and involuntariness is what distinguishes a culpable from a non-culpable act. Under both English and New Zealand law, “No act is punishable if it is done involuntarily.”

Lord Denning explained: “The requirement that it should be a voluntary act is essential … in every criminal case.” Acts which would otherwise be criminal, but are performed involuntarily, have been described as being the acts of an automaton and are not subject to legal culpability. As can be seen, in assessing criminal liability, there is no debate over free will and determinism. Whether we are ultimately ‘free’ or not, is of no concern to the law. Instead, the distinction between voluntary and involuntary action is important for the law. As Morse stated:

The truth of determinism does not entail that actions and non-actions are indistinguishable and that there is no distinction between rational and non-rational actions or compelled and un compelled actions.

Is adopting compatibilism ultimately satisfying

As shown in the previous sections, LC has adopted a unique view on the debate over free will and determinism. According to that view, the law adopted a neutral position on ‘high level questions of responsibility’. Instead, ‘intermediate level questions of responsibility’ are the important questions for the law. In addition, as suggested above,

98 For example, in New Zealand, according to the Sentencing Act 2002, s 9 (2)(e), the punishment of the person under the same condition could be mitigated.


102 Stephen Morse “Addiction, Genetics, and Criminal Responsibility” (2006) 69(1/2) LCP at 174 (emphasis added).
many legal scholars have accepted the theory of compatibilism as the dominant theory in
law.

Nevertheless, some scholars are not convinced by LC. Larry Alexander believes:103

Compatibilism provides only a hollow form of moral responsibility, not the full-
blooded form that our reactive attitudes assume. In particular, it seems unresponsive
to the worry that what appears to an actor to be a reason, or a reason with a
particular positive or negative weight, seems to be beyond the actor’s proximate
control.

Larry Alexander is not convinced by LC and he argues that if the law actually rests on
assumptions that are increasingly shown to be false, then the law ought to change, both
its root and branch.104

Similarly, some thoughts have emerged that responsibility of individuals has been
eroded due to the advances of cognitive neuroscience and behavioural genetics which
was briefly mentioned at the beginning of this Chapter. The aim of neuroscience has
been explained as, “… looking through the skull and seeing what’s really happening,
seeing the thoughts themselves.”105 Some argue if the presumptions of law are
indicated to be incorrect by cognitive neuroscience and behavioural genetics, then the law ought to
reconstruct its underlying assumptions. Michael Gazzaniga warned that advances in
cognitive neuroscience are facing debate as, “… many people find themselves worrying
about that old chestnut free will.”106 Gazzaniga suggested that the logic applicable to
addressing the issue is as follows:107

103 Larry Alexander, Kimberly Kessler Ferzan and Stephen J Morse Crime and Culpability: a Theory of
is not convinced by the doctrine of compatibilism and he suggested that if determinism is true,
responsibility is not possible. However, he does not substantiate his claim why determinism is true. It
needs to be mentioned that the above quote represents Alexander’s view on compatibilism. The book’s
other authors took different perspectives.

104 At 15.

105 Jeffrey Rosen "The Brain on the Stand" New York Times (New York, 11 March 2007); quoting Hank
Greely.

106 Michael S Gazzaniga The Ethical Brain (Dana Press, New York, 2005) at 88-89. See also Wegner,
above n 15; Daniel M Wegner "Who is the Controller of Controlled Processes?" in Ran R Hassin, James S
Colin McGinn The Mysterious Flame: Conscious Minds in a Material World (Basic Books, New York,
1999); Maureen P Coffey "The Genetic Defense: Excuse or Explanation?" (1993) 35(1) Wm & Mary L
Rev 353 at 393; John L Hill "Freedom, Determinism, and the Externalization of Responsibility in the
Law: a Philosophical Analysis" (1988) 76 Geo LJ 2045 at 2073; Snead, above n 6, at 1269-1270.

107 Gazzaniga, above n 106, at 88-89.
The logic goes like this: The brain determines the mind, and the brain is a physical entity, subject to all the rules of the physical world. The physical world is determined, so our brains must also be determined. If our brains are determined, and the brain is the necessary and sufficient organ that enables the mind, we are then left with these questions: Are the thoughts that arise from our mind also determined? Is the free will we seem to experience just an illusion? And if free will is an illusion, must we revise our concepts of what it means to be personally responsible for our actions.

Similarly, Adrian Raine, author of a recent, high-profile book, attacks the notion of free will:

One argument rests on the belief that we all have free will and agency even in the face of risk factors. … . Surely we all have a choice? If I were to ask you to explain why you are reading this book [the anatomy of violence] right now, you’d say something like, ‘Well, I wanted something to read today and decided to pick up your book. I’ve always been fascinated by violence, and these days we’re hearing a lot more about the brain and biology. So here I am now.’ Sounds reasonable, doesn’t it? You can choose. You have free will. I was not standing beside you with a gun to your head coercing you to buy it, was I? Surely this has to be full-bodied proof of free will? No, it’s not.

You did not choose to read this book. Your brain made you do it. You likely had ‘risk factors’ for buying this book, whether you are conscious of them or not. You may have been a victim of crime. You may have yourself bordered on committing a crime—and always wondered where the line between offenders and good citizens lay. Alternatively you were born good, giving you the fascination for the bad seed that you are not. You may have been exposed to domestic violence and abuse. If you are a woman, we know you are more attracted to books on crime than men—likely because you have a greater fear of being a victim. These factors produce a causal chain of events that predisposed you to read this book. You saw the bold title and colourful cover. In milliseconds it triggered a chain of past emotional memories and associations that made you pick up the book and start reading its contents.

You want so desperately to believe that you determine things in your life, yet that belief has no true substance. It floats like a ghost in a mind machine forged by ancient evolutionary forces. You were as helpless in deciding to buy this book as I was in writing it.

Even if you decide to put this book down right now to prove me wrong, it wasn’t you that chose to close it. It was your Bolshie brain that was programmed to be

108 Adrian Raine The Anatomy of Violence: the Biological Roots of Crime (Pantheon Books, New York, 2013) at 315-316. For similar type of argument see Harris who wrote: “Free will is actually more than an illusion (or less), in that it cannot be made conceptually coherent. Either our wills are determined by prior causes and we are not responsible for them, or they are the product of chance and we are not responsible for them.” Sam Harris Free Will (Free Press, New York, 2012) at 5.
oppositional and defiant when challenged. Free will is sadly an illusion—a mirage. I wish it were not, because I too find this perspective unsettling. But there we have it.

As can be seen from Gazzaniga and Raine’s statements, they are not convinced with the doctrine of LC, and they are in favour of the view that humans’ actions are predetermined. But it is likely to be what we are stuck with for the foreseeable future.

Abandoning the current law’s approach on responsibility by means of science. How realistic?

For now, the law’s position is that conscious, rational, intentional and un compelled agents may be held accountable for their actions (this view is very close to the ‘folk psychology’ approach which holds that humans are practical, reasoning and rational creatures). This position has been threatened by the long-term goal of cognitive neuroscience to “… embarrass, discredit, and ultimately overthrow retribution as a distributive justification for punishment.” However, as of yet, no such revolution in legal theory has been realised. The law’s position is justifiable and valid until and unless genetics, cognitive neuroscience or any other discipline, demonstrate, empirically and convincingly, that humans are not, practical, reasoning, rule-following beings, rational creatures, who act intentionally, and show that, in a word, humans are automata.

If this were established, and no one can be held responsible, then the law would have to revisit the whole underlying basis of responsibility. Warren Brookbanks called this eventuality, “… the ‘Doomsday’ scenario” for free will. It is possible that we are not rational agents. The current mental states that we have at any given moment, and which we believe in, are illusions, and therefore, all praise and blame, reward and punishment, is pointless. However, the current state of science does not firmly prove this approach. The burden of proof is on the proponents of the radical perspective. Simply, at the moment, there is no adequate justification for concluding that the law’s view, that humans have an element of control over their conduct and humans are rational creatures, is incorrect.

109 Morse, above n 102, at 42-43.
110 Snead, above n 6, at 1269-1270 (citations omitted). See also Jashua Greene and Jonathan Cohen in which they have explained the aim of neuroscience as finding the mechanical processes of human behaviour. Greene and Cohen, above n 4.
A philosopher, Jerry Fodor, has expressed support for the argument I made in this Chapter:112

… if commonsense intentional psychology were really to collapse, that would be, beyond comparison, the greatest intellectual catastrophe in the history of our species; if we’re that wrong about the mind, then that’s the wrongest we’ve ever been about anything. The collapse of the supernatural, for example, doesn’t compare … Nothing except, perhaps, our commonsense physics … comes as near our cognitive core as intentional explanation does. We’ll be in deep, deep trouble if we have to give it up … . But be of good cheer; everything is going to be all right.

To conclude, the law’s position on criminal responsibility has not been firmly denied by science. Proving that humans are automata, and are not rational creatures, would be a disastrous event for the whole system of law. However, the current doctrine of law is not likely to give up its foundation without concrete reason. The arguments of some scholars like Alexander, Gazzaniga, Greene and Cohen, and other scholars who share the same train of thought, are not important for the law as they stand now. Their arguments may become important in the future given definitive proof, but for now they will remain marginalised within the discussion of legal theory. Even if strong scientific evidence of determinism were to emerge, I suspect there would be very strong psychological and emotional barriers to accepting this.

If I am wrong …

Laying the grounds, it is reasonable to argue that the construction of the law is robust enough to face challenges of free will and determinism. In addition, advances of science are unlikely to challenge the foundation of law, at least in the near future. I think my argument is legitimate but I accept the possibility of it being proven that my arguments, and the underlying assumptions of the legal system, are wrong. As a lawyer, I am trained never to ask a question to which I don’t already know the answer. As a PhD candidate, though, my role is different, and speculating about uncertain futures is part of that role. Should scientific advances demonstrate that the concept of personal responsibility is unfounded and that humans are functional automata, rather than rational creatures, will the law will be forced to drastically reconceive its notion of legal responsibility in terms of determinism over free will? I am happy to leave this question to other scholars because it is not my question.

112 Jerry A Fodor Psychosemantics: the Problem of Meaning in the Philosophy of Mind (MIT Press, Cambridge, Mass, 1987) (emphasis added). See also Corrado who mentioned that: “Although determinism may well be true, of course, it is also the case that we do not now know that it is true. The incompatibilist, therefore is not presently required by what he knows to give up his belief that people are responsible.” Michael Louise Corrado "Automatism and the Theory of Action" (1990) 39(4) Emory LJ 1191 at 1208.
The law considers humans still have an element of control over their conduct. If proven that humans have no control over their actions and have no voluntariness, a radical transformation to our society would be catalysed. If that happens, empirically, as George Fletcher stated, “… there will be far more radical changes in our way of life than those expressed in the criminal law.”\(^{113}\) Interpersonal life would be exceptionally undermined if the concepts of praise, blame and responsibility were removed from normal life. Consider contracts promises that people normally make. If responsibility is a false construct, and biological mechanisms are the cause of the contract, then the person should not be bound since he/she did not make a contract.

If sometime in the future, scientists can, *empirically*, prove that *we do not have control over our conduct*, then we will need to grapple with all the implications of that discovery. However, in my opinion, this is an extremely unlikely outcome of current research (or, for that matter, of any research likely to be conducted very soon; at least not in my lifetime).

**Internal v external challenges**

The description of the ‘external challenges’ to the structure of the legal system\(^{114}\) is captured nicely by Morse as:\(^{115}\)

> The two external challenges to criminal responsibility are hard determinism (hard incompatibilism) and the even more radical claim and hope (of some) that neuroscience or other sciences will cause a paradigm shift in criminal responsibility by demonstrating that we are ‘merely victims of neuronal circumstances’ or of our genes, or some similar claim that denies human agency altogether.

These two external challenges deny that humans can be responsible. Morse’s reasons why these challenges are *not* relevant to the law, are discussed in further detail below.\(^{116}\) Put briefly, the first challenge is not justifiable because hard determinism does not, necessarily, deny that human beings have mental states or that those mental states may play a causal role in actual conduct. The second challenge is not actionable because science cannot convincingly demonstrate that humans are not reason giving creatures or that human mental states do not matter. In response to these ‘external challenges’, LC

\(^{113}\) Fletcher, above n 60, at 802 (emphasis added).

\(^{114}\) The term ‘external challenges’ used by Morse and in a stream of papers mentioned as the challenge related to ‘high level questions of responsibility’. Morse, above n 55.

\(^{115}\) Morse, above n 55, at 124 (citations omitted), 329-406.

\(^{116}\) For the full account of the irrelevancy of external challenges see at 41-47.
has been adopted which “… provides a secure foundation for current practice and renders it immune to the potentially devastating challenge of the external critique.”

Having said that there are no ‘external challenges’ to the whole structure of the law, it does not mean that other aspects of the law are immune. Considering ‘intermediate level questions of responsibility’, some challenges are relevant to the law. For the purposes of the current thesis, these types of challenges have been called ‘internal challenges’.

One highly crucial internal challenge to the doctrine of criminal responsibility in English and New Zealand law, the claim of loss of self-control, will be described in Chapters Four and Five.

**Conclusion**

The main question of the Chapter was finding the approach that the law takes to the question of free will and determinism. Two answers can be proposed to show the neutral position of the law:

Firstly, the law works on an *untested assumption* that humans have free will (the ‘as if’ view which assumes human beings have free will, can be considered a similar approach to the above assumption).

Secondly, the law does not concern itself with free will and determinism. Instead, the law is only concerned with ‘intermediate level questions of responsibility’. Even if determinism is true, the law considers that most people, most of the time, are capable of exercising control over their actions, and can be held responsible for those actions. What is important in law, at least in the current New Zealand and English law, is the assessment of various degrees of responsibility.

It is not the purpose of the current thesis to come down clearly in favour of either of the above approaches. There is no source that can be examined to find out which side of the above arguments the current law supports. The main point is that, whether the first or the second answer better explains the situation, it seems unlikely that courts or legislators are going to abandon ideas of responsibility completely in favour of a neuro deterministic or genetic deterministic account of human action.

To conclude, free will is of no concern to the law. When judges refer to free will, they are not addressing whether any person is really free in an *ultimate* sense. Instead, they are concerned only about freedom from certain types of influences, e.g. disease of the mind or coercion. On other occasions, judges might refer to free will as an assumption in

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117 Morse, above n 47, at 219.

118 The term ‘internal challenges’ was utilised by Morse in addressing critiques against ‘intermediate level questions of responsibility’. At 219
the law (in the similar line of thinking as the ‘as if’ view). For example, Lord Bingham in *R v Kennedy* stated: “The criminal law generally assumed the existence of free will and, subject to certain exceptions, informed adults of sound mind were treated as autonomous beings able to make their own decisions on how to act.”\(^{119}\) Having said that, however, in neither of the above situations are judges referring to free will as the basis of the criminal law. The criminal law adopted LC as a neutral position to the debate over free will-determinism. Nicole Vincent captures LC nicely:\(^{120}\)

… compatibilism states that whether someone is responsible for the things that they do, depends not on whether their actions are caused, but on how they are caused. Roughly, compatibilists maintain that what justifies holding some people responsible but not others is that the former people’s actions are caused by brain mechanisms that imbue them with mental capacities like the ability to perceive the world without delusion, to think clearly, to guide their actions by the light of their sound judgments, and to resist acting on mere impulse.

\(^{119}\) *R v Kennedy (Simon)*, above n 65, at 14.

\(^{120}\) Vincent, above n 57, page number is not clear (emphasis in original). Vincent cited a few references: Dennett, above n 49; Fischer and Ravizza, above n 58; Wallace, above n 38.
Chapter Four: challenges to ‘a most dangerous doctrine’ or ‘fantastic theory’ of volitional insanity (V-insanity)

Terminology

At the outset, it is important to define some terms that appear throughout this Chapter.

In theory, the insanity defence can take two forms: the cognitive form (C-insanity) and the volitional form (V-insanity). V-insanity is recognised in some common law jurisdictions and is a full defence. It recognises that a disordered state of mind can make the exercise of self-control impossible. It is V-insanity – sometimes referred to as a defence of ‘irresistible impulse’ – with which this Chapter is concerned. On the other hand, the defence of C-insanity recognises that a disordered state of mind can make the ability to understand the nature of an action impossible.

Loss of self-control is an umbrella term, encompassing both V-insanity, and other defences such as diminished responsibility (DR).

Some other terms and expressions will be described throughout the Chapter.

Scope of the Chapter

In the previous Chapter, I reviewed ‘external challenges’ to the structure of the criminal law. The core of those challenges is that humans cannot be considered criminally answerable for what they do because they do not have free will (as this term was used by philosophers and as it contrasts with determinism). Following the position of most leading legal scholars, I suggested that Legal Compatibilism is the dominant approach within criminal law. It is an approach that protects the structure of the law against ‘external challenges’, while remaining neutral on the ‘high level’ question of free will and determinism. Instead, only ‘internal challenges’ are relevant to the law. The starting point of these ‘internal challenges’ is that the basic concept of criminal responsibility is coherent. This does not, however, exclude the possibility that particular rules and practices of criminal law could benefit from reform in light of discoveries in neuroscience and genetics.

In this thesis, I consider a particular example of these ‘internal challenges’: the claim of loss of self-control. As discussed in Chapter Two, the existing body of scientific evidence suggests that possessors of the low variation of Monoamine Oxidase Acid A (MAOA-L), who have been severely maltreated, have to some degree impaired self-control. Based on the evidence of MAOA-L and harsh childhood maltreatment, these people might put forward two different claims: (1) that they were completely deprived of the ability to exercise self-control; or (2) that they were substantially impaired in their ability to exercise self-control. These two claims come under the umbrella term of ‘loss of self-
control’ and will be discussed in this Chapter and the next. In this Chapter, I analyse the claim of V-insanity. This claim is based on (1) above – i.e., a complete loss of self-control. I argue that there are satisfactory reasons to recognise this as a defence. In the next Chapter, I analyse the claim of DR. This claim is based on (2) above – i.e., substantial impairment in the ability to exercise self-control. DR is a partial defence.

The claim of V-insanity arises when a person can understand the nature of the action, but cannot control his/her impulses or urges at the time of the crime. For reasons that I will explore later in this Chapter, V-insanity has never been accepted as a defence in New Zealand. Rather, New Zealand law adopts only C-insanity. In this Chapter, the reasons that have been suggested for the rejection of V-insanity in New Zealand will be elaborated upon and examined in detail.¹ In particular, I will examine whether there is an inconsistency between the law’s acceptance of C-insanity, and its rejection of V-insanity.

In order to do this, I will examine, firstly, the principles that underpin the insanity defence in its cognitive form, with a view to determining whether these are equally applicable to a volitional form. The second part of my enquiry will focus on practical considerations. To this end, I will briefly review the state of science which supports the two limbs of the insanity defence. I will consider whether the sort of evidence currently used to inform decisions about C-insanity is more established or reliable than the sort of evidence that would be needed to inform decisions as to V-insanity.

With regard to this second enquiry, I should note from the outset that I am not a scientist, and this is not a scientific thesis. Therefore, my conclusions regarding the current state of knowledge will necessarily be quite tentative, and it may not be possible to reach a firm conclusion as to whether there is currently enough scientific evidence to support a claim of V-insanity. A more realistic objective, though, is to determine what sort of evidence would be required if such a defence were to be sustained. Clearly, if the sort of evidence required is likely to be, by its nature, impossible to come by, then that may pose significant problems for the case for V-insanity. What I hope to show in this part, though, is that, whether or not such evidence is available at this time, there is no reason in principle why it could not become available. That is to say, there is nothing about the nature of V-insanity that places it beyond the reach of human investigation.

The third part of my enquiry will evaluate the experience of those jurisdictions that have adopted V-insanity as part of their insanity defence. In particular, I will look closely at the experience of some Australian jurisdictions in which the V-insanity test has already been adopted. My aim here will be to determine whether their experience has confirmed or refuted the concerns of those opposed to V-insanity.

¹ I entitled this Chapter “Challenges to ‘a most dangerous doctrine’ or ‘fantastic theory’ of volitional insanity (V-insanity)”. These descriptions of V-insanity come from two English judges and will be discussed later.
Finally, I will argue that there is a conspicuous inconsistency in New Zealand law’s acceptance of C-insanity and rejection of V-insanity, an inconsistency that should be addressed by accepting the latter form of insanity. My main aim is to fill a gap in New Zealand’s literature as to date, there has been no real debate about V-insanity and no considered argument advocating the defence. In other jurisdictions, however, some other jurists have argued in favour of adopting the defence.  

Although this Chapter is primarily concerned with New Zealand law, some attention will also be paid to English law, as it provides the basis for the insanity defence in New Zealand. Reasons for the rejection of V-insanity will be reviewed in the context of both of these jurisdictions. When I come to providing some suggestions for adopting V-insanity, my focus will mainly be on New Zealand law. Because of several similarities between New Zealand and English law in terms of insanity, though, broadly speaking, the Chapter’s argument potentially applies to English law as well.

Outside the scope of the Chapter

The Chapter does not deal with the following issues:

Firstly, mental impairment related to ‘unfitness to stand trial’, which in New Zealand is subject to s 4 the Mental Health (Compulsory Assessment and Treatment) Act 1992.

Secondly, self-induced incapacity, i.e., incapacity to control impulses produced by a criminal accused’s own actions – such as voluntary intoxication.

Thirdly, the main focus of the Chapter is evaluating reasons against the rejection of, and reasons for the inclusion of, V-insanity in New Zealand law. The precise form that such a defence could take, however, will not be explored in detail. Perhaps New Zealand law

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could adopt elements of V-insanity in the same way as it is adopted in some common law jurisdictions; it is an area that can be explored by further research.

**Introduction to V-insanity**

V-insanity, as a form of the insanity defence, looks something like this: A defendant (D) commits a criminal act. He/she is not deluded as to the nature and quality of his/her act. Nor is he/she unaware that it is widely perceived as morally wrong. Rather, D claims that at the time of the offence, he/she could not control his/her behaviour (i.e., he/she was acting under irresistible impulse). D was subject to a compulsion or a loss of self-control, such that he/she should not be held responsible for his/her actions. A case that rather gruesomely illustrates V-insanity is that of William Heirens, who shot and stabbed his victim and wrote a memorable message, in bizarre, red lipstick cursive on the wall:

“For heavens Sake catch me
Before I kill more
I cannot control myself.”

**The status of V-insanity in criminal law**

Madness has exonerated D from criminal responsibility since at least the 6th century. In the modern era, Sir Isaac Ray’s writings in the field of medical jurisprudence stressed that an individual might know what he/she was doing and that it was wrong, but nonetheless be unable to control his/her behaviour.

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3 In legal literature, V-insanity has been called, variously: ‘volitional insanity test’, ‘volitional insanity standards’ or ‘uncontrollable impulse’. See, for example, O C M Davis "The Macnaughton Rules" (1940) 4(1) JCL 75 at 91. In some literature, V-insanity is called ‘a volitional element of the test of insanity’. Victorian Law Reform Commission *Defences to Homicide Options Paper* (2012). In other literature, the defence of V-insanity was called ‘policeman at the elbow test’. Allnutt S, A Samuels and C O'Driscoll “The Insanity Defence: from Wild Beasts to M'Naghten” (2007) 15(4) Australasian Psychiatry 292 at 297. Whereas, the lack of ability to control impulses in scientific literature was called ‘episodic dyscontrol’. See generally Lewis Oliver and Carpenter Sylvia "Episodic Dyscontrol and the English Criminal Law" (1999) Feb 1999 J Mental Health L 13.. In scientific literature, V-insanity is defined as “a predisposition toward rapid, unplanned reactions to internal or external stimuli without regard to the negative consequences of these reactions to the impulsive individual or to others.” F Gerard Moeller and others "Psychiatric Aspects of Impulsivity" (2001) 158(11) Am J Psychiatry 1783 at 1784.


6 Ray mentioned “… we have an immense mass of cases related by men of unquestionable competence and veracity, where people are irresistibly impelled to the commission of criminal acts while fully conscious of their nature and consequences; and the force of these facts must be overcome by something more than angry declamation against visionary theories and ill-judged humanity. They are not fictions invented by medical men (as was rather broadly charged upon them in some of the late trials in France,) for the purpose
However, the M’Naghten rules, which are the basis for the insanity defence in the common law system, do not recognise V-insanity as a defence. The M’Naghten rules were created following public outrage over the jury’s verdict in the trial of Daniel M’Naghten.\(^7\) M’Naghten was charged with the murder of the Prime Minister’s private secretary, but acquitted by reason of insanity.\(^8\) In 1843, the House of Lords held that an actor is insane and therefore not responsible if it is:\(^9\)

… clearly proved that, at the time of the committing of the act, the party accused was labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing; or, if he did know it, that he did not know what he was doing was wrong.

The M’Naghten rules are, therefore, applicable to C-insanity, but there is nothing in the rules that applies to D affected by irresistible impulse.\(^10\)

The response to the claim of irresistible impulse varies between common law jurisdictions. Some jurisdictions took the M’Naghten rules as the starting point for their insanity defence, but expanded it to include V-insanity. Others have retained the original M’Naghten formula. One example of the former type of jurisdiction is South Australia, where, under the Criminal Law Consolidation Act 1935, V-insanity is accepted as a form of insanity. If proven, it means D is not responsible for his/her actions. This is set out in s 269C (c):\(^11\)

Mental competence to commit offences

269C—Mental competence

A person is mentally incompetent to commit an offence if, at the time of the conduct alleged to give rise to the offence, the person is suffering from a mental impairment and, in consequence of the mental impairment—

(a) does not know the nature and quality of the conduct; or

(b) does not know that the conduct is wrong; or

of puzzling juries and defeating the ends of justice, but plain, unvarnished facts as they occurred in nature; and to set them aside without a thorough investigation, as unworthy of influencing our decisions, indicates any thing rather than that spirit of sober and indefatigable inquiry which should characterize the science of jurisprudence.” Isaac Ray A Treatise on the Medical Jurisprudence of Insanity (3rd ed, Little, Brown and Company, Boston, 1838) at 263. See also, Forbes Winslow The Plea of Insanity in Criminal Cases (H. Renshaw London, 1843) at 74 (referring to individuals ‘driven by an irresistible impulse’).

\(^7\) There is a debate in the literature about the proper spelling of the name of M’Naghten. See R Moran Knowing Right from Wrong: the Insanity Defence of Daniel M’Naghten (Free Press, New York, 1981) at XI-XIII; Donald James West and Alexander Walk Daniel McNaughton: his Trial and the Aftermath (Headley for the ‘British Journal of Psychiatry”, Ashford, Kent, 1977). In some legal text books it was mentioned as ‘McNaghten’ or ‘McNaughtan’, but in this thesis ‘M’Naghten’ will be used.

\(^8\) For a full account of the trial of Daniel M’Naghten, see Moran, above n 7.

\(^9\) R v M’Naghten 10 Clark & F 200, 2 Eng Rep 718 (HL 1843) at 210, per Tindal CJ.


\(^11\) The Criminal Law Consolidation Act 1935 (SA).
The C-insanity test is set out in s 269C(a) and (b) and V-insanity is expressed in s 269C(c). South Australia is not the only Australian jurisdiction to have adopted V-insanity. Further, a number of other overseas jurisdictions have followed the same approach.

**The status of V-insanity in New Zealand and English law**

In contrast to South Australia, New Zealand only recognises C-insanity as a defence. Under New Zealand law, V-insanity has not been recognised, which means that the person who cannot control his/her actions, while knowing the nature of those actions, has no access to an insanity defence. If D cannot establish any other statutory or common law defences, such as compulsion or duress of circumstances, the person will be held responsible even though he/she did not have control over his/her actions. Section 23 (2) of the Crimes Act 1961 (CA 1961) states:

(2) No person shall be convicted of an offence by reason of an act done or omitted by him when labouring under natural imbecility or disease of the mind to such an extent as to render him incapable—

(a) of understanding the nature and quality of the act or omission; or

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12 Apart from Victoria and New South Wales, all other Australian jurisdictions adopted V-insanity. Namely, Criminal Code (ACT) s 28(1)(c); Criminal Code (QLD) s 27(1); Criminal Code (NT) s 43C(1)(C); Criminal Code Act (WA), s 27(1); Criminal Code Act (TAS), s 16(1)(b); Criminal Law Consolidation Act (SA) s 269C(c). Also, Commonwealth Criminal Code Act (Cth) s 7.3(1)(C) adopted V-insanity. The New South Wales Law Commission recommended the inclusion of a V-insanity in that state’s defence to be consistent with other Australian jurisdictions, reasoning that it is “… appropriate to provide for the exculpatory of those defendants who, because of cognitive or mental health impairments, genuinely could not control their actions;” New South Wales Law Reform Commission People with Cognitive and Mental Health Impairments in the Criminal Justice System: Criminal Responsibility and Consequences (NSWLRC R 138, 2013) at 69. On the other hand, in Victoria, while there were only two submissions to the Victorian Law Reform Commission for the inclusion of a volitional component, there was no support for the introduction of V-insanity: Victorian Law Reform Commission Review of the Crimes (Mental Impairment and Unfitness to be Tried) Act 1997: Report (VLRC, 2014) at 118.


14 Crimes Act 1961, s 23(2). It needs to be mentioned that New Zealand law continues to adhere to M'Naghten rules. Herbert Fingarette The Meaning of Criminal Insanity (University of California Press, Berkeley, 1972) at 144.
(b) of knowing that the act or omission was morally wrong, having regard to the commonly accepted standards of right and wrong.

Attempts have, however, been made to introduce V-insanity into New Zealand. The first attempt was in *R v Deighton*, in 1900.\(^\text{15}\) The accused was charged with murder of his three-month-old son. There was no evidence that the accused was suffering from any mental disease at the time. The only evidence was that, on the day of an incident, he may have become ‘excited’ and shaped a fixed perception to kill the child when claiming to suffer from an impulse which he could not control. In rejecting the defence of irresistible impulse, Stout CJ referred to the construction of the insanity defence and held that:\(^\text{16}\)

> If the accused knew that he was killing his child, and knew that it was wrong, he could not be acquitted on the ground of insanity, and that it was no defence that he had a fixed idea to kill his child, his wife, and himself, and suffered from an impulse to do so which he could not control.

The court cited s 23 of the Criminal Code Act 1893, which is largely the same as s 23 of the CA 1961, and rejected the claim. Ever since *Deighton*, New Zealand courts have repeatedly rejected the claim of V-insanity,\(^\text{17}\) even if it is caused by a disease of the mind (DofM).\(^\text{18}\) As the authors of one leading criminal law textbook state:\(^\text{19}\)

> … the only circumstances in which an irresistible impulse may assist a defendant in New Zealand is where there is evidence that an irresistible impulse is a symptom of a mental disease sufficient to exclude knowledge of the physical or moral quality of the act, amounting to legal insanity.

The defence of irresistible impulse has not been accepted in English law either. England, like New Zealand, adheres strictly to the M’Naghten rules.\(^\text{20}\) The force of resistance to

\(^{15}\) *R v Deighton* [1900] 18. NZLR 891.

\(^{16}\) At 891.


\(^{19}\) At 356 (citations omitted).

\(^{20}\) In English law, for the first time, Stephen J left the matter of irresistible impulse to the jury in *R v Davis* [1881] 14 Cox C C 563. This instance was continued in *R v Fryer* [1915] 24 Cox C C 405. The Court of Criminal Appeal reasserted the authority of the Rules in *R v True* [1922] 16 Cr App Rep 164. After *True*, a Committee under the chairmanship of Lord Justice Atkin was appointed to evaluate any changes in the existing law of insanity. The Committee provided some suggestions, inter alia, it should be recognised as irresponsibility when D acted under an impulse which the person is, by mental disease, in substance deprived of any power to resist. The Committee’s recommendation of V-insanity was referred to twelve High Court Judges. Ten of the twelve Judges were against the recommendation (cited by M Harding-Barlow "The Need for a New Conception of Insanity in its Relation to Crime" (1949) 66 SALJ 389 at 396-397.
such a defence is reflected in the labels that have been given to it. It has been called ‘a most dangerous doctrine’,\textsuperscript{21} and a ‘fantastic theory’. In \textit{R v Kopsch} Lord Chief Justice Hewart stated:\textsuperscript{22}

\begin{quote}
It is the fantastic theory of uncontrollable impulse which, if it were to become part of our criminal law, would be merely subversive. It is not yet part of the criminal law, and it is to be hoped that the time is far distant when it will be made so. The jury may well have thought that the defence of insanity in this case, as in so many cases, was the merest nonsense.
\end{quote}

Following this case, English courts have steadily refused to adopt irresistible impulse as part of the insanity defence.\textsuperscript{23} The position is summed up in Halsbury’s Laws of England as follows:\textsuperscript{24}

\begin{quote}
The defence of insanity is not established by showing merely that the defendant suffers from a disease of the mind and because of that he more readily gives way to passion or is less able to control his reactions. It is no defence that a person … cannot control his impulses owing to a disease of the mind.
\end{quote}

While V-insanity is not recognised, it should be noted that there is one aspect of English law in which something subtly similar to V-insanity has been accepted, though only for one type of crime (murder) and only as a partial defence.\textsuperscript{25} That is the partial defence of diminished responsibility (DR).\textsuperscript{26} This will be discussed in detail in the next Chapter. Here, however, it is enough to review, briefly, some similarities and differences between that defence and the full defence of V-insanity as it is applied in some common law jurisdiction, such as South Australia.

The important differences are that V-insanity is a full defence of insanity and relates to all crimes; a successful defence means D is not at all responsible for his/her actions. DR, in contrast, is a partial defence, which is applicable to homicide only. It has the effect of

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\textsuperscript{21} Wightman J in \textit{Reg v Burton} stated: "The medical man called for the defence defined homicidal mania to be a propensity to kill, and described moral insanity as a state of mind, under which a man, perfectly aware that it was wrong to do so, killed another under an uncontrollable impulse. This would appear to be a most dangerous doctrine, and fatal to the interests of society and security of life." \textit{Reg v Burton} (1863) 3 F & F 772, 780.
\textsuperscript{22} \textit{R v Kopsch} (1925) Cr App Rep 50.
\textsuperscript{24} Halsbury, above n 10 at [35] (citations omitted).
\textsuperscript{26} DR in English law is governed by Homicide Act 1957, s 2, as it was amended by "The XYY Syndrome: a Dangerous Myth" (1974) 64(923) New Sci, s 52.
\end{flushleft}
reducing the charge from murder to manslaughter. The important similarity is that the crux of both defences is an inability to exercise self-control. That inability arises from a DofM (in the case of V-insanity) or an abnormality of mental functioning (in the case of DR).

Before discussing the reasons why V-insanity should be adopted in NZ law, I now turn to the issue of how such a defence could apply in New Zealand and try to distinguish between V-insanity and involuntariness. The latter is recognised by the law, but it is not the same as an irresistible impulse, despite the two sometimes being confused.

**Distinguishing V-insanity from true involuntariness**

Generally, there are two stages in New Zealand law to which a claim like V-insanity might be addressed. The first step is known as ‘establishing a crime’ and the second step is called ‘denying criminal responsibility’. In the following sections, I will describe the relevance of V-insanity to these two stages.

**Establishing a crime**

To establish a crime, there must be an actus reus, mens rea, and a prohibited act. To illustrate, take this example: E injures F. The conduct element or actus reus is the injuring action. The mental elements or mens rea are that E must have acted intentionally, or possibly recklessly, while at least understanding that F is a human. The result element (this is a part of the actus reus) is that E is really injured. Finally, the prohibited act element means that E’s actions must constitute a crime under New Zealand law (in this case the CA 1961). If the prosecution is able to establish all these factors beyond a reasonable doubt (or occasionally, ‘on the balance of probabilities’), criminal liability

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27 1- Actus reus: it compromises action or omission (for better description it is know as conduct). The exhibition of the conduct is the necessary element. However, the actus reus for every crime is distinctive. In some circumstances, actus reus compromises conduct and its attendant circumstances or results. Or it may include set of circumstances or “state of affairs.” See Andrew Simester and Warren J Brookbanks *Principles of Criminal Law* (3th ed, Brookers, Wellington, 2007) at 42-87.

2- Prohibited act: the most important characteristic of a crime is the recognition by the law as a crime. In other words, the law, in a particular jurisdiction, should recognise the crime, its elements and its punishment prior to the action. No one should and must not be convicted of a crime unless it is recognised in law as a crime. The principle of this came from the Latin rule, 'nullum crimen sine lege', no crime without law. Andrew Simester and Warren J Brookbanks *Principles of Criminal Law* (2nd ed, Brooker's, Wellington, 1998) at 25. In New Zealand, the Crimes Act 1961, s 9, codifies the above requirement.

3- Mens rea: broadly speaking, mens rea is the deliberate intention to commit a crime. For example, in order to convict a person for a crime of murder, it has to be proved that D committed the conduct and it was recognised by the law prior to the action as a crime and D intentionally committed a crime. Simester and Brookbanks, above n 18, at 91-93.

28 New Zealand legal system considers all of the above-mentioned elements to provide sufficient basis for establishing a crime. See Simester and Brookbanks, above n 18.
will be established. The defence counsel might try to create reasonable doubt about one or more of the above elements. For instance, they might try to prove that E injured F by accident instead of intentionally. It might also be claimed that E had no voluntariness at the time of the crime. Once the above-mentioned elements have been proved, then criminal lawyers can, in the language of Simester and Brookbanks, speak in terms of ‘a prima facie offence’.  

The first step: voluntariness in ‘establishing a crime’

Proving that D acted voluntarily is also an essential element of proving a crime. The centrality of voluntariness to criminal responsibility in New Zealand is regarded as a matter of fundamental legal principle. As a general principle of wide application, the current New Zealand law requires that D can be guilty of a crime only where there has been voluntary conduct (act or omission) in circumstances where he/she could reasonably exercise choice. An act is voluntary where there is a conscious and free exercise of will. An omission will be culpable where there is an opportunity for the accused to behave differently. In Kilbride v Lake, Woodhouse J summed it up as follow:

… a person cannot be made criminally responsible for an act or omission unless it was done or omitted in circumstances where there was some other course open to him. If this condition is absent, any act or omission must be involuntary.

As mentioned before, and as a matter of principle, providing the proof of a physical element (actus reus) is essential for all criminal conduct. Woodhouse J made it clear that voluntariness is the ‘spark’ without which the actus reus cannot be produced at all. Conduct is not voluntary unless the accused ‘consciously chose’ to perform the act. It should, however, be mentioned that there is some controversy over whether voluntariness

29 At 20.
30 At 85-88.
32 Kilbride v Lake, above n 31.
33 At 593.
34 At 593.
35 Simester and Brookbanks, above n 18, at 70-85.
36 Kilbride v Lake, above n 34, at 593. Kilbride v Lake has been criticised by some authors, for example, M Budd and A Lynch "Voluntariness, Causation and Strict Liability" (1978) 74 Crim L R 74 at 74. The case provides an excellent description of voluntariness as an element of actus reus.
is a part of the mens rea or actus reus. For example, the authors of *Adams on Criminal Law* take the approach that voluntariness is part of the mens rea. It is not essential to my present purpose to determine whether voluntariness is an essential element of actus reus or mens rea. The point is that voluntariness is a legal requirement, without which ‘a prima facie offence’ cannot be established.

The role of voluntariness in New Zealand criminal law was recently discussed by the Court of Appeal in *M v R*. M was convicted of assault for slapping his daughter on the face. M was found guilty and subsequently sentenced to community work and supervision. M appealed his conviction on the basis that the trial judge had misdirected the jury as to the role of voluntariness and ‘instinctive’ actions. M’s defence had been stated in these terms:

He did not plan to apply force, he didn’t plan to raise his hand in the manner that he did and that is the issue. He didn’t form an intention. There is this discussion going on and he instinctively, or involuntarily as he put it, and you’ve just heard his words himself from the witness box so I won’t repeat those to you but remember what he said when he described it. He describes an involuntary action. He didn’t realise, he didn’t plan to do it before, he didn’t realise it had happened. That is not intentional. If he’d gone on and repeatedly hit his daughter numerous times that would be intentional. This is an unintentional action. He hasn’t stood there and formed an intention and then struck her. He hasn’t done it.

The Court of Appeal defined voluntariness in this way:

A person cannot complete the *actus reus* of an offence, that is be responsible for the relevant conduct, unless their act is voluntary. Voluntary is not here synonymous with intention or state of mind, and does not indicate that the act was planned or desired. Rather it means that *the act was a product of the person’s reason.*

Therefore, the Court regarded voluntariness as relating to the actus reus of an offence. An act which is truly involuntary is not within the accused’s control at all, and even the actus reus will not be attributed to him/her: “A person cannot complete the *actus reus* of an offence, that is be responsible for the relevant conduct, unless their act is voluntary.”

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38 Francis Boyd Adams *Criminal Law and Practice in New Zealand* (Sweet & Maxwell, Wellington, New Zealand, 1971) at 352.

39 Though, for further discussion, see John Fisher "Voluntariness - the Missing Link" (1988) 6(1) Auckland U L Rev 1 at 5-9.

40 *M v R* [2013] NZCA 134.

41 At 7.

42 At 24 (citations omitted) (emphasis added).

43 At 24.
M’s defence, though, had conflated the idea of ‘involuntariness’ with that of ‘instinct.’ In considering M’s claim that “… he instinctively or involuntarily” slapped his daughter,\(^44\) the Court distinguished an instinctive act from an involuntary one. An instinctive act is one which “… involves neither a loss of physical control, nor impaired consciousness, as do involuntary acts.”\(^45\) While an instinctive act may or may not be intentional, it will not – on the Court’s approach – be involuntary. Then, instinctiveness relates to the mens rea of a crime, not to the actus reus. The court defined voluntariness as a situation where “… the act was the product of the person’s reason.”\(^46\)

Now return to the claim of V-insanity. D knew what he/she was doing but was unable to control his/her actions. The question is, is a person with irresistible impulse acting involuntarily in the sense that the Court of Appeal said? Probably not. Because the bar for involuntariness as a negation of actus reus is set very high – too high for the sorts of claims of V-insanity, – this thesis is not considering the claim of V-insanity to the step of ‘establishing a crime’.

Moreover, the court in \(M v R\) was concerned with total involuntariness in the sense of automatism and some of its examples like muscle spasm. As Lord Denning in \(Bratty v A\-G for Northern Ireland\) defined an involuntary act as:\(^47\)

> An act which is done by the muscles without any control by the mind such as a spasm, a reflex action or a convulsion; or an act done by a person who is not conscious of what he is doing such as an act done whilst suffering from concussion or whilst sleepwalking.

\(M v R\), and the examples given by Lord Denning, concern true involuntariness or total involuntariness, which is different from V-insanity. In other words, given \(M v R\) and the court’s general view as to what constitutes voluntariness, V-insanity is not going to be a runner as a defence to the first part of ‘establishing a crime’. It may be, however, to the ‘denying criminal responsibility stage’. This stage is explained below together with an assessment of the relevance of V-insanity to that stage.

‘Denying criminal responsibility’

Even though all the elements of an offence are established beyond a reasonable doubt, D can still avoid liability by claiming an exculpatory defence, which has to amount either to

\(^{44}\) At 7.

\(^{45}\) At 25 (citations omitted).

\(^{46}\) At 24.

\(^{47}\) \(Bratty v Attorney General of Northern Ireland\) [1963] AC 386; \(Bratty v Attorney General of Northern Ireland\) [1961] 3 All ER 523 at 409.
a justification or to an excuse. Self-defence and prevention of crime are some examples of justification in New Zealand. Excusing factors include insanity, compulsion and duress of circumstances, where harm can be defensible on a more restricted basis (criminal lawyers would call this phase ‘denying criminal responsibility’).

**The second step: ‘denying criminal responsibility’ by reason of V-insanity**

The sorts of D that I discuss in this thesis will not have experienced muscle spasms, or sleepwalking. Their actions may be said to have been “voluntary” in the sense meant by the Court of Appeal in *M v R*. As such, they will be deemed to have carried out the actus reus of offences. The relevant question, therefore, is whether they will be deemed to be responsible for that action.

If the defence of V-insanity is raised, D is claiming that he/she knew what he/she was doing but because of a DofM he/she was not able to control his/her actions. In terms of existing legal defences, the closest fit to such a claim is the defence of insanity. However, as mentioned before, the problem for D is that the current form of insanity in New Zealand law is cognitive in nature, with no provision made for volitional impairment. As D knew what he/she was doing, he/she will not be able to make use of this defence. In the following sections, I will describe and analyse the reasons for the rejection of V-insanity. In doing so, I will attempt to show that inconsistency exists as between law’s acceptance of C-insanity, and its rejection of V-insanity.

**Evaluating the argument against the inclusion of V-insanity**

As far back as 1883, Sir James Fitzjames Stephen commented on V-insanity:

… the authority of the answers is questionable, and it appears to me that when carefully considered they leave untouched the most difficult questions connected with the subject, and lay down propositions liable to be misunderstood, though they might, and I think ought to be construed in a way which would dispose satisfactorily of all cases whatever.

The reason(s) for leaving untouched the claim of V-insanity have not been directly mentioned by judges. Inevitably, this thesis requires me to search legal scholars’ opinions

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48 Simester and Brookbanks, above n 18, at 11. Justificatory defences in effect are defences which allege that, even though D’s conduct was harmful, his/her conduct was nevertheless appropriate in some circumstances. In contrast, excusatory defences are defences that are concerned with absence of fault or culpability of D. At 11-12.

49 At 11-12.

50 *M v R*, above n 40, at 24 (citations omitted) (emphasis added).

for those reasons. There are seven suggested reasons: firstly, the difficulty of distinguishing between an impulse which is really irresistible and an impulse which is merely unresisted. If this difficulty cannot be overcome, then the presence of V-insanity cannot be reliably measured. Secondly, the fear of misusing the defence of V-insanity. Thirdly, the danger involved in exempting some violent criminals. Fourthly, uncontrollable impulses can be controlled in one special circumstance: in the presence of a policeman. Fifthly, creating a defence of V-insanity is redundant. Sixthly, claims of V-insanity are rarely used and rarely successful. Finally, the presence of V-insanity produces avoidable confusion with voluntariness.

The first objection: an irresistible impulse or an impulse unresisted?

Stephen Morse explained this difficulty in this way:

... we cannot distinguish between irresistible impulses and those impulses simply not resisted. No established metric exists to determine the magnitude of impulses, desires, or feelings.

To put the above explanation in a simple example, assume that A, for some reason, could not control his/her impulse. In contrast, B could actually control his/her impulse, albeit perhaps with some difficulty, but on a particular occasion chose to give in to it. In the view of some legal scholars, drawing a distinction between A’s impulse and that of B is impossible. A’s impulse was irresistible and B’s was resistible, but unresisted. But an observer has no way of knowing that this was the case. An accused may claim that he/she was acting due to an irresistible impulse, and therefore should not be held responsible. But how could a court be sure that this was truly the case? For the purposes of this thesis, drawing a distinction between A’s and B’s impulses is referred to as the ‘line-drawing problem’.

Morse’s view about this difficulty echoes the conclusion reached by scholars like Harding-Barlow, McAuley, Goldstein, Mackay, Ormerod, Bell, Slobogin and others.

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52 It needs to be mentioned that the view of some New Zealand and English scholars was also shared by other scholars in other jurisdictions. In order to show the strength of the argument of New Zealand and English scholars, sometimes the view of other scholars will be mentioned in the following debate.

53 The last three reasons were expressed by the Australian scholars in the opposition of the inclusion of V-insanity in some Australian jurisdictions. Because one aim of this Chapter is reviewing the experience of Australian jurisdictions, these reasons will be reviewed here.

These scholars address the ‘line-drawing problem’ in the context of the full defence of V-insanity. The issue of the ‘line-drawing problem’ also arises in the context of DR. In the DR context, the problem is distinguishing between irresistible and unresisted impulses when a person’s ability to self-control was significantly – but not fully – impaired. (A successful defence of DR means a person is found partially and not totally responsible). That difficulty has been mentioned in the writing of scholars such as Barbara Wootton and Richard Sparks. For instance, Wootton argues that because of the impossibility of

55 Harding-Barlow, above n 20, at 393.
57 Abraham S Goldstein The Insanity Defence (Yale University Press, New Yaven, 1967) at 67-68.
63 Substantial impairment of self-control subject to the defence of DR is a challenging area and not relevant to this Chapter. However, in the next Chapter, substantial impairment of self-control and other elements of the defence of DR will become very important and will be elaborated more.
distinguishing between an irresistible impulse and an impulse which was merely not resisted, the defence of DR should not be accepted. She notes that this distinction:65

... would seem to be insoluble, not merely in the present, but indeed in any, state of medical knowledge. Improved medical knowledge may certainly be expected to give better insight into the origins of mental abnormalities, and better predictions as to the probability that particular types of individuals will in fact ‘control their physical acts’ or make ‘rational judgment’; but neither medical nor any other science can ever hope to prove whether a man who does not resist his impulses does not do so because he cannot or because he will not. The propositions of science are by definition subject to empirical validation: but since it is not possible to get inside another man’s skin, no objective criterion which can distinguish between ‘he did not’ and ‘he could not’ is conceivable.

The difficulty of the ‘line-drawing problem’ is one shared by the defences of V-insanity and DR. Because of the shared difficulty, the discussion of it in relation to one defence is equally applicable to the other. In this Chapter, I will assess the difficulty of the ‘line-drawing problem’ in V-insanity and try to find a way to solve the problem. This discussion is equally applicable to the next Chapter where I discuss DR.

The argument against the first problem

Wootton’s first objection is a scientific one – i.e., science cannot help the law to solve the ‘line-drawing problem’. As a matter of principle, it is not justifiable to say that even if science cannot solve the ‘line-drawing problem’ now, science can never solve the ‘line-drawing problem’. On this point, Wootton’s argument is not defensible. The inability of science now to solve the problem does not necessarily mean that it cannot solve it in the future. Another response to the difficulty of the ‘line-drawing problem’ is this: as a matter of principle, the difficulty of the ‘line-drawing problem’ should not preclude the availability of V-insanity to those who are deserving of the defence. Before developing that response, though, it is necessary to consider the debate in detail.

Distinction between irresistible and unrresisted impulse: what type of evidence?

This difficulty – or impossibility, even – of the ‘line-drawing problem’ explains at least some of the reluctance of New Zealand courts and legislators to accept V-insanity as a valid defence.

Such a distinction requires an actual finding as to the accused’s mental states. In other words, the only way to satisfy the opponents’ demand (distinguishing between A and B, and establishing a claim of irresistible impulse for A) is by conducting empirical research, which shows the actual workings of the accused’s mind at the time of the crime. I emphasise the demand of the opponents of V-insanity because it is not necessarily the

65 Wootton, above n 62, at 74.
demand of the law. Only by conducting empirical research can the demand be met. For the purposes of the current thesis, I refer to an empirical investigation as a ‘scientific inquiry’, in contrast to a ‘common sense inquiry’.

As a result, only by conducting a ‘scientific inquiry’ will the opponents’ demand be satisfied. There is some debate in scientific literature as to whether science is presently able to solve the ‘line-drawing problem’ in V-insanity.\footnote{Mark R Dixon and Taylor E Johnso "Impulse Control Disorders" in Peter Sturmey (ed) \textit{Functional Analysis in Clinical Treatment} (Academic Press, Amsterdam; 2007).} As mentioned before, it is not the purpose of this thesis to investigate the current state of science in that respect. As noted above, though, critics of V-insanity have not only disputed that solving the ‘line-drawing problem’ is presently possible; for some of them, like Barbara Wootton, the objection is that it is impossible “… not merely in the present, but indeed in any, state of medical knowledge.”\footnote{Wootton, above n 62, at 74.}

Certainly, the difficulty of the ‘line-drawing problem’ is a challenge for V-insanity. But is it a challenge so different from other parts of the law? In order to answer the question, in the following sections, I will examine some other legal issues that involve internal mental states. How does the law respond to matters such as C-insanity and intention? Does it require scientific certainty? Or is it more common to rely upon ‘common sense inquiries’? If the latter, then lawyers may reasonably wonder whether a higher standard of proof and certainty is being demanded of V-insanity than of other legal inquiries.

In the next section, the criteria for establishing non-responsibility (C-insanity) and responsibility (the legal requirement of intent), and the practical way to establish C-insanity will be shown.

**Dissecting the criteria for establishing non-responsibility (C-insanity) and intent**

The ‘line-drawing problem’ and C-insanity

The difficulty of the ‘line-drawing problem’, then, may not be unique to questions of volition. In the context of C-insanity, an analogous challenge arises when courts are tasked with determining whether D, at the time of the offence, was unable to understand what he/she was doing (or the morality of his/her action). The question is whether the law relies on any direct scientific means to solve this problem. If not, how does the law in practice determine whether the accused was unable to understand what he/she was doing in the context of C-insanity? The short answer is by conducting a ‘common sense inquiry’; the law does not rely on any direct scientific means of ascertaining the accused’s state of mind. Two reasons will be provided to substantiate this answer. I will elaborate on these two reasons below while I will be trying to show the way of
establishing C-insanity. Finally, I will analyse the case of R v Dixon\(^{68}\) to show that the law rejected the ‘scientific inquiry’ in the assessment of C-insanity.

Section 23 (1) and (2) of the CA 1961 provides the defence of C-insanity:\(^{69}\)

(1) Every one shall be presumed to be sane at the time of doing or omitting any act until the contrary is proved.

(2) No person shall be convicted of an offence by reason of an act done or omitted by him when labouring under natural imbecility or disease of the mind to such an extent as to render him incapable—

(a) of understanding the nature and quality of the act or omission; or

(b) of knowing that the act or omission was morally wrong, having regard to the commonly accepted standards of right and wrong.

Section 23 initiates with a presumption that every person is sane at the time of doing or omitting any act “… until the contrary is proved.”\(^{70}\) That presumption has the effect of casting on D the onus of proving the defence of insanity.\(^{71}\) D must show (has the burden of proving) that he/she was insane when he/she committed the relevant act (the first criterion).\(^{72}\) A mere assertion that D was insane will not be sufficient to discharge the burden of proving insanity. Rather, D must prove this ‘on the balance of probabilities’, which is to say, he must convince the jury (or as the case might be, the judge) that it is more likely than not that he/she was insane at the time of the alleged offence.\(^{73}\) D must prove that he/she was affected by either a DofM, or natural imbecility.\(^{74}\) Whether a particular condition constitutes a DofM is a question of law, to be determined by the judge. It is open to the court to recognise any physiological factor that has an effect on D’s mind. Also, D needs to prove that the DofM had the effect of preventing him from “… understanding the nature and quality of the act or omission; … or of knowing that the act or omission was morally wrong, having regard to the commonly accepted standards of right and wrong.”\(^{75}\) This is a question of fact and in jury trials is therefore left to the jury to decide.

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\(^{69}\) Crimes Act 1961, s 23(1) and (2).

\(^{70}\) Section 23(1).

\(^{71}\) Simester and Brookbanks, above n 18, at 298.

\(^{72}\) At 298.

\(^{73}\) R v Cottle [1958] NZLR 999 (CA) at 1014 (Gresson P).

\(^{74}\) The latter concept, which has been acknowledged by the New Zealand Law Commission to be archaic, will form no further part of the discussion here. See Law Commission Mental Impairment Decision-Making and the Insanity Defence (NZLC PP55, 2010) at 3-6.

\(^{75}\) Crimes Act 1961, s 23(2).
As noted above, DofM is a legal rather than a medical term. While scientific assessors are allowed to give their opinions as to whether a disorder may be treated as a DofM, and may testify as to the symptoms and causes of the condition, their assessment is not the ultimate determinant of whether D will be found insane. Scientific testimony is informative only. In *R v Cottle*, the Court of Appeal made this plain: “… surely [what constitutes a DofM] cannot be left to a medical witness to apply his own definition.”

Therefore, the question of whether D laboured under a DofM is for the trier of fact (the jury or in non-jury trials, the judge). How do they reach that conclusion? The trier of fact has to decide whether, for the purposes of s 23, a DofM has rendered D incapable of knowing what he/she was doing, or that the act or omission was morally wrong (the second criterion). The judge or jury, then, is required to determine the matter of insanity not just on the basis of the medical evidence, but on the basis of all evidence, including medical evidence, circumstantial evidence and evidence of D’s behaviour. It is not a ‘scientific inquiry’. The following case illustrates this and shows that assessing a claim of C-insanity requires a ‘common sense inquiry’.

In 2003, Antonie Dixon embarked on a reign of terror ending in the death of one person and severe injuries and trauma to a number of others. Dixon was charged with numerous offences, including murder, attempted murder and wounding with intent to cause grievous bodily harm. He pleaded not guilty by reason of insanity under s 23 of the CA 1961. Dixon argued that at the time of the crime he was affected by a DofM – specifically, severe personality disorder – that prevented him from knowing his actions were morally wrong – i.e., a defence of C-insanity.

Dixon presented psychiatric evidence which indicated that he had some mental difficulties – the Court of Appeal later referred to “… what everyone agreed was a disordered mind (though not necessarily an insane one).” The question for the jury was “… whether the defence had established, ‘on the balance of probabilities’ that Mr Dixon, because of his DofM, did not know that what he was doing was morally wrong.”

In directing the jury, the trial judge said they were to make an assessment of Dixon’s capacity to rationalize what was morally wrong and right. The trial judge put the emphasis on Dixon’s ‘capacity’ in this way:

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76 R v Cottle, above n 73, at 1028. Per North J.
77 R v Dixon, above n 68, at 10.
78 R v Dixon 2 NZLR 617 (CA) at 32.
79 At 31.
80 At 31 (emphasis added).
... the defence could be established only if the jury were satisfied that the state of Mr Dixon’s brain was such that he was totally incapable of understanding what was right and what was wrong.

The jury found Dixon guilty of several charges, including murder and wounding with intent, though not of the charges of attempted murder.81

Dixon appealed and argued that the trial judge’s direction was incorrect on the question of insanity. The majority of the Court of Appeal agreed:82

What is to be avoided is any suggestion that, under this limb of the insanity defence, the jurors’ task is to perform a neurological or psychiatric assessment of the accused’s brain or its workings, with a view to establishing its capacity.

Rather, it provided a guideline for assessing the accused’s state of mind:83

The jury should have been simply asked whether the defence had established, on the balance of probabilities, that Mr Dixon, because of his disease of the mind, did not know that what he was doing was morally wrong. This is a comparatively simple inquiry, but simplicity in this area is highly desirable.

To take some lessons from the Dixon case, the trial judge directed the jury that they should investigate the accused’s state of mind to find (in a scientific way) whether he was totally incapable. The Court of Appeal held that this direction was erroneous. Further, the Court of Appeal held that the jury should have been particularly warned away from neurological or psychiatric assessments in an attempt to find actual incapacity. Scientific assessment is not the sort of evidence a jury should be looking for and so, the absence of such evidence does not seem to be the sort of thing that would invalidate an insanity defence. The Court of Appeal emphatically rejected the ‘scientific inquiry’ approach. Yet, deprived of this definitive evidence, the jury had nonetheless to draw a conclusion as to insanity. The majority of the Court of Appeal considered that, this must be done in a simple way. For the purposes of the present discussion, I call a simple investigation as to D’s capacity the ‘common sense inquiry’, which contrasts sharply with the ‘scientific inquiry’.

In discussing Dixon, I tried to analyse what the fact-finders should not do while examining D’s mental state and his/her incapability to form the required cognitive state. In the following case analysis, I will try to show how fact-finders should determine D’s mental state, for the purposes of determining insanity.

81 Interestingly, the existence of ‘reckless murder’ in New Zealand law allowed the jury to reach what may, at first glance, look like a perverse decision: that Antonie Dixon was capable of forming the necessary state of mind for murder, but not for attempted murder.

82 R v Dixon, above n 68, at 32 (emphasis in original).

83 At 32.
Maxwell Tobin was charged with importing heroin into New Zealand, and with possessing cocaine with intent to supply. His insanity defence was based on his belief that he was “… God, the Messiah, some divine or important personage, each one having a message of dramatic import to carry which was noted on examination either for its triviality or for its potential for destructiveness.” He believed that he had a mission to save the world and this could be done by showing young people how to use drugs. On these grounds, Tobin claimed insanity, arguing that at the time of the crime he was suffering from schizophrenia to a degree that he was incapable of knowing that what he had done was morally wrong having regard to the commonly accepted standard of right and wrong.

Tobin’s insanity defence was buttressed by defence medical experts who interviewed him in prison and testified to the existence of the Messianic belief, concluding that he was suffering from schizophrenia. Although this evidence was not challenged, the trial judge directed the jury that they were not obliged to accept the defence. The question, the judge explained, was not whether Tobin “… was suffering from a disease of the mind”, but rather, “… whether he was suffering from that disease to such an extent that he was incapable of knowing that the importation of heroin and possession of cocaine was morally wrong.”

The defence medical experts formed the view that Tobin’s offence was caused by his schizophrenic delusions, but the judge identified some doubts about this. For instance, at an earlier stage, Tobin had accepted that taking drugs was an evil thing, a view that may be thought difficult to reconcile with a Messianic belief. Further, the doctors who had interviewed Tobin “… did not seem to really pin him down in their interviews and say, ‘Why did you do it? What exactly did you do?’ And if necessary, question him as to what they claim they believe to be his beliefs.”

Even if it were accepted that Maxwell Tobin was affected by a DofM, and even if that DofM caused the Messianic delusions by which he claimed to be affected, the jury still had to decide whether those delusions caused the offence in question. How did those beliefs lead Tobin to commit drug offences? How did his pattern of offending fit with what he claimed to believe of his divine mission? Denied direct access to the inner workings of Tobin’s mind, the jury could only base their answers to these questions on

84 R v Tobin 1 NZLR 423 at 427.
85 At 424-428.
86 At 430.
87 At 430
88 At 430
89 R v Reid HC Auckland CRI-2008-090-2203, 4 February 2011 at 430-431.
inferences drawn from other factors. They had to consider what Tobin said and did, and
the testimony of the doctors who interviewed him – though they need not be persuaded
by that testimony.\textsuperscript{90}

The South Australian case of \textit{R v Adam}\textsuperscript{91} provides another example of the way in which
C-insanity defences are approached. The accused, Charlie Adam, was bushwalking and
had lit a fire. He was charged with causing a bushfire, in contravention of South
Australian Criminal Law. As a defence, he claimed that he became lost while hiking and
lit a signal fire to summon assistance. He was equipped with water, a map, a mobile
phone and a whistle. Adam pleaded not guilty not because of the unreasonableness or
necessity of his action, rather on the ground of mental incompetence.\textsuperscript{92} The defence of
mental incompetence in South Australia functions in a very similar way to C-insanity in
New Zealand.\textsuperscript{93}

In particular, Adam claimed that he was suffering from bipolar affective disorder and on
the day of the alleged crime he was affected by stress which was exacerbated by heat,
fatigue and panic arising out of the situation. He claimed that as a result of those factors,
his insight and judgment was limited to the extent that he was unable to reason about the
wrongfulness of his conduct. Adam relied upon the testimony of two psychiatrists. The
evidence of one is worth quoting, as it shows the sorts of limitations to which such
assessments are subject:\textsuperscript{94}

\begin{quote}
My opinion is based on my history compared with my knowledge and experience of
other people suffering from similar disorders namely a baseline of an illness
potentially causing psychosis … I have no objective evidence that Mr Adam became
psychotic at the time except his subjective history which is internally consistent and
shows a complete lack of logic.
\end{quote}

\textsuperscript{90} The Court of Appeal dismissed the appeal, and convicted Tobin of importing heroin into New Zealand,
and also for possessing cocaine with intent to supply.

\textsuperscript{91} \textit{R v Adam} [2012] SADC 119. The \textit{Adam} case is not applicable in English or New Zealand law. I review
the case here only to show the principles for assessing the insanity defence.

\textsuperscript{92} At 119.

\textsuperscript{93} “A person is mentally incompetent to commit an offence if, at the time of the conduct alleged to give rise
to the offence, the person is suffering from a mental impairment and, in consequence of the mental impairment –

(a) does not know the nature and quality of the conduct; or

(b) does not know that the conduct is wrong; or

(c) is unable to control the conduct.” Criminal Law Consolidation Act 1935, s 269 C.

\textsuperscript{94} \textit{R v Adam}, above n 91, at 53.
Even though the psychiatrist had no objective evidence of Adam’s state of mind on the occasion of setting the bushfire, the psychiatrist concluded that Adam “... was not aware of the wrongfulness of his conduct.”

As it turned out, the judge rejected the defence of mental incompetence. Brebner J referred to the fact that Adam took specific (although ultimately ineffective) precautions before lighting the bushfire and held:

... the accused had retained the capacity to reason ... and to recognise the risk that the bush might be set alight if he lit a signal fire and also to identify and implement the steps that were available to him to obviate or minimise that risk. His ability to recognise the very risk which made lighting a signal fire wrong according to the standards of ordinary people and to recognise that it was a risk he should attempt to obviate demonstrates that it was self-evident to him that lighting a signal fire in such a way that it created a risk that the surrounding scrub might be set alight was something that he should not do.

Two important points about the use of mental incompetency and its analogous defence of insanity are understandable in Adam. Firstly, the case illustrates that even expert witnesses may have to rely on ‘common sense’ evidence, from which to draw certain inferences as to an accused’s state of mind at the time of the crime. The psychiatrist acknowledged that he had no way of finding, scientifically and objectively, that Adam’s bipolar affective disorder affected his reasoning and judgment such that he did not appreciate the wrongness of lighting the fire.

Secondly, the judge’s rejection of this defence is a further explanation of what I discussed above, in Tobin. In cases where insanity is pleaded as a defence, the fact-finder must determine whether the DofM really rendered D unable to appreciate the nature of the act. Having no access to D’s state of mind on the relevant occasion, the fact-finder will search for the most plausible account of D’s conduct. This does not mean that the defence case is uncritically accepted. Rather, the trier of fact would search and question as to how the DofM was related to the behaviour. Two different situations are imaginable. On the one hand, if D’s conduct is not consistent with the typical symptoms of that DofM, then it is likely that it will not be attributable to that DofM. On the other hand, if the conduct is very irrational, and no other more compelling explanation for it is advanced, then the fact-finder may accept that the most likely explanation is that D’s conduct was caused by the DofM.

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95 At 74.
96 The case was heard by a judge alone, i.e. with no jury.
97 At 105.
So far, I have provided cases in which the accused has introduced the defence of C-insanity but in none of those cases was the defence successful. In the next section, I am going to review one case in which C-insanity was successful. This success was not the result of a ‘scientific inquiry’.

Paul Warren, the accused, was driving at a speed in excess of 100 kilometres an hour on a highway in New Zealand which resulted in the deaths of two victims and serious injury to another. He was charged with manslaughter and causing serious injury. An insanity defence was raised on the basis he believed “… he was in a time machine and was invisible when he exceeded 100 kilometres an hour and could pass through walls and matter.”\(^98\) The accused’s perception was such that he did not understand he was driving a vehicle dangerously, hence he did not understand the nature of his act.

Two psychiatrists examined him after the crimes. They reviewed his mental health records which posited a history of mental disorders including depression and bipolar disorder. There was also evidence of erratic behaviour before the offence. One of the psychiatrists concluded that, “… it [is] likely the accused was not aware of the nature and quality of his actions at the material time.”\(^99\) The other concluded that, “… because of his psychotic condition, [the accused] would not have recognised that he was driving a car dangerously.”\(^100\)

The medical evidence was unchallenged. The trial judge – in a judge-alone trial – accepted the experts’ evidence and concluded that Warren was suffering from a DofM at the time of the crime, namely, a bipolar mood disorder. The judge accepted that Warren was not aware of his actions and was therefore insane. The judge accepted the defence of C-insanity because of the medical evidence and the criterion for establishing the insanity defence. That criterion, as mentioned before, is ‘on the balance of probabilities’, i.e., Warren was more likely than not insane at the time of the crimes.\(^101\)

In Warren, neither the psychiatric experts, nor the court carried out a ‘scientific inquiry’ to access the inner workings of the accused’s mind at the time of the crime. It is impossible to determine his state of mind precisely as it was when he thought he was in a time capsule, driving at high speed and with the doors locked. What was looked at instead was the surrounding evidence – his erratic behaviour prior to the crimes and his history of mental disorders. On the basis of the evidence, and given the relevant standard of proof

\(^{98}\) *R v Warren* CRI-2008-092-007733 at 11.

\(^{99}\) At 35.

\(^{100}\) At 11.

\(^{101}\) As mentioned before, courts are not obliged to accept the medical evidence. However, if they find the medical evidence substantially based, they can accept that as the basis of the insanity defence. See Simester and Brookbanks, above n 18, at 301-306.
the Court accepted the defence, even though a causal link between the DofM and crimes could not be proved to a scientific level.

As can be seen from Dixon, Tobin, Adam and Warren, the law does not require a scientific inquiry in the case of C-insanity. Insanity defences are not, of course, the only context in which criminal juries are asked to make decisions about an accused’s state of mind. The question of an accused’s intention is another important question for criminal juries.

Establishing intent – a ‘common sense inquiry’

For a number of crimes, the prosecution must prove D’s intention as the fault element of the crime. Courts are concerned with how intention is proved: what counts as conclusive or sufficient evidence that an accused intended a specific consequence? In order to find the answer to the question, consider another example.

G had a fight with H and promised that the next day he would definitely kill H with a gun at 2 pm in T Street. After this conversation, G bought a firearm and bullets and was waiting for H at 2 pm in T Street. On seeing H, G fired the gun and killed H and then mutilated H’s body. In order to establish G’s mental state – typically, that he intended to kill H – the court will not be able to rely on direct evidence of what was going on in G’s head. Instead, it will draw inferences from surrounding circumstances and from G’s behaviour. The implicit reasoning will go something like this: ‘how could G have behaved like this if he had not intended to kill H?’ If the courts cannot think of another plausible explanation, they will often assume that G intended to kill H. The law accepts the evidence as long as it is beyond reasonable doubt in most situations. Hence, at the moment, the law does not concern itself with the ‘scientific inquiry’ into what was happening in G’s ‘internal mental states’, states to which – at least until now – courts have been denied direct access.102 Instead, the law draws inferences as to D’s state of mind from the circumstantial evidence, medical evidence and D’s external behaviour. Drawing conclusions about what D intended, by drawing inferences from this sort of evidence is to the same as the ‘common sense inquiry’. A handful of cases can illustrate the process.

In R v Hancock and Shankland,103 two striking miners killed a taxi driver by dropping pieces of concrete onto his car from an overbridge. The accused claimed that their intent was only to intimidate the driver, and thereby to prevent him carrying strike breaking

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103 R v Hancock and Shankland [1986] 1 AC 455 (HL).
miners to work. The prosecution argued that their intent to kill could be inferred from their actions. As summarized by the trial judge:

The prosecution case could be compressed into one question and answer, the question being ‘what else could a person who pushed or threw such objects have intended but to cause really serious bodily harm to the occupants of the car?’ The answer in the prosecution’s submission was that a person acting in that way could in the circumstances have intended nothing less.

The defence case invited a very different interpretation of events, specifically that “…the two men intended to block the road, to stop the miner going to work, but not to kill or to do serious bodily harm to anyone.”

The jury, of course, had no means of scientifically or clinically ascertaining what was going through the minds of Reginald Hancock and Russell Shankland when they dropped the objects from the bridge. Instead, they were required to reach a decision as to the accused’s mental state by drawing inferences from such factors as the likelihood of death or serious injury ensuing. If such an outcome was highly likely, the jury might reasonably infer that the accused foresaw and therefore intended the injury or death. As the prosecution rhetorically asked, what else could they have intended? In the absence of a plausible alternative narrative, such an inference may seem unavoidable.

As observed by Smith, commenting on Hancock and Shankland: “Of course a process of inference is always involved in determining whether a person had a particular state of mind because this can be proved only by circumstantial evidence.”

Another well-known example is provided by *R v Charlson*. Stanley Charlson, the accused, lived in a house the back room windows of which overlooked a river two feet deep. He called his ten-year-old son into the back room telling him that there was a rat to be seen near the river. Once the boy came to the window, the accused picked up a wooden mallet and struck the boy twice on the head, breaking the skin and causing the blood to flow. The boy tried to defend himself by wrapping his head in a towel. Then, the accused picked the boy up and threw him out the window. The accused was charged with several crimes including unlawfully and maliciously causing grievous bodily harm with intent to murder. No plea of insanity was raised. However, the prison doctor gave evidence to the effect that the accused’s actions were consistent with his having a mental

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104 At 469.
105 At 469.
106 At 469.
problem. This problem made him engage in impulsive violence, over which he had no control. The defence, therefore, argued he could have no intention.

In his direction to the jury, Barry J mentioned the importance of circumstantial evidence and said: 109

All these matters which you have to consider in addition, of course, to the evidence of the prison doctor. You have to ask yourselves whether, having regard to those circumstances, you ought to infer that the accused did have a real intention of causing serious injury to his son.

The intention of the accused can, of course, only be inferred from all the circumstances which have proved before you. Neither you nor I can ever look into the mind of an accused person and say with positive certainty what his intention was at any particular time. A jury is entitled to infer a man’s intentions from his acts.

The Court made it clear that a ‘scientific inquiry’ is impossible and there is no pretence at certainty as to what was actually going on in the accused’s mind at the time of the crime.

Thirdly, consider the case of Gollins v Gollins. 110 After the parties married in 1956 the wife realised that the husband was enormously in debt, and therefore unable to finance the family. For several years the wife suffered from an anxiety state, attributable to her financial and marital difficulties. In 1961 the wife obtained an order against the husband on the basis of his wilful neglect to support the family. Then, she was diagnosed as suffering from anxiety disorder, attributable to her marital and financial troubles. On that basis, she applied to justices for a variation of the original order to include a non-cohabitation clause, on the basis of the husband’s persistent cruelty. The justices granted the application. The husband appealed to the House of Lords. Lord Reid’s statement on the intention needed for the offence of matrimonial cruelty is important for the thesis. He stated that: 111

Intention is a state of mind. You cannot see into other people’s minds, but ordinary people have little difficulty in inferring intention from what a man does and says viewed in light of the circumstances. Juries deal daily with the burden of proof of intention, whether it has to be proved beyond reasonable doubt or on a balance of probabilities.

Similar to Charlson, it is clear that Lord Reid considered that for finding an intention, the ‘scientific inquiry’ should not be conducted. Instead, the accused’s state of mind is inferred in an ordinary sense, either based on beyond reasonable doubt or ‘on the balance of probabilities’, depending on the question at issue.

109 At 320.
111 At 663 per Lord Reid.
As can be seen from the above discussion, there is an inconsistency in the law’s approach. For establishing certain mental states that are key to criminal responsibility, such as intent and C-insanity, the ‘common sense inquiry’ is accepted. Finding the accused’s mental state from their behaviour and circumstantial evidence is what Peter Cane refers to as ‘epistemological uncertainty’ in the criminal law.\(^{112}\) As he states “… responsibility in law is not ‘real’ responsibility.”\(^{113}\) Although the approach to ascertaining state of mind is not absolutely accurate, it is an approach the law relies on. Yet when the prospect is raised of introducing a defence based on V-insanity, the higher standard of a ‘scientific inquiry’ is demanded.

Before elaborating on such an inconsistency, I need to ascertain whether scientific support for C-insanity outweights scientific support for V-insanity. In order to do so, I will review the argument for the rejection of V-insanity. This argument claims that measuring C-insanity is possible, while it is not possible for V-insanity. I will then counter that argument in detail and try to find whether scientific evidence for C-insanity is stronger than V-insanity.

**C-insanity can be scientifically proved but V-insanity cannot**

One of the most influential arguments for rejecting V-insanity asserts that, while the assessment of cognitive abilities is within a professional’s expertise, the assessment of volitional capacities is not. This argument was put forward in the United States in support of the elimination of V-insanity. It is not far-fetched to imagine that the same argument would be raised in New Zealand. This argument is categorised under the ‘line-drawing problem’ because it has the same alleged difficulty: the lack of scientific support for V-insanity.

In the United States, in the 1950s and 1960s, the American Law Institute (ALI) developed its Model Penal Code and recommended the inclusion of both C-insanity and V-insanity.\(^{114}\) The ALI standard 1962 provided that:

\[
\text{A person is not responsible for criminal conduct if at the time of such conduct as a result of mental disease or defect he lacks substantial capacity either to appreciate the criminality (wrongfulness) of his conduct or to conform his conduct to the requirements of law.}
\]

The test included both cognitive (‘to appreciate the criminality of his conduct’) and volitional compartments (‘to conform his conduct to the requirements of law’). It was

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\(^{112}\) Peter Cane *Responsibility in Law and Morality* (Hart Oxford, 2002) at 44-49.

\(^{113}\) At 46.


\(^{115}\) At § 4.01.
widely adopted and used in the federal jurisdictions and the majority of states.\(^{116}\) In 1982, the Hinckley trial\(^{117}\) raised some controversies over the insanity defence and the ALI standard 1962.\(^{118}\) John Hinckley attempted the assassination of President Ronald Reagan and was acquitted under the ALI standard 1962.\(^{119}\) It is unknown whether Hinckley’s acquittal was based on the cognitive or the volitional components of the standard.\(^{120}\)

Hinckley’s acquittal was followed by strong public outcry, demands for reform and sharp criticisms of experts’ roles in the trial.\(^{121}\) The ALI standard was reviewed and the outcome was the Insanity Defense Reform Act 1984. This Act limited the insanity defence in the federal jurisdictions to C-insanity and many States removed V-insanity from their statutes.\(^{122}\) The view of the legal and psychiatric bodies on V-insanity is worth noting.

In 1982, the American Psychiatric Association, which took a leading position in advocating reform of the insanity tests, claimed there was a lack of consensus among psychiatrists with respect to the role of volition in human behaviour. It warned against the application of V-insanity in legal proceedings.\(^{123}\)

Many psychiatrists … believe that psychiatric information relevant to determining whether a defendant understood the nature of his act, and whether he appreciated its wrongfulness, is more reliable and has a stronger scientific basis than, for example, does psychiatric information relevant to whether the defendant was able to control his behavior. The line between an irresistible impulse and an impulse not resisted is probably no sharper than that between twilight and dusk. … . The concept of volition is the subject of some disagreement among psychiatrists. Many psychiatrists


\(^{117}\) United States v Hinckley 672 E2d 115 (D.C. Cir. 1982).

\(^{118}\) Stephen L Golding, D Eaves and AM Kowaz "The Assessment, Treatment and Community Outcome of Insanity Acquittees: Forensic History and Response to Treatment" (1989) 12 Int’l J L & Psychiatry 149 at 152.

\(^{119}\) United States v Hinckley, above n 117; American Law Institute, above n 114, § 4.01


\(^{121}\) Some scholars described the impact of the acquittal in the Hinckley case in the United States was similar to the impact of the acquittal of M’Naghten in England. See Golding, Eaves and Kowaz, above n 118.

\(^{122}\) The Insanity Defense Reform Act 1984 eliminated the control prong from the Federal Test, leaving in place only the cognitive test. The test for insanity provides: "It is an affirmative defense to a prosecution under any Federal statute that, at the time of the commission of the acts constituting the offense, the defendant, as a result of a severe mental disease or defect, was unable to appreciate the nature and quality or the wrongfulness of his acts." Insanity Defense Reform Act 1984, s 18 USC § 17a.

therefore believe that psychiatric testimony (particularly that of a conclusory nature) about volition is more likely to produce confusion for jurors than is psychiatric testimony relevant to a defendant’s appreciation or understanding.

This view echoes the perspectives of the American Medical Association which went a step further and claimed that the medical profession cannot diagnose V-insanity. Similarly, some scholars, such as Bonnie and Williams, as well as the American Bar Association, shared the view of the American Psychiatric Association and the American Medical Association. In response to public and professional pressure, the American Bar Association reviewed the insanity standard, and adopted a resolution advocating the elimination of V-insanity. Its argument turned on two premises: (1) volitional capacity, as compared with cognitive capacity, cannot be reliably measured; and (2) a cognitive-volitional standard is broader and more vague than a cognitive-only standard.

The crux of the legal and psychiatric professions’ argument was that V-insanity is not able to be measured reliably and can create confusion for courts. C-insanity, in comparison, is clinically more accurate. As a result, those professional bodies believed

124 According to the American Medical Association, that insanity defence confuses medical and legal theories in its insistence that an accused’s mental condition deprives him/her of self-control: “A defense premised on psychiatric models represents a singularly unsatisfactory, and inherently contradictory approach to the issue of accountability … . … it is impossible for psychiatrists to determine whether a mental impairment has affected the defendant’s capacity for voluntary choice, or caused him to commit the particular act in question. Accordingly, since models of mental illness are in determinant in this respect, they can provide no reliable measure of responsibility.” AMA Board of Trustees "Insanity Defense in Criminal Trials and Limitation of Psychiatric Testimony" (1984) 251(22) JAMA 2967 at 2978. In the United States of America, the approach of the American Medical Association was highly influential. In 1984, congress agreed when it enacted the Insanity Defense Reform Act, 18 USC § 17(a) (1994), codifying the classic "defect-of-cognition" test as the exclusive standard for federal insanity defences. See generally Carols M Pelayo "Give Me a Break I Couldn't Help myself: Rejecting Volitional Impairment as a Basis for Departure Under Federal Sentencing Guidelines Section 5k2.13" (1999) 147(3) U Pa L Rev 729 at 733-735.

125 Bonnie wrote that: “the risks of fabrication and ‘moral mistakes’ in administering the defense are greatest when the experts and the jury are asked to speculate whether the defendant had the capacity to ‘control’ himself or whether he could have ‘resisted’ the criminal impulse.” Bonnie, above n 57, at 196. It seems that the approach of the American Psychiatric Association and Bonnie was followed by the Fifth Circuit of the United States Court of Appeals when in United States v Lyons the court decided to abandon the V-insanity test of the American Law Institute. United States v Lyons 731 F 2nd 243, (1984). Bonnie, above n 57, at 196. In the same vein, Goldstein mentioned: “… volitional test raises practical difficulties far more formidable even than those involved in a purely cognitive formula. … . If I assert that I have an uncontrollable impulse to break shop windows, in the nature of the case no proof of uncontrollability can be adduced. All that is known is that the impulse was not in fact controlled; and it is perfectly legitimate to hold the opinion that, had I tried a little harder, I might have conquered it.” Abraham S Goldstein "The Insanity Defense (Book review)" (1968) 77 Yale LJ 1029 at 1036.

126 Williams, above n 62, at 659.

that C-insanity should be maintained in the scope of the insanity defence, but V-insanity should be removed.

The argument against the scientific superiority of C-insanity

The best way to respond to the previous argument, that V-insanity does not have valid scientific support but C-insanity does, is by asking this question: whether there is any evidence to support the conclusion that C-insanity has stronger scientific basis than V-insanity? The view of psychologists and jurists can help me to find the response to this question.

Firstly, the American Psychological Association objected to the rejection of V-insanity. It argued for an empiricist position that changes should be grounded in the scientific results, not mounting political and social pressures. The American Psychological Association argued for a thorough review of the ‘existing research literature’ and the conducting of:  

… empirical studies, if needed, to provide information about whether behavioral sciences are able to render informed opinions about behavioral control and whether such opinions assist the jury in making their scientific, moral, and legal decisions regarding the defendant’s responsibility for the alleged acts.

Richard Rogers’ work casts light on this. Rogers, a professor of psychology, carefully examined the issue. He reviewed the contemporary scientific literature and noted that there is no empirical research to back up the “… assumption that the cognitive prong has a stronger scientific basis than the volitional prong and can be more reliably measured.”  

In addition, in the evaluation of the empirical research which existed, Rogers concluded not only that “… this research flatly contradicts the American Psychiatric Association’s unsupported assertions regarding the scientific superiority of the cognitive prong” but also that “… psychiatrists were more confident of their decisions regarding the volitional prong” and that there were “… no significant differences between the cognitive and volitional prongs in the frequency of insanity recommendations.”

Rogers, then proposed several criteria to help psychiatrists assess V-insanity. Reviewing those criteria is not the purpose of this Chapter. I mentioned the issue only to show that, according to some academics, there are some criteria for diagnosing V-insanity, and no reason to support that doing so is more difficult than in the case of C-insanity.

128 American Psychological Association, above n 123, at 683.
129 Rogers, above n 120, at 841.
130 At 842-843. See also, R M Wettstein, E P Mulvey and R Rogers "A Prospective Comparison of Four Insanity Defense Standards" (1991) 148(1) Am J Psychiatry 21 at 21-27.
Thirdly, the views of the American Psychological Association and Rogers are shared by Ronnie Mackay, a criminal law scholar. Mackay reviewed some of the most relevant contemporary literatures on the availability of scientific evidence for V-insanity. He found that there is no valid scientific evidence to suggest that V-insanity is operating in an unfavourable manner. Mackay concluded that V-insanity was rejected following criticisms of the legal and medical professions. Those criticisms came in the wake of the highly criticised acquittal of John Hinckley, and were based on the alleged imprecision of the V-insanity test. However, none of these criticisms were backed by science:

\[\ldots\text{ there appear to be no empirical data to support the ‘assumption that the cognitive prong has a stronger scientific basis and more reliable measurement than the volitional prong and can be more reliably measured.’}\]

The arguments of the American Psychological Association, Rogers and Mackay have been buttressed by recent research. This research indicates that the evaluative tools used to assess impulse control are similar to those used to evaluate cognitive capacity, and appear to be just as precise. The evidence does not support the claim that the volitional control claims are categorically harder to assess, either in the clinic or in court, than other types of mental difficulties. More importantly, in 2004, contemporary neuroscience demonstrated that volitional control can be impaired “\ldots just as unambiguously as any other aspect of brain function.”

To conclude, there was no sufficient empirical evidence to support the rejection of the V-insanity defence. There was no empirical evidence to suggest that C-insanity has a stronger scientific basis than V-insanity or to indicate that the claim of V-insanity can mislead the legal proceedings more than the claim of C-insanity. Moreover, some scholars cast doubt on the idea that C-insanity has stronger scientific basis than V-insanity. Therefore, the assumption used to reject V-insanity – V-insanity is not

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133 At 116 (citations omitted). See also, Rogers, above n 120, at 841 cited by Mackay, above n 132.


135 Wettstein, Mulvey and Rogers, above n 130. See also, Michael Stoll "Miles to Go before we Sleep: Arizona's "Guilty Except Insane" Approach to the Insanity Defense and its Unrealized Promise" (2009) 97(6) Geo LJ 1767 at 1797-1798.


scientifically as strong as C-insanity – is questionable and appears to lack empirical support.

Thus far, I have tried to show that the opponents of V-insanity are demanding the ‘scientific inquiry’ as the main criterion for establishing V-insanity, an inquiry that is not recognised as the standard for establishing other mental states, such as C-insanity and intent. In addition, I have argued that it is questionable to assume that C-insanity has scientific superiority over V-insanity; in fact, there is no clear reason to suppose that science can offer any clearer insights into cognitive states than volitional ones. If I am right about this, then it is appropriate to discuss in detail the obvious inconsistency in the law’s rejection of V-insanity and acceptance of C-insanity.

The inconsistency of the law’s approach in rejecting V-insanity but accepting C-insanity

The previous section noted that the ‘line-drawing problem’ is a recurring difficulty in some areas of the criminal law, particularly for establishing mens rea states such as intent, and mental state defences such as both C-insanity and V-insanity. As Abraham Goldstein stated, “Whether the issue is ‘control’ or ‘knowledge’ or ‘intent’ or ‘negligence’, it will be impossible to draw absolute lines.” In the same vein, Simon Bronitt and Bernadette McSherry pointed out:

... it is impossible to devise an objectively verifiable test to determine when an accused could not control his or her conduct and when he or she would not. Certainly, it can be argued that the question raised is really not so different from the questions of degree that arise throughout the law. It is impossible to draw absolute lines when considering other legal concepts such as ‘intention’ or ‘knowledge’ or ‘negligence’, or determining ‘loss of control’ for provocation.

In this section, I am going to summarise how C-insanity is established in law. Section 23 of the CA 1961 has three requirements for the establishment of an insanity defence. Firstly, establishing C-insanity is ‘on the balance of probabilities’, with the onus on D. That standard is lower than beyond reasonable doubt, which is the standard for the prosecution to meet when proving a crime. Both these standards are lower than ‘complete certainty’, a standard not required in law. Secondly, the jury are entitled to draw inferences as to D’s state of mind. Such inferences are drawn from various types of evidence, namely medical evidence, circumstantial evidence and evidence of D’s

138 Goldstein, above n 57, at 77-78. For more elaboration on the difficulty of the 'line-drawing problem' in other areas of the law, see Stanley Yeo “The Insanity Defence in the Criminal Laws of the Commonwealth of Nations" (2008) (1) Sing JLS 241 at 254.

139 Bronitt and McSherry, above n 5, at 250. It needs to be mentioned that Bronitt and McSherry acknowledged the presence of the ‘line-drawing problem’ in V-insanity and confessed the difficulty of the ‘line-drawing problem’ as a common problem in other areas of the law. However, the main reason for rejecting V-insanity, from their perspective, is grounded on the redundancy in accepting V-insanity. At 250. The issue of redundancy in accepting V-insanity will be described later.
behaviour. Ultimately, the decision on C-insanity is for the judge or the jury to make. Thirdly, as the Dixon case showed, there is no emphasis on the ‘scientific inquiry’ for establishing C-insanity. In other words, the law does not rely on scientific means to determine D’s state of mind at the time of a crime. Instead, the ‘common sense inquiry’ is required.

Nevertheless, when it comes to V-insanity, legal scholars and perhaps the courts seem to demand evidence of the actual state of the accused’s mind and, furthermore, seem to be requiring scientific evidence of this, rather than a 'common sense' determination. Some scholars argue that rejecting V-insanity because of the difficulty of the ‘line-drawing problem’ amounts to mistrust of the jury.\textsuperscript{140}

The criticism of the volitional element in mental state defences has focused on the supposed impossibility of the jury’s task to distinguish between an impulse that could not be resisted and an impulse that was not resisted. Yet, this is precisely the task the jury is set whenever an issue of involuntarism is raised. The task is clearly not impossible. The criticism of the volitional aspect really amounts to mistrust of the jury.

I am not saying that rejecting V-insanity because of the ‘line-drawing problem’ necessarily amounts to mistrust of the trier of fact. Rather, I am emphasising the conspicuous inconsistency in New Zealand law; the inconsistency in rejecting V-insanity and accepting C-insanity.

In the previous section (the assessment of C-insanity is possible while it is not true for V-insanity) I established that it is doubtful whether C-insanity is scientifically superior to V-insanity. In light of this fact, it is inconsistent if the law only accepts C-insanity and rejects V-insanity. As a matter of principle, there is no reason to restrict the defence of insanity to C-insanity. Therefore, the law’s approach is noticeably inconsistent.

The problem of ascertaining, to a scientific standard, whether D could not understand his/her action (or the morality of his/her action) undoubtedly exists in C-insanity cases. However, although it may often not be possible to resolve this to a scientific standard, New Zealand law nevertheless recognises a cognitively-based defence of insanity. In doing so, it deals with that uncertainty all the time, or trusts the trier of fact to do so. The ‘common sense inquiry’, which is sharply in contrast with the ‘scientific inquiry’, has been deemed adequate for C-insanity. However, for distinguishing between impulses which are really irresistible (A who could not control him/herself) and those which are merely unresisted (B who could control him/herself but would not do so) opponents of V-insanity sets a much higher threshold: the ‘scientific inquiry’ standard – a type of

\textsuperscript{140} I G Campbell \textit{Mental Disorder and Criminal Law in Australia and New Zealand} (Butterworths, Wellington, New Zealand, 1988) at 124.
investigation which is enormously difficult.\textsuperscript{141} This is clear – the requirement of a higher standard – from the objections raised by opponents of the V-insanity defence.

This was clearly expressed by Laura Reider as:\textsuperscript{142}

… the practical difficulty of requiring the criminal justice system to distinguish between offenders who lack the capacity to control their actions and offenders who merely refrain from using their ability to control their actions is not insurmountable. Indeed, the legal system already imposes this line-drawing burden in innumerable other contexts.

Another inconsistency is found in \textit{the Public Safety (Public Protection Orders) Act 2014} (PSPPOA 2014).\textsuperscript{143} Before turning to the detailed element of the inconsistency, I need to describe the PSPPOA 2014. It empowers the New Zealand High Courts to issue a public protection order that would allow for the detention of a person in a secure facility.\textsuperscript{144} In order to identify the issue of dangerousness in an individual, who might pose a threat to society, the PSPPOA 2014 provided some criteria which are articulated in s 13. The PSPPOA 2014 allows evidence as to the respondent’s behaviour including “… (a) an intense drive or urge to commit a particular form of offending; and (b) limited self-regulatory capacity, evidenced by general impulsiveness, high emotional reactivity, and inability to cope with, or manage, stress and difficulties.”\textsuperscript{145}

In its advice on the Bill, the Department of

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\textsuperscript{141} See also the view of the New South Wales Law Reform Commission which recommended the inclusion of V-insanity in Victorian jurisdiction. The Law Reform Commission recommended that the matter of the ‘line-drawing problem’ in V-insanity is ultimately to be decided by the fact-finders. New South Wales Law Reform Commission \textit{People with Cognitive and Mental Health Impairments in the Criminal Justice System: Criminal Responsibility and Consequences} (NSWLRC R 138, 2013) at 67.

\textsuperscript{142} Laura Reider “Toward a New Test for the Insanity Defense: Incorporating the Discoveries of Neuroscience into Moral and Legal Theories” (1998) 46 UCLA L Rev 289 at 308-309 (citations omitted). In the same vein, Edwin Keedy mentioned: “The objection that irresistible impulse is difficult to prove is not an adequate reason for rejecting the defense. A similar objection may be made to other types of mental disease. This was clearly recognized by the Supreme Court of Utah in an opinion by Hansen, J. who stated that ‘Insanity in all its forms is frequently difficult to determine with certainty, and yet courts all recognize that, if an accused does not know right from wrong and does not know the nature and quality of the act charged he should not be punished.’ Some physical diseases are difficult to prove, yet it is not likely that a court would refuse to receive evidence, otherwise admissible, of the existence of any of these diseases merely because of the difficulty of proof.” Keddy, above n 2, at 990 (citations omitted).

\textsuperscript{143} Public Safety (Public Protection Orders) Act 2014.

\textsuperscript{144} Section 13.

\textsuperscript{145} Section 13 (2)(a) and (b).
\end{flushright}
Corrections, who appear to be broadly in charge of the drafting of s 13(2), suggests that: 146

A psychological assessment of the offenders would be necessary to determine whether the characteristics that identify them as being at a very high risk of imminent and serious sexual or violent reoffending are present. This would include the use of psychometric and actuarial risk assessment procedures.

It seems that the New Zealand Government is confident that the above-mentioned traits can be detected with sufficient accuracy to justify a public protection order. If this is so, then it is justifiable to argue that if those traits can be identified, the basic condition for V-insanity – total loss of self-control – can also be sufficiently identified, though the ‘line-drawing problem’ in V-insanity would still exist. Accepting that some traits can be sufficiently identified to form a public protection order, but rejecting V-insanity because of the ‘line-drawing problem’, is obviously an inconsistency in the law.

Because of the above-mentioned inconsistencies in the law, I am rejecting the first reason for excluding V-insanity.

Someone might object to my argument and propose that, for identifying the issue of dangerousness, the New Zealand law works on a probabilistic level. In other words, the PSPPOA 2014 is not suggesting that an individual who exhibits a severe disturbance in behavioural functioning, established by any of four criteria which are articulated in s 13(2), will definitely commit an offence, or is compelled to offend. What can be understood from s 13(2) is that the probability of committing a crime in an individual has increased significantly when any of those four criteria is established. My response to the above-mentioned objection is that if the New Zealand Government adopted the probabilistic standard for establishing that some traits can be sufficiently discerned to form the foundation for a public protection order, the same standard can be adopted for establishing V-insanity.

Another argument is that the PSPPOA 2014 does not just require a confident prediction of future offending, but a finding of “limited self-regulatory capacity”. Of course that is not the same thing as saying that the person has no control, nor does it tell us whether he had control on a particular occasion. However, it does suggest that volitional capacity in general is amenable to measurement in a manner that the law will rely on for important purposes. Therefore, perhaps it is not so much an inconsistency as an indication that what I am proposing is not entirely alien to New Zealand law, albeit that I am asking New Zealand law makers to go just a bit further. The law already recognises a class of individuals who have “limited self-regulatory capacity”. Is it such a big ask for this to be reflected in decisions about culpability as well as decisions about future dangerousness?

146 A Caspi and others "Role of Genotype in the Cycle of Violence in Maltreated Children" (2002) 297(5582) Science 851 at 851.
The second objection: the floodgates argument

The second concern that has led to the rejection of V-insanity is that accepting a defence of irresistible impulse into New Zealand and English law would risk opening the metaphorical floodgates. As noted at the beginning of this Chapter, there is a difference between an irresistible impulse and an unresisted impulse. The former is where A could not control his/her impulse. The latter is where B could control his/her impulse but did not. The fear is that if V-insanity were accepted, there is no satisfactory criterion for distinguishing between irresistible and unresisted impulses. The law could not differentiate between A and B and both might be absolved of blame. This would be problematic, since B, who could in fact have controlled his/her aggression had he/she merely tried harder, deserves to be held accountable. The argument then goes that anyone could raise the claim of irresistible impulse and because of the difficulty in distinguishing between the two be acquitted.  

The argument against the second problem: accepting the defence in theory does not necessarily lead to misuse

My first argument here is that accepting the defence of V-insanity for individuals who could not control their impulses does not necessarily lead to misuse by people who would not control their impulses. Secondly, the ‘open floodgates’ concern is also worth considering in the case of C-insanity. Take the example of A and B in C-insanity: A could not truly understand the nature of his/her action; in contrast, B could understand his/her action. The fear is that both A and B might be exempted from blame – while in reality B could understand his/her action. Consequently, in the future, any person could raise a claim of C-insanity to be exempted from responsibility. However, the existence of C-insanity, and the fear of it being misused, has not led to a deluge of the Ds looking to avail themselves of it and the law did not abandon it because of the threat of this. My final argument is that in the case of V-insanity it could be that the evidentiary onus is placed upon D to prove the defence, as is the case with C-insanity subject to s 23 of the CA 1961.  


148 See also the view of the New South Wales Law Reform Commission which suggested the inclusion of V-insanity on the basis that it was unlikely to open the ‘floodgates’ given it is rarely used. New South Wales Law Reform Commission People with Cognitive and Mental Health Impairments in the Criminal Justice System: Criminal Responsibility and Consequences (NSWLRC R 138, 2013) at 69.
The third objection: violent criminals could be exempted

Some legal scholars warn that, if V-insanity were accepted, there would exist a real danger of exempting some violent criminals. As Davis states:149

It has been suggested from time to time that exemption from full criminal responsibility should be granted to persons who are alleged to suffer from an abnormal condition in that they are liable to commit offences under the influence of an irresistible impulse. The dangers of such an exemption are great, since individuals possessed of violent passions might more readily give way to them and subsequently endeavour to excuse themselves from responsibility. … legal opinion is undoubtedly opposed to this …

This concern was shared by David Freedman.150 The concern is that allowing the defence of irresistible impulse could provide perverse incentives to some people not even to try to control their violent or criminal impulses (for the purposes of this thesis, I will call this as the ‘social defence consideration’). This is in part related to the first problem, in that the third concern may be seen only to arise because of the present inability to distinguish irresistible from unresisted urges. Were it to become possible to gauge, accurately and objectively, how difficult it is for a particular accused to resist a particular impulse, then the perverse incentive not even to try particularly hard may be removed.

A suggestion to solve the third problem

Again, I can point to the way the defence of C-insanity works to overcome the objection of the ‘social defence consideration’. Those acquitted due to C-insanity could just as equally pose a danger to society. Such a fear arose in the famous case of Daniel M’Naghten. It was expressed by Queen Victoria, who after the M’Naghten verdict, had been the target of assassination attempts. Also, the verdict in the trial reinforced the public impression of M’Naghten as a deranged murderer.151 However, while acquitted, M’Naghten was sent to the State Criminal Lunatic Asylum at Bethlem Hospital pursuant to the Safe Custody of Insane Persons Charged with Offences.152

In New Zealand, the Criminal Procedure (Mentally Impaired Persons) Act 2003 (the CPMIPA 2003) addresses the concern of the ‘social defence consideration’. The CPMIPA 2003 enables the court to assess the circumstances of the crime and the accused’s circumstances and, based on that, to order a wide range of dispositional

149 Davis, above n 3, at 91.

150 C D Freedman "Restoring Order to the Reasonable Person Test in the Defence of Provocation" (1999) 10(1) KLJ 26 at 32.


152 P Allderidge "Why was McNaughton Sent to Bethlem" in Donald James West and Alexander Walk (eds) Daniel McNaughton: his Trial and the Aftermath (Gaskell Books, London, 1977) 100 at 100-107.
options. The court can order the detention or treatment of the person if the order is “… necessary in the interests of the public or any person or class of person who may be affected by the court’s decision.”\textsuperscript{153} The range of options extends to immediate release if the form of disability suffered by the patient is not a kind that would justify treatment in a mental hospital and the individual does not present a danger to the public. If the court is satisfied that the person does not present a danger, the court may discharge the accused.\textsuperscript{154}

As with the cognitively insane, any danger presented by a volitionally insane individual could be dealt with by legislation; the defence need not be rejected outright. For instance, expanding \textit{detention} under mental health legislation would be one way to avoid the possible danger of exempting individuals with irresistible impulses. Dangerousness is a distinct judgment from culpability, and it seems fitting that the law should clearly distinguish between the two. It is beyond the scope of this thesis to consider the adequacy of the current law for detention or supervision of people considered to be ‘dangerous’, but it is mentioned here only to point out that there could be options available other than blame or release.

\textit{The fourth objection: what if an uncontrollable impulse can be controlled in a particular situation?}

Davis argues that: “… an eminent lawyer once said that in his view an uncontrollable impulse was one which was best controlled in the presence of a police officer!”\textsuperscript{155} In the same vein, a Canadian judge, Riddell J, stated that: “If you cannot resist an impulse in any other way, we will hang a rope in front of your eyes, and perhaps that will help.”\textsuperscript{156} Similarly, Seymour Halleck argues that “… there is some inherent logic in assuming that

\begin{quote}
\textsuperscript{153} Criminal Procedure (Mentally Impaired Persons) Act 2003, s 24(1)(C).
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\begin{quote}
\textsuperscript{154} Before 1969, an accused acquitted on account of insanity was obliged to be kept in strict custody “until the pleasure of the Ministry of Justice is known.” (Mental Health Act 1911, s 31). This meant indefinite detention in a mental hospital. However, an amendment to the Criminal Justice Act 1954 in 1969 gave the courts an additional range of dispositional options. These options have been further modified by the CPMIPA 2003. The range of orders that have been given to the courts are including: (1) s 24 of the above-mentioned Act provides for orders to detain an accused found insane as special patients under Mental Health (Compulsory Assessment and Treatment) Act 1992; (2) the CPMIPA 2003 provides special care recipients under Intellectual Disability (Compulsory Care and Rehabilitation) Act 2003 and (3) immediate release which was provided by s 25(1)(d) of the CPMIPA 2003 and does not allow the court any supervisory control of the offender once discharge into the society has taken place.
\end{quote}

\begin{quote}
\textsuperscript{155} Davis, above n 3, at 91.
\end{quote}

\begin{quote}
\textsuperscript{156} R v Creighton (1908) 14 CCC 349 at 350. It needs to be mentioned that the scope of the current thesis is still limited to New Zealand and English law. Referencing to the Canadian judge’s opinion was only to show that Davis’ opinion was shared by others.
\end{quote}
behavior that can be environmentally controlled [such as the presence of the policeman] can also be internally controlled.”

The above comments can be interpreted in two ways. Firstly, the argument of Davis, Riddell and Halleck is an expression of strong scepticism that anyone is ever genuinely unable to control his/her behaviour. To put it another way, the suggestion here is that individuals who are claiming irresistible impulse could have controlled their impulses had they been sufficiently motivated. The second interpretation suggests a concern that it is difficult to distinguish between those who cannot control their impulses and those who can but choose not to. The argument against the two readings will be provided. The first reading can be rebutted by the following argument. Principally, not all people are deterred by the presence of a policeman and for some people truly controlling their impulses is impossible.

Further, both the first and second readings can be rebutted in the following way. First, as a theoretical matter, it is plausible to argue that some people like A (who genuinely could not control his/her impulses) could not control their impulses even in the presence of a police officer. I am inclined to go a step further and argue that the fact that B (who could control his/her impulses but decided to not do so) may have resisted his/her impulse in the presence of a police officer does not necessarily prove that he had the ability to resist his/her impulse in the absence of a police officer. Thirdly, even if it is true that someone could have controlled his/her behaviour in some set of circumstances (for instance, in front of the policeman), it does not mean that he/she could have controlled them in the actual circumstances in which he/she found him/herself. Further, as noted by James Knoll and Phillip Resnick, the assumption behind the ‘policeman test’ may not be applicable in every case. The policeman test may not be useful if an accused held delusional perceptions about the police, the accused shot at the police during the crime, or in the case of a homicide-suicide plan.

Further comments can be interpreted in two ways. Firstly, the argument of Davis, Riddell and Halleck is an expression of strong scepticism that anyone is ever genuinely unable to control his/her behaviour. To put it another way, the suggestion here is that individuals who are claiming irresistible impulse could have controlled their impulses had they been sufficiently motivated. The second interpretation suggests a concern that it is difficult to distinguish between those who cannot control their impulses and those who can but choose not to. The argument against the two readings will be provided. The first reading can be rebutted by the following argument. Principally, not all people are deterred by the presence of a policeman and for some people truly controlling their impulses is impossible.

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157 Seymour L Halleck "Clinical Assessment of the Voluntariness of Behavior" (1992) 20(2) Bull Am Acad Psychiatry Law 221 at 234. It needs to be highlighted that quotations from Davis, Riddle and Halleck are not addressing the ‘policeman at the elbow’ test. According to legal scholars, the ‘policeman at the elbow’ test is the test for V-insanity in some jurisdictions which adopted the defence of V-insanity. Based on the test, central question in determining insanity is whether an individual was so unable to control his/her behaviour that he/she would have committed the crime even in the presence of a police officer. Christine Michaelopoulos "Filling in the Holes of the Insanity Defense: the Andrea Yates Case and the Need for a New Prong" (2003) 10(3) Va J Soc Pol'y & L 383 at 394-395. See also, David Roe and others "Reduced Punishment in Israel in the Case of Murder: Bridging the Medico-Legal Gap" (2005) 28(3) Int'l J L & Psychiatry 222 at 225. As can be seen, the ‘policeman at the elbow’ is a test for insanity and maybe, at least in theory, some accused can satisfy the test. In the sharp contrast, the argument of Davis, Riddell and Halleck is that all people who cannot control their impulses can do so if they are in front of a policeman. Therefore, from their viewpoints there is no real uncontrollable impulse.

158 James L Knoll IV and Phillip J Resnick "Insanity Defense Evaluations: toward a Model for Evidence-Based Practice" (2008) 8(1) Brief Treat Crisis Interv 92 at 101.
The final argument against both the first and second readings is that if academics reject \(V\)-insanity on the basis that uncontrollable impulses can be controlled in the presence of a policeman, can it not be argued that those claiming insanity could equally understand their actions in the presence of a police officer? The law, at least for some people who successfully claim \(C\)-insanity, accepts that they cannot understand the nature of the action even in the presence of a police officer. Yet, again, the inconsistency in approach makes this objection untenable.

To conclude this section I note Halleck’s argument that: “… there is some inherent logic in assuming that behavior that can be environmentally controlled can also be internally controlled.”\(^{159}\) The counter argument is that it is problematic to assume that behaviour which can be environmentally controlled (in the presence of a policeman) can necessarily be internally controlled. The criminal law should assess culpability in the circumstances in which D actually found him/herself, not some hypothetical circumstance (like the presence of the policeman) where he/she might have acted differently.

**Objections raised by the Australian experience**

My aim in this Chapter is evaluating the reasons for the rejection of \(V\)-insanity and proposing a new defence of \(V\)-insanity in New Zealand. It is therefore essential to evaluate the experience of jurisdictions in which irresistible impulse has already been adopted as a defence. As mentioned before, the South Australian jurisdiction is not the only jurisdiction which recognises \(V\)-insanity as a full defence. Several other jurisdictions have done so too. To name a few, all jurisdictions in Australia except for Victoria and New South Wales,\(^{160}\) France,\(^{161}\) Germany,\(^{162}\) Greece,\(^{163}\) Switzerland,\(^{164}\) Poland,\(^{165}\) Yugoslavia,\(^{166}\) Hungary,\(^{167}\) South Africa,\(^{168}\) and some jurisdictions in the United States.\(^{169}\)

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\(^{159}\) Halleck, above n 157, at 234.

\(^{160}\) \(V\)-insanity has also been adopted by the Model Criminal Code. Law Reform Commission of Western Australia *Review of the Law of Homicide (Final Report Project 97)* (2007) at 231; *Criminal Code* (ACT), s 28(1)(c); *Criminal Code* (QLD), s 27(1); *Criminal Code* (NT) s 43C (1)(C); *Criminal Code Act* (WA), s 27(1); *Criminal Code Act* (TAS), s 16(1)(b); *Commonwealth Criminal Code Act* (Cth), s 7.3(1)(C); *Criminal Law Consolidation Act* (SA), s 269C(c).

\(^{161}\) French Penal Code of 1810, article 64.

\(^{162}\) The German Criminal Code of 1817, Pt. I, § 51.

\(^{163}\) Greece Penal Code (1950), article 34.


\(^{165}\) Poland Penal Code (1932), Ann. c. II, art. 17, § 1.

\(^{166}\) Yugoslavia Penal Code (1951), article 6.

\(^{167}\) Hungary Penal Code (1950), C. II, § 10-1.
It would be interesting research to try to find the experience of all those jurisdictions, however I cannot learn much out of them and evaluate them in the context of New Zealand law because some of them are not close to the common law system. As a result, only those jurisdictions will be evaluated in this Chapter which are useful for New Zealand law. As mentioned before, Australian jurisdictions took the M’Naghten rules as the basis for their insanity defence. However, and in contrast to New Zealand, they expanded it to include V-insanity alongside C-insanity. Therefore, the experience of Australian jurisdiction is useful for the thesis.

I will review the objections raised in the Australian context to the V-insanity defence. In doing so, I will review the arguments of Bronitt and McSherry, two Australian scholars. Their arguments have been summarised, and agreed with, by Brookbanks, a New Zealand criminal law scholar. Because Brookbanks concurs with Bronitt and McSherry’s views, it is fair to say that objections to the V-insanity in Australia would also be objections in New Zealand.

Bronitt and McSherry’s objections come in a variety of forms. Firstly, they argue that there is no need for V-insanity, as the inability to control behaviour can already be taken into consideration in assessing whether D knew that the conduct was wrong, i.e. within the ambit of C-insanity. Secondly, they argue that, in practice, V-insanity is rarely used. Thirdly, they claim that the presence of V-insanity generates avoidable confusion with the requirement of voluntariness for establishing a criminal act.

It should be borne in mind that all of the objections reviewed here were raised against the general form of V-insanity in Australia. One example of V-insanity in Australia is s 269C (c) the Criminal Law Consolidation Act 1935, South Australia, which has been reviewed. Broadly speaking, the approach of other Australian jurisdictions, which have also adopted V-insanity, is similar. The below objections were numbered following four previously mentioned objections.

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168 In South Africa the rules have been extended by judicial decision to include irresistible impulse: R v Hay, above n 13; R v Smith (1906) TS 783; R v Westrich (1927) CPD 466.

169 As of 2002, 16 states in the United States have adopted V-insanity separate from C-insanity. Giorgi-Guarnieri and others, above n 13, at S3–40.


171 Bronitt and McSherry, above n 5, at 249-253. And Bernadette McSherry "Mental Impairment and Criminal Responsibility: Recent Australian Legislative Reforms" (1999) 23 Crim LJ 135. For the summary of their argument see Brookbanks, above n 18, at 94.

172 For finding differences and similarities of V-insanity in various jurisdictions in Australia see Yannoulidis, above n 2.
The fifth objection: the defence of V-insanity is redundant

Bronitt and McSherry argue that the retention of the defence is based on an abandoned system of ‘faculty psychology’ which divided the mind into separate compartments: volition and cognition.\textsuperscript{173} Bronitt and McSherry subscribe to the ‘holistic model’ that explores the interaction between feelings and thought processes rather than dividing them into two unrelated compartments.\textsuperscript{174} Based on the ‘holistic model’, there can be no serious impairment of one mental function without some type of impairment to the others. According to the ‘holistic model’ it is impossible to suggest that mental difficulties in volition can occur without any effect on the cognitive part of the mind.\textsuperscript{175} (see graph 4.1)

\begin{figure}
\centering
\includegraphics[width=\textwidth]{graph.png}
\caption{The 'holistic model' and the 'faculty psychology'.}
\end{figure}

Subscribing to the ‘holistic model’, which is adopted by modern psychological research,\textsuperscript{176} Bronitt and McSherry argue that tests for V-insanity incorrectly:\textsuperscript{177}

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\textsuperscript{173} Bronitt and McSherry, above n 5, at 25.
\textsuperscript{174} At 250. For similar argument that V-insanity does not truly exist because a mind/brain phenomenon see, for example, Jerome Hall "Psychiatry and Criminal Responsibility" (1956) 65(6) Yale LJ 761 at 775; Frederick Wilmer Sims "The "Brain Storm," or the "Irresistible Impulse" Test, as Affecting Criminal Responsibility, and as a Substitute for the "Unwritten Law" Defense" (1907) 13(2) The Virginia Law Register 93 at 104; CL Cetti "M'Naghten Rule v. Irresistible Impulse Test" (1962) 14 Mercer L Rev 418 at 420; Jerome Hall and K Menninger "'Psychiatry and the Law" – a Dual Review" (1952) 38 Iowa L Rev 687 at 693-694; JB Waite "Irresistible Impulse and Criminal Liability" (1925) 23(5) Mich L Rev 443 at 457; Jerome Hall "Mental Disease and Criminal Responsibility" (1945) 45(5) Colum L Rev 677 at 708; Filippo, above n 137, at 293.
\textsuperscript{175} Bronitt and McSherry, above n 5, at 250.
\textsuperscript{176} In this regard, Bronitt and McSherry cited several sources. James Patrick Chaplin Dictionary of psychology (2nd ed, Laurel, New York, 1985), at 174; EE Smith and others Introduction to Psychology (Wadsworth/Thomson Learning, Belmont CA, 2009), at 390.
\end{flushleft}
... assume that a person can know what he or she is doing is wrong, yet be unable to control his or her actions. In reality, such tests assume that cognition remains completely unaffected, and this contradicts not only the holistic standpoint of modern psychology but also the view that the ability to reason plays an essential part in controlling conduct.

This leads to their other argument, namely, that instances of incapacity to control conduct amount to or involve C-insanity. Accordingly, creating a separate provision of V-insanity is redundant, because the accused still has the ability to run C-insanity.

To summarise their argument, the law relating to V-insanity is fraught with difficulties from a conceptual viewpoint. From a conceptual viewpoint, distinguishing between V-insanity and C-insanity is impossible. Therefore, without creating a defence of V-insanity instances of incapacity to control conduct amount to, or involve, C-insanity. As a result, creating a defence of V-insanity is redundant and unnecessary. The result of Bronitt and McSherry’s claim is that the failure to provide V-insanity will not necessarily deny D’s right to a defence; D will still be able to raise a defence of C-insanity.

The argument against the fifth objection

Two parts of Bronitt and McSherry’s argument need to be divided and analysed separately. Firstly, adopting the ‘holistic model’ would mean that creating a volitional form of insanity would be wrong. Secondly, following the previous argument, since all forms of V-insanity can fall within the category of C-insanity, creating the defence of V-insanity is superfluous.

177 Bronitt and McSherry, above n 5, at 250. See also, McSherry, above n 5, at 174. The above-mentioned objection was echoed by Brookbanks. Brookbanks, above n 18, at 94; Association, above n 123, at 685 cited by Mackay, above n 58, at 116. See also “… virtually all cases of so-called control problems that plausibly raise a substantial question about the agent’s responsibility will prove on close analysis to be instances of irrationality, especially if the law continues to require that an abnormality is present.” Morse, above n 54, at 162. Morse suggested that an individual should be excused on the ground of his/her irrationality. He believes that where an individual is acting irresistibly the excuse should be grounded on his/her irrationality rather than V-insanity. The reason is that the person whose desires are in conflict is not irrational. Morse, above n 57, at 812-813. It needs to be mentioned that Morse doubts where an insane individual acts because of ‘hard choice’ situations.

178 Bronitt and McSherry, above n 5, at 250.


181 See also, Schopp who argues that adopting the volitional limb is unnecessary. Schopp, above n 182, at 201-303.
The main reason to reject the ‘holistic model’, to which Bronitt and McSherry subscribe, is that there is no concrete reason to suggest that it is completely correct. Further, there is no reason to believe that the only variety of mental difficulties which an accused may have are those where an accused’s involuntary conduct is associated with a lack of knowledge.\(^{182}\) In addition, as Mackay argues, no empirical evidence is tendered to support Bronitt and McSherry’s contention.\(^{183}\) In contrast, there is a significant body of psychological literature which argues against the ‘holistic model’ and rejects the interaction between cognition and emotion. That literature believes in the separation of cognition and emotion.\(^{184}\) Empirical research suggests that some types of impulse control disorders only result in loss of volitional control, while cognitive knowledge and appreciation of wrongfulness/criminality are preserved. Specifically, empirical research focuses on various impulse-control disorders which are currently recognised in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), under the category of “disruptive, impulse-control and conduct disorder”.\(^{185}\) This research cites some disorders like compulsive sexual behaviour,\(^{186}\) pathological gambling,\(^{187}\) trichotillomania,\(^{188}\) intermittent explosive disorder,\(^{189}\) pyromania\(^{190}\) and compulsive buying.\(^{191}\) Further, the

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\(^{182}\) For similar type of argument see Yannoulidis, above n 2, at 130. He analyses one type of scientific evidence, pyromania, to show that involuntary conduct may be considered as happening independently of the lack of knowledge as to the nature or wrongness of the conduct. At 141-164.

\(^{183}\) Mackay, above n 58, at 116.


\(^{187}\) Sean Cowlishaw and others "Pathological and Problem Gambling in Substance Use Treatment: a Systematic Review and Meta-analysis" (2014) 46 J Subst Abuse Treat 100 at 100-104.


relevant research concludes that “… a high proportion of offenders who are unanimously classified by a psychiatric team as acquitted under V-insanity would not be if the volitional prong were removed and capacity to appreciate became the exclusive test for responsibility.”

Indeed, the research indicates that “… the primary logical division between the volitional and cognitive standards appears to be powerful ….”

To substantiate my argument against the ‘holistic model’, I will consider two significant studies. One study examined 164 insanity evaluations (conducted by four forensic psychiatrists in one of the United States jurisdictions) (see table 4.1 for the result).

| The accused who met the ALI C-insanity test | 70 per cent |
| The accused who met both V-insanity and C-insanity tests of ALI | 98 per cent |
| The accused who only met the V-insanity test of ALI | 24 per cent |

Table 4.1. A summary of the research by Wettstein and his colleagues.

Another, more recent, study had a larger sample. The research team looked at 5175 insanity evaluations conducted over a ten-year period in one of the United States jurisdictions which has both cognitive and control tests in its insanity defence (see table 4.2 for the result).

| The accused who met both C-insanity and V-insanity tests | 57 per cent |
| The accused who only met the V-insanity test | 9 per cent |

Table 4.2. A summary of the research by Warren and his colleagues.

The above studies suggests that there is a group of criminal accused who can avail themselves of an insanity only if the V-insanity test is recognised. Although this number is lower than other groups, undoubtedly they exist. Bronitt and McSherry’s first objection – that the defence is redundant – can be refuted.

The response to Bronitt and McSherry’s second objection – creating V-insanity is superfluous – is threefold. Firstly, undoubtedly the existence of some serious mental conditions in some cases precludes a person from knowing the nature, wrongness and quality of his/her conduct while also being unable to exercise control in relation to the

193 Wettstein, Mulvey and Rogers, above n 130, at 26.
194 At 24-25.
195 The ALI is the abbreviation of the American Law Institute.
conduct. But, while some mental difficulties manifest a lack of cognitive capacity, it is not true in all situations. Research indicates that in some cases the criminal accused were only volitionally impaired. As Ashworth notes, only “… some forms of mental disorder impair practical reasoning and the power of control over actions.”

This research aside, the second response to Bronitt and McSherry is that as a matter of theory, it is imaginable that some individuals may suffer from a mental disorder characterised by involuntary conduct without any cognitive difficulties. Thirdly, as a matter of principle, no harm is involved in creating a new form of defence for some individuals driven by irresistible impulse. At the moment there is no verifiable evidence to suggest that V-insanity is a form of C-insanity. Or, currently, there is no categorisation within the psychiatric profession to indicate that V-insanity is a form of C-insanity. Even if such evidence or categorisation could be provided in the future, at the moment no harm is involved in creating a defence of V-insanity independently of knowledge as to the nature or wrongness of the conduct. I need to note that I do not want psychiatrists to be trying to fit V-insanity cases into C-insanity categories.

The sixth objection: claims of V-insanity are rarely used

As an objection to the inclusion of V-insanity in some Australian jurisdictions, Bronitt and McSherry argue that because of (1) the rarity of its use and (2) the rarity of its success, the defence should be abandoned.

Firstly, consider the rarity of the use. The authors suggest that the rarity of its use is explainable:

… in part because the accused’s lack of capacity to control his or her actions must be a result of a ‘mental disease’ or the like, which in the past has not been interpreted to include personality or impulse-control disorders.

Therefore, there is a reluctance to interpret a volitional disorder arising from an impulse control disorder as a DoM. The authors note only one case where the court accepted a type of disorder as a form of impulse-control disorder. Secondly, consider the rarity of

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197 Andrew Ashworth Principles of Criminal Law (6th ed, Oxford University Press, Oxford, 2009), at 145 (emphasis added). Similarly it has been offered that some accused, who are unable to control their actions as a result of a DoM, are able to appreciate their actions. See Victorian Law Reform Commission Defences to Homicide, Final Report (VLC FR94, The Melbourne University Law Review Association, 2004)[5.27]. See also, R v Radford (1985) 42SASR 266 at 275 per King CJ.

198 Bronitt and McSherry, above n 5, at 249.

199 At 249.

200 At 249.

201 At 249. The one exception to interpret a mental disorder or a related concept to include personality or impulse control was the case of R v Telford. Perry J prepared to accept a ‘pathological gambling disorder’
the defence’s success. Bronitt and McSherry note that even where the matter of V-insanity has been raised, it has been largely unsuccessful. Of the few reported cases in which the accused had applied for leave to appeal against conviction – on the ground that they were not able to control their impulses – they usually failed. Only in one reported case was the appeal allowed. Finally, Bronitt and McSherry suggest that this lack of success may be because V-insanity “… might be perceived as an ‘easy out’ for persons who are seeking an excuse for yielding to temptation.”

**The argument against the lack of use and success**

As to the lack of use, it is essential to differentiate between interpretation and legislation. As can be seen from Bronitt and McSherry’s arguments, the lack of use was partly attributable to the interpretation of V-insanity. My point is that just because V-insanity was *narrowly* interpreted by some Australian fact-finders, this does not prove the lack of need for its recognition.

Now I consider the argument of the defence’s lack of success. My objection is that if the lack of success is partly attributable to the way it is interpreted, this interpretation might be explained by the law’s policy objectives. As Ferguson notes, “… the public expectation that citizens must in general take personal responsibility for their conduct is an important value which is essential to the continued preservation of peace and order in our society.” Accordingly, where the capacity for control is determined at too low a level, public expectations may not be met as a significant group of individuals may come within the test. Therefore, the fact that V-insanity is rarely successful in some Australian jurisdictions *may* in fact be because of policy decisions. The emphasis is, however, on *may* because I do not know exactly what is actually happening in the minds of Australian fact-finders.

My second argument is that it is difficult to empirically disprove McSherry’s argument (V-insanity is relied upon very rarely in isolation) without reviewing all the original trial

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203 *R v Moore* (1908) 10 WALR 64; *Hitchens v The Queen* [1962] Tas SR 35; *O'Neill v The Queen* [1976] Tas SR 66; *Jeffry v The Queen* [1982] Tas R 199.

204 Bronitt and McSherry, above n 5, at 249. The authors cited: EA Tollefson and B Starkman *Mental disorder in criminal proceeding* (Carswell, Toronto, 1993) at 41.


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transcripts. Further, among those Australian cases for which written sources are available (decisions of appeal courts and judge alone trials), I could find one case – *Lavell* – that might have successfully relied solely on V-insanity. It is not entirely clear, however, from the judge’s reasoning in *Lavell*, whether this is a case in which the successful defence was based solely on V-insanity. It may have been based on *both* V-insanity and the second limb of C-insanity concerning not knowing what one was doing was wrong. This depends on how one interprets the judge’s reasoning.

I will summarise the background of the case, and I will review the judge’s reasoning. Finally, I will elaborate on two varying interpretations of the judge’s reasoning. On 9 June 2001 Patrick Lavell was stabbed and attacked repeatedly in the neck and upper body. His son, Shane Lavell, was charged for two offences: (1) attempting to unlawfully kill his father and (2) causing him grievous bodily harm. The accused pleaded not guilty to both charges and relied upon the defence of insanity under s 27 of the *Criminal Code Western Australia*. In the critical paragraphs Heenan J said this:

49 In this case I find that the accused had been suffering from paranoid schizophrenia, a serious mental illness, since June 2001 at the latest and that this caused him, when untreated, to experience hallucinations, delusions, irrational fears that his life was threatened and to misinterpret the actions and intentions of other persons. I also find that from about April 2001 the accused's mental disease was in an uncontrolled state because of his failure to take anti-psychotic medication. From then on he was experiencing, at frequent intervals, severe hallucinations, delusions and was frequently, but irrationally, in great fear of his life.

50 I also conclude that, on the afternoon of 9 June 2001 the accused experienced a florid psychotic episode which caused him to form the unsubstantiated and irrational belief that his father had molested him as a young child, that his father was a figure of evil and that he should kill his father. I also find that, under the influence of this mental illness the accused spontaneously decided that he should attack his father with a knife and kill him. He planned and carried out this attack, more or less instantaneously but with a degree of planning and persistence which satisfies me,

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207 *R v Lavell*, above n 206 at 1-5. Section 27 of the Criminal Code Western Australia states: “A person is not criminally responsible for an act or omission if at the time of doing the act or making the omission he is in such a state of mental disease or natural mental infirmity as to deprive him of capacity to understand what he is doing, or of capacity to control his actions, or of capacity to know that he ought not to do the act or make the omission.”

208 *R v Lavell*, above n 206, at 49-52.
beyond any doubt, that it was intentional, although the intention proceeded from a
disordered mind. He carried out his attack with the use of considerable force and
with two weapons pursuing his father from the interior of the unit to the road verge
outside. His words “How could you do it — to your son” overheard by Mr Bisschops
show that he was acting in the belief that his father had molested him. Although that
belief was unsubstantiated, irrational and a product of his deranged mind, it revealed
his purpose. The accused himself explained that he heard voices which told him to
kill his father and that he acted on them. In these circumstances I consider that, at the
time he attacked his father, the accused had the intention of killing him.
51 On the other hand I am also satisfied that the accused has established that at the
time of the attack upon his father, and while he was inflicting the stab wounds, the
accused was in such a state of mental impairment as to deprive him of the capacity to
control his actions and that, therefore, he is not criminally responsible for his
conduct by reason of his insanity.
52 I find that the accused, Shane Roger Lavell, is not guilty on account of his
unsoundness of mind at the time of his attack upon his father.

This reasoning is open to two different interpretations. On one view, the judge reaches
the implicit conclusion, in paragraphs 49 and 50, that, due to Lavell’s psychotic delusions
that his father had abused him, and his beliefs about the evil nature of that conduct,
Lavell did not know that killing his father was wrong. On that basis, Lavell would satisfy
one limb of the C-insanity test – the ‘not knowing what he was doing was wrong’ limb –
even though he did understand that he was killing his father at the time (meaning he
would not satisfy the other limb – ‘not understanding the nature or quality of his act’).
Then, in paragraph 51, on this view, the judge simply proceeds to reach the further
conclusion that Lavell ‘also’ met the test for V-insanity. So Lavell would then have two
distinct foundations for the defence, either of which would be sufficient. In that case,
Bronitt and McSherry might be right that it is not necessary for V-insanity to be available
to generate a successful defence, because, in such cases, the ‘not understanding that what
one is doing is wrong’ limb of the C-insanity test can do the necessary work.

There is an alternative interpretation of the judge’s reasoning, however, that is favoured
by the Western Australian Law Commission. This interpretation would leave V-
insanity as the sole foundation for Lavell’s successful defence. On this view, in
paragraphs 49-50, the judge is simply addressing the prior legal question of voluntariness,
or addressing the evidence concerning the elements of the offence, particularly in his
discussion of the ‘intentional’ character of that offence. Then, on this view, it is only in
paragraph 51 that the judge proceed to address the matter of the insanity defence. There
he concludes – in addition to his being satisfied that the accused’s offending was
intentional – that Lavell met the V-insanity test. On this view, therefore, V-insanity was

209 Law Reform Commission of Western Australia, above n 206, at 231-232, footnote 61.
the sole foundation for the successful defence in the case. That in turn would mean that the V-insanity defence was not redundant, because, as this case shows, there are situations in which a court will use V-insanity as the sole foundation for a successful defence.

In any event, the rarity of V-insanity’s success is not a sound reason to reject it. After all, C-insanity is also rarely successful. As Simester and Brookbanks note, C-insanity is numerically insignificant in New Zealand, and yet it has not been rejected.210 In New Zealand, C-insanity is run around 30 to 40 times per year, and is successful about 10 times,211 only a tiny proportion of all criminal cases. Similarly, an English Law Commission report states that only a tiny proportion of accused pleaded insanity and even fewer were successful.212 In addition, there are some other types of defences which are rarely successful. However, they have not been rejected because of their rarity of success. As an example, consider the defence of sleepwalking. In New Zealand it is a form of defence under the sane automatism category. New Zealand borrowed that defence from English law.213 My research, using a New Zealand legislation search in LexisNexis and Westlaw, did not come up with any cases where the defence was successful.214 Rogers summarises my argument nicely, as follows: “The rarity of a condition (in this case, the loss of volitional capacity and not cognitive capacity) is unrelated to the relevance or importance of that condition.”215

210 Simester and Brookbanks, above n 18, at 300.
213 Simester and Brookbanks, above n 18, at 310-313.
214 Cases in LexisNexis and Westlaw were dated back to 1880s and 1896 respectively. It needs to be mentioned that it has long been accepted that people who are acting while they are sleeping will be entitled to unqualified acquittal. However, this only be correct only if there is no proof of condition which could be treated as a disease. See R v Tolson (1889) 23 QBD 168 at 187; Bratty v Attorney General of Northern Ireland, above n 50, at 403; R v Cottle, above n 76, at 1026; R v Parks (1990) 56 CCC (3d) 449 (Ont CA); R v Burgess [1991] 2 WLR 1206 (CA). In these cases and some similar cases, the defence of sleepwalking was raised. However, the defence was not accepted. As it is the test, the defence of automatism and sleepwalking can be considered by court if the lack of control was the result of external factors. Whereas, for insanity defence the lack of control must be raised from internal factor. This thesis is trying to highlight the point that the defence of sleepwalking is very rarely succeeded.
215 Rogers, above n 120, at 843.
McSherry argues that the presence of V-insanity creates avoidable confusion with voluntariness as a necessary requirement for criminal conduct. She bases her argument on two Australian cases, in which two courts interpreted V-insanity in different ways.

Both cases come from Western Australia. Section 27 of the Criminal Code Western Australia allows for a defence of V-insanity. It provides: 216

A person is not criminally responsible for an act or omission if at the time of doing the act or making the omission he is in such a state of mental disease or natural mental infirmity as to deprive him of capacity to understand what he is doing, or of capacity to control his actions, or of capacity to know that he ought not to do the act or make the omission.

The test in s 27 – absence of capacity for self-control – has been interpreted differently. In R v Moore, the Court considered that the absence of capacity for self-control referred to instances of ‘irresistible impulse’ arising from mental infirmity. The Court stated: 217

This section [Criminal Code Act 1902 (WA) s 27] deals with the defence of insanity, and it shows in what cases persons who would otherwise be responsible for their acts are free from responsibility because they are insane. It treats as insane certain persons who under the old law would not have been treated as insane. It accepts the medical theory of uncontrollable impulse, and treats people who are insane to the extent that they have not the capacity to control their actions, whether from mental disease or natural mental infirmity, as being persons who are irresponsible.

On the other hand, the High Court in R v Falconer adopted a very different interpretation of s 27. 218 It held that reference to the absence of an accused’s capacity for self-control is directed at those cases where the accused’s conduct is involuntary. The High Court held that voluntary conduct requires an individual’s conscious mind to have guided the act because the concept of voluntariness, or will, requires the act to be done by the accused of his or her own: 219

… will and by decision’ (per Kitto J. in Vallance) or by ‘the making of a choice to do’ so (per Barwick C.J. in Timbu Kolian). The notion of ‘will’ imports a

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216 Criminal Code Act 1902 (WA).
217 R v Moore, above n 202, at 66 per McMillan J. Criminal Code Act 1902 states:
"A person is not criminally responsible for an act or omission if at the time of doing the act or making the omission he is in such a state of mental disease or natural mental infirmity as to deprive him of capacity to understand what he is doing, or of capacity to control his actions, or of capacity to know that he ought not to do the act or make the omission." Criminal Code Act 1902 (WA), s 27. For similar approach to R v Moore see Wray v R, above n 203, in which the similar approach was adopted in the Western Australiaat 68-9.
219 At 33 per Mason CJ, Brennan and McHugh JJ (citations omitted).
consciousness in the actor of the nature of the act and a choice to do an act of that nature.”

On such an interpretation, while not expressly excluding irresistible impulse, the High Court appeared to favour a restrictive interpretation that applies only to unconscious involuntary conduct due to a DofM. The absence of a capacity to self-control is limited to instances where an accused’s incapacity for control is interpreted only as involuntary conduct.

Given R v Falconer, McSherry argues that V-insanity is redundant as the question of total loss of self-control already falls within the requirement of voluntariness. Therefore, by interpreting conduct driven by irresistible impulse as conduct which is only involuntary, creating a provision for V-insanity is redundant and useless.

The argument against the seventh objection

At the beginning of this Chapter, I discussed the distinction between the defence of voluntariness and V-insanity, and noted that in New Zealand involuntariness relates to situations where there is a complete absence of conscious control. The cases discussed were M v R and Bratty and the types of examples given for involuntariness were things such as muscle spasms. As I stated then, these are not the sort of cases I am considering in arguing for the defence of V-insanity. There is room for confusion if the term involuntariness is used to describe two different states (the absence of voluntariness at the stage of ‘establishing a crime’ and V-insanity at the stage of ‘denying criminal responsibility’). For instance, the defence lawyer in M v R seemed to get confused about this. Nevertheless, if the problem of confusion between voluntariness and V-insanity is the only problem for the inclusion of V-insanity, the problem could surely be avoided by proper legislative drafting. It is not within the scope of this thesis to consider what form that drafting would take.

220 McSherry, above n 174, at 248-251.
221 Note should be taken that the area of voluntariness in the context that McSherry was arguing is the defence of automatism, as it is applied in Western Australia.
222 M v R, above n 40.
223 At 134.
224 Bratty v Attorney General of Northern Ireland, above n 47, at 409.
225 The defence lawyer claimed that: "He [the accused] did not plan to apply force, he didn’t plan to raise his hand in the manner that he did and that is the issue. He didn’t form an intention. There is this discussion going on and he instinctively, or involuntarily as he put it, …" M v R, above n 40, at 7.
The final point that McSherry raises against the inclusion of V-insanity is that V-insanity broadens the insanity defence. In reaction to some code jurisdictions in Australia which have adopted the volitional test, she states that:226

It is unfortunate that the model defence has been broadened so as to enable those whose ability to reason is not impaired to be found not guilty because of mental impairment on the ground that they could not control their actions.

So far, in this Chapter, I have rejected the arguments against the inclusion of V-insanity. It is evident that there are substantial and justifiable reasons to support its adoption. If it is adopted, then inevitably the scope of the insanity defence will be broadened. There is, therefore, no need to argue further with McSherry’s objections and the Chapter’ previous arguments are sufficient to counter her final objection.

**Reasons for the inclusion of V-insanity as a defence**

In this section I argue that the rejection of V-insanity as a defence is morally unacceptable. I then attempt to show that, based on the basic construction of criminal responsibility, adopting V-insanity is fair.

*Is it morally sound to convict those whose control ability was incapacitated?*

Simester and Brookbanks summarise New Zealand law’s approach in this way:227

… in New Zealand irresistible impulse is not a defence even if caused by disease of the mind. … the only circumstances in which an irresistible impulse may assist a defendant in New Zealand is where there is evidence that an irresistible impulse is a symptom of a mental disease sufficient to *exclude knowledge* of the physical or moral quality of the act, amounting to legal insanity.

Is this morally justifiable?

In answering this question, it is essential to understand the notion of moral responsibility. Francis Raab notes two requirements for determining whether D is morally responsible for what he/she did: (1) could he/she have helped doing the act? and (2) was his/her act intentional?228 Inherent in Raab’s requirements is the idea that whether D could control his/her conduct is independent from the question of knowledge. Both, however, are essential for the fair attribution of responsibility. For Raab, “… it would be *morally offensive* to punish those who could not help doing what they did even though they knew what they were doing and knew it was legally and morally wrong.”229

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226 McSherry, above n 171, at 141.

227 Simester and Brookbanks, above n 18, at 321-322 (citations omitted) (emphasis added).


229 At 335 (emphasis added).
Based on Raab’s views, the current New Zealand test of insanity is morally defective because it treats as fully responsible those who do not have capacity for control. This is a moral fault. In *The Morality of Law*, Fuller argues that moral faults make a system of legal rules miscarry. Fuller describes the faults as follows:\(^{230}\)

The first and most obvious lies in a failure to achieve rules at all, so that every issue must be decided on an ad hoc basis. The other routes are: (2) a failure to publicize, or at least to make available to the affected party, the rules he is expected to observe; (3) the abuse of retroactive legislation, which not only cannot itself guide action, but undercuts the integrity of rules prospective in effect, since it puts them under the threat of retrospective change; (4) a failure to make rules understandable; (5) the enactment of contradictory rules or (6) rules that require conduct beyond the powers of the affected party; (7) introducing such frequent changes in the rules that the subject cannot orient his action by them; and finally, (8) a failure of congruence between the rules as announced and their actual administration.

The sixth failure is relevant here, i.e., rules that require conduct beyond the powers of the affected party.

As Raab notes, one of the fundamental elements of a suitable test of legal responsibility is that it must be in accordance with the concepts of moral responsibility.\(^{231}\) If a person is not morally responsible, he/she cannot be held legally responsible. A person who has no control over his/her actions is not morally responsible for them and it is therefore wrong to hold him/her legally responsible. As Vaughan CJ in 1677 stated: “A law which a man cannot obey, nor act according to it, is void and no law; and it is impossible to obey contradictions, or act according to them.”\(^{232}\)

I am not claiming that New Zealand’s entire legal system is morally wrong because it excludes V-insanity. However, New Zealand law needs to be changed. As Fuller argues:\(^{233}\)

A total failure in any one of these eight directions [the above-mentioned directions] does not simply result in a bad system of law; it results in something that is not properly called a legal system at all, …

*Exempting volitionally impaired individuals is equitable*

In this section, I will seek to find whether the inclusion of V-insanity as a defence is consistent with the idea of fairness. In doing so, I will review those moral reasons (justifications and perhaps obligations) for punishment that are most influential in


\(^{231}\) Raab, above n 228, at 328-331.

\(^{232}\) *Thomas v Sorrell*, Vaughan 330, 124 Eng Rep 1098, 1102 (KB 1677).

\(^{233}\) Fuller, above n 230, at 39.
criminal law theory. This will lead to a discussion of responsibility. The approach I will adopt here will be based on the dominant theory in the criminal law: the ‘capacity theory’. Finally, I will argue that the capacity in question is the capacity for both rationality and control. Therefore, those people who cannot control their behaviour cannot be treated as responsible.

The typical statement of the foundation of criminal responsibility is discussed by a legal theorist, Hart, as follows:234

What is crucial is that those whom we punish should have had, when they acted, the normal capacities, physical and mental, for doing what the law requires and abstaining from what it forbids, and a fair opportunity to exercise these capacities. Where these capacities and opportunities are absent, as they are in different ways in the varied cases of accident, mistake, paralysis, reflex action, coercion, insanity, etc, the moral protest is that it is morally wrong to punish because ‘he could not have helped it’ or ‘he could not have done otherwise’ or ‘he had no real choice’.

After reviewing the foundation of criminal responsibility, I now consider theories of responsibility. Three main competing theories of responsibility – choice, capacity and character theories – were nicely captured by Tadros as follows:235

For choice theorists, an agent cannot be criminally responsible for his action unless he had choices. For the capacity theorist, he cannot be criminally responsible unless he had some kind of capacity in relation to his action. For the character theorist, he cannot be criminally responsible unless his action was properly related to his character.

According to legal scholars, the ‘capacity theory’ (Hart’s statement that a person cannot be criminally answerable because he/she could not have done otherwise) is the popular approach in criminal responsibility.236 Hence, this thesis follows the approach of most

234 H L A Hart Punishment and Responsibility: Essays in the Philosophy of Law (Clarendon Press, New York, 1968) at 152. It needs to be mentioned that the above statement is not considering ‘high level questions of responsibility’ and determinism and free will. As mentioned in Chapter Three, Hart is advocating the ‘as if’ view and believes that the law assumes that people are responsible for their actions regardless of the philosophical debate over free will and determinism. The above statement about capacity must be read in line with the ‘low level questions of responsibility’.


academics in adopting the ‘capacity theory’ as the dominant theory. Other theories which seek to base criminal responsibility on an individual’s character or on a person’s choice will not be reviewed here. The difference between the choice and the ‘capacity theory’ is that if a person does not have the capacity to choose otherwise, then he/she does not have a choice to choose otherwise. Supposedly, the opposite is not true.237

According to the ‘capacity theory’, to be criminally answerable an individual must have had ‘the capacity to do otherwise’.238 Hart explains this justification for punishment as “Fairness require[s] that a man should not be punished … unless he had the capacity and a fair opportunity to avoid doing the thing for which he is punished.”239 Brudner teases out of Hart’s explanation an element of consciousness. By that, he means that Hart observed that humans have some awareness of themselves as beings that can reflect and act to be a moral agent: “… a capacity to have done otherwise in this sense belongs to any human being that is aware of itself as an ‘I’ or subject.”240 This is the primary basis for treating a person as a responsible agent.241

237 Some differences and similarities between character and choice theory were mentioned by Claire Finkelstein "Excuses and Dispositions in Criminal Law" (2002) 6 Buff Crim L Rev 317.

238 Again, it needs to be stressed that defining capacity to ‘the capacity to do otherwise’ in the context of responsibility is different from the deterministic point of view. Deterministic perspective defines that the action is deterministically caused by a chain of events if the actor cannot do otherwise than he/she did. The general principle in this Chapter is that there is no external challenge to the structure of the law (the debate over determinism and free will) and responsibility in the law is possible. Defining ‘the capacity to do otherwise’ in the context of this Chapter is addressing voluntariness. For instance, for a person who could not understand the nature of his/her action at the time of the crime, it is impossible to do otherwise than he/she did (i.e., to understand).

239 Hart, above n 234, at 190-191.


241 Horder determined that if an agent has the capacity to control his/her behaviour then it is fair to treat him/her as an individual with ‘moral capacity’, and hold him/her responsible: Jeremy Horder "Pleading Involuntary Lack of Capacity" (1993) 52(2) Cambridge L J 298 at 311. The ‘capacity theory’ is consistent with what has been widely recognised as a ‘subjectivist approach to liability’ and the ‘capacity theory’ is also consistent with the principle of ‘individual autonomy’. The drawback of the ‘capacity theory’ is the lack of scientific support to make a confident assessment of a person’s capacity to exercise self-control. Barry Mitchell "Minimum Culpability for Criminal Homicide" (2001) 9(3) Eur J Crime Crim L & Crim Just 193 at 195-196. For a recent account in the ‘capacity theory’, see Jeremy Horder Excusing Crime (Oxford University Press, Oxford, 2004) at 243-252.
The capacity approach is based on three fundamental capacities: understanding, reasoning, and control over one’s actions. Hart explained the elements of the ‘capacity theory’ in this way:  

The capacities in question are those of understanding, reasoning, and control of conduct: the ability to understand what conduct legal rules or morality require, to deliberate and reach decisions concerning these requirements, and to conform to decisions when made.

The ‘capacity theory’ sees an individual as a responsible agent who is capable of exercising control, and choosing whether to comply with the law.

Based on these grounds, as a matter of theory, if a person does not have any capacity for rationality or capacity to control, the law cannot treat him/her as criminally answerable. Currently, however, New Zealand law considers as fully responsible agents those people who do not have capacity for control, provided that they know what they were doing. My argument is that it is immoral and unjust to punish those people. The main reason for such an argument is that it is unfair for those who cannot control their behaviour, owing to a DoM, to be at risk of the same consequence (criminal sanction) as individuals without that condition (especially, those who acted intentionally and purposefully). As Lord Chief Justice Bingham stated: “It would be offensive to visit the full rigour of the law on those who are not mentally responsible … .”

To substantiate my argument, it is worth reviewing Hart’s approach which is shared by several scholars as the dominant theory justifying the inclusion of V-insanity. Hart suggested:

If we imprison a man who has broken the law in order to deter him and by his example others, we are using him for the benefit of society … . This is a step which

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243 R v Antoine [1999] 3 WLR 1204 at 1208. See also the statement of Justice Henchy in The People (A-G) v Hayes, in which he mentions: “… it is open to the jury to say, as say they must, on the evidence, that this man understood the nature and quality of his act, and understood its wrongfulness, morally and legally, but that nevertheless he was debarred from refraining from assaulting his wife fatally because of a defect of reason, his mental illness, it seems to me that it would be unjust, in the circumstances of this case, not to allow the jury to consider the case on those grounds:” The People (Attorney General) v Hayes Central Criminal Court (20 Nov 1967) (Unreported) at 71.

244 See Husak who argues: “persons are responsible and deserve punishment only for those states of affairs over which they exercise control.” Douglas Husak "Does Criminal Liability Require an Act?" in Antony Duff (ed) Philosophy and the Criminal Law: Principle and Critique (Cambridge University Press, Cambridge, 1998) 18 at 75. See also, Goldstein who argues that the accused must be blameworthy and blameworthiness must arise from meaningful choice. Goldestin, above n 57.

245 Hart, above n 234; Husak, above n 244, at 207.
requires to be justified by (inter alia) the demonstration that the person so treated could have helped doing what he did.

Finally, punishing individuals driven by irresistible impulse is immoral. As Ferguson notes:

If it is true that our law in general - and criminal law in particular - is based on a conception of human beings as rational and autonomous individuals, then both conditions - reason and will - are relevant to attributing criminal responsibility to an individual. It is the ability to reason (right from wrong) and the ability to choose (to do right or wrong) which provides the moral justification for imposing criminal responsibility and punishment. If there is no ability to reason, or no ability to choose, then responsibility for one’s conduct is impossible to establish and punishment for that conduct would be immoral. It is for this reason that the insanity test must include, at least on philosophic grounds, some consideration of both cognitive and volitional impairment.

In the following section, I will review the New Zealand commentary on the issue of V-insanity, and then explain the proposal for adopting V-insanity.

The recent position of V-insanity in New Zealand

In 2010, the New Zealand Law Commission (NZLC) reviewed the defence of V-insanity and rejected its inclusion into New Zealand law. After reviewing the United States’ experience, the NZLC noted two opposing views on the matter. On the one hand, it noted that the rejection of the defence in the States may have been principally a policy decision to narrow the scope of the insanity defence. Proponents of this view also argue that C-insanity does not have a scientifically superior basis to V-insanity and psychiatrists are no less confident making volitional assessments than they are cognitive ones. The opposing view was that of the American Psychiatric Association, which claimed that, since “The line between an irresistible impulse and an impulse not resisted is probably no sharper than that between twilight and dusk”, a distinction between irresistible impulse and unresisted was impossible. Finally, the NZLC concluded:

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246 For the same level of argument see the suggestion of the New South Wales Law Reform Commission which recommended the inclusion of V-insanity on the basis of providing the exculpation for those defendants who could not genuinely control their actions because of cognitive impairments. Victorian Law Reform Commission Review of the Crimes (Mental Impairment and Unfitness to be Tried) Act 1997: Report (VLRC, 2014) at 69.

247 Gerry Ferguson "A Critique of Proposals to Reform the Insanity Defence" (1989) 14 Queen’s LJ 135 at 139-140 (emphasis in original).

248 Mackay, above n 58, at 114-117 cited by Law Commission, above n 211, at 50.

249 American Psychological Association, above n 123, at 22 cited by Law Commission, above n 211.

250 Law Commission, above n 211, at 50.
We encountered some mixed views as to whether a volitional test ought to be included in the New Zealand defence but, on balance, it was opposed. We do not consider the arguments for introducing it sufficiently strong to outweigh reservations about whether it can be robustly applied in practice. We do not recommend it. Interestingly, no further reasons were given for this conclusion.

Rejecting V-insanity is a policy decision

It seems that the main reason for the NZLC’s rejection lies in the difficulty of the ‘line-drawing problem’. I have already considered this argument. To summarise briefly, the ‘line-drawing problem’ is the difficulty of distinguishing between A, who could not genuinely control his/her impulses, and B, who could control his/her impulses but would not do so. It is not clear why the difficulty of the ‘line-drawing problem’ is seen as an insurmountable difficulty for V-insanity, when New Zealand law does not require such certainty for other sorts of defences like C-insanity, or other mental states like intention. The fact that it may not be possible to determine with great accuracy whether understanding was actually lost in a particular case does not preclude New Zealand law from accepting C-insanity as a defence. Instead, the law makes do with inferences drawn from non-direct sources of evidence. However, with regard to V-insanity, New Zealand law seems to regard the ‘uncertainty problem’ as an insurmountable obstacle. This is an inconsistency in law. Specifically, as Mackay pointed out, scientifically speaking, the C-insanity test is not superior to the V-insanity test.251

If the lack of direct evidence does not constitute an insurmountable obstacle in principle, then a second question may be whether there exist obstacles in practice to the recognition of the defence. Perhaps, the reason for the rejection is not merely the difficulty of distinguishing between impulses which are unresisted and ones which are not resisted. Perhaps, as Mackay suggests, there is an underlying policy reason to reject it:252

It would be preferable, therefore, if more emphasis were laid on the fact that the rejection of the volitional test was essentially a policy decision based primarily on a perceived need to narrow the scope of the insanity defence rather than the result of alleged difficulties which the assessment of volitional impairment [the volitional insanity, as this term is familiar in the context of the thesis] presents to psychiatrists. Freedman and Ferguson also suggest the rejection of V-insanity is a policy decision.253

251 Mackay, above n 58, at 116.

252 At 117.

253 Freedman mentions: “There is an obvious difficulty with the provocation defence that has led to the present state of affairs. How may one deter a person from indulging his or her ‘excitable nature’, or diminished capacity for control, merely by obliging that person to conform to a standard of self-restraint denied them by nature? Ought such a person fall outside the normal threshold or be judged on a standard relative to his or her subjective capacity for control in the face of provocation? The traditional response to
My intuition is that *perhaps* the rejection of V-insanity in New Zealand is a policy decision, mainly because the argument for rejecting the defence is not sufficiently strong. The emphasis is, however, on *perhaps* because I do not know what is actually happening in the mind of authors of the NZLC report and New Zealand legislators. As mentioned before, this is a PhD thesis in law. Therefore, it is not my primary object to elaborate or speculate on the motives that lie behind policy decisions. Instead, the goal of this thesis is to examine the legal problem and propose some suggestions for adopting a new defence. In the next section, I will provide some suggestions as to how New Zealand law could adopt V-insanity. Before doing that, however, I examine how science can help in determining whether a person is volitionally insane.

*The current state of science on V-insanity*

Previous sections of this Chapter showed that there are doubts as to whether scientific evidence can solve the ‘line-drawing problem’ in V-insanity (expressed by Mackay and other scholars). Now, in this section, I am going to examine that evidence.

The difficulty of distinguishing between irresistible and unresisted impulses (the ‘line-drawing problem’) and the fear of misusing the defence of irresistible impulse (the second problem) would be solved – from a legal perspective, anyway; policy issues may be a different matter – if there is evidence to determine genuine irresistible impulse. Perhaps science can assist the law in this regard.

The question for science is this: is there any evidence to distinguish between impulses which could be resisted but were not, and those which could genuinely not be resisted? In response to this question, two different perspectives are proposed. Without analysing the validity of those perspectives, I will briefly review them.

On the one hand, some scholars argue that there is no absolute scientific evidence to solve the above problem. They argue that it is impossible to measure the ability of the individual to control him/herself. For instance, Peter Shea writes:254

... it is simply not possible to determine scientifically the difference between an impulse which has not been resisted and an impulse which could not be resisted, either in a person who is clinically sane or a person who has a psychiatric illness.

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such arguments has been a policy decision not to allow ‘irresistible impulses’ to lower the standard of conduct necessary to justify or excuse behaviour.” Freedman, above n 153, at 32 (citations omitted). In the same vein, Ferguson mentions: “It is clear to me that an insanity defence must recognize, at least on philosophic grounds, some level of both cognitive and volitional impairment. However, the public expectation that citizens must in general take personal responsibility for their conduct is an important value which is essential to the continued preservation of peace and order in our society. This public expectation must not be destroyed by setting the minimum capacity for responsibility too low, thereby allowing a large number of persons to escape this general expectation.” Ferguson, above n 213, at 141.

This view is shared by scholars such as Horder, Slobogin, Yannouidis, Morse, Keedy, others and some scientific associations like the American Psychiatric Association.

On the other hand, some scholars argue that there are some fairly strong indicators that some people have less capacity for self-control. For instance, Adrian Raine, in his recent book *The Anatomy of Violence*, points to several types of evidence that indicate that some people suffer from irresistible impulses. Raine proposed a relationship between suffering from (1) selective lesions to the prefrontal cortex, (2) aggressive acts of labourers exposed to manganese, (3) brain impairments in dorsolateral prefrontal cortex and (4) prefrontal dysfunction with impulsive behaviour. Some similar types of evidence were presented by other scholars such as Tancredi and Damasio. Moreover, there is

255 Horder, above n 241, at 283.


257 In 2011, Yannouidis examines ‘impulse control disorder’, particularly, pyromania. He concludes that there are some inconclusive understandings of impulse control disorder and studies so far could not satisfy the legal criterion of distinguishing between impulses which could be resisted but were not, from those which could not be resisted. Yannouidis, above n 2, at 140-164.


261 American Psychiatric Association, above n 126, at 22. American Psychiatric Associations claims: “…the line between an irresistible impulse and an impulse not resisted is probably no sharper than that between twilight and dusk.”


263 At 230.

264 At 269.

265 At 310.


limited research, but some data to demonstrate that V-insanity can be assessed with a structured interview.\textsuperscript{268}

To sum up, some scholars argue that there is no absolute clinical evidence to determine whether a person has irresistible impulses. But, other scholars are at least claiming that they have some fairly strong indicators that some people lack capacity for self-control. Clearly, the state of science is currently uncertain about this and at most, science can only provide detailed information about the mental states of an accused in some circumstances prior to, or after, the commission of a crime.\textsuperscript{269} I am neither a psychologist nor a neuroscientist, and this thesis is not the place for a detailed exposition of the state of current scientific knowledge on irresistible impulses, or for coming down in favour of one or other of the aforementioned opposed perspectives. But it is clear that there are some operating within these fields who believe that objective evidence of ‘brain states’ causing an impairment of self-control is, or soon will be, available. Whether or not this is true, the following question still arises for New Zealand law: ‘what should the law do if there is evidence suggesting that some accused are significantly volitionally impaired?’

The above review of the current state of science suggests that determining genuine irresistible impulse is still arguable. It will be assumed in the next section that in the future the science will be able to determine whether a person is volitionally impaired. Having considered such an imagined future, I then propose a possible legal response.

\textit{A future scenario: science solves the ‘line-drawing problem’}

Let us imagine a future in which science can completely solve the ‘line-drawing problem’; a future where new scientific developments – they may be in neuroscience or behavioural genetics or some completely new field – are able, objectively and empirically, to distinguish between those who truly cannot control their impulses, and those who do have such control, but on a given occasion chose not to use it. My argument is that before such a scenario happens, New Zealand law should adopt some modifications and amendments in the structure of its insanity defence and recognise the defence of V-insanity. Assuming that future scenario, and providing a proposal for adopting V-insanity, is one way for proposing my argument and another way will be described later. Having done this, I will conclude the Chapter by turning my attention to another possible scenario: one in which science might reveal that it is unable to solve the

\textsuperscript{268} Rogers, above n 131.

\textsuperscript{269} See, for example, Morse, above n 54, at 817.
‘line-drawing problem’ in V-insanity. This issue will be elaborated in the final part of the thesis in the form of a trade-off suggestion.

My second proposal holds regardless of the future scientific scenario. That proposal is that the law can assess the evidence of V-insanity in the same way as it assesses the evidence of C-insanity. As explained before, the science on whether the ‘line-drawing problem’ can be solved is doubtful. Further, the scientific evidence on C-insanity is not superior to that available for establishing V-insanity. On these grounds, and before the imagined future scenario happens, the law, at the very least, can arrive at a situation where it is possible to solve the ‘line-drawing problem’ in V-insanity. To distinguish between irresistible and unresisted impulses, the law can rely on the standard which is not absolute certainty as it is currently accepted for the purposes of C-insanity.

V-insanity either as a separate form of the insanity defence or within the current insanity defence

In theory, there are two ways in which V-insanity could be introduced into New Zealand law: either as a separate form of the insanity defence, or within the current form of the insanity defence, in parallel with C-insanity.

I could not find any examples of the former among common law jurisdictions. However, for the second type – adopting V-insanity within the form of the insanity defence – an example of a code jurisdiction is to be found in the Criminal Law Consolidation Act 1935.270

Mental competence to commit offences
269C—Mental competence
A person is mentally incompetent to commit an offence if, at the time of the conduct alleged to give rise to the offence, the person is suffering from a mental impairment and, in consequence of the mental impairment—
(a) does not know the nature and quality of the conduct; or
(b) does not know that the conduct is wrong; or
(c) is unable to control the conduct.

The V-insanity test is set out in s 269C(c) in parallel with C-insanity in s 269C (a) and (b).

Even though I could not find any example of ‘an independent form of insanity’, I am still going to consider it as a possibility. In this thesis, I will consider V-insanity as (1) an independent form of the insanity defence and (2) as within the current form of the insanity defence. Both these forms can be applied in two ways: either to reject the current scope of the insanity defence or as a new V-insanity which can be applied without

270 Criminal Law Consolidation Act 1935 (SA).
rejecting the whole present ambit of the insanity defence. I have not come to any strong conclusion about which form is better.

*The proposal for adopting V-insanity in New Zealand*

In this Chapter, I argued that criminal law theory is based on both cognition and volition. I tried to argue for the recognition of V-insanity to operate alongside C-insanity. Such a defence acknowledges that a person can be insane without any cognitive impairment. The overall thesis is that elements of V-insanity can be adopted in the same way as elements of C-insanity were adopted. Here, though, briefly some elements will be described.

Firstly, for establishing V-insanity the burden of the proof can be upon D to prove his/her claim. The standard for proving the defence can be ‘on the balance of probabilities’ which is a test of ‘more likely than not’.

Secondly, the claim of V-insanity should be based on DofM. Discussing the hard question of what behaviour should be considered a DofM is not within the scope of this thesis. For the purposes of this thesis, the definition and principles which apply in defining DofM for C-insanity can also apply for the definition of V-insanity as proposed in this thesis. On that basis, the role of the scientific assessors in examining D’s state of mind can be limited to assisting the trier of fact, rather than determining the final issue of insanity.

Thirdly, the final issue of V-insanity is upon the trier of fact. They can examine D’s degree of volition based on the ‘common sense inquiry’ which uses various aspects of the evidence including scientific evidence, circumstantial evidence and evidence of D’s behaviour. It is open to the trier of fact to determine, on the above-mentioned evidence, that D understood the nature and quality of his/her act, and understood its wrongfulness – morally and legally – but that nevertheless he/she was unable to refrain from committing an act because of his/her DofM.

Fourthly, if the trier of fact accepts the defence, and is satisfied that its elements have been met, D is not regarded as a responsible agent. Having said that, the issue of D’s dangerousness must be carefully considered. As explained before, one of the reasons for the rejection of V-insanity was the ‘social defence consideration’ or societal protection (i.e., the responsibility of the law to protect the community from dangerous people). To ensure the ‘social defence consideration’ receives appropriate attention whenever there is a finding of V-insanity, the law of New Zealand can adopt a particular strategy. That strategy could be something similar to the strategy in C-insanity to get around the danger

271 Under the current law, for C-insanity, medical witnesses are allowed to give their opinion whether a disorder may be considered as a DofM. However, a DofM, is a legal not a medical concept. As a result, it is a question of law what mental abnormalities are included within the concept. Simester and Brookbanks, above n 18, at 301-302.
of insane people being released into the community (subject to the CPMIPA 2003). As said before, New Zealand courts can order a wide range of disposal options for a person who is found not guilty based on C-insanity (orders ranging from detention to immediate release). The same can be applied once the defence of V-insanity is recognised to take into account various degrees of dangerousness of D (see graph 4.2).

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272 As mentioned before, currently, courts have a wide range of options: (1) s 24 of the Mental Health Act 1911 provides for orders to detain D found insane as special patients under the Mental Health (Compulsory Assessment and Treatment) Act 1992; (2) the CPMIPA 2003 provides special care recipients under the Intellectual Disability (Compulsory Care and Rehabilitation) Act 2003 and (3) immediate release which was provided by s 25(1)(d) of the CPMIPA 2003 and does not allow the court any supervisory control of the offender once discharge into the society has taken place.
Finally, in this Chapter, I elaborated on this thesis’ proposal for adopting V-insanity in New Zealand. The argument of this thesis has not been produced by a massive body of literature which has reviewed V-insanity in New Zealand. Although my proposal will apply specifically to New Zealand law, the rationale behind it is likely to be applicable in English, and other legal systems, which rest on the same jurisprudential assumptions. Two reasons can back up such a claim: firstly, broadly speaking, English law is the basis of New Zealand law. Secondly, the approach of English law in rejecting V-insanity is similar to that in New Zealand.

Conclusion

Consider the language of the opponents of the V-insanity defence:

… in New Zealand irresistible impulse is not a defence even if caused by disease of the mind. … the only circumstances in which an irresistible impulse may assist a defendant in New Zealand is where there is evidence that an irresistible impulse is a symptom of a mental disease sufficient to exclude knowledge of the physical or moral quality of the act, amounting to legal insanity.

Consider the cost and benefit of the exclusion of V-insanity from the viewpoint of advocates of that exclusion. The benefit of excluding V-insanity is meeting the ‘social defence consideration’ and preventing any type of misuse of the defence by some accused who could control themselves but pretended that they could not. The third benefit is preventing the fabrication of the legal proceedings (i.e., creating confusion for courts) by introducing the complex claim of irresistible impulse allegedly because V-insanity can create more confusion than C-insanity. On the other hand, the cost of excluding V-insanity, in the name of eliminating abuse, is convicting some citizens who cannot control their impulses (see graph 4.3).

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273 For instance, Warren Brookbanks reviewed the rejection of V-insanity in New Zealand. He found that the rejection of the defence by New Zealand lawmakers was based on sound reasons. However, his personal viewpoint was that "... without powerful new psychiatric evidence as to the true ability of pathological imperious urges to compel criminal behaviour, I would take some persuading that it is possible to differentiate between an impulse that is genuinely irresistible as opposed to being simply unresisted. Nevertheless, this is clearly an area intense topical interest that will require further investigation." Warren J Brookbanks “The M’Naghten Rules: Time for a Decent Burial?” (2002) (8) NZLJ 315 at 317. Nonetheless, in 2003, Brookbanks explicitly stated that the inclusion of V-insanity is problematic Brookbanks, at 94. Among publications of other New Zealand legal scholars I could not find any argument equal to the current thesis’ argument.

274 Simester and Brookbanks, above n 18, at 356 (citations omitted).
Graph 4.3. The cost and benefit of excluding V-insanity.

Nevertheless, in response to all elements of benefit, in this Chapter, I have argued that these are not justifiable benefits. Regarding the first benefit of excluding V-insanity, the ‘social defence consideration’, I argued that such a concern can be minimised by adopting some strategies like disposal options which are currently applicable in V-insanity. Regarding the second benefit, I established that such a concern is also common in V-insanity: the challenge is ascertaining whether D was unable to understand what he/she was doing and because there is no empirical evidence to suggest the reality of D’s mind, the risk of abusing the defence of C-insanity also exists. But New Zealand law adopts some principles for establishing C-insanity which can be applied for V-insanity as well. Regarding the third benefit, I established that it is doubtful whether C-insanity is empirically preferable than V-insanity or the risk of fabrication (i.e., causing confusion for courts) and moral mistakes in administering V-insanity is higher than C-insanity. On these grounds, there is no benefit to excluding V-insanity.

Now consider the cost: sacrificing some individuals who cannot control themselves for the benefit of society. I argued that this group is not-blameworthy and punishing them is immoral. In fact, those individuals are non-blameworthy because they are acting under the influence of a DofM and cannot control themselves. As Alexander Brooks warned, in relation to punishing the sufferers of irresistible impulse, “… certainly morality is sacrificed to expediency.” However, it seems that legal scholars have tried to avoid that cost and reduce negating the moral issues by suggesting that cases of V-insanity can fit within the category of C-insanity. As Brooks suggested, they:

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275 Brooks, above n 192, at 134.

276 See the argument of Bronitt and McSherry that mentioned under the section of ‘creating the defence for V-insanity is redundant’.

277 Brooks, above n 192, at 134. Brooks suggested that this is the view of the drafters of the American Psychiatric Association to eliminate V-insanity. Because of the similarity between the view of the
… have attempted to avoid this inescapable conclusion by asserting that the elimination of the volitional prong will not result in convictions of the nonblameworthy because in practice there is considerable overlap between a psychotic offender’s defective appreciation and his ability to control his behavior.

I argued that it is not correct to suggest that there is considerable overlap between D’s cognitive appreciation and his/her ability to control behaviour. Firstly, there is no valid scientific evidence to support that claim; more empirical research is required to establish the criticisms which have been directed at V-insanity. Secondly, it is possible that some sufferers of irresistible impulse can understand the nature of their actions. Therefore, the argument of the opponents of the exclusion of V-insanity is not justifiable and there is no benefit in the exclusion of V-insanity.

I mentioned that the current state of science could not completely shed light on irresistible impulse. Two future scientific scenarios might happen. The first scenario is that science can shed light on irresistible impulse and find that some people are not genuinely able to control their impulses. The second scenario is that science will be able to posit that no one can satisfy the test of V-insanity. This Chapter has so far concentrated on the first scenario. Now consider the second one.

We are facing an important trade-off. At the moment, New Zealand law adopts C-insanity but excludes V-insanity. In addition, at the moment both types of insanity are hostage to scientific evidence because there is no valid empirical evidence to absolutely inform these two limbs of insanity. The proposal of the thesis is that at the moment New Zealand law should adopt V-insanity. No harm will result by introducing such a defence. However, some costs are involved if in the future it turns out that V-insanity is clinically incorrect (the second scientific scenario). The greatest cost is that for a period of time – from now to the time of finding valid scientific evidence which shows that the genuine irresistible impulse does not exist – the law adopts an unfair provision. The cost of such a startling revelation is equal to the cost of it turning out that there is no evidence for C-insanity because C-insanity is also hostage to empirical evidence.

Setting aside the above-mentioned possible future scenario, and the argument following that, another reason for including V-insanity is that at the moment it is not certain whether C-insanity is scientifically superior to V-insanity. It is therefore possible to argue that at this stage the law can, at the very least, arrive at a situation where it is not possible to completely shed light on irresistible impulse with absolute certainty, but it can do so with a similar degree of certainty as is currently accepted for the purposes of C-insanity.

American Psychiatric Association and some legal systems which excluded V-insanity, the thesis is arguing that opponents of the exclusion of V-insanity adopted the above approach.

278 For more elaboration on the lack of scientific evidence to support criticisms which has been directed V-insanity. See Mackay, above n 58, at 116.
To sum up, there is no good reason to reject V-insanity and adopting the defence is preferable.
Chapter Five: challenging New Zealand’s ‘black and white’ approach to criminal responsibility

Terminology

Some terms need to be explained at the outset.

Diminished responsibility (DR) is a partial defence that is accepted in some common law jurisdictions. It recognises that a disordered state of mind, falling short of what is required for insanity, can reduce the defendant (D)’s culpability. DR is not, however, a complete excuse but is a partial defence only. DR embraces a broad range of mental disorders, including defective volitional states and impaired intellectual understanding.

Defective volitional states (DVS) are states under which D has a reduced ability to control his/her impulses, but which are not such as to render him/her wholly unable to do so. Total loss of self-control is subject to the defence of volitional insanity (V-insanity), as it is recognised under some common law jurisdictions, such as South Australia (see Chapter Four).

‘Abnormality of mind’ is a term that is utilised in an all-encompassing way. It is not restricted to any medical definition but instead refers to mental illnesses, impairments and abnormalities of any type, encompassing intellectual disabilities, unless such concepts are used in the Chapter individually. Current English law employs the term ‘abnormality of mental functioning’ in its DR defence, based on the wording of the Coroners and Justice Act 2009 (CJA 2009), s 52. Previously, the Homicide Act 1957 (HA 1957) used the term ‘abnormality of mind’. Employing the term ‘abnormality of mind’ in this Chapter is not related to the HA 1957.

Other terms will be explained in the sections below.

Scope of the Chapter

In Chapter Three, following the position of most legal academics, I suggested that Legal Compatibilism is the dominant approach in criminal law. It is an approach that protects the structure of the law against ‘external challenges’, while remaining neutral on the ‘high level’ question of free will (as this term was defined by philosophers) and determinism. Instead, from the viewpoint of Legal Compatibilism, only ‘internal challenges’ are relevant. The starting point of ‘internal challenges’ is that the basic concept of criminal responsibility is coherent. This does not, however, exclude the possibility that particular rules and practices of criminal law could require review and reform in light of discoveries in neuroscience and genetics.

In Chapter Four, I explained that in this thesis the claim of loss of self-control is treated as an example of such ‘internal challenges’. Loss of self-control is a broad category of
defences, encompassing both V-insanity, and other possible defences such as DR. In Chapter Four, I discussed the defence of V-insanity, showing that it is a full defence arising from total loss of self-control. However, it is not a defence in New Zealand. I attempted to analyse the reasons for the exclusion of the defence, and proposed that New Zealand law should be reformed to accommodate it.

Loss of self-control can also form the basis of a partial defence of DR or provocation. These are very different defences. For DR, the capacity to exercise self-control must arise from some ‘abnormality of mind’. In contrast, for provocation – or ‘loss of control’ as it now is in English Law – it must be shown that while the act was wrong, an ‘ordinary, reasonable person’ (or some similar wording) might have reacted in the same way. In this thesis, I am concerned only with abnormal levels of self-control, i.e., the DR defence.

As defined by Warren Brookbanks, a New Zealand criminal law scholar, DR “… denotes a state of mind falling short of legal insanity but embracing a wide range of mental disorders, including defective volitional and emotional states.” While in some common law jurisdictions, such as English law, DR is recognised as a partial defence – though one available only in the context of murder charges – DR has never been recognised in New Zealand law. In this Chapter, I will try to provide sufficient reasons for introducing the partial defence of DR in New Zealand. In doing so, I will review, firstly, the basic rationale of the criminal justice system which is that culpability is a matter of degree. Based on that premise, DVS can be considered as falling between two ends of the spectrum of culpability: on the one end, full responsibility, and on the other end, complete absence of responsibility. Secondly, I will compare the response of two jurisdictions to the claim of DVS: on the one hand, English law, which does accept DR; and on the other hand, New Zealand law, which does not. After comparing the response of these two jurisdictions, I will review reasons for the rejection of DR in New Zealand. Thereafter, I will propose an argument in favour of adopting DR in New Zealand. Finally, I will suggest – in broad terms – the form that the DR defence could take. Previously, academic literature has evaluated the defence of DR and several New Zealand scholars

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1 The defence of 'loss of control' is recognised in Coroners and Justice Act 2009, s 54. That legislation replaced the defence of provocation. The defence of provocation had previously dealt with some of the cases that are now dealt with by the defence of 'loss of control'. Section 56.


3 In the title of this Chapter, I use the phrase ‘black and white’ approach which is a phrase used by the New Zealand Law Commission in its explanation as to why New Zealand has rejected the DR defence. That phrase will be explained later. Law Commission The Partial Defence of Provocation (NZLC R98, 2007) at 56.
are in favour of including that partial defence in this jurisdiction. I will briefly review their arguments in various parts of the Chapter. If I find any significant gap in their arguments, I will try to bridge those gaps and provide a detailed original argument for including DR in New Zealand. Otherwise, I simply summarise their arguments.

Outside the scope of the Chapter

This Chapter does not address the following issues.

Firstly, the main focus of the Chapter is evaluating reasons for the rejection and inclusion of a DR-type defence in New Zealand law. The precise form that such a defence could take, however, will not be explored in detail. Perhaps New Zealand law could draw on other jurisdictions for the form it should take, such as England. This is a gap that can be filled by further research.

Secondly, I will not be discussing the condition of self-induced diminished capacity to control impulses. In other words, the condition of diminished capacity to control impulses which is produced by a criminal accused’s own actions – such as voluntary intoxication – will not be investigated.

Thirdly, the defence of DR, as it is recognised under English law, encompasses three different tests of substantial impairment of: (1) understanding the nature of the conduct; (2) forming a rational judgment and (3) exercising self-control. In this Chapter, because of the relevance of the internal challenge of the loss of self-control, the first two tests will not be discussed; it will focus only on the last test (substantial impairment to exercise self-control).

Introduction

In 1958, Patrick Joseph Byrne, a 27-year-old labourer, was seen prowling around a Birmingham hostel, peeping through windows. He burst into a room, and strangled a girl living there. He then mutilated and indulged in perverted sexual behaviour with her body. When Byrne was charged with murder, he acknowledged the facts of the killing, and


5 The test, as it will be explained further, is governed by Homicide Act 1957, s 2 and as amended by Coroners and Justice Act 2009, s 52.
sought instead to rely on the defence of DR as defined by s 2 of the HA 1957. In particular, he claimed that the killing of the girl was carried out under an abnormal sexual impulse which was so strong that he found it extremely difficult to resist. The uncontradicted evidence of the medical witnesses who examined Byrne was that he suffered from an ‘abnormality of mind’, specifically, that he was a sexual psychopath. According to the medical evidence, he suffered from violent perverted sexual desires which he found it extremely difficult to control. The medical witnesses, however, testified that Byrne’s self-control was not completely impaired; he was not insane in the technical sense. It was extremely difficult, but not completely impossible, for him to control his impulses. The trial court rejected the defence. Byrne appealed. The English Court of Criminal Appeal reviewed the evidence, including the behaviour of Byrne at the time of the crime and the medical evidence. Having done so, it accepted the defence and convicted Byrne to manslaughter rather than murder.

Irrespective of the decision of the Court of Criminal Appeal in the real case, in the context of this Chapter I am going to consider the Byrne case (hereinafter it will be called the case of X to not mix up with the facts in the real case) as an example of a claim of DR. What are crucially important in this Chapter are elements of X’s claim. Those elements are: (1) X had an ‘abnormality of mind’ (in the sense described in Terminology section above); (2) that X’s degree of self-control was significantly impaired as a result of his ‘abnormality of mind’ and (3) as a result, it was extremely difficult for X to exercise self-control. X’s claim of DR, and these aforementioned elements, is the subject of this Chapter.

One might reasonably question the difference between the claim of X and what was described in Chapter Four as the claim of V-insanity. The main difference is that for the claim of V-insanity it was impossible for D to control his/her violent impulses, but in the case of X, it was not completely impossible for him to control his impulses. Rather, it was extremely difficult for X to control his impulses. As such, he is not entirely excused from his offending; if it was possible for him to restrain his urges, then he should have done so, and it is right that he should be punished for his failure to do so. DR, however, recognises that X’s responsibility for that failure is reduced, because his ability to control his urges was significantly impaired.

6 R v Byrne [1960] 2 QB 396. Homicide Act 1957, s 2(1) provides:

"Where a person kills or is a party to the killing of another, he shall not be convicted of murder if he was suffering from such abnormality of mind (whether arising from a condition of arrested or retarded development of mind or any inherent causes or induced by disease or injury) as substantially impaired his mental responsibility for his acts and omissions in doing or being a party to the killing."

7 Criminal Law Consolidation Act 1935 at 400-401.

8 At 405.
At the other end of the spectrum, another question might arise: what is the difference between X and other ‘ordinary’ criminals, many of whom will also have yielded to their urges and instincts when committing their offences? The answer is that X’s self-control was significantly impaired as a result of his ‘abnormality of mind’. It is this impairment that sets him apart from other offenders, and which arguably justifies a finding of reduced culpability. The idea, however, that reduced impulse control should be reflected in reduced culpability requires further explanation and argument, and it is to this that I will turn in the next section.

**A spectrum of culpability**

There is no dispute that the concept of blameworthiness is central to the criminal justice system and criminal punishment. Before punishing a person who has invaded a protected right, the criminal law requires that D is culpable. As George Fletcher said, “… punishment should be imposed on the basis of blameworthiness or culpability.” The requirement of finding mens rea or guilty mind is the most notable example that before imposing a punishment there must be blameworthiness.

Franklin Zimring is one criminal law writer who explains the importance of taking blameworthiness into account in criminal law. He states: At its core, the Anglo-American criminal law is about punishment, about the intentional infliction of harm on persons who have committed blameworthy acts. We punish because we believe such harm is morally deserved by a particular individual for a particular act. To do this, the criminal law needs to make sense as a language of moral desert, punishing only those who deserve condemnation, punishing the guilty only to the extent of their individual moral desert, and punishing the range of variously guilty offenders it apprehends in an order that reflects their relative blameworthiness. Of course, the perfect satisfaction of these standards is always beyond human capacity, but the legitimacy of a system of criminal punishment depends on recognizing the moral obligations of penal proportionality and attempting to meet them.

Based on the above point, and the fact that “… blameworthiness is punishment’s sine qua non”, the criminal law’s response to a person who has no knowledge of his/her actions is to deem him/her non-responsible, and hence, non-culpable. The best example is the

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10 Fletcher, above n 9, at 173.


12 At 51.
insanity defence under the M’Naghten rules. As I showed in the last Chapter, under those rules, mentally ill persons will be excused from criminal punishment since they do not appreciate the wrongfulness of their conduct. In addition, some common law jurisdictions have extended this approach to those who completely lack control over their actions, though this ‘volitional’ version of insanity is regarded as more controversial, and has not been accepted everywhere. To sum up, the reason for not punishing people who have no control/knowledge over their conduct is the absence of blameworthiness.

The issue that will be explored in this Chapter is not the total loss of blameworthiness, but rather, the partial loss of blameworthiness. The key question is whether individuals with impaired control, someone like X in the above-mentioned case, may be held partially responsible or completely responsible? In order to find the response to this question, as a matter of theory, I need to explain the issue of blameworthiness and the spectrum of culpability.

In criminal law, there is a prominent school of thought that responsibility is a question of degree. Several academics subscribe to this view and suggest that there are various degrees of culpability and that the law must reflect this. For instance, Stephen Morse suggests:

Rationality … clearly ranges along a continuum, from fully rational by anybody’s standards, to completely lacking rationality by anybody’s standards. Consequently, if rationality is a criterion for responsibility, then responsibility, too, should in theory be matter of degree which ranges along a continuum. Even if someone is not fully excusable, his or her rationality may be non-culpably compromised to a substantial extent, thus mitigating the deserved blame and punishment. If a wildly delusional agent intentionally and premeditatedly kills her victims for deluded reasons, she surely deserves less punishment than an undeluded killer-for-hire.

... Ordinary morality makes differential, excusing allowances on a sliding scale of diminished rationality, and in principle the law might do so as well.

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Based on the above principle, which holds that various degrees of responsibility can be graded along a continuum, I can find the answer to the above question. In addition to the two ends of the spectrum of responsibility – full responsibility and full non-responsibility (subject to full inability to form control/knowledge) – the law should take into account other degrees of responsibility; those degrees would fall between two ends of the spectrum (see graph 5.1).

![Graph 5.1. Various degrees of responsibility.](image)

The idea that there is responsibility along a continuum was also recognised by Lord Justice-Clerk Alness: 15

Formerly there were only two classes of prisoner – those who were completely responsible and those who were completely irresponsible. Our law has come to recognise in murder cases a third class, the class which I have described, namely those who, while they may not merit the description of being insane, are nevertheless in such a condition as to reduce the quality of their act from murder to culpable homicide.

This is exactly the rationale for the recognition of the defence of DR. As George Mackenzie, a Scottish judge, wrote as early as 1674: 16

It may be argued that since the law grants a total impunity to those that are absolutely furious therefore it should be the rule of proportions lessen and moderate the punishments of such as though they are not absolutely mad yet are hypochondrick and melancholy to such a degree that it clouds their reason; qui sensum aliquem habent sed diminutum ...

This is echoed by others such as H L A Hart 17 and Hyman Gross. Gross wrote that: 18

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15 *HM Advocate v Savage* (1923) JC 49 at 50.

16 A discourse upon the laws of Scotland in Matters criminal. Cited in Nigel Walker and Sarah McCabe *Crime and Insanity in England* (Edinburgh University Press, Edinburgh, 1968) at 139. The Latin phrase can be translated as 'who have a certain amount of awareness, though reduced'. At 145, fn 6.

17 Hart, above n 13, at 153. See also Dressler, above n 13.

The rationale for diminished responsibility is simple. If a person who is incapacitated is ineligible for blame, a person who is seriously impaired though not incapacitated is eligible only within limits.

The final point is that if the law completely exempts those individuals who have no knowledge/control over their conduct, equally the law should consider partially responsible those individuals who have partial ability to do so. As Joshua Dressler notes:19

The difference between insanity and diminished capacity is one of degree. Just as we differentially punish people because of gradations in mens rea, no principled basis exists for ignoring gradations here. The preferred evidence is no less reliable in the case of diminished capacity than with insanity. As long as the jury, not the ‘expert,’ resolves the moral issues of accountability, there is no good reason for closing our eyes to partial responsibility claims.

It is, then, widely acknowledged among legal theorists that treating individuals with impaired self-control as if they were fully responsible agents, and imposing full punishment on them, is not justifiable. As Brookbanks observes, when arguing for the defence of DR: “… where there is … a diminishment of resources required for culpability, it is inappropriate that full responsibility should be imputed against inappropriate conduct.”20

With this background, I now turn to the case of X, as described in the introductory part. X was suffering from an ‘abnormality of mind’ and his degree of self-control was significantly impaired such that controlling his impulses was extremely difficult for him. Since X’s claim is not total loss of self-control, his degree of responsibility cannot fall into the degree of no culpability (the right end of the spectrum of responsibility in graph 5.1). Equally, X’s degree of responsibility cannot fall into the full degree of culpability, the other end of the spectrum of responsibility, since his self-control was significantly impaired. The best position for X’s claim is the grey zone between the black and white spectrum of responsibility.

As a matter of theory X’s responsibility should be considered in the grey zone, between the degrees of full responsibility and non-responsibility. Some jurisdictions treat individuals like X as fully responsible agents as the partial defence of DR is not accepted. In contrast, other jurisdictions have adopted the defence of DR and treat the responsibility of individuals like X differently to fully responsible and non-responsible agents. The claim of X will be considered in the context of English and New Zealand law to show how jurisdictions take different approaches to DR.

19 Dressler, above n 13, at 960 (citations omitted).

20 Brookbanks, above n 2, at 31-32 (emphasis added).
The different approaches to DR in English and New Zealand law

English law’s response to DVS

In this section, three different stages which might be relevant to X’s claim will be reviewed: ‘establishing a crime’, ‘denying criminal responsibility’ and a partial defence to murder.

‘Establishing a crime’

In English law, criminal liability relies on three elements, namely establishment of actus reus, establishment of mens rea and establishment of a prohibited act.\(^2\)\(^1\) The term mens rea addresses the state of mind expressly required by the definition of the crime charged. Mens rea varies from crime to crime, but typical examples are intention, knowledge and recklessness.\(^2\)\(^2\) Because X is not claiming that he had no intention or no knowledge at the time of the crime, there is no debate on the relevance of X’s claim to ‘establishing a crime’.

‘Denying criminal responsibility’

Even though all elements of an offence can be established beyond reasonable doubt, D can still escape liability by raising an exculpatory defence – either a justification or an excuse. Self-defence is an example of justification in English law and insanity is an instance of excusing factors.\(^2\)\(^3\) Both exculpatory and justificatory defences are full defences because, if they succeed, they result in a complete acquittal.\(^2\)\(^4\)

The most plausible defence open to X is insanity. But to establish the cognitive form of insanity (as it is defined under the M’Naghten rules, and in New Zealand law) full impairment of mental cognition is required. For those jurisdictions that recognise the volitional form of insanity, complete absence of self-control is required. As explained above, X’s claim is not that he was completely deprived of the capacity to understand or to control his actions. Therefore, X’s claim is not relevant to the stage of ‘denying criminal responsibility’.

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\(^2\)\(^2\) Card, above n 21, at 89.


Partial defence to murder.

In English law, partial defence to murder is the term generally used to refer to DR, provocation (or ‘loss of control’ as it is currently applied) and infanticide.\(^\text{25}\) As mentioned previously, provocation/‘loss of control’ is not my concern in this thesis. Also, infanticide is limited to exceptional cases – when a mother kills her child under the age of twelve months – and is not related to the sort of cases I am considering here.\(^\text{26}\) Since X is claiming that his loss of self-control was because of mental deficiencies, the most relevant defence to his claim is DR.

English law borrowed the DR defence from Scots common law. Therefore, it is useful to briefly review the history of the defence in Scotland. Although the wider concept of DR had been recognised in the writings of Scottish jurists in the seventeenth century,\(^\text{27}\) the defence was first seen in the Scottish common law over one hundred and fifty years ago in the judgment of Lord Deas in *HM Advocate v Dingwall*.\(^\text{28}\) Prior to this, in capital cases, courts would recommend Royal Mercy following a murder conviction in cases of mental abnormalities. Lord Deas, went a step further and recommended to the jury that they might arrive at a verdict of culpable homicide because of the accused’s disordered mind.\(^\text{29}\) This approach has received ready acceptance and seems to have applied in both capital and non-capital cases.\(^\text{30}\) In 1876, in *HM Advocate v McLean*, Lord Deas stated:\(^\text{31}\)

> I am of the opinion that without being insane in the legal sense, so as not to be amenable to punishment, a prisoner may yet labour under that degree of weakness of intellect or mental infirmity which may make it both right and legal to take that state of mind into account not only in avoiding punishment, but in some cases even in considering within what category of offence the crime shall be held to fall.

\(^{25}\) Halsbury, above n 23.

\(^{26}\) Infanticide Act 1938, s 1 as amended by Coroners and Justice Act 2009, s 57.

\(^{27}\) In fact, legal commentary indicates the emergence of the concept in Scotland as early as 1674 with Sir George MacKenzie. See George Mackenzie The Laws and Customs of Scotland in Matters Criminal (Stair Society, Edinburgh, 2012). Nigel Walker noted that MacKenzie may have been influenced by continental jurists like Matthaeus who suggested the concept in Holland in 1644. See Walker and McCabe, above n 16, at 141.

\(^{28}\) *HM Advocate v Dingwall* (1867) 5 Irv 466. Following that case, Scottish judges considered and accepted the defence of DR. It was referred to in various ways. See *Kirkwood v HM Advocate* (1939) SLT, 210 at 37; Lord Justice-General Normand; ‘full responsibility to partial responsibility’ in *HM Advocate v Savage* 1923 JC 49; 1923 SLT 659; Lord Guthrie; ‘partial responsibility’ in *HM Advocate v Edmonstone* (1909) 2 SLT, 223 at 224; Lord Alness; ‘lessened responsibility’, *Muir v HM Advocate* (1933) JC, 47; (1933) SLT at 404.

\(^{29}\) *HM Advocate v Dingwall*, above n 28.

\(^{30}\) Jim J McManus and Lindsay Thomson Mental Health and Scots Law in Practice (Thomson W Green, Edinburgh, 2005) at 172.

\(^{31}\) *H M Advocate v McLean* (1876) 3 Coup 334.
Finally, the defence of DR formed part of the statutory law of Scotland.\textsuperscript{32}

As just noted, English law borrowed DR from Scots common law. In English law, the HA 1957 introduced the defence in statutory form. Prior to that, the spectre of the mandatory death penalty for murder led courts to recommend Royal Mercy following a murder conviction in cases of mental deficiencies.\textsuperscript{33} It was this inclination of courts to seek mercy that finally motivated the English legislature to adopt DR as a partial defence to murder in England. The HA 1957 enacted the defence of DR. The initial impetus for DR in English law arose out of pressure for the abolition of the death penalty. A finding of manslaughter rather than murder would allow English judges to avoid giving the mandatory capital punishment in cases where the jury regarded that mental responsibility was reduced. The death penalty was still in force in English law and remained so until \textit{the Murder (Abolition of Death Penalty) Act 1965}.\textsuperscript{34} The effect of DR in the HA 1957 was described by Francis Jacobs as a “… compromise solution to the controversy over capital punishment.”\textsuperscript{35}

Until recently, the partial defence of DR in English law was governed by s 2 of the HA 1957. The CJA 2009 redefined the defence of DR.\textsuperscript{36} DR under s 2(1) of the HA 1957 and as amended by the CJA 2009 provides:\textsuperscript{37}

\begin{enumerate}
\item A person (‘D’) who kills or is a party to the killing of another is not to be convicted of murder if D was suffering from an abnormality of mental functioning which-
\begin{enumerate}
\item arose from a recognised medical condition,
\item substantially impaired D’s ability to do one or more of the things mentioned in subsection (IA), and
\item provides an explanation for D’s acts and omissions in doing or being a party to the killing.
\end{enumerate}
\item Those things are-
\begin{enumerate}
\item to understand the nature of D’s conduct;
\item to form a rational judgment;
\item to exercise self-control.
\end{enumerate}
\end{enumerate}

\textsuperscript{32} Criminal Justice and Licensing (Scotland) Act 2010, s 51B.

\textsuperscript{33} Historically, the royal prerogative of mercy allowed the British Monarch to grant pardons to convicted persons. Walker and McCabe, above n 16, at 141.

\textsuperscript{34} Murder (Abolition of Death Penalty) Act 1965.

\textsuperscript{35} Francis Geoffrey Jacobs \textit{Criminal Responsibility} (Weidenfeld and Nicolson, London, 1971) at 47.

\textsuperscript{36} The reasons for the amendment to the CJA 2009 are not important for the purposes of this thesis. See generally Andrew Ashworth \textit{Sentencing and Criminal Justice} (5th ed, Weidenfeld and Nicolson, London, 1992).

\textsuperscript{37} Homicide Act 1957, s 2 as amended by Coroners and Justice Act 2009, s 52.
(1B) For the purposes of subsection (1)(c), an abnormality of mental functioning provides an explanation for D’s conduct if it causes, or is a significant contributory factor in causing, D to carry out that conduct.

To summarise, the defence requires the following (1) D was suffering from an ‘abnormality of mental functioning’ stemming from ‘a recognised medical condition’. (2) Such an abnormality must have impaired D’s capacity to ‘understand the nature’ of his/her conduct, and/or ‘to form a rational judgment’, and/or ‘to exercise self-control’. Based on this, relevant medical evidence will be anything that may show D to be less culpable.38 (3) Such an abnormality, in turn, must ‘explain’ the killing, which is to say, it must have been ‘a significant contributory factor in causing’ it.39 Section 2(2) of the HA 1957 places the burden of proving DR on D. The standard is on the balance of probabilities.40

After contextualising the defence of DR and reviewing its elements, I now return to the case of X. Imagine that X could satisfy the burden of proof, on the balance of probabilities, and the fact-finder was satisfied that the elements of the defence had been met. In that situation, X would be convicted of manslaughter instead of murder. As mentioned before, DR is a partial defence and would not result in a complete acquittal. DR alleviates the degree of culpability and removes “… the offence into a separate category carrying a lower maximum penalty.”41 Therefore, DR works as a grey zone between two ends of the spectrum of responsibility: at the one end under some conditions like insanity, D is deemed to be fully non-responsible for his/her conduct. At another end, in the absence of those conditions, he/she is fully responsible. It is possible to suggest that English law does not have a black and white approach (see graph 5.2).

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39 Homicide Act 1957, s 2 as amended by Coroners and Justice Act 2009, s 52.
40 In English law, the definition of ‘on the balance of probabilities’ was explained by Denning J in Miller v Minister of Pensions, as follows: “If the evidence is such that the tribunal can say: 'We think it more probable than not' the burden is discharged, but, if the probabilities are equal, it is not.” Miller v Minister of Pensions [1947] 2 All ER 372.
41 Hart, above n 13, at 15.
Graph 5.2. The current view of English law to responsibility; partial and full defences.

*New Zealand law’s response to DVS*

In the context of English law, the claim of X is not relevant to either ‘establishing criminal responsibility’ or ‘denying criminal liability’. By and large, New Zealand law’s approach to those two stages is similar to the English one.

Now consider the position of the partial defence to murder in New Zealand. New Zealand recognises a partial defence to murder in two instances. Firstly, infanticide which applies to a case where a mother, who has not fully recovered from the influence of giving birth, kills any child of hers under the age of 10 years. Secondly, killing pursuant to a suicide pact subject to s 180(1) of the *Crimes Act 1961* (CA 1961) which provides: “Every one

42 Crimes Act 1961 s 178. The offence is something of a hybrid between an offence and a defence to the charges of murder and manslaughter. Andrew Simester and Warren J Brookbanks *Principles of Criminal Law* (3th ed, Brookers, Wellington, 2007) at 558. See also “Is there Value in Identifying Individual Genetic Predispositions to Violence?” 32(1) J Law Med Ethics. Section 178(1),(2) and (3) provides that:

“(1)Where a woman causes the death of any child of hers under the age of 10 years in a manner that amounts to culpable homicide, and where at the time of the offence the balance of her mind was disturbed, by reason of her not having fully recovered from the effect of giving birth to that or any other child, or by reason of the effect of lactation, or by reason of any disorder consequent upon childbirth or lactation, to such an extent that she should not be held fully responsible, she is guilty of infanticide, and not of murder or manslaughter, and is liable to imprisonment for a term not exceeding 3 years.

(2)Where upon the trial of a woman for the murder or manslaughter of any child of hers under the age of 10 years there is evidence that would support a verdict of infanticide, the jury may return such a verdict instead of a verdict of murder or manslaughter, and the [defendant] shall be liable accordingly.

(3)Where upon the trial of a woman for infanticide, or for the murder or manslaughter of any child of hers under the age of 10 years, the jury are of opinion that at the time of the alleged offence the balance of her mind was disturbed, by reason of her not having fully recovered from the effect of giving birth to that or any other child, or by reason of the effect of lactation, or by reason of any disorder consequent upon childbirth or lactation, to such an extent that she was insane, the jury shall return a special verdict of acquittal on account of insanity caused by childbirth.”

To summarise, s 178(1) and (2) is directed at what lawyers would call DR. That means that a mother is fully responsible but because the balance of her mind was disturbed, but not to an extent that she was insane, she is entitled to a verdict of infanticide with a lesser punishment as a result. Section 178(3) addresses the issue of insanity; it means that a mother is not responsible for her actions.
who in pursuance of a suicide pact kills any other person is guilty of manslaughter and
not of murder, and is liable accordingly.”43 Apart from the provisions of infanticide and
killing pursuant to a suicide pact, there is no general partial defence in New Zealand.44 In
the following discussion, whenever I address the DR defence, I am referring to the
general defence and not those particular and limited exceptions of infanticide and killing
pursuant to a suicide pact.

The defence of DR, however, has “… found no place”45 in New Zealand. Given the latest
report of the New Zealand Law Commission (NZLC), it seems unlikely in the near future
as well.46 As a result, X, in the previously mentioned case, will be considered fully
accountable, and only at the sentencing stage might New Zealand courts be able to
respond to his condition of DVS. This issue will be discussed later.

The absence of a general DR defence in New Zealand, and of other partial defences like
provocation,47 means that it takes a more “black and white” approach to the issue of
culpability.48 People are either fully responsible or fully non-responsible for their
conduct. Under some conditions, like automatism or insanity, D is deemed to be wholly
non-responsible for his/her actions. In the absence of those conditions, he/she is fully
responsible. Between those extremes, there are no shades of grey (See graph 5.3). Of
course, as I have acknowledged throughout this thesis, the situation with regard to
sentencing is likely to be quite different, and more discretion and nuance may be possible
at that stage. However, with regard to determining guilt for an offence, the position of
New Zealand law is essentially binary.

43 Crimes Act 1961, s 180(1).
44 The only partial defence to murder in New Zealand was provocation under the Crimes Act 1961, s 169. It
was repealed by Crimes (Provocation Repeal) Amendment Act 2009 (2009) No 64.
45 J M E Garrow and Gary L Turkington Garrow and Turkington's Criminal Law in New Zealand
(LexisNexis, Wellington, 2000).
46 Law Commission, above n 3, at 15.
47 The partial defence of provocation was formally repealed in 2009 by Crimes (Provocation Repeal)
48 Law Commission, above n 3, at 56. I entitled this Chapter as ‘Challenging the ‘Black and White’
Approach of New Zealand Law to Criminal Responsibility’. I emphasised the black and white to refer to the
black and white approach of New Zealand law as mentioned by the NZLC.
Graph 5.3. The ‘black and white’ approach of New Zealand law to criminal responsibility.

_The position of New Zealand law to DR: the historical approach_

In New Zealand, DR has not been implemented by legislation or common law, in spite of the fact that it has been proposed six times.

Firstly, around the time that DR first appeared in Scots common law, DR was being discussed by the 1879 Criminal Code Bill Commission in its Report on the Law Relating to Indictable Offences. DR was not accepted by New Zealand law at that time.49

The second proposal came in _the Crimes Bill 1960_.50 Clause 180 of the Bill suggested that murder should be reduced to manslaughter where the jury was “… satisfied that at the time of the offence the person charged, though not insane, was suffering from a defect, disorder, or infirmity of mind to such an extent that he should not be held fully responsible.”51 Clause 187(2) provided that where DR was successfully argued, and the jury returned a special verdict of manslaughter, the sentence was to be one of detention at Her Majesty’s Pleasure.52 These proposals may have been influenced by the presence of capital punishment for murder and a concern that this sentence should not be imposed on mentally ill people.53 When the CA 1961 abolished the death sentence, that possibility was removed on the basis it was now superfluous.54

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49 Kerr, above n 4, at 2.
50 Crimes Bill 1960, clause 187.
51 At, Clause 180.
52 At, Clause 187(2).
53 Brookbanks, above n 4, at 30.
54 At 30.
Parliament considered DR for a third time during the progress of the Crimes Bill 1989, which suggested major amendments to the statutory murder scheme. However, at the time, the operation of the defence in English law was facing significant criticism. The Crimes Consultative Committee rejected DR as a partial defence and considered that issues relating to DR could be effectively dealt with as mitigating factors at the sentencing process. It stated:

… a range of matters can, in justice, amount to mitigating circumstances on a charge of homicide. It is not useful to single out particular types of circumstances and elevate them into special defences. In the case of the diminished responsibility defence, the difficulties involved in special treatment are exacerbated by complexities in achieving sufficiently precise wording for the statutory defence.

The fourth instance is in case law. The defence has been raised in two cases, but rejected. In *R v McGregor* and *R v Gordon* the courts made it clear that DR remains unavailable as a defence. In the more recent case, *Gordon*, psychological evidence supported the claim that the accused had arranged her husband’s murder when suffering from post-traumatic stress disorder, depression and battered wife syndrome. Nevertheless, the Court of Appeal held:

… were a defence of diminished responsibility available in this country, it might well have been availed of here, … . But sympathy for the defendant cannot prevail over the current statutory provisions.”

*Gordon* highlights a judicial unwillingness to develop a common law DR.

The fifth time was in 2000 when reform of NZ’s sentencing regime began. Until 2002 the punishment for murder was mandatory life imprisonment, meaning that there was absolutely no scope for recognition of some conditions like DVS. Based on that, some scholars have argued that the presence of the mandatory life sentence was the only reason why there needed to be a defence of DR. In 2000 and 2001, the NZLC evaluated the

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56 At 48.
57 At 49.
60 At 441 per Hardie Boys J.
61 The Criminal Justice Act 1985 provided that the punishment for murder was life imprisonment. That punishment, however, was abolished by Sentencing Act 2002.
defence of DR and mandatory life imprisonment for murder.\textsuperscript{63} Two suggestions were put forward: either keeping life imprisonment and adopting DR; or, responding to DR in sentencing discretion and abolishing mandatory life imprisonment. The NZLC chose, and recommended, the second suggestion.\textsuperscript{64} Parliament accepted that suggestion.

In 2002, mandatory life imprisonment was abolished by the Sentencing Act 2002 (SA 2002). Section 102 states that there is now only “… a presumption in favour of the life sentence for murder.”\textsuperscript{65} Life imprisonment is mandatory “… unless, given the circumstances of the offence and the offender, a sentence of imprisonment for life would be manifestly unjust.”\textsuperscript{66} So, the initial attempt to introduce DR was in order to change the offence from murder to manslaughter, so as to create a way around the harsh sanction of life imprisonment for murder.\textsuperscript{67} However, New Zealand law did not adopt this approach. Instead, New Zealand replaced the inflexible mandatory life sentence with a mere presumption of life imprisonment, thereby allowing courts to take into consideration DVS at sentencing.

As John Dawson has said, by provision of s 102 “… diminished responsibility has entered New Zealand law through the back door”\textsuperscript{68} and it can work like DR in English law. It should be clarified, however, that even with sentencing discretion, D would still be labelled a murderer. This is an issue to which I will return later in this Chapter.

For the sixth time, in 2007, the NZLC assessed the defence and recommended, again, that it should remain as a sentencing issue.\textsuperscript{69}

\textit{Arguments against DR as a defence: an analysis}

\textit{The first reason: sentencing discretion is preferable}

As noted, this was one of the reasons the NZLC rejected DR as a defence.\textsuperscript{70} During sentencing, a claim of DVS can be a relevant consideration in determining whether life


\textsuperscript{64} Law Commission, above n 63, at 59.

\textsuperscript{65} Dawson, above n 4, at 108 (emphasis in original).

\textsuperscript{66} Sentencing Act 2002, s 102. The minimum term of life imprisonment as a punishment for murder may not be less than 10 years. Section 103 (2).


\textsuperscript{68} Dawson, above n 4, at 108.

\textsuperscript{69} Law Commission, above n 63, at 16.
imprisonment is ‘manifestly unjust’, given the conditions of the offending and the offender: s 102 of the SA 2002. If a judge is satisfied that the condition of DVS, and the condition of the offending, render a life sentence ‘manifestly unjust’, the court would not impose such a sentence (when the sentence of life imprisonment is manifestly unjust, there is no minimum sentence required).\(^{71}\) This, then, is the theory but in practice, do the courts take DVS into account?

This has been the subject of research and it suggests that the courts have taken a conservative approach to this issue.\(^{72}\) The research suggests that the courts are influenced by the objective of protecting the public from the danger posed by those affected by DVS.\(^{73}\) The brutality and callous nature of murder cases appears to be another reason for refusing to displace the presumption.\(^{74}\) The “… manifestly unjust” threshold also sets the bar high which is no doubt another reason why few cases of DVS meet it.\(^{75}\) Finally, because the threshold for applying the manifestly unjust test is very high, it is reasonable to suggest that the condition of DVS would unlikely meet the threshold of law.\(^{76}\)

Furthermore, to show the practicality of considering DVS to deny the presumption of life imprisonment, I will pose a question: in the history of the SA 2002 was there any case in which a condition similar to DVS was accepted by New Zealand courts as a reason for departing from the presumption of life imprisonment? An analysis of cases since 2002 shows there were only four cases\(^{77}\) in which the presumption in favour of life

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\(^{70}\) Crimes Consultative Committee, above n 55, at 49 cited by Law Commission *Battered Defendants Victims of Domestic Violence who Offend (a Discussion Paper)* (NZLC PP41, Law Commission, 2000) at 38. See also Law Commission, above n 63, at 12.

\(^{71}\) When a sentence of life imprisonment is manifestly unjust, there is no minimum period of imprisonment. See, for example, *R v Law* where the accused was convicted of murder. The court sentenced him/her to 18 months imprisonment, with leave to apply for home detention as a punishment for murder. *R v Law* (2002) 19 CRNZ 5000 (HC) cited by Geoffrey G Hall *Sentencing Law and Practice* (LexisNexis, Wellington, New Zealand, 2004) at 595-596.


\(^{73}\) See *R v Mikaele* T013638 Unreported, High Court, Auckland, 30 August 2002; see also *R v Mayes* [2004] 1 NZLR 71, (2003) 20 CRNZ 690 (CA). All cases were cited by Woodward, above n 4.

\(^{74}\) See *R v O’Brien* (2003) 20 CRNZ 572, 581; *R v Mayes*, above n 73. All cases were cited by Woodward, above n 4.

\(^{75}\) The high threshold was applied in the following cases: *R v Rawiri* (16 September 2002) unreported, High Court, Auckland Registry, T014047; *R v Rapira* [2003] 3 NZLR 794, 828 (CA); *R v Smail* [2007] 1 NZLR 411, 413 (CA). All cases were cited by Brookbanks and Ekins, above n 72.

\(^{76}\) The high standard of the law was adopted in the following cases: *R v Rawiri*, above n 75; *R v Rapira*, above n 75; *R v Smail*, above n 75. All cases were cited by Brookbanks and Ekins, above n 72.

\(^{77}\) Nick Chisnall "Murder and Life Imprisonment" (2014) June 2014 NZLJ 184 at 184.
imprisonment for murder has been displaced.\textsuperscript{78} None of those cases raised the issue of DVS or related to a DVS.

While in theory the sentencing discretion provided by s 102 may obviate the need for DR,\textsuperscript{79} the practice and the experience of thirteen years’ operation of the SA 2002 suggests otherwise. Therefore, the first reason for the rejection of DR is not reasonably justifiable.

The above-mentioned argument is not the ultimate reason for adopting DR. What I was trying to show was that in reality the presumption of life imprisonment has not received any attention. The key point is that even if we imagine that DVS could have been considered as a reason to displace the “manifestly unjust” presumption, the purposes of the DR defence would still not be satisfied. In the next sections (in the section of arguments for adopting DR) I will elaborate on the most compelling reason for adopting DR.

\textit{The second reason: introducing DR makes the insanity defence redundant}

Peter Arenella has argued that the inclusion of DR will make the insanity defence redundant.\textsuperscript{80} His reasoning is that mentally disordered criminals, who would otherwise have fallen within the category of the defence of insanity, may raise DR to avoid the consequences that flow from a verdict of not guilty by reason of insanity.\textsuperscript{81} Arenella was writing in the context of Californian law where a verdict of not guilty by reason of insanity (NGRI) could result in an indefinite commitment to a hospital for the criminally insane. In the same jurisdiction, the DR defence usually leads to a reduced term in prison.\textsuperscript{82} To show that Arenella’s claim can possibly happen, it is worth pointing to statistics which showed that in six per cent of DR cases, there was medical evidence that

\textsuperscript{78} Firstly, \textit{R v Reid} HC Auckland CRI-2008-090-2203, 4 February 2011. The accused suffered from a major psychiatric illness accompanied by psychotic delusions. He killed his elderly neighbour whom he believed was spying on him. Secondly, \textit{R v Law}, above n 71. The accused was a 77 year old man who killed his dementia-afflicted wife as an act of mercy. The third case was \textit{R v Wihongi} [2011] NZCA 592. The accused was a severely impaired woman who killed her partner following a lengthy history of beatings by him. She argued the battered woman syndrome as a defence. Finally, \textit{R v Cunnard} [2014] NZCA 138. The court held that the presumption of life imprisonment had been rebutted because of the following factors: he showed remorse after committing the concerned crime, he cooperated with the police and he had some mental abnormalities.

\textsuperscript{79} Crimes Consultative Committee, above n 55, at 49 cited by Commission, above n 63, at 38. See also Law Commission, above n 63, at 12.

\textsuperscript{80} Arenella, above n 64.

\textsuperscript{81} At 854.

\textsuperscript{82} At 854.
could support the defence of insanity. While caution should be exercised in assuming that such evidence proves that a court or jury would have accepted the insanity defence, it still lends some empirical support to the claim that the availability of DR may allow some insane accused to avoid detention.

In terms of the hospital order for the verdict of NGRI, and the difference in the punishment for manslaughter, there are some similarities and differences between California, that Arenella was talking about, and New Zealand. Regardless of those similarities and differences, I will provide an argument against his reasoning for the rejection of DR.

**The rejection of the second reason**

In responding to this argument, Arenella’s objections can be countered in two ways. Firstly, even if the inclusion of DR might supplant the insanity defence in some cases, it is not true in all cases. Further, that possibility should not prevail over the right of those individuals who are genuinely entitled to use the defence of DR.

The second response is that procedural rules could provide safeguards. Woodward explains them as follows:

> First, if there is evidence of legal insanity, the consideration of this defence could be a court-imposed prerequisite to the raising of diminished responsibility. This is consistent with the idea that a defendant must be otherwise guilty of murder before raising diminished responsibility. If a defendant is insane, then he or she is not guilty of murder. Secondly, sentencing options available for diminished responsibility could include those available for a verdict of not guilty by reason of insanity, thus removing some of the incentive.

Therefore, the danger that DR may allow some insane accused to avoid the consequences of a NGRI verdict is something that could potentially be addressed. If this is so, then rejection of DR on the basis that it may supplant the insanity defence is not justifiable.

**The third reason: the lack of scientific evidence shedding light on DR**

One problem for the recognition of DR was explained by Barbara Wootton in her detailed works in 1960 and 1963. Wootton highlighted one difficulty – or impossibility in her language – for recognition of the DR defence. That is “… the impossibility of assessing

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84 Woodward, above n 4, at 189 (citations omitted).

other people’s responsibility for their actions.”86 Brookbanks, one of the proponents of adopting DR, identified the impossibility that Wootton mentioned as “… one theoretical difficulty that has never been adequately answered.”87 From Wootton’s perspective, there is no way to find whether D could or could not have avoided committing a crime (for the purposes of this thesis, it will be called the ‘line-drawing problem’ in DR hereinafter). There is no scientific evidence available to help draw the line.

As I explained in Chapter Four, the lack of scientific evidence to find the precise state of D’s mind at the time of the crime is a common problem in other areas of the law. For instance, in cognitive insanity, the difficulty of finding D’s precise state of mind is crucially important. Moreover, the difficulty of the ‘line-drawing problem’ is common in other areas of the law, including the important question of intent and V-insanity. In V-insanity, as I discussed in Chapter Four, the ‘line-drawing problem’ is this: the difficulty of distinguishing between a person who could not actually control his/her impulses and another person who could in fact control his/her impulses but on the occasion of the crime decided to not do so.

Here, the arguments I made in Chapter Four apply and there is no need to discuss them again. In short, the lack of scientific evidence to find the precise state of D’s mind at the time of the crime is a common problem in other areas of the law and yet it is not seen as an insurmountable obstacle. It is, therefore inconsistent for the law to see it as an obstacle in the context of DR. The law undertakes a ‘common sense inquiry’ to establish D’s state of mind in cases of intent and cognitive insanity, for example. The law relies on drawing inferences as to D’s state of mind at the time of the offence, and ultimately trusts the jury to draw those inferences in a ‘common sense inquiry’ way. That same inquiry can be undertaken for DR (This is the approach taken in English law and discussed in the next Chapter).88

**Reasons to support the proposal for adopting DR**

*The first reason: principle of fair labelling*

As noted, New Zealand law has a presumption in favour of the life sentence for murder.89 A claim of DR based on a DVS can rebut that assumption. A DVS can then be considered as a mitigating factor at the sentencing stage. While some may see this as letting DR “…

86 Wootton, above n 85, at 67.
87 Brookbanks, above n 2, at 32.
88 For example in the context of English law, see cases of *R v Byrne*, above n 6; *R v Stewart* [2009] EWCA Crim 593; *Walton v R* [1977] WLR 902.
89 Dawson, above n 4, at 108.
through the back door," there is an important difference from those jurisdictions, like English law, which recognise the defence. In English law, a successful claim of DR has an effect on more than sentencing; it affects the label given to D. I will explore the argument that it is important not only that offenders receive the appropriate sentence, but also, that their conduct, and their responsibility for it, is labelled appropriately by the criminal law.

To elaborate, compare these two cases: X, as explained in an earlier Chapter, has some mental abnormalities like DVS which significantly impaired his ability to exercise self-control. X lashes out at another with fatal results. He claimed that at the time of the crime it was extremely difficult for him to control his impulses. Conversely, Y, who is a killer-for-hire and has complete control over his/her impulses kills another person for money. Suppose that all elements of the crimes of both X and Y will be established in a New Zealand court. Then, because there is no defence of DR in New Zealand, both X and Y will be called murderers. It is true that these two individuals might receive lenient or harsh punishments at the sentencing discretion – depending on various mitigating and aggravating factors. If we think that this is all that matters, then we could conclude that there is no need for a formal defence of DR in New Zealand. On the other hand, in the context of English law, X (if he can establish the defence of DR) will be called a manslaughterer and Y (if all elements of his crime can be established) will be called a murderer.

In the context of New Zealand, regardless of the legal response to both X and Y at the sentencing stage, I am going to focus on labelling those individuals as murderers. My argument is that X should not be called a murderer in the same way as Y because X’s self-control was significantly impaired and his attempt to exercise self-control failed.

The starting point of my argument is the core principle of fair labelling and proportionality – the foundation of any legitimate system of state punishment. The principle of fair labelling in criminal law can be traced back to a 1981 article by Andrew Ashworth, an English criminal scholar. In writing about the principle of representative labelling – the term used prior to fair labelling – Ashworth noted that “... the label

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90 At 108.
91 At 108.
93 The term first used by Ashworth was ‘representative labelling’: Andrew Ashworth "The Elasticity of Mens Rea" in Rupert Cross and Colin Tapper (eds) Crime, Proof and Punishment : Essays in Memory of Sir Rupert Cross (Butterworths, London, 1981) 49 at 53. Later the term ‘fair labelling’ was used by Glanville Williams in a reply to Ashworth and it is this term that has come to be commonly adopted by scholars even by Ashworth himself. See Ashworth and Horder, above n 36, at 88; Stephen Shute and
applied to an offence ought fairly to represent the offender’s wrongdoing.”94 The principle of fair labelling, as one of a number of normative principles governing criminal liability, now appears to be accepted by several scholars.95 The most cited explanation is that given by Ashworth, and therefore in this thesis I follow his explanation. Ashworth states that the concern of fair labelling:96

… is to see that widely felt distinctions between kinds of offences and degrees of wrongdoing are respected and signalled by the law, and that offences are subdivided and labelled so as to represent fairly the nature and magnitude of the law-breaking.

Based on the principle of fair labelling, criminal offences should be classified and labelled for symbolic reasons. Labels reflect the level of wrongdoing and convey the level of rejection of the conduct involved. Different degrees of punishment should be imposed to reinforce this level of rejection. English law does this with homicide.97

Homicide may be lawful or unlawful. If the latter, it may be murder, manslaughter (of which there are two generic forms – voluntary and involuntary), infanticide,98 causing death by dangerous driving99 or causing death by careless driving when under the impact of drink or drugs.100 For brevity’s sake, the last three crimes are not dealt with here. Culpability for murder can be established by malice aforethought which encompasses intention on the part of D either unlawfully to kill another person or unlawfully to cause grievous bodily harm to another person.101

On the other hand, the crime of manslaughter is a single crime encompassing all unlawful killings other than murder and some other homicides particularly created by statute.


94 Ashworth, above n 36, at 53.

95 See, for example, the argument of Simester and Sullivan, who discuss the principle of fair labelling in the context of 'values to which the law should aspire'. Andrew Simester and G R Sullivan Criminal Law: Theory and Doctrine (Portland, Oxford, 2007) at 21-30. See also Herring who states that the principle of fair labelling as one of five 'principles' of criminal law. Herring, above n 9, at 19. Glanville Williams “Convictions and Fair Labelling” (1983) 42(1) Cambridge L J 85 at 85; Horder, above n 9; Mitchell Barry "Multiple Wrongdoing and Offence Structure: a Plea for Consistency and Fair Labelling" (2001) 64(3) Mod L Rev 393 at 393.

96 Ashworth and Horder, above n 92, at 77.

97 For a similar example in New Zealand context – i.e., distinction between various unlawful homicides. See Simester and Brookbanks, above n 42, at 31-32.

98 Infanticide Act 1938, s 1.

99 Road Traffic Act 1988, s 1.

100 Section 3A.

101 Card, above n 21, at 245.
Particular cases of manslaughter are commonly termed ‘voluntary manslaughter’. The remainder are labelled involuntary manslaughter. Involuntary manslaughter is not a separate crime in the sense that a person is charged with or convicted of the crime. It is simply a convenient label to explain those residual unlawful killings not otherwise specifically created by the law. Involuntary manslaughter includes killings just short of murder all the way down to killings little more than accidents. The culpability necessary for involuntary manslaughter can be established in one of the following ways: (1) subjective-reckless manslaughter: where D subjectively predicts a risk of death or serious injury (but the degree of foresight fails to come within the Woollin test of intention necessary for murder) there will be liability for manslaughter. (2) Constructive manslaughter, where D commits a dangerous and unlawful act which results in death. The unlawful act must constitute an offence and be criminal for some reason other than that it has been negligently created. (3) Gross-negligence manslaughter, where D owes a duty of care to the victim and breaches that duty in a grossly negligent way causing death.

The essence of the issue is whether “… having regard to the risk of death involved, the conduct of the defendant was so bad in all the circumstances as to amount in their judgment to a criminal act or omission.”

Clearly, there is a bright dividing line between two categories of unlawful homicide (murder and manslaughter) in English law. It has been suggested that the principle of fair labelling purports to differentiate between homicides which rightly attract the label of murder, because of the greater level of social stigma involved, and those where the label

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102 These are cases where the accused has the mens rea for murder but is afforded a partial excuse because of a mitigating factor: 'loss of control', DR, or suicide pact: Homicide Act 1957, ss 2–4 and Coroners and Justice Act 2009.

103 R v Woollin [1999] 1 Cr App R 8 (HOL). The Woollin test refers to the model direction given by the House of Lords as follows:

“… where the charge is murder and in the rare case where [it is necessary to direct the jury on the matter], the jury should be directed that they are not entitled to infer the necessary intention unless they feel sure that death or serious bodily harm was a virtual certainty (barring some unforeseen intervention) as a result of the defendant's actions and that the defendant appreciated that such was the case …. The decision is one for the jury to be reached on a consideration of all the evidence.”

For more explanation on the Woollin test, see Herring, above n 9, at 138-142.

104 Law Commission Legislating the Criminal Code Involuntary Manslaughter (UKLC R237, 1996) at 2.27.


106 Whether a duty of care exists is of particular importance in cases of omissions. See, for example, Singh [1999] Crim LR 582; Khan [1998] Crim LR 830.

of murder should be withheld. The difference is marked by the existence of a separate offence, and to emphasise that it is a more serious offence, murder carries a much higher penalty.

Fair labelling can be seen in several areas of the law. Examples include: (1) in English law for retaining separate crimes of murder and manslaughter, in a way explained above. (2) In Scotland, retaining separate offences of murder and culpable homicide. (3) In general, for distinguishing between first and second degree murder and including killing under provocation and DR within the latter. (4) Distinguishing between first and second degree rape. (5) Distinguishing between rape and other serious sexual offences. (6) Classifying non-fatal crimes against the person according to the nature of the injury suffered, and/or mens rea of the perpetrator. (7) Distinguishing between theft and obtaining property by deception. Finally, the principle of fair labelling is used in

112 Commission, above n 63, at 1.45-1.46. See also the resulting report: Law Commission, Murder, Manslaughter and Infanticide Law Commission Murder, Manslaughter and Infanticide (UKLC R 304, The Stationery Office 2006) at 1.67.
113 Helen Power "Towards a Re-definition of the Mens Rea of Rape" (2003) 23(3) OJLS 379 at 401.
115 Horder, above n 93, at 345-347.
116 At 345-347.
118 Barry, above n 109, at 412.
various aspects of the criminal law to distinguish between different offences and defences.\footnote{119}

It could be asked whether the label attached by the state to a criminal’s conduct matters at all? Imagine a system of law which is purely descriptive, whereby the criminal’s conduct is set out in a narrative form without any attempt to categorise. In other words, the criminal system could dispense totally with the descriptive element, convicting criminals only of ‘a crime’, and leaving all work to the sentencing stage, regardless of whether the conduct in question engaged killing, sexual harassment or hijacking. Could such a criminal system, as Paul Robinson has proposed,\footnote{120} define crimes in the broadest of terms (for instance, ‘injury to a person’\footnote{121} or ‘damage to or theft of property’\footnote{122}) and leave the rest to sentencing discretion? Would the criminal law lose something valuable by doing so? I argue that it would.

In attempting to address these questions, it is worth considering why labelling matters. In the below discussion, I will review four important reasons, which have been nicely summarised by James Chalmers and Fiona Leverick and adopted by other academics, to show why labelling matters.\footnote{123}

Firstly, fair labelling functions as a ‘check on sentencing discretion’. One argument is that broad crime labels can give too much power to sentencers. As well as Chalmers and Leverick,\footnote{124} that point has been made by Ashworth,\footnote{125} C M V Clarkson\footnote{126} and D A Thomas.\footnote{127} Thomas argues that if crime labels are too wide: “... the sentencer will be left to determine for himself some facts which are critical to sentence” and is “... unnecessarily given authority which would be better placed with the jury and the defendant is deprived to a significant extent of the procedural protections of the trial

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\footnote{119} It is worth noting that in theory, the principle of fair labelling can be relevant to offences and defences. James Chalmers and Fiona Leverick "Fair Labelling in Criminal Law" (2008) 71(2) Mod L Rev 217. There is a general consensus that fair labelling is relevant to offences. On the other hand, there is some discussion that fair labelling is irrelevant to defences C M V Clarkson "Necessary Action: a New Defence" (2004) 2 Crim L R 81. For the counter-argument see Andrew Simester and Winnie MF Chan "Duress, Necessity: how Many Defences" (2005) 16 KCLJ 121.


\footnote{121} At 186.

\footnote{122} At 188.

\footnote{123} Chalmers and Leverick, above n 119, at 230-237.

\footnote{124} At 224-225.

\footnote{125} Ashworth and Horder, above n 92, at 77-79.

\footnote{126} Clarkson, above n 21, at 142.

process”, like “… the full protection of the formal indictment, the rules of evidence and proof beyond reasonable doubt.”

The second reason is ‘fairness to the criminal’. Ashworth justifies the principle of fair labelling on the basis that “… fairness demands that offenders be labelled and punished in proportion to their wrongdoing.” Horder puts it this way:

What matters is not just that one has been convicted, but of what one has been convicted. If the offence in question gives too anaemic a conception of what that might be, it is fair neither to the defendant, nor to the victim. For the wrongdoing of the former, and the wrong suffered, nor to the victim. For the wrongdoing of the former, and the wrong suffered by the latter, will not have been properly represented to the public at large.

The third reason is that labels are symbolic. They communicate something to the public. Mitchell and Tadros argue that they have a ‘declaratory function’; they communicate the level of condemnation that should be attached to a crime and signal how that specific criminal should be regarded. An offender could, therefore, be unfairly stigmatised if the label does not precisely reflect the degree or nature of their wrongdoing. As Simester and his colleagues explain:

The criminal law speaks to society as well as wrongdoers when it convicts them, and it should communicate its judgment with precision, by accurately naming the crime of which they are convicted.

The final reason is that labels communicate to the criminal as well. Simester and his colleagues have pointed out that the law should make clear “… what sort of criminal each offender is” and should “… communicate this to the defendant, so that he may know exactly what he has done wrong and why he is being punished, in order that his punishment appears meaningful to him, not just an arbitrary harsh treatment.”

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128 At 24.
130 Ashworth and Horder, above n 92, at 77.
131 Horder, above n 93, at 351 (emphasis in original). See also Williams, above n 24, at 85.
132 Chalmers and Leverick, above n 119, at 226-229.
134 Chalmers and Leverick, above n 119, at 226.
136 Chalmers and Leverick, above n 119, at 229-230.
137 Simester and others, above n 135, at 31. See also Barry, above n 95, at 398.
There are good reasons, therefore, for fair labelling. I will now use this principle to argue in favour of the defence of DR. I return to the examples of X and Y noted above. X, whose ability to self-control was significantly impaired as a result of DVS, lashes out at another with fatal results. Y, who has total control over his/her impulses and is a killer-for-hire, kills another individual in cold blood. Because of the non-existence of the DR defence in New Zealand, both X and Y will be labelled as murderers, while the degree of culpability between X and Y is utterly different. Not recognising the difference between X and Y’s culpability by labelling them differently ignores the principle of fair labelling. On the other hand, because in English law the principle of fair labelling is accepted as the reason for distinguishing between murder and manslaughter where DR is concerned, X would be labelled a manslaughterer but Y would be called a murderer.

The best way to argue for DR in New Zealand law, because of the importance of fair labelling, is to find whether, in general, New Zealand subscribes to the principle when distinguishing between various degrees of homicide.

New Zealand law, similar to some other common law jurisdictions, distinguishes between types of homicide, and the label applied to each convicted person depends on the degree of blameworthiness involved. The person who causes the death of another person intentionally is deemed less culpable when he/she does so without premeditation and deliberation. A person who causes death to another individual through negligence is labelled differently from one who actually intends to cause the victim’s death.

The argument is that if New Zealand law insists on rejecting the defence of DR and labels someone with DVS a murderer, it can be implied that New Zealand law does not comply with the principle of fair labelling consistently. While New Zealand law adheres to the principle of fair labelling when distinguishing between various degrees of homicide, it does not subscribe to the same principle when considering DVS and labelling X and Y differently. This is an inconsistent approach to fair labelling. My argument in this thesis is that in order to keep the structure of the law consistent, and to apply the fundamental principle of fair labelling consistently, the defence of DR – which changes the label of killing from murder to manslaughter – should be recognised in New Zealand.

Furthermore, my second argument is that if differentiating between the culpability of X and Y is not important, then why does New Zealand separate the offences of murder and manslaughter?

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138 Jerome Michael and Herbert Wechsler "A Rationale of the Homicide II" (1937) 37(8) Colum L Rev 1261 at 1267-1350. For the distinction between various unlawful homicide cases in New Zealand law, see Simester and Brookbanks, above n 42, at 31-32. For Canadian law, see Nikos Harris "The Utility of a Diminished Responsibility Defence: can an Accused be Half Responsible for A Murder?" (2002) 60(2) The Advocate (Vancouver) 211. For American law, see Richard J Bonnie and others Criminal Law (Foundation Press, New York, 1997). For English law see Card, above n 21.

139 Bonnie and others, above n 138, at 658-659.
manslaughter? Why not put them into a single category of, say, culpable homicide (or some similar term)? Interestingly, such an argument is not new in New Zealand and has already been proposed by the Crimes Bill 1980. The debate surrounding that proposal raised the issue of labelling and is relevant to this discussion.

Sir Robin Cooke criticised the proposal to combine the separate crimes of murder and manslaughter into one category (culpable homicide) in this way:

> The issue is social and moral as much as legal … it should remain open to a jury, having heard the evidence, to condemn a crime as so heinous as to cry out for the name of murder.

Andrew Simester and Brookbanks explained the objection in this way:

> Underlying this objection is the point that different offences criminalise actions which have differing social significance, and not just outcomes. So, for example, it would be a mistake to assimilate vandalism with negligent damage to property. Even though the harm to property is the same, vandalism expresses a certain sort of contempt for society and the victim that negligent damage does not. If the criminal law were not to distinguish between the two, a conviction would be potentially misleading.

> The law must make clear what sort of criminal each offender is – what the conviction is for. It should communicate this to the defendant, so that he may know exactly what he has done wrong and why he is being punished, in order that his punishment appears meaningful to him, not just an arbitrary harsh treatment. In addition, the law should communicate the crime to the public, so that they too may understand the nature of his transgression. The public record matters. While an employer may have few qualms about hiring a convicted fraudster as an orderly in a children’s hospital, it would be an entirely different matter to contemplate employing someone who has been in jail for paedophilia.

As a final point, it is worth noting the view of Brookbanks, who rejected the abolition of the partial defence of provocation in New Zealand because of the fair labelling principle. At the beginning of this Chapter, I explained the similarities and differences between provocation and DR. As mentioned, both provocation and DR are partial defences to murder which have the effect of altering a charge of murder to one of manslaughter. The partial defence of provocation was abolished in New Zealand in 2009. Applying the principle of fair labelling to argue in favour of including the partial defence of

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141 Simester and Brookbanks, above n 42, at 30 (emphasis in original). For a similar argument see Brookbanks, above n 42, at 38. Note should be taken that paedophilia is a psychiatric term; it refers to a psychiatric disorder not a crime. See, for example, American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders: DSM-V (5th ed, American Psychiatric Association, Washington, 2013).
provocation is important because the same principles apply to DR. Objecting to the abolition of provocation, Brookbanks points out:\(^{142}\)

Under previous law, a successful provocation defence signalled that there was a difference in culpability between a person who kills in cold blood and one who, in a frenzy of passion and impulsiveness, lashes out at another with fatal effect. Fair labelling requires that we properly describe the former as a murderer, to reflect society’s utter rejection and denunciation of the conduct. The title ‘manslaughterer’ is properly reserved for those whose homicidal violence is the product of a disturbed and pathological impulsiveness. Since the criminal law speaks to society as well as wrongdoers when it convicts them, it ought to communicate its judgement precisely by accurately naming the crime of which they are convicted. The abolition of provocation, for all its many defects, disturbs this important distinction and leaves all killers undifferentiated as murderers.

These arguments apply with the same force to the issue of DR. As Lord Bingham articulated (extra judicially), one of the strongest reasons for the existence of partial defences to murder in general, and DR in particular, is that D must be “… neither over convicted nor under convicted” and must be sanctioned appropriately.\(^{143}\)

\textit{The second reason: blameworthiness should be decided by the jury instead of sentencing judges}

The NZLC’s view on DR is that “… the circumstances giving rise to diminished responsibility are matters better considered at sentencing.”\(^ {144}\) In this section, I am going to review the relevant literature which propose two counterarguments: firstly, the issue of blameworthiness must be evaluated by the jury not the sentencing judges. Secondly, leaving the assessment of blameworthiness to the sentencing judges is problematic because sentencing is a matter of discretion and such discretion can be unlimited. These two reasons will be explored in detail.

\(^{142}\) Brookbanks, above n 4, at 282 (citations omitted). See also the view of Gerald Orchard who contended that the stigma attached to the crime of murder should not be imposed on those who kill because they are provoked. Gerald Orchard "Homicide" in Neil Cameron and Simon France (eds) Essays on Criminal Law in New Zealand: towards Reform? (Victoria University of Wellington Law Review in conjunction with Victoria University Press, Wellington, New Zealand, 1990) 147 at 149. See also Simester and others, above n 135.

\(^{143}\) Coutts [2006] UKHL 39, [2006] 1 WLR 2154 at 2. The precise quotation is this:

“… the interests of justice are not served if a defendant who has committed a lesser offence is either convicted of a greater offence, exposing him to greater punishment than his crime deserves, or acquitted altogether, enabling him to escape the measure of punishment which his crime deserves. The objective must be that defendants are neither over-convicted not under-convicted.”

\(^{144}\) Law Commission, above n 63, at 47, at 137.
The first reasoning, which was expressed by Judith Ablett Kerr, is that members of the jury have the right to decide on the matter of blameworthiness. In her 1997 paper, published immediately after the proposal of Minster of Justice to abolish the mandatory life sentence and reject DR, Kerr argued that such a proposal:\(^{145}\)

… removes the responsibilities and the rights of the community to decide on the blameworthiness of an accused. It vests such responsibility solely in the administration which is inappropriate for society dictates what is acceptable. Defences such as self-defence … and diminished responsibility protect the rights of society to acknowledge the value of human life and the rights of the individual to be recognised as being either less culpable or not culpable at all in the appropriate circumstances. What the appropriate circumstances are that would allow justification for killing or a reduced level of culpability for killing are matters for the legislature to determine. It is this issue that the Government’s review of the mandatory life sentence for murder should be expanded to cover.

Whilst the legislature may have the responsibility for defining the available defences, it is society, through the jury, that should say whether those circumstances exist.

The value we place on human life must be great and all lives must be of a equal value. No life is more important than another … .

Whilst the value of human life must be equally valued, culpability however is not equal and assessing the same is a task that must involve a jury. There are undoubtedly problems that exist at present with the law relating to murder convictions. But the answer is unlikely to be found in passing the problem onto the shoulders of the sentencing judge. Rather, they are best addressed by a revision of the homicide law.

Morse shares this view and argues that the sentencing stage “… removes this important culpability determination from the highly visible trial stage, at which the community’s representative-the jury-makes the decision, and relegates it to the comparatively low visibility sentencing proceeding.”\(^{146}\) David Ormerod argues that D’s impairment of mental responsibility is “… a moral question of degree and essentially one for the jury.”\(^{147}\)

Now return to the second objection: leaving the assessment of blameworthiness to the sentencing judges is erroneous because sentencing is an issue of discretion and can be indefinite. Morse argues that:\(^{148}\)

\(^{145}\) Kerr, above n 4, at 12.

\(^{146}\) Stephen J Morse "Diminished Rationality, Diminished Responsibility" (2003) 1 Ohio St J Crim L 289 at 298-299.


\(^{148}\) Morse, above n 146, at 299.
Although partial responsibility can in principle be fully considered at sentencing, this method suffers from substantial defects. … sentencing is a matter of discretion. Judges may refuse to give reduced rationality its just mitigating force, and there may be wide disparities among judges sentencing similarly situated defendants. Judges, like all members of a society, have some implicit or explicit ‘theory’ of responsibility and how it should guide punishment. Judges’ responsibility theories will also differ substantially. There is no guarantee that any individual judge’s theory will be consonant with what the legislature or other more representative groups would agree is fair, and thus, the judge’s mitigation decision may not comport with community norms.

In the same vein, Nigel Walker argues in favour of adopting DR for those individuals who are disabled enough to deserve to be protected by law from a normal sentence, and not simply by the right-mindedness of the sentence.149

This is not an argument for removal of judicial discretion at the sentencing stage. Rather, the accused’s culpability, or degree thereof, should be considered both by the jury at the trial stage and by the judge at the sentencing stage. In this way, the sentencer could deal with the possible danger of D at the sentencing stage.

The third reason: responding to DVS should not be limited to the sentencing stage

New Zealand law responds to the condition of DVS at the sentencing stage only. I have argued in favour of introducing a partial defence of DR, to be considered by the jury at the trial stage. This does not, however, preclude the option of judicial discretion at sentencing. This discretion will be essential if the law is concerned with the issue of dangerousness of individuals who have difficulty in controlling their conduct, and who may therefore be more prone to commit crimes than ‘normal’ offenders. The case of \textit{R v Mikaele}150 provides a useful illustration.

Mikaele had a history of brain injury which resulted in loss of ability to organise his behaviour. The medical examination suggested that he had difficulty in controlling his behaviour after his previous head injury. Mikaele had committed an unlawful homicide and was charged with murder. He claimed DR as a result of poor self-control. The New Zealand High Court rejected that defence. At sentencing, the accused’s lack of self-control was perceived by the court as a threat to society:151

\begin{quote}
You are suffering from brain damage. It is irreversible. It causes you to act in episodic blind furies of rage, without reason or self control. It is common ground that
\end{quote}

\begin{footnotes}
149 \textit{Walker and McCabe, above n 16, at 145-164. See also Brookbanks, above n 2, at 29.}\\
150 \textit{R v Mikaele, above n 73. I am indebted to John Dawson for bringing the \textit{Mikaele} case to my attention. Dawson, above n 4.}\\
151 \textit{R v Mikaele, above n 73, at 72.}
\end{footnotes}
those circumstances, which are beyond your control, render you an ongoing danger to society.

Further, the court did not find that the imposition of life imprisonment (subject to s 102 of the SA 2002) was manifestly unjust. Instead, because of the ongoing danger that Mikaele could present to the public, the court sentenced him to life imprisonment. Perhaps this conclusion is understandable from a policy viewpoint, due to the need to protect the public and the probable absence of any effective treatment for his condition.

The Mikaele case is especially interesting for the purposes of this Chapter. The case illustrates two considerations: on the one hand, the issue of reduced blameworthiness as a result of lack of self-control, and on the other hand, the risk of the accused’s reoffending. These two matters will often pull in opposite directions. The Mikaele case can be considered as a case similar to the case of X which raises the issue of loss of self-control. In other words, an offender with a DVS, might plausibly deserve less blame, but might for the same reason pose a heightened risk of re-offending.

My argument is that adopting the partial defence of DR could better allow the law to address and balance these competing concerns. In the context of the Mikaele case, it would look something like this: at the stage of acquittal or conviction, the fact-finder would take into consideration the accused’s diminished ability for self-control – in Mikaele’s case, caused by his brain injury. If these conditions sufficed for the purposes of the DR test (something like the DR test that is currently applied in English law), the label applied would be manslaughter not murder. This reflects the principles of fair labelling and proportionality. The fact that blameworthiness comes in degrees is also recognised.

Based on my argument, at the sentencing stage, the court can respond to the issue of dangerousness. If Mikaele were afforded a DR defence, life imprisonment would probably not be imposed as the sentence.\(^{152}\) However, in order to protect the public (the likely reason for imposing life imprisonment in the real case), a sentence of preventive detention might still be considered appropriate. Because of the accused’s lack of self-control and the need to protect the public, the court could still impose such a severe sentence for preventive reasons. The stigma of conviction for murder would be avoided, but the policy objective of protecting society would still be met.

By introducing a DR option into New Zealand law, even though it is possible for an accused affected by DVS to find themselves facing a harsher punishment (as a result of aggravating factors such as dangerousness), they would avoid the stigma of conviction.

\(^{152}\) The emphasis is on ‘probably’ as under the current New Zealand law, life imprisonment can be imposed as a sentence for manslaughter, as well as for murder. Crimes Act 1961, ss 172(1) and 177(1). Therefore, if there were a DR defence in New Zealand, the defence would reduce the charge from murder to manslaughter. The punishment of life imprisonment could still be imposed, even if it was unlikely.
for murder (in the case of homicide, and some similar crimes for which a generic DR defence would be available, which will be described later). This is where Ashworth and Horder’s point about the signalling function of the law is important. They write that labelling means that:\footnote{153}{Ashworth and Horder, above n 92, at 77.}

… widely felt distinctions between kinds of offences and degrees of wrongdoing are respected and signalled by the law, and that offences are subdivided and labelled so as to represent fairly the nature and magnitude of the law-breaking.

So far, I have mentioned three reasons which are in favour of adopting DR. Before concluding the Chapter, I need to elaborate on what form the partial defence of DR should take.

Should DR be limited to homicide?

As already noted, English law limits the defence of DR to murder. But should it be limited to this offence? The unfairness to D is raised by this example: X’s ability to self-control is significantly impaired at the time of the murder and it was extremely difficult for X to control himself. If DR can be successfully established, X’s punishment would be reduced from murder to manslaughter. In another situation, the same accused, X, commits attempted murder while under a DVS and his ability to self-control is significantly impaired as a result. Because there is no generic DR defence in English law, X will be convicted for attempted murder and only at the sentencing stage might the sentencer take into account the DVS in order to reduce or increase the sentence.

Several academics have argued in favour of adopting a generic DR defence, arguing that the justification for DR can be applied to other crimes.\footnote{154}{Brookbanks, above n 2; Walker and McCabe, above n 16, at 147-164; Morse, above n 4; Morse, above n 16, at 267-268; Ronnie Mackay "Some Thoughts on Reforming the Law of Insanity and Diminished Responsibility in England" (2003) 1 Jur Rev 57 at 79; R G Meakin "Diminished Responsibility: some Arguments for a General Defence" (1988) 52 JCL 406 at 406-413; James Chalmers and Fiona Leverick Criminal Defences and Pleas in Bar of Trial (W Green & Son Ltd, Edinburgh, 2006) at 235-237; Stephen J Morse "Undiminished Confusion in Diminished Capacity" (1984) 75(1) J Crim L & Criminology 1 at 22.} They have argued that the reasons behind a DR defence for homicide cases are extendable to other crimes. My purpose in this section is to review their argument and weigh their reasoning for the inclusion of a generic DR defence, not limited to murder cases. Finally, I will evaluate whether a generic DR defence should be adopted. This discussion focuses on English law. However, the argument for recognising a generic form of DR is extendable to New Zealand.

The suggestion for adopting a generic DR is not new, and there is evidence in Scots law – where the defence originated – that DR has not been limited to murder alone. An early example is \textit{HM Advocate v McLean} in 1876. The accused was charged with murder. He
had some mental problems which reduced his mental capacity. He was found guilty of murder. Lord Deas, speaking for the High Court of Justiciary, said:

I am of the opinion that without being insane in the legal sense, so as not to be amenable to punishment, a prisoner may yet labour under that degree of weakness of intellect or mental infirmity which may make it both right and legal to take that state of mind into account not only in avoiding punishment, but in some cases even in considering within what category of offence the crime shall be held to fall.

In spite of this, some argued that DR should not be extended to apply to all crimes. The first objection to its general application is that it is only with homicide cases that there can be two categories of offence – murder and manslaughter – which reflect different degrees of culpability. Walker’s solution is to provide that DR restricts the choice of severity of sentence for all types of crimes. For example, Walker suggests that DR could be recognised, by statute, to reduce the sentence to one half of what courts would otherwise impose. Alternatively, the sentence for D with a DVS could be declared in terms of a maximum penalty of, for instance, three years for an indictable offence and three months for a non-indictable offence.

The second argument against a generic DR is that it “…is not necessary because there is discretion in sentencing for all other offences does not allow for the jury’s role or for the importance of labels.” In response, Morse argues that the principles of fair labelling and proportionality should apply to all crimes:

If a mentally abnormal, partially responsible murderer deserves a partial excuse, does not an equally mentally abnormal, partially responsible armed robber, arsonist, rapist, or thief also deserve the excuse? The same principle guides all these cases and should apply to all crimes.

There seems to be no principled reason for excluding DR as a generic defence. As Brookbanks argues:

155 *HM Advocate v McLean* (1876) 3 Coup 334.

156 Brookbanks, above n 2; Wright, above n 4.

157 Brookbanks, above n 2, at 38.

158 Walker and McCabe, above n 16 cited by Brookbanks, above n 2, at 18. My aim was simply to summarise Walker’s response to the rejection of the generic partial defence of DR. His argument does not fit particularly well with the main value of recognising a DR defence – i.e., with regard to the symbolic function of criminal titles.

159 Wright, above n 4, at 123.

160 Morse, above n 14, at 628. See also Ronnie Mackay *Mental Condition Defences in the Criminal Law* (Clarendon Press, Oxford, 1995) at 206.

161 Brookbanks, above n 2, at 38. Because DR is a defence rather than an offence, it appears there is a typographical error in this quote. The reference to ‘general offence’ should no doubt be 'general defence'.

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There does not appear to be any strong reason why diminished responsibility should not be extended as a general offence. Although it is possible for defendants convicted of a lesser offence who suffer from impairment of responsibility to receive a substantially just result by mitigation reflected in sentencing, a diminished responsibility defence would require a specific finding of impairment and would avoid the stigma of an unqualified conviction.

Finally, the partial defence of DR should be recognised for all types of crimes. There is not enough room to elaborate on various labels of DR for all types of crimes in this Chapter. However, briefly explaining what I mean by a generic DR defence for all crimes is useful. For a homicide case the labels of murder and manslaughter distinguish a homicide without DR and a homicide with DR respectively. So, for some crimes, alternative labels could be created, for example, DR-affected-attempted murder or DR-affected-burglary.

**Conclusion and the proposal for adopting DR**

DR is not an easy out for any person who finds it difficult to exercise self-control. I am not arguing that any degree of lack of control is subject to the defence of DR. Rather, the proposal is that the degree of inability of control must be so high as to cloud D’s state of mind but not to the degree of total loss of self-control. In *HM Advocate v Braithwaite*, Lord Cooper stated:

> You will see … the stress that has been laid in all these formulations upon weakness of intellect, aberration of mind, mental unsoundness, partial insanity, great peculiarity of mind and the like … To carry the matter just a stage further in view of the evidence that we had from Dr …, I am going to take the responsibility of telling you, in so many words, that it will not suffice in law, for the purpose of this defence of diminished responsibility merely to show that an accused person has a very short temper, or is unusually excitable and lacking in self-control. The world be a very convenient place for criminals and a very dangerous place for other people, if that were the law. It must be much more than that … .

Likewise, in *HM Advocate v Savage*, Lord Alness said:

> … it appears …, equally well established …, that the state of mind of the prisoner may be such, short of insanity, as to reduce the quality of his act from murder to culpable homicide. It is very difficult to put it in a phrase, but it has been put this way: that there must be aberration or weakness of mind; that there must be some form of mental unsoundness; that there must be a state of mind which is bordering on, though not amounting to, insanity; that there must be a mind so affected that responsibility is diminished from full responsibility to partial responsibility – in

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162 *HM Advocate v Braithwaite* (1945), SC(J). 55.

163 *HM Advocate v Savage*, above n 15.
other words, the prisoner in question must be only partially accountable for his actions.

The defence of DR should be recognised in NZ and should be extended beyond the crime of murder. It “… offers a path for receiving into the law new insights about many varieties of limited impairment affecting control of conduct.”\(^{164}\) It reflects the principle of fair labelling and is consistent with other areas of the law which recognise that culpability occurs along a spectrum. Finally, by creating DR, the law can respond to D’s lack of self-control in the trial stage, and then because of the possible risk of D’s future reoffending the law can respond to D’s dangerousness at the sentencing stage.

As stated before, there is not enough room in this thesis to elaborate on detailed elements of DR. Perhaps New Zealand law can adopt DR as it is applied in English law and use the aspects of DR as accepted under s 2 of the HA 1957 and s 52 of the CJA 2009. The important point is that several common law and civil law jurisdictions have adopted DR,\(^{165}\) and New Zealand law should too.

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\(^{164}\) Gross, above n 18, at 310.

\(^{165}\) New South Wales (Crimes Act 1990 (NSW), s 23A); Australian Capital Territory (Crimes Act 1990 (ACT), s 14); Queensland (Criminal Code 1961 (QLD), s 304A); Northern Territory (Criminal Code (NT), s 37). In Singapore, a conviction for murder will result in a mandatory death penalty: (Penal Code, exception 7 to s 300) ( exception 7 to s 300); The Bahamas (Special Defences Act 1959, s 2); Barbados (Offences Against the Person Amendment Act 1973, s 3); Hong Kong (Homicide Ordinance (Cap 339) Hong Kong Special Administrative Region of the PRC, s 3); in 14 states in the United States: see Susan Hayes "Diminished Responsibility: the Expert Witness’ Viewpoint" in Stanley Yeo (ed) Partial Excuses to Murder (Federation Press, Sydney, 1990) 145 at 146. Similar to the provision of DR in English law and common law, though not always under the same name, DR exists in many European and American legal systems. I these jurisdictions, the law provides for a lesser punishment where D is mentally abnormal in some way, though not insane (for a summary of these laws see Law Commission Report of the Royal Commission on Capital Punishment, 1949–1953 (Cmnd8932, HMSO, 1953) Appendix 9 at 413-416. For further references and for American laws, most of which apply only to murder, see H Weihoven Mental Disorder as a Criminal Defence, Dennis and Company (Buffalo, New York, 1954) at 175; Fisher v US 328 U.S. 463 (1946).

In some civil law jurisdictions, DR is relevant as a mitigating sentencing factor only. For instance, in Italy (Italian Penal Code 1930, s 89); in Germany (German Criminal Code 2009, s 21); in France (French Criminal Code 2000, s 122).
Chapter Six: the evidence of genetic and environmental interaction (GxE) as the basis of loss of self-control

Scope of the Chapter

In Chapters Four and Five, I considered one specific ‘internal challenge’ to New Zealand law: the claim of loss of self-control. Loss of self-control is an umbrella term that can include the volitional form of insanity (V-insanity) and diminished responsibility (DR). I tried to suggest that these two defences should be part of New Zealand law. Now, in this Chapter,¹ I am going to assess the legal significance of the most important ‘genetic-based defence’, the claim of low variation of MAOA (MAOA-L). As noted previously, research has linked this version of the gene with higher rates of antisocial behaviour. However, it seems that that link occurs in combination with severe childhood maltreatment (SM). To avoid over-simplifying, or implying that the genetic aspect of this interaction is more important than the environmental factor, I will refer to this as the combination of genetics and environment (GxE). To what extent could GxE present an ‘internal challenge’ to the criminal law? What would be required for GxE evidence to satisfy the requirements of insanity and DR?

From the outset, I need to note that for the purposes of this discussion it is not my intention to examine the scientific evidence of GxE and the current state of scientific understanding as to the effect of GxE on behaviour in detail. Nor will I attempt to offer a definitive opinion as to whether GxE evidence could satisfy the legal requirements for insanity and DR. Rather, what I will try to explore in this Chapter is the legal question of what would have to be shown if GxE evidence were to provide the basis for these defences.

As I will show in the following discussion, there is a fairly extensive academic literature examining the relationship between GxE evidence and criminal responsibility. However, that literature has not paid sufficient attention to the link between GxE evidence and the full defence of insanity and the partial defence of DR. I will review the literature in the introductory part of the Chapter.

Then, in the first part of the Chapter, I will assess the link between GxE evidence and the insanity defence. Two forms of the insanity defence have been reviewed already: cognitive insanity (C-insanity) and V-insanity. C-insanity as it is accepted under the

M’Naghten rules,\(^2\) involves the issue of D’s understanding. If D was unable to understand the (physical or moral) nature of his/her action because of a disease of the mind (DofM), he/she would not be criminally responsible. On the other hand, V-insanity, as it is accepted under some common law jurisdictions, such as South Australia,\(^3\) involves the recognition of the ability to control impulses. If D’s ability to control his/her impulses was deprived as a result of a DofM, D would not be viewed as criminally answerable.

As I mentioned before, and as I will explain again later, scientific literature has suggested that GxE can reduce the ability to control impulses. Because of that, at first glance it seems that the most appropriate way to assess the relationship between GxE evidence and the insanity defence is to focus on V-insanity. However, although I have argued that it should be accepted, V-insanity is not currently a defence in English or New Zealand law – the two jurisdictions which are the focus of this thesis. As such, it is difficult to evaluate how GxE evidence might satisfy such a hypothetical defence.

Instead, my approach will be to focus on C-insanity, and on how the courts have approached that defence. In doing so, I will attempt to draw an inference from the decided cases as to how the courts might apply a future defence of V-insanity. There are several similarities between the elements of C-insanity and V-insanity which allow me to extrapolate from the approach of C-insanity. The scope of C-insanity and V-insanity – as I argued in Chapter Four – is, broadly speaking, similar. The main similarities between the two forms of insanity include the existence of a DofM; complete loss of the relevant mental capacity (in the volitional form control and in the cognitive form knowledge); and the result, which is the exemption from criminal responsibility. The first part of this Chapter focuses on New Zealand.

In the second part, I will focus on the relevance of GxE evidence and DR as it is accepted under English law.

Outside the scope of the Chapter

As I mentioned before, it is not my intention to assess the scientific aspects of GxE evidence. One of those aspects which I will not be discussing is whether GxE evidence can in practice come up to the standard of evidentiary admissibility. To put it more clearly, any type of expert opinion and scientific evidence, including GxE, must meet the threshold of the evidentiary test of admissibility to be accepted in a court. That is the first step before a court would hear the scientific evidence. The applied test in New Zealand,

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\(^2\) The M’Naghten rules were created in 1843 after the well-known case of Daniel M’Naghten. The insanity defence covered by the M’Naghten rules is a complete defence which recognises that an accused’s knowledge can be impaired and if it is so impaired, it can lead to an acquittal. *R v M’Naghten* 10 Clark & F 200, 2 Eng Rep 718 (HL 1843) at 210, per Tindal CJ.

\(^3\) Criminal Law Consolidation Act 1935, s 269C (c).
broadly speaking, has been derived from the American Daubert test with some modifications by the Calder test. The test of admissibility functions as a filtering system for assessing any type of scientific evidence. In other words, the test subjects any novel evidence to a number of questions: is it scientifically valid, reliable, relevant and applicable to the facts in issue? It is not my function here to evaluate the evidentiary admissibility of specific genetic evidence. Rather, what I am attempting in this Chapter is to provide a template for what would have to be shown for any type of genetic-based defence to be accepted as the basis for an insanity or the DR defence.

**Introduction**

In Chapter Two, I reviewed, in detail, the most influential study on the effects of the MAOA-L gene, the 2002 study by Caspi and his colleagues (the Caspi Study). As I explained, the Caspi Study examined two different relatively common variations of the MAOA gene, which appear to be either low (MAOA-L) or high (MAOA-H) activity. The Caspi Study found that “… the effect of childhood maltreatment on antisocial behavior was significantly weaker among males with high MAOA activity … than among males with low MAOA activity.” This led the authors to suggest that “… the MAOA gene moderates the impact of early childhood maltreatment on the development of antisocial behaviour in males.”

Because of the association methods applied by Caspi and his colleagues, the Caspi Study was not able to detect causation between MAOA-L+SM and ‘antisocial behaviour’ outcomes, instead providing only evidence of a correlation between those factors. More

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6 Elisabeth McDonald Principles of Evidence in Criminal Cases (Brookers, Wellington, 2012) at 275-302.
7 A Caspi and others "Role of Genotype in the Cycle of Violence in Maltreated Children" (2002) 297(5582) Science 851 at 853.
8 At 853. The term, 'antisocial behaviour' was used in the Caspi Study. In the following discussion, I will use the term 'antisocial behaviour' in a way which is consistent with its use in that Study.
recently, however, other researchers have attempted to provide some theories to explain the effect of GxE on ‘antisocial behaviour’.

Some studies have identified the mechanism by which MAOA-L interacts with particular structures of the brain: i.e., the amygdala and orbitofrontal cortex. These two regions in the brain play an important role in controlling behaviour and impulses. One study has indicated that individuals with MAOA-L have an eight per cent reduction in the volume of the anterior cingulate and the orbitofrontal cortex.

More studies have demonstrated that the MAOA enzyme has a clear role in the control of neurotransmitters such as dopamine and serotonin. It has been suggested that dopamine and serotonin play an important role in stabilising mood and balance and the ability to control impulses. It has been confirmed that MAOA-L has reduced expression of those neurotransmitters. Moreover, as mentioned before, the Caspi Study indicated that MAOA-L individuals who have been maltreated have a greater predisposition to commit ‘antisocial behaviour’ than other groups in the study.

Further, based on the research which suggested that individuals with MAOA-L have greater levels of aggression, a very recent study tried to find psychological mechanisms between MAOA-L and increased reactive aggression. Researchers observed the effect


11 Adrian Raine The Anatomy of Violence: the Biological Roots of Crime (Pantheon Books, New York, 2013) at 260; L M Williams and others "A Polymorphism of the MAOA Gene is Associated with Emotional Brain Markers and Personality Traits on an Antisocial Index" (2009) 34(7) Neuropsychopharmacology 1797. I have tried to outline in simple terms how various brain structures may play a role in controlling behaviour. For more information see Raine, above n 11, at 260.


13 Farahany and Coleman, above n 9.


17 David S Chester and others "Monoamine Oxidase A (MAOA) Genotype Predicts Greater Aggression Through Impulsive Reactivity to Negative Affect" (2015) 283 Behav Brain Res 97 at 283.
of MAOA-L genotype on heightened aggression, which was mediated by a tendency to react impulsively. Moreover, researchers found that disrupted serotonin (affected by MAOA-L) predisposed individuals towards violent behaviour by increasing impulsive reactivity. Based on this research, it seems that this variation of MAOA may lead to higher incidence of impulsive behaviour.  

On the basis of all of the above-mentioned evidence, it is reasonable to suggest that, while the precise causal mechanism between GxE and ‘antisocial behaviour’ has not yet been detected, there are some plausible theories suggesting why MAOA-L+SM individuals have greater predisposition to lose their self-control and exhibit ‘antisocial behaviour’. Those theories are based on the physical structure of particular areas of the brain, and the levels of particular neurotransmitters.

**After the Caspi Study: claiming the lack of self-control**

I will briefly review some criminal cases where the defence sought to rely on GxE evidence – or sometimes MAOA alone – to support a claim of loss of self-control. Of the five reported cases which have relied on GxE evidence or MAOA alone, in three of them, the criminal accused claimed lack of self-control because of those factors – i.e., GxE and/or MAOA. The claim in the cases of Bradley Waldroup, Abdelmalek Bayout and Stephania Albertani related to the lack of self-control. All three accused argued that they had, to some degree, difficulties in resisting their aggressive impulse to kill their victims. As a result, they claimed that they were less responsible for their crimes and should be treated to a lesser punishment.

In the United States, Waldroup claimed that his merciless killing of his ex-wife’s friend was, to some degree, related to GxE evidence. In Italy, Bayout in his homicide trial relied on similar evidence, combined with some evidence of other genetic and neurological difficulties. Finally, in the Albertani case, another Italian court heard evidence of MAOA, along with evidence of some psychological, neurological and genetic deficiencies. In each of these three cases, the American and Italian courts regarded GxE evidence or MAOA evidence as admissible.

18 At 98.

19 Two cases in which the accused did not use GxE evidence or MAOA alone as the basis for the lack of self-control defence include Mobley and one anonymous case. Mobley only requested the genetic test. Because the court rejected his request, he could not claim any defence based on loss of self-control. *Mobley v State* 265 Ga. 292, 455 S.E.2d 61. The record of the second case is unavailable so it is not clear what defence was raised in it. William Bernet and others “Bad Nature, Bad Nurture, and Testimony Regarding MAOA and SLC6A4 Genotyping at Murder Trials” (2007) 52(6) J Forensic Sci 1362 at 1363.

In *Waldroup*, the accused was convicted of voluntary manslaughter instead of first degree murder because of GxE evidence.\textsuperscript{21} The punishment in *Bayout* was reduced from nine years and two months to eight years and two months because of GxE evidence and genetic and neurological deficiencies.\textsuperscript{22} Finally, in Albertani’s case, her punishment was reduced from life imprisonment to thirty years imprisonment because of MAOA and other medical evidence including genetic and neurological deficiencies.\textsuperscript{23}

From a broader perspective, there are five stages of the criminal justice process where GxE evidence could potentially play a role:\textsuperscript{24} (1) before a crime is committed. Police might arrest a person or a court might force him into a rehabilitation program based on GxE evidence that he/she is more likely to commit a crime.\textsuperscript{25} (2) During the trial while determining culpability. GxE might be used as a basis for the full affirmative defences of justification or exculpation. (3) During the trial at conviction/acquittal stage to introduce partial defences. GxE might be used in support of the partial defence of DR or loss of control (two examples of partial defences as applied in English law). (4) During sentencing. GxE might be raised as a mitigating or aggravating factor. (5) During the post-conviction stage. GxE might be introduced in legal processes such as parole hearings or decisions about appropriate post-sentence detention, or in rehabilitative processes. Previously, the academic literature has examined the use of GxE evidence as a predictor of future aggression before a crime is committed (first phase)\textsuperscript{26}; as a partial defence of

\begin{footnotesize}
\begin{itemize}
\item\textsuperscript{21} At 2.
\item\textsuperscript{24} It should be noted that my discussion of the relationship between the five stages of the criminal justice process and GxE evidence does not necessarily mean that such evidence will be relevant to all of these five stages in a jurisdiction such as New Zealand. I am outlining these steps because of their potential applicability.
\item\textsuperscript{25} Permitting the police to rely on evidence of behavioural genetics, before a person commits a crime, would greatly increase the discretion of enforcement authorities to investigate pre-crime. Such a step has not been authorised yet in any investigation regime: Jude McCulloch and Dean Wilson *Pre-crime: Pre-emption, Precaution and the Future* (Routledge, New York, 2015) at 83-88.
\item\textsuperscript{26} Lisa Schriner Lewis "The Role Genetic Information Plays in the Criminal Justice System" (2005) 47 Ariz L Rev 519 at 541.
\end{itemize}
\end{footnotesize}
‘loss of control’ (third phase)\textsuperscript{27}; as a mitigating\textsuperscript{28} or an aggravating factor in sentencing stage (the fourth phase)\textsuperscript{29}; or as a rehabilitative tool (final phase).\textsuperscript{30}

The academic literature has, however, failed to pay sufficient attention to two of those stages: the second stage of establishing the full affirmative defences, and the third stage of establishing the partial defence of DR. Assessing all exculpatory defences is not possible in this Chapter.\textsuperscript{31} Furthermore, GxE evidence is unlikely to be relevant to all exculpatory defences. Accordingly, I will only focus on the exculpatory insanity defence that is already widely used. Then, I will consider the partial defence of DR.

\textit{The first part: the link between GxE evidence and the insanity defence}

This is the imaginary case that will be considered in this part of the Chapter. A criminal accused (X) is charged with killing another person. In the criminal trial, X pleads not guilty by reason of insanity, citing GxE evidence as presented by the Caspi Study. As X’s defence relies upon his claim that he was not able to control his impulses, it seems more appropriate that he would be relying on V-insanity. However, because V-insanity is recognised neither in New Zealand nor in English law, I will assess X’s claim on the basis of case law relating to C-insanity, before extrapolating to a future, volitional form.

New Zealand’s criminal law takes the M’Naghten rules as the starting point for its insanity defence. Section 23 (1) and (2) of the \textit{Crimes Act 1961} (CA 1961) states:\textsuperscript{32}

\begin{enumerate}
  \item Every one shall be presumed to be sane at the time of doing or omitting any act until the contrary is proved.
\end{enumerate}

\begin{thebibliography}{99}

\bibitem{27} Matthew Baum "The Monoamine Oxidase A (MAOA) Genetic Predisposition to Impulsive Violence: is it Relevant to Criminal Trials?" (2011) Neuroethics 287 at 297-299.


\bibitem{29} Paul S Appelbaum "Behavioral Genetics and the Punishment of Crime" (2005) 56(1) Psychiatr Serv 25 at 26; Wasserman, above n 28, at 27.

\bibitem{30} Lewis, above n 28, at 520.

\bibitem{31} In New Zealand’s criminal law, exculpatory defences are those which negate criminal culpability despite all the elements of the crime being proved. Andrew Simister and Warren J Brookbanks \textit{Principles of Criminal Law} (3th ed, Brookers, Wellington, 2007) at 11.

\bibitem{32} Crimes Act 1961, s 23 (1) and (2).
\end{thebibliography}
(2) No person shall be convicted of an offence by reason of an act done or omitted by him when labouring under natural imbecility or disease of the mind to such an extent as to render him incapable—
(a) Of understanding the nature and quality of the act or omission; or
(b) Of knowing that the act or omission was morally wrong, having regard to the commonly accepted standards of right and wrong.

Every criminal defendant (D) who is claiming insanity first needs to displace the presumption of sanity. Section 23 includes a presumption that everyone is deemed to be sane at the time of doing or omitting any act “... until the contrary is proved.” The presumption has the effect of casting on D the onus of proving insanity. A mere assertion that D was insane will not be sufficient to discharge the burden of proving insanity. Rather, D must prove this ‘on the balance of probabilities’, which is to say, he/she must convince the trier of fact (the jury or, in non-jury trials, the judge), that it is more likely than not that he was insane at the time of the criminal act.

The standard of ‘on the balance of probabilities’ is lower than the usual criminal law standard of ‘beyond reasonable doubt’ (the threshold that the prosecution must reach in proving the elements of offences). Both of these standards are lower than ‘no doubt’ or ‘absolute certainty’, a standard never required in law. To sum up, to meet the standard of ‘on the balance of probabilities’, the standard for proving all elements of an insanity defence (other elements will be described below), every D must convince the trier of fact that it is more likely than not that he/she was insane at the time of the offence charged.

To displace the presumption of sanity, every criminal accused claiming an insanity defence must satisfy certain requirements in the below-mentioned order. The first is that D must demonstrate that he/she has a medical condition. The second requirement is that D needs to prove that his/her medical condition qualifies as a DofM or natural imbecility. Thirdly, D needs to demonstrate that his/her DofM had the effect of preventing him/her from understanding the nature of the conduct or from knowing that his/her conduct was morally wrong. Fourthly, D needs to prove a causal link between his/her DofM and the inability to understand his/her action or of knowing that his/her conduct was morally wrong.

33 Section 23(1).
34 Simester and Brookbanks, above n 31, at 298.
35 R v Cottle [1958] NZLR 999 (CA) at 1022 (Gresson P). Various options exist for dealing with D who is insane at the time of the trial. As these do not relate to matters of culpability, they will not concern me here.
36 Apart from statutory exceptions and case law developments in conjunction with public welfare regulatory offences, insanity is the only exception to the general rule that it is the prosecution’s responsibility to prove D’s guilt. See Simester and Brookbanks, above n, at 298.
37 R v Cottle, above n 35, at 1022 (Gresson P).
With these four requirements in mind, I now return to the case of X. To claim an insanity defence based on GxE, it is useful, in my mind, to distinguish between two sorts of facts: those relating to GxE evidence per se, and those relating to X’s own circumstances. In the below discussion, I will differentiate between these two sorts of facts. I should also make clear that the order in which I will discuss the elements of the defence is not necessarily the order in which they would have to be led at trial.

**First category: facts about the state of scientific knowledge around GxE**

1. X needs to prove certain facts about MAOA-L+SM. For one thing, he will need to show that this particular GxE combination is such as to amount to a DofM.\(^{38}\) According to s 23 of the CA 1961, every criminal accused who is claiming an insanity defence must prove that he/she was affected by either a DofM, or natural imbecility. The latter term, which the New Zealand Law Commission has noted to be old-fashioned,\(^{39}\) will not be considered here, as there is no suggestion that GxE causes severe intellectual impairment. The question, then, is whether GxE can amount to a DofM.

Under the current insanity test, medical witnesses are allowed to give an opinion on whether a disorder may be treated as a DofM. Scientific testimony is informative only to the court and whether a particular condition constitutes a DofM is a question of law, to be determined by the judge. As the New Zealand Court of Appeal has stated: “… surely [what constitutes a DofM] cannot be left to a medical witness to apply his own definition.”\(^{40}\)

X’s prospects of persuading the judge that he has a DofM will presumably be significantly helped if he can lead expert witnesses or psychiatric evidence to support that conclusion. This might take the form of evidence that the GxE combination is itself such as to qualify as a DofM. That it has not previously been regarded as such need not be fatal to this argument, as it has been stated that the category of DofM is not closed. It has been held that DofM “… defies precise definition and … can comprehend mental derangement in the widest sense.”\(^{41}\) Further, the New Zealand Law Commission states that “‘Disease of the mind’, in particular, is … an open-ended, flexible concept, further

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38 Studies in behavioural genetics, including the Caspi Study, work on population averages, rather than at the individual level. Therefore, interpreting the results of the study for a specific individual can be difficult: Kaplan, above n 9.


40 *R v Cottle*, above n 35, at 1028 per North J.

41 At 1011 per Gresson P (emphasis added).
defined in case law. Perhaps inevitably, it is open to a degree of interpretation on a case by case basis, . . . .42

The New Zealand courts have not tried to provide a comprehensive or definitive definition of DoM.43 In practice, medical witnesses and psychiatric experts are allowed to suggest whether they consider a disorder is a DoM, as well as testifying as to the symptoms and causes of the condition diagnosed. However, such a classification by medical experts is not ultimate, and whether a particular condition is a DoM is a question of law for the judge.44 Nevertheless, the argument that the GxE combination can satisfy the DoM element of the defence could be assisted by the testimony of medical witnesses. Expert witnesses and psychiatrists might argue convincingly, for instance, that the GxE interaction was the cause of some other, recognised condition. They could, for example, testify that the effect of GxE can be matched to a disorder recognised within some international classificatory system of mental abnormalities. If V-insanity and the lack of self-control are in issue, psychiatric experts can refer to the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) which lists “disruptive, impulsive-control and conduct disorders.”45 These conditions involve problems in self-control of behaviours and emotions.46 In addition, psychiatric experts could cite the most recent revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10), which refers to emotionally unstable personality disorder.47

42 Law Commission, above n 39, at 6.
43 Bruce Robertson and Jeremy Finn Adams on Criminal Law (Thomson Reuters, Wellington, Student Version 2015) at 70. In Australia, where the position is similar to that in New Zealand, the law of insanity derives from the M’Naghten rules. At common law, the definition of DoM, in relation to the defence of insanity, is a legal term, not a medical one. Whether or not there is sufficient evidence that a particular condition amounts to a DoM is a question of law. Stanley Giffard Hardinge, Halsbury’s Laws of Australia (Butterworths, Sydney, 1991) [online version] at Criminal law, mental impairments and criminal responsibility, insanity. In the code jurisdictions of various Australian states, different terminology is used. For more information see: Stanley Giffard Hardinge, Halsbury’s Laws of Australia (Butterworths, Sydney, 1991) [online version] at Criminal law, mental impairments and criminal responsibility, insanity.
44 R v Cottle [1958] NZLR 999 (CA) at 1028, per North J; Bratty v Attorney-General for Northern Ireland [1963] AC 386, [1961] 3 All ER 523 (HL) at 412; 533-534, per Lord Denning; Robey v R (1980) 114 DLR(3d) 193 (SCC) at 198, 209; Cooper v R (1980) 110 DLR (3d) 46 (SCC) at 60; R v Sullivan [1984] AC 156 at 172. All the above-mentioned cases were cited in Bruce Robertson and Jeremy Finn Adams on Criminal Law (Thomson Reuters, Wellington, Student Version 2015) at 70.
46 At 461.
The effects of GxE might be described by psychiatric experts as fitting within the definition of intermittent explosive disorder. This is currently categorised in the DSM-V as a “disruptive, impulse-control and conduct disorder”. It is characterised by explosive outbursts of anger, often to the degree of rage, that are disproportionate to the situation at hand, e.g., impulsive screaming triggered by fairly inconsequential events. Impulsive violence in such a case may be unpremeditated, and is described as a disproportionate reaction to some provocation, either real or perceived. The DSM-V describes its main diagnostic features as:

… failure to control impulsive aggressive behaviour in response to subjectively experienced provocation (i.e., psychosocial stressor) that would not typically result in aggressive outburst … . The aggressive outbursts are generally impulsive and/or anger-based, rather than premeditated or instrumental … and are associated with significant distress or impairment in psychosocial function … .

To determine how, or whether, the effects of GxE fit within the definition of intermittent explosive disorder is the sort of issue on which experts might testify. Perhaps they would say that the effects of GxE do fit within the description of intermittent explosive disorder. Now the question is whether that kind of evidence could meet the threshold test for the existence of a DofM. Such testimony of medical experts is not final for the courts. Rather, it is a question of law for the judge to decide whether any medical condition, including the condition of GxE, is a DofM. It is very difficult to say, however, in the current state of the case law, whether the courts would be prepared – now or in the future – to endorse this conclusion or not. The boundaries of the legal concept of a DofM are so poorly defined in the cases – which use broad phrases, such as “mental derangement in the widest sense”, to describe the parameters of the concept – and the boundaries between the roles of the expert witnesses and the judge are so poorly delineated in practice, that one simply cannot predict how this decision will go, especially as the state of scientific evidence about GxE unfolds in future. One certainly cannot rule out the possibility that the courts – using such a vague concept of DofM – will accept that certain kinds of mental phenomena produced by GxE fall within the boundaries of this threshold concept, when presented with convincing medical opinions that this is so.

2. If X can establish either that his GxE qualifies as a DofM in its own right, or that it causes another condition which qualifies as a DofM, then the next hurdle for him is to

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48 American Psychiatric Association, above n 45, at 466-469.
49 At 466-467.
50 At 467.
51 R v Cottle, above n 35, at p 1011 per Gresson P.
prove the effect of the DofM on his mental state. I will explain this requirement in detail below (in the section of facts about X’s own circumstance). Before getting to that requirement, however, this section explains the requirement of establishing the connection between DofM and its effect on mental state (the inability to understand the nature of the action, when C-insanity is concerned, or the inability to control impulses once V-insanity is concerned). X must provide evidence that DofM rendered him incapable of appreciating the nature – factual or moral – of his actions (or incapable of forming the requisite control state for V-insanity). Although s 23 uses the term ‘rendering’ rather than ‘causing’, I submit that the terms are, for the purposes of the following discussion, interchangeable.

Before explaining how X might satisfy the test of causation, I need to thoroughly explain the causation test and assess the views of some academic scholars who have perhaps overstated the causation standard when considering GxE as the basis of an insanity defence. Appelbaum is one of the writers who has rejected the idea of a ‘genetic-based defence’ in general, and GxE evidence in particular. In a 2005 paper, Applebaum argues:

… most relevant genetic data … will not be able to establish a definitive causal link between the genetic defect and the defendant’s act. Genetic data will probably be inadequate to meet criteria for an insanity defense …

Similarly, Lisa Schriner Lewis, who rejects ‘genetic-based defences’ in general, and GxE in particular, has pointed out that:

Because it can rarely be proven that genes caused a criminal to act, it seems infeasible to allow a genetic predisposition for violent behavior to … constitute a complete genetic-based affirmative defense. …

It would still be nearly impossible to prove the existence of a direct causal relationship between genetic abnormalities and criminal acts, …

What is the main point that Appelbaum and Lewis are making here? Would the problem for establishing insanity be insufficient evidence that D lacked an understanding of his/her action? Or is it that there is insufficient evidence that the lack of understanding was directly and definitely caused by the genetic abnormalities? If it is the former, then this need not be a great problem – or at least, no greater problem than it is for other insanity claims. But if it is the latter, it seems that Appelbaum and Lewis are claiming that establishing an exculpatory defence by reason of GxE will be possible only if it can be proved that GxE is the direct or definite causal factor to which the criminal act in question maybe attributed. If that is the case, I can suggest that the academic literature dealing with ‘genetic-based defences’ in general, and GxE evidence in particular,

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52 Appelbaum, above n 29, at 26 (emphasis added).

53 Lewis, above n 26, at 543-544, internal citation omitted (emphasis added).
demands a degree of certainty that is in excess of what is demanded for other legal questions.

How can D satisfy the demand of writers like Applebaum and Lewis, i.e., demonstrate that his/her lack of understanding was directly and definitely caused by GxE? One possible approach would be to ask medical assessors to scientifically and meticulously examine his/her state of mind at the time of the crime in order to ascertain the direct and definite cause of his/her action. I call this type of scientific investigation, which needs to examine an accused’s state of mind, the ‘scientific inquiry’. Later I will elaborate on the issue whether that sort of ‘scientific inquiry’ is required in law. Before doing so, I note that my use of the term ‘scientific inquiry’ for establishing the causal test of an insanity defence is similar to the way I used that term when discussing V-insanity in Chapter Four. To recap, one significant problem for the recognition of V-insanity, from the perspective of some scholars, is the difficulty of drawing a distinction between genuinely irresistible impulses and impulses that are merely unresisted. I suggested that the only way to draw a line between those cases is to assess D’s state of mind in a ‘scientific’ way, with a view to finding precisely what was happening in his/her mind at the time of their crimes.

In Chapter Four, I questioned whether that sort of ‘scientific inquiry’ is required in other areas of criminal law, in particular, for establishing C-insanity and intention to crime. The response to this question is important because it can be extended to the argument of this Chapter. If the law does not demand a ‘scientific inquiry’ to establish these other mental states, then we might reasonably ask why it should be demanded in relation to a ‘genetic defence’.

As I have already established in Chapter Four, a ‘scientific inquiry’ is not generally required for proving C-insanity or intention. What is far more common is to seek to establish the accused’s state of mind based on a ‘common sense inquiry’. In Chapter Four, I explained in detail the meaning of the ‘common sense inquiry’. Here I only summarise what I mentioned before, with the aim of addressing the sorts of arguments made by Applebaum and Lewis. The law does not generally demand direct evidence of mental states. Nor does it demand that questions of mental states are settled by ‘scientific inquiry’. Inferences and ‘common sense’ inquiries are generally sufficient.

D would need to offer some sort of causal explanation linking the DofM and the inability to understand the nature or moral character of his/her actions. That causal explanation, however, will often be structured in terms that would fall far short of the very high standard being demanded of GxE in the previously mentioned literature (providing the direct and definite causal connection between GxE and a crime). The standard for proving that causation is ‘on the balance of probabilities’, which means that D needs to convince the trier of fact that it is more likely than not that he/she was insane at the time.
of the crime, that his/her insanity caused his/her actions. That standard is lower than beyond reasonable doubt, and no doubt considerably lower than absolute certainty. D is not required to explain exactly how the DofM had this effect.\textsuperscript{54} Nor it is necessary that he/she proves the causal link to a standard that would meet a standard of scientific validity.\textsuperscript{55} All he/she needs to do is satisfy the jury that it is more likely than not that the DofM somehow made him/her unable to form the required cognitive abilities.

The trier of fact, then, is required to determine the matter of insanity by considering all of the presented evidence, without searching for definite and direct evidence. They will reach a conclusion as to the causality test by drawing \textit{inferences} of D’s mental state from various types of evidence, including circumstantial evidence, witness testimony and medical testimony. This process of drawing inferences as to the accused’s state of mind is what is meant by the ‘common sense inquiry’; this is in sharp contrast to the ‘scientific inquiry’.

New Zealand’s criminal law is used to accepting evidence as to mental states that is neither direct nor certain. The fact that it may not be possible to prove a direct causal connection between the criminal conduct and the DofM will not necessarily lead to failure of the defence. It is therefore justifiable to reject demands for evidence of a direct and definite causal connection between GxE and a crime.

What X needs to do to satisfy the requirement of causation, then, is to convince the trier of fact that it is \textit{more likely than not} that there is a causal connection between his GxE and its effect on his mental state. X can call medical experts to assist the trier of fact to draw some inferences about the causation between GxE and X’s mental state. They can suggest that while science is currently unable to determine the causal connection between GxE and ‘antisocial behaviour’, science can suggest some plausible theories as to how GxE affects the person’s behaviour. As I discussed at the beginning of this Chapter and in Chapter Two, some researchers, for instance, have suggested that MAOA-L activity interacts with the amygdala and orbitofrontal cortex, brain regions that play an important role in controlling behaviour and impulses. Other studies have indicated that the MAOA enzyme partly controls particular neurotransmitters that are responsible for stabilising mood, balance and the ability to exercise self-control. Thus, while it is not yet scientifically \textit{certain} that GxE plays a causal role in impulsive or aggressive behaviour, it is nonetheless possible that the theories and evidence that are available may be enough to allow the defence to satisfy this part of the test. In summary, a possible way to satisfy the causation test is to prove that GxE is \textit{more likely} the cause of an inability to understand (or an inability to control, if V-insanity is being argued).

\textsuperscript{54} Simester and Brookbanks, above n 31, at 301-303.

\textsuperscript{55} At 303-304.
3. Another aspect of the state of scientific knowledge around GxE which needs to be clarified concerns the sorts of psychological and behavioural outcomes to which it is related. The Caspi Study suggested that GxE individuals have a greater tendency towards ‘antisocial behaviour’. It is likely, though, that X will need to be more specific as to how GxE affects his behaviour. In particular, he will need to show that the antisocial behaviour to which GxE is claimed to lead to is itself the product of deficiencies of understanding or – in the case of V-insanity – of self-control.

One way in which X could set about establishing this would be by trying to link GxE more specifically to certain kinds of criminal or antisocial behaviour. If GxE works by reducing the capacity for self-control – as would be required for the sorts of defences I am considering – then lawyers would expect to see it linked more closely to impulsive crimes. To prove this, X can rely on scientific studies which posited the effect of MAOA-L on increasing impulsivity. One relevant scientific study to X’s claim could be the 2015 study by Chester and his colleagues, which was reviewed in the introduction part of this Chapter. Their research indicated the effect of MAOA-L on heightened aggression, which was mediated by a tendency to react impulsively. The claim of reduced capacity for self-control would be made in those cases that some researchers refer to as crimes of ‘hot-aggression’, those that involve unplanned ‘lashing out’. Perhaps the claim could also be made in the case of non-violent impulsive crimes such as petty theft, vandalism or breach of the peace.

If X’s defence, based on MAOA-L+SM, is that it had an effect on impulse control, then it is unlikely that the evidence will prove useful in crimes of premeditation – e.g., kidnap, fraud and terrorism.

Second category: facts about X’s own circumstance

1. The first fact about X’s own circumstances is proving the presence of MAOA-L in X’s genetic makeup. That can be confirmed by genetic testing. X will also need to prove that he experienced the sort of childhood maltreatment discussed in the scientific literature. This may be harder to prove objectively, but there may be forms of evidence that X can introduce to substantiate this claim.

2. After proving his own GxE status, and establishing that this either qualifies as, or contributes to, a DofM, the next barrier for X is to prove the effect of that DofM on his mental state. In the context of C-insanity, X would need to prove the effect of GxE evidence in preventing him from “… understanding the nature and quality of the act or omission; … or of knowing that the act or omission was morally wrong, having regard to

56 Steiner Hans and others “Psychopathology, Trauma and Delinquency: Subtypes of Aggression and their Relevance for Understanding Young Offenders” (2011) 5(1) Child Adolesc Psychiatry Ment Health 21 at 23.
the commonly accepted standards of right and wrong.”57 In the context of V-insanity, X needs to prove that his GxE deprived him of the ability to control his actions which are the subject of the criminal charge. It should be remembered that this relates to X’s mental state at the time of the offence; it is possible that X might be able to understand/control his actions some of the time, while at other times he could not. It is also possible that X’s ability to understand/control was diminished but not completely absent.

It is a very difficult – or possibly an impossible – task to prove with certainty what was happening in X’s mind at the time of the alleged crime. However, the question and the task for the jury is different. As discussed before, the standard for proving D’s state of mind is the ‘common sense inquiry’ and ‘on the balance of probabilities’. On the basis of that standard, the question for the jury will be: what is the most likely explanation for X’s behaviour at the time of the crime?

3. X would need to demonstrate that his behavioural impairments were consistent with what has been found in research into MAOA and behaviour. The Caspi Study, for example, postulates that “… the MAOA gene moderates the impact of early childhood maltreatment on the development of antisocial behaviour in males.”58 Further, the tendency of GxE individuals in the Study towards ‘antisocial behaviour’ was not a sudden tendency; rather those individuals had a persistent tendency towards ‘antisocial behaviour’.59 If X were to rely on the evidence of the Caspi Study, he must demonstrate that his reduced inability to understand/control his/her conduct was consistent with what has been measured in the Caspi Study. In this regard, the consistency means that X had persistently tended to lose his ability to understand/control his conduct. Showing the persistent tendency to lose control/knowledge is not necessarily a requirement for establishing insanity under s 23 of the CA 1961. However, in my view, it would be very difficult for X to convince the trier of fact that he was subject to a sudden and one-off loss of knowledge/control.

The second part: the link between GxE evidence and the DR defence

I now return to the case of X. In this part of the Chapter, I consider his claim of DR on the basis of the GxE evidence. X was charged with murder and claimed that as a result of GxE, his degree of self-control was significantly impaired. He did not claim that he totally lost his self-control, rather he claimed that his self-control was significantly impaired. I will examine the relevance of GxE evidence to the claim of DR, as it is adopted under English law.

57 Crimes Act 1961, s 23(2).
58 Caspi and others, above n 7, at 853.
As mentioned in Chapter Five, the test for DR in English law under s 2(1)(2) of the Homicide Act 1957 (HA 1957) as substantially revised by s 52 of the Coroners and Justice Act 2009 (CJA 2009), provides:  

(1) A person (“D”) who kills or is a party to the killing of another is not to be convicted of murder if D was suffering from an abnormality of mental functioning which-
(a) arose from a recognised medical condition,
(b) substantially impaired D’s ability to do one or more of the things mentioned in subsection (1A), and
(c) provides an explanation for D’s acts and omissions in doing or being a party to the killing.

(1A) Those things are-
(a) to understand the nature of D’s conduct;
(b) to form a rational judgment;
(c) to exercise self-control.

(1B) For the purposes of subsection (1)(c), an abnormality of mental functioning provides an explanation for D’s conduct if it causes, or is a significant contributory factor in causing, D to carry out that conduct.

(2) On a charge of murder, it shall be for the defence to prove that the person charged is by virtue of this section not liable to be convicted of murder.

According to s 2(2), the burden of proving DR is on the accused. The standard for proving DR is ‘on the balance of probabilities’. A definition of ‘on the balance of probabilities’ in English law is found in Miller v Minister of Pensions, where Denning J stated: “If the evidence is such that the tribunal can say: ‘We think it more probable than not’ the burden is discharged, but, if the probabilities are equal, it is not.”  

As mentioned before, the standard of ‘on the balance of probabilities’ is more lenient than the standard of beyond reasonable doubt. The latter standard is for the prosecution to meet when proving the elements of a crime. Both standards of ‘on the balance of probabilities’ and ‘beyond reasonable doubt’ are lower than ‘no doubt’. Therefore, to satisfy the burden of proof, D must convince the trier of fact that it is more probable than not that his/her self-control/understanding was significantly impaired at the time of the killing.

To establish DR, D needs to prove four things. Firstly, D needs to prove that he/she was suffering from an abnormality of mental functioning (AofMF). Secondly, that AofMF must have resulted from a recognised medical condition. Thirdly, the AofMF must have occur...
substantially impaired (1) his/her ability to understand the nature of the action, or (2) to form a rational judgment or (3) to exercise self-control. The final requirement is that there must be some connection between the AofMF that stemmed from a recognised medical condition and substantially impaired D’s ability in a specified way, and the killing.

Now return to the case of X. As was the case in an earlier part of the Chapter, I need to distinguish between two sorts of facts when assessing a DR defence based on GxE evidence. Firstly, facts attributable to GxE evidence and secondly, facts attributable to X’s own situation. Once again, I need to clarify from the outset that the order in which I will explain the elements of DR is not necessarily the order in which X would have to establish them at trial.

First category: facts about the state of scientific knowledge around GxE

1. X needs to prove that his MAOA-L+SM is an AofMF. There is no clear definition of the phrase AofMF. However, as Ronnie MacKay has noted, the scope of the term will be determined once its relationship to other concepts is clarified. Those concepts being a recognised medical condition, the three specified things in subsection (1A) and the causal provision in subsection (1B). In this section, I will review the meaning of a recognised medical condition. This requirement was added to DR test by the CJA 2009. The Royal College of Psychiatrists, who supported the adoption of a recognised medical condition to the DR test, set out its meaning as follows:

The presence of [a recognised medical condition] is, we believe, consistent with the general nature and purpose of ‘diminished responsibility’ as a defence and would ensure that any such defence was grounded in valid medical diagnosis. It would also encourage reference within expert evidence to diagnosis in terms of one or two of the accepted internationally classificatory systems of mental conditions (… ICD-10 and … DSM) without explicitly writing those systems into the legislation …. Such an approach would also avoid individual doctors offering idiosyncratic ‘diagnosis’ as the basis for a plea of diminished responsibility. Overall, the effect would be to encourage better standards of expert evidence and improved understanding between the courts and experts.

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63 At 293.

64 At 293.


66 The view of the Royal College of Psychiatrists was cited in Law Commission Murder, Manslaughter and Infanticide (UKLC R 304, The Stationery Office 2006) at 5.114. The view of the Royal College of Psychiatrists is not binding on courts; its views are recommendations only.
Germane to the present discussion is that recognised medical condition will encompass all relevant mental disorders which fall within ICD-10 and DSM. GxE is not explicitly classified as a recognised medical condition under ICD-10 and DSM. The question is: how would courts deal with a new emerging medical condition which had not yet appeared in the established classificatory systems? This query was put to the English Ministry of Justice which expressed its consultative view as follows:

68 We are … confident that the courts will interpret the definition as including all conditions listed in the various classificatory lists. Where a new condition is emerging, but does not yet appear in the lists, the court will be able to hear evidence and reach a common sense conclusion based on the evidence of those who advocate the inclusion of a particular condition.

Similarly, in response to the above-mentioned query, Richard Card notes that “Conditions not listed in one of the systems are not excluded, however, if the evidence indicates that a condition is a professionally recognised one, as in the case of a condition of which understanding and diagnosis are emerging.”

The viewpoints of both the English Ministry of Justice and Card are only informative and not binding on courts. However, if the courts follow their perspectives, they might hear X’s claim even though GxE evidence is not identified as a recognised medical condition. X’s prospects would be helped if medical experts could attempt to show that the effect of GxE can be matched to a disorder recognised within DSM-V or ICD-10. Such a manner of demonstrating the effect of GxE was described in detail in terms of the link between GxE and an insanity defence (Chapter Four). To summarise the previous discussion, because X’s claim is that GxE has some effect on his lack of self-control, medical experts can suggest that that GxE condition is similar to some classificatory disorders like disruptive, impulsive-control and conduct disorder, recognised in DSM-V. Alternatively, in ICD-10, medical witnesses can find a disorder that matches the evidence like emotionally unstable personality disorder.

2. If X can establish that his GxE qualifies as an AofMF or if X can establish that his GxE causes another condition which qualifies as an AofMF, then the next barrier for him is to prove the AofMF’s effect on his mental state. The AofMF’s effect will be discussed later. Here I explain the requirement for establishing the link between AofMF and its effect on mental state. Section 52 of the CJA 2009 explains this requirement and states:

67 Ministry of Justice, above n 65, , Para 49.


70 American Psychiatric Association, above n 45, at 466-469, at 461-480.

71 World Health Organization, above n 47, at 338-339.
“an abnormality of mental functioning provides an explanation for D’s conduct if it causes, or is a significant contributory factor in causing, D to carry out that conduct.” Therefore, X needs to prove that his GxE was the causal factor, or a contributory factor, in him carrying out the crime (this requirement will be called the ‘causation requirement’ from here on). Before explaining how X can attempt to satisfy that requirement, I need to explain the law’s standard for assessing the test of DR in general, and specifically, the ‘causation requirement’. In doing so, I will review the Byrne case which was discussed in Chapter Five. In 1958, Patrick Joseph Byrne killed a young girl and mutilated her body. He was charged with murder. He admitted the fact of killing but relied on the defence of DR as defined by s 2 of the HA 1957. The reason for the claim of DR was his abnormal sexual impulse or urge which was so strong that he found it extremely difficult to resist it. The Court of Appeal summarised the medical evidence supporting his claim as follows:

The trial court had rejected the defence of DR, convicted Byrne of murder and sentenced him to life imprisonment. Byrne appealed. The Court of Appeal accepted the defence of DR and convicted him of manslaughter rather than murder. The Court’s acceptance of the DR defence is not important for the purposes of this Chapter. What is important is the way in which the defence is assessed, which is discussed below.

The Court of Appeal determined that only the jury have the right to decide on the defence of DR and stated that:75

Whether the accused was at the time of the killing suffering from any ‘abnormality of mind’ in the broad sense which we have indicated above is a question for the jury.

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72 Homicide Act 1957 (UK), s 2 (1B) as amended by The Coroners and Justice Act 2009 (Commencement No. 4, Transitional and Saving Provisions) Order 2010, s 52.
73 R v Byrne [1960] 2 QB 396.
74 At 400-401. The Court of Appeal’s summary of the medical evidence.
75 At 397. The HA 1957 used the term ‘abnormality of mind’.

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On this question medical evidence is no doubt of importance, but the jury are entitled to take into consideration all the evidence, including the acts or statements of the accused and his demeanour. They are not bound to accept the medical evidence if there is other material before them which, in their good judgment, conflicts with it and outweighs it.

The aetiology of the abnormality of mind (namely, whether it arose from a condition of arrested or retarded development of mind or any inherent causes, or was induced by disease or injury) does, however, seem to be a matter to be determined on expert evidence.

Assuming that the jury are satisfied on the balance of probabilities that the accused was suffering from ‘abnormality of mind’ from one of the causes specified in the parenthesis of the subsection, the crucial question nevertheless arises: was the abnormality such as substantially impaired his mental responsibility for his acts in doing or being a party to the killing? This is a question of degree and essentially one for the jury. Medical evidence is, of course, relevant, but the question involves a decision not merely as to whether there was some impairment of the mental responsibility of the accused for his acts but whether such impairment can properly be called ‘substantial,’ a matter upon which juries may quite legitimately differ from doctors.

... It is for the jury to decide on the whole of the evidence whether such inability or difficulty has, not as a matter of scientific certainty but on the balance of probabilities, been established, and in the case of difficulty whether the difficulty is so great as to amount in their view to a substantial impairment of the accused’s mental responsibility for his acts.

What can be learned from the decision of the Court of Appeal in Byrne? Even though the medical evidence in support of the DR defence is important, the jury are not bound to accept it. It is ultimately within the jury’s province to decide on the matter of DR and D’s state of mind. The jury members are entitled to take into account not only the medical evidence, which is normally after-the-fact evidence, but other types of evidence including circumstantial evidence, evidence of D’s demeanour and D’s acts or statements. The standard for drawing inferences as to D’s state of mind is ‘on the balance of probabilities’. This way of drawing such inferences is called the ‘common sense inquiry’ (explained in detail in Chapter Four and in the first part of this Chapter).

It needs to be mentioned that the Court of Appeal’s decision in the Byrne case was in 1958, before the amendment of the DR test and the addition of the ‘causation requirement’ by the CJA 2009. However, the Court of Appeal’s approach continued to apply after the statutory amendment. Accordingly, the ‘causation requirement’ must be

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76 Reg v Burton (1863) 3 F & F 772, 780; The Attorney-General for the State of South Australia v Brown [1960] UKPC 10; R v Barton (1848) 3 Cox CC 275.
interpreted in line with the ‘common sense inquiry’, as stated by the Court of Appeal.\(^{77}\) Finally, the standard for establishing the ‘causation requirement’ is the ‘common sense inquiry’ and X needs to satisfy the requirement ‘on the balance of probabilities’. The standard for proving DR is similar to the standard for proving C-insanity, which I have discussed before. I can therefore extend the previous argument to the discussion of DR.

In spite of the fact that the causal connection between GxE and antisocial behaviour has not yet been established,\(^{78}\) X can persuade the trier of fact by introducing scientific evidence which provides plausible theories about the effect of GxE on behaviour. Specifically, a person’s tendency to have difficulties in exercising self-control. D is not required to prove the effect of GxE on his behaviour to a level of certainty. Rather, all he needs to do is to satisfy the trier of fact that it is \textit{more likely than not} that his GxE was the cause, or a significant contributory factor (the ‘causation requirement’) in his failure to exercise self-control.

3. The next requirement is to show how GxE affects behavior. This issue was explained in detail when I discussed how to establish an insanity defence based on GxE. It is therefore enough to summarise that argument here. The meaning of ‘antisocial behaviour’, as it was used by the Caspi Study, is not explicitly clear and X needs to link GxE evidence to certain kinds of criminal or antisocial behaviour. If X is claiming that GxE is related to a lack of self-control, then he can point to scientific evidence which found a pathway between the lack of self-control and GxE. If the best evidence about MAOA-L+SM is that it has an effect on impulse control, this is likely to support a defence for impulsive offences, such as murder. However, it is very unlikely that MAOA-L+SM can support a defence to a crime that requires pre-planning, such as kidnapping.

\textit{Second category: facts about X’s own circumstance}

1. The first fact relevant to X’s own situation is the presence of MAOA-L+SM. I have reviewed this requirement already\(^{79}\) and it is not necessary to do so here.

2. After establishing the presence of GxE, and proving that GxE qualifies as an AofMF, the next hurdle for X is to establish the impact of that AofMF on his state of mind. Under English law, to prove the effect of an AofMF, X needs to show that his GxE substantially impaired his ability to exercise self-control. “Substantially impaired”, as adopted by the 2009 amendment, has the same meaning as in the original version of s 2(1).\(^{80}\) Substantial

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\(^{77}\) See Card, above n 69, at 255.

\(^{78}\) Farahany and Coleman, above n 9, at 116-117.

\(^{79}\) See page 198.

\(^{80}\) In the \textit{Brown} case. The Court of Appeal confirmed that ‘substantially impaired’ has the same definition as in the original version of s 2(1). \textit{R v True} [1922] 16 Cr App Rep 164. Cited in Card, above n 69, at 252.
impairment implies that the impairment need not be ‘total’ but it must be more than ‘trivial’ or ‘minimal’. Substantial implies something “less than total – more than trivial.”

It should be noted that this relates to X’s mental state at the time of the alleged crime and it is possible that X might be able to control his impulses some of the time, while at other times his ability to do so may be significantly impaired. Determining X’s state of mind at the time of the crime in a scientific way is not required. The standard for proving DR is the ‘common sense inquiry’ and ‘on the balance of probabilities’. On this basis, X can persuade the trier of fact by showing that it was more probable than not that his self-control was significantly impaired as a result of GxE.

3. The final fact about X’s own situation is to show the consistency between findings of the Caspi Study and his behaviour. This issue was discussed in detail in the context of the insanity defence. To briefly summarise, the Caspi Study indicated that GxE individuals persistently tended to commit ‘antisocial behaviour’; they did not have a sudden tendency to ‘antisocial behaviour’. Under the DR test, there is no requirement for X to prove a persistent tendency to commit anti-social behaviour because of a substantial impairment in his ability to exercise self-control. However, as I have said before, I think that if X had a sudden and one-off predisposition to commit antisocial behaviour because of a substantial impairment in his ability to exercise self-control, it would be difficult for him to establish a DR defence.

**Conclusion**

In this Chapter, I tried to show the legal requirements for basing a C-insanity or DR defence on GxE evidence. I highlighted that the requirements for establishing both

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See also the view of MacKay who believes that the interpretation of substantially impaired as “less than total – more than trivial” given in the Lloyd case, will endure after the Crimes and Justice Act 2009. R v Lloyd [1967] 1 QB 175, 50 Cr App Rep 61, CCA. See, Mackay, above n 62, at 295.

81 R v Lloyd, above n 80. See also R v Egan [1992] 4 All ER 470; Lord Judge CJ in R v R stated that:

‘‘Substantially’ is an ordinary English word which appears in the context of a statutory provision creating a special defence which, to reflect reduced mental responsibility for what otherwise would be murderous actions, reduces the crime from murder to manslaughter. Its presence in the statute is deliberate. It is designed to ensure that the murderous activity of a defendant should not result in a conviction for manslaughter rather than murder on account of any impairment of mental responsibility, however trivial and insignificant; but equally that the defence should be available without the defendant having to show that his mental responsibility for his actions was so grossly impaired as to be extinguished. That is the purpose of this defence and this language. The Concise Oxford Dictionary offers ‘of real importance’ and ‘having substance’ as suggested meanings for ‘substantially’. But, in reality, even the Concise Oxford Dictionary tells us very little more about the ordinary meaning and understanding to be attached to the word ‘substantially’. The jury must decide for itself whether the defendant’s mental responsibility for his actions was impaired and, assuming that they find that it was, whether the impairment was substantial.” R v R [2010] EWCA Crim 194.
defences are based on the ‘common sense inquiry’. That means that the trier of fact would attempt to determine D’s state of mind based on several types of evidence including medical examination, circumstantial evidence and evidence of D’s demeanour (this standard means there is no need to prove D’s state of mind to a level of scientific certainty).

As for the legal requirements of C-insanity, a criminal accused like X, who relies on GxE, must establish that he had GxE, that the GxE condition qualifies as a DofM or that it was the cause of a condition which qualifies as a DofM. Then, X needs to show the GxE’s effect on his behaviour (i.e., the loss of knowledge, if C-insanity is concerned, and the loss of control if V-insanity is concerned). Finally, X needs to show that there was causation between his GxE and his loss of knowledge/control. The standard for proving all these elements is ‘on the balance of probabilities’ which means X needs to show that it was more likely than not that his MAOA-L+SM was the cause of his loss of knowledge/control.

As for the legal requirements for establishing DR, a criminal accused, such as X, who relies on GxE, must show that his GxE qualifies as a recognised medical condition or was the cause of a condition that qualifies as a recognised medical condition. Moreover, X must show that his GxE was the cause of, or a significant contributory factor in his substantial impairment to exercise self-control. The standard for proving DR is on the balance of probabilities which means that X needs to prove that it was more probable than not that his self-control was significantly impaired because of GxE.
Chapter Seven: conclusion

This thesis relates to legal ideas about culpability and, specifically, the issue of loss of self-control. I chose this focus because recent advances in science demonstrate that some people have difficulties in exercising self-control. One example of such a development was the 2002 study by a team of New Zealand-based researchers led by Avshalom Caspi (the Caspi Study).\(^1\) The study posited that individuals who had the low variation gene for MAOA (MAOA-L), combined with childhood maltreatment, had a greater tendency to antisocial behaviour.\(^2\) It was the first study on the effect of genetic and environmental factors (GxE) on ‘antisocial behaviour’. I did not suggest that the Caspi Study evidence in relation to GxE is scientifically perfect. The area of human behavioural genetics is still developing and it is possible that in the future science could reveal that the Caspi Study and its results are invalid. So far, however, the Caspi Study results have been replicated by later studies.\(^3\)

As I mentioned in Chapter Two, several researchers emphasised that because of the Caspi Study’s research method, it was impossible to establish the precise causal pathway between GxE and ‘antisocial behaviour’. However, some later researchers have proposed plausible theories to explain the effect of GxE on behaviour. Some of those theories have suggested that GxE can influence the levels of particular neurotransmitters, while others have pointed to GxE’s effect on the physical structure of particular areas of the brain. Whatever the precise causal mechanism, though, a credible body of evidence is emerging to suggest that GxE’s effect can reduce a person’s ability to exercise self-control. This can ultimately lead to ‘antisocial behaviour’ and perhaps also to crime.

In the past, some defendants (Ds) in criminal trials have sought to use GxE evidence, or MAOA alone, as a defence or in mitigation. Initial attempts to rely on GxE evidence or MAOA alone were unsuccessful. In later attempts, however, the courts accepted GxE or MAOA alone and the evidence played a part in court’s decision. In the majority of cases where such evidence was put forward, Ds claimed that the lack of ability to control their impulses was because of the possession of GxE or MAOA alone.

I considered the use of GxE evidence as one example of recent scientific advances which pose some challenges to the notion of criminal responsibility. The most extreme challenge posed by GxE is an ‘external challenge’ to the notion of criminal responsibility.

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1 A Caspi and others "Role of Genotype in the Cycle of Violence in Maltreated Children" (2002) 297(5582) Science, at 851.
2 At 851.
3 For reviewing the result of the latest meta-analysis, which examined studies attempting to replicate GxE, see Amy L Byrd and Stephen B Manuck "MAOA, Childhood Maltreatment, and Antisocial Behavior: Meta-analysis of a Gene-Environment Interaction" (2014) 75(1) Biol Psychiatry 9 at 9-11.
As I explained in Chapter Three, ‘external challenges’ are challenges to the basic issues of responsibility and blame that underpin much of criminal responsibility. At the core of ‘external challenges’ is the free will versus determinism debate, an ancient debate which has been given extra impetus by recent advances in science. The key question in Chapter Three was this: in response to the question of free will and determinism, what approach does the law take? The short answer is that the law has adopted a neutral position to the ‘external challenge’ of free will and determinism. I put forward various examples to show that the law has remained neutral. Firstly, I observed that the law has adopted the doctrine of Legal Compatibilism (LC) which holds that, even if determinism is true and even if science might be able to prove that human conduct is pre-determined, legal responsibility in the law can survive anyway. Several legal scholars subscribe to the doctrine of LC, which secures the structure of the law against ‘external challenges’. Following the approach of most legal theorists, I accepted LC as the fundamental doctrine which rejects high level questions of ‘external challenges’.

Secondly, the law does concern itself with questions of voluntariness. In fact, after analysing legislation and legal cases in the jurisdictions relevant to this thesis – New Zealand and English law – I showed that the standard for considering an individual’s responsibility is not free will. Nor does the legal test for proving an individual’s non-responsibility depend on determinism. Instead of focusing on free will and determinism, the law examines the issue of voluntariness and measures various degrees of voluntariness to assess criminal responsibility. As Stephen Morse explains:

… even if determinism is true, some defendants are delusional and most are not. Some offenders act with a gun at their heads but most do not. These are differences that make a moral difference according to theories of fairness we endorse.

Thirdly, the law rejects high level questions of free will and determinism and concentrates on voluntariness by adopting the ‘as if’ or the ‘folk psychology’ view.

At the end of Chapter Three, I suggested that ‘external challenges’ would require a huge amount of supporting evidence if they were to ever succeed. Because science cannot provide that yet, it seems unrealistic to focus on ‘external challenges’. Of more real world relevance are ‘internal challenges’. These accept the basic notions of responsibility that underpin the criminal law, but claim that some specific rules and practices of that law need to be changed in light of new scientific discoveries, including those in human behavioural genetics.

The main important ‘internal challenge’ that I considered was the claim of loss of self-control. The claim can take the form of two possible defences: on the one hand, total inability to exercise self-control (subject to the partial defence of volitional insanity (V-
insanity)); on the other hand, significant impairment in the ability to exercise self-control (subject to the defence of diminished responsibility (DR)). In Chapter Four, I summarised the argument in terms of the former type of loss of self-control. 

V-insanity is a full defence in those common law jurisdictions which recognise it. Based on that defence, an individual who cannot control his/her impulses will be considered a non-responsible agent.

Neither New Zealand nor English law recognises V-insanity. In Chapter Four, I analysed the reasons for this although here, I summarise the three main reasons only. The first reason is the fear of misusing V-insanity. Opponents of V-insanity have argued that because it is impossible to draw a line between truly irresistible impulses and merely unresisted impulses, there is a risk that recognition of v-insanity would provide a defence to those who chose to give in to their criminal impulses. This risk is such that V-insanity should not be accepted.

In response, I acknowledged the epistemic challenge posed by the ‘line-drawing problem’. A ‘scientific inquiry’ into the actual state of D’s mind is likely impossible. Even if it were possible to show, with something approaching certainty, that a particular D sometimes genuinely loses control, how could D ever prove that he/she genuinely lost control on a particular occasion sometime in the past? For many critics of V-insanity, this epistemic ‘line-drawing problem’ is enough to rule out the possibility of introducing such a defence.

However, this epistemic problem is not unique to V-insanity; cognitive insanity (C-insanity), which is recognised in all of the jurisdictions I considered, regularly faces the same problem. Even if a particular D is diagnosed with a ‘disease of the mind’, there is no way to be absolutely certain whether that D, on a particular occasion, understood the nature of his/her actions.

The legal standard for C-insanity in the jurisdictions I reviewed falls far short of the very high standard of the ‘scientific inquiry’. The standard required to prove C-insanity is ‘on the balance of probabilities’, which means D needs only to convince the court that it is more likely than not that he/she was insane at the time of the crime. The courts have made it clear that this should be determined by a ‘common sense inquiry’. Accordingly, members of the jury would draw inferences as to D’s state of the mind from various types of evidence: D’s behaviour at the time of the crime, medical evidence and circumstantial evidence. In fact, members of the jury have been explicitly told to avoid attempting a ‘scientific inquiry’ to determine D’s state of mind.

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5 *R v Cottle* [1958] NZLR 999 (CA) at 1022 (Gresson P).
6 At 1014 (Gresson P).
I have suggested that there is an inconsistency between the very high standard demanded for V-insanity, and the much lower standard routinely accepted for C-insanity. To solve the ‘line-drawing problem’ in C-insanity, the law has adopted a ‘common sense inquiry’ and a standard of ‘balance of probabilities’. However, in the context of V-insanity, it seems that what is being required is closer to a ‘scientific inquiry’, and a much higher standard of proof.

The second reason for rejecting V-insanity is that it can create confusion in legal proceedings. The argument is that experts do not have the ability to assess V-insanity, but they do have the ability to diagnose C-insanity. As a result, V-insanity would create more confusion for the courts than C-insanity. I reviewed the perspectives of some contemporary medical professionals to assess whether there is any valid scientific evidence to support the conclusion that C-insanity has a stronger scientific basis than V-insanity. Their view is that it is currently doubtful whether a diagnosis of C-insanity is scientifically more robust than one of V-insanity. They also doubt that the risk of creating confusion in raising V-insanity is higher than in raising C-insanity.

Overall, then, I have suggested that there is an inconsistency in New Zealand’s law. The problem of determining D’s state of the mind – whether he/she could understand the nature or moral wrongness of his/her action – undeniably exists in relation to C-insanity. In spite of this, New Zealand law accepts this version of the defence, accepting a ‘common sense inquiry’ ‘on the balance of probabilities’. On the other hand, to solve the ‘line-drawing problem’ in V-insanity, opponents of that defence seem to be setting a higher threshold, demanding a greater standard of certainty about the actual state of D’s mind at the time of the crime. However, because a diagnosis of C-insanity is not scientifically more robust than one of V-insanity, and to remedy the above-mentioned inconsistency, I suggested that New Zealand should adopt the V-insanity defence.

The third reason for rejecting V-insanity was the possible threat that volitionally insane individuals might pose to the community. The opponents of V-insanity argue that if the defence was successfully raised by D, he/she might offend again because the defence was successful and he/she has been realised into the community. In response to this objection, I argued that the same problem exists in cases of cognitively insane individuals. The question is then this: how does the law deal with the threat of cognitively insane people? New Zealand has adopted a specific regime to deal with the possible threat of cognitively insane people. Under the *Criminal Procedure (Mentally Impaired Persons) Act 2003*, the law gives courts a wide range of dispositional options – which depend on the insane person’s circumstances and prognosis – to prevent the threat cognitively insane people may pose. I suggested that the danger posed by volitionally insane people could be dealt with in a similar way. Finally, I suggested that dangerousness is different from culpability and the law should clearly distinguish between the two; the law should only punish
individuals who are culpable. The danger posed by volitionally insane individuals can be restrained by the courts adopting custodial options.

After analysing the reasons against adopting V-insanity, I reviewed the experience of some Australian jurisdictions which have already adopted the defence. The reason for this was to examine whether some of the fears about V-insanity have turned out to be well founded. I analysed reasons against the recognition of V-insanity in those jurisdictions and found no satisfactory reason for excluding it as a defence. In the final part of Chapter Four, I reviewed a handful of reasons for creating the defence of V-insanity. Here I mention the main reason. According to most criminal theorists, the ‘capacity theory’ is one of the dominant theories in criminal law. This theory holds that to be criminally responsible, an agent must have had the capacity to act differently. The ‘capacity theory’ is attributed to the three elements of reasoning, understanding and control. Accordingly, individuals are responsible agents if they are capable of exercising control and of choosing whether to follow the law.

Under the ‘capacity theory’, if a person does not have the capacity to control or understand his/her action, the law cannot treat him/her as criminally responsible. However, New Zealand law considers individuals who knew what they were doing, but who could not control their impulses, as fully responsible agents. I suggested that this is not morally justifiable and New Zealand should recognise the defence of V-insanity.

In Chapter Five, I assessed the second form of loss of self-control. That is the claim of significant impairment in exercising self-control which forms the basis for the defence of DR. I outlined the elements of the defence as follows: D has an abnormality of mind, as a result of which his/her degree of self-control was significantly impaired. The difference between DR and V-insanity is that in the latter it is impossible for D to control his/her impulses but in the former, it is extremely difficult for D to exercise self-control.

I showed that, as a matter of theory and fundamental principle, blameworthiness and responsibility in criminal law is a matter of degree; various degrees of responsibility are graded along a continuum. Based on this, the law should determine blameworthiness in proportion to a person’s degree of control. For instance, the law should treat X, who is not able to control his/her impulses, as a non-responsible agent. On the other hand, the law should treat Y, who has full ability to control his/her impulses, as a completely responsible agent. The question then raised is this: how should the law treat the responsibility of an individual (Z) whose degree of self-control was significantly impaired as a result of an abnormality of mind? Should Z be treated in the same way as Y, a fully responsible agent? As a matter of theory, and based on the doctrine that

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responsibility is a question of degree, the law should treat Z’s criminal responsibility differently to that of X and Y.

Some common law jurisdictions, such as England, have adopted a special defence to recognise that the criminal responsibility of individuals like Z differs from that of X and Y. The recognised defence for them is the partial defence of DR. This does not result in a complete acquittal, but it mitigates the degree of culpability, creating a ‘grey zone’ between full responsibility at one end of the spectrum, and full non-responsibility at the other end. Under English law, DR is available for murder charges only. If it is pleaded successfully, it reduces the charge from murder to manslaughter. So, if Z can satisfy the elements of the DR defence, he/she will be convicted for manslaughter rather than murder and Z will be called a manslaughterer. On the other hand, a person like Y, who has full ability to control his/her impulses, will be called a murderer.

New Zealand law, however, has not yet recognised DR. Z will be considered fully criminally responsible in the same way as Y, who has full ability to control his/her impulses. In Chapter Five, I analysed the reasons for this, and argued that if there is no justifiable reason for its exclusion, New Zealand law should adopt DR.

I reviewed two important reasons for the exclusion of the defence. Some opponents of DR have argued that because there is no way to determine whether D could, or could not have, avoided committing a crime, the defence should not be recognised. This problem is similar to the epistemic challenge posed by the ‘line-drawing problem’ in V-insanity which was reviewed above. The response to the problem in V-insanity is extendable to DR because of the similarity between the problems. The response is that the law can determine D’s state of the mind, and determine whether D could or could not have avoided committing a crime, by adopting a ‘common sense inquiry’.

The other reason against adopting DR was that the condition which is the basis of the defence, i.e., significant impairment in controlling impulses, can be addressed at the sentencing stage. In other words, sentencing discretion makes DR unnecessary. In response to this, I restated the approach of New Zealand law to the examples of Z and Y. Under New Zealand law, Z whose degree of self-control was significantly impaired, will be treated as fully criminally responsible and will be labelled in the same way as Y, who has full ability to control his/her impulses. Z’s responsibility is different from Y’s and yet both will be called murderers (and Z’s significant impairment in controlling impulses might be addressed at the sentencing stage). I argued that if New Zealand law rejects the defence of DR and labels Z in the same way it labels Y, it ignores the importance of the principle of fair labelling.
The principle of fair labelling says that “… the label applied to an offence ought fairly to represent the offender’s wrongdoing.” On the basis of this principle, criminal charges should be categorised and labelled for symbolic reasons to show the extent of the wrongdoing and different degrees of blameworthiness. According to legal theorists, the principle of fair labelling is one of the fundamental legal theories. It is useful not only to provide fairness to criminals by labelling and punishing them according to their degree of blameworthiness, but also to communicate to the public the degree of censure that the criminal should attract.

To develop the argument in favour of introducing DR into New Zealand law, I examined whether, in general, New Zealand criminal law adheres to the fair labelling approach. I concentrated on the principle of fair labelling in the context of distinguishing between various degrees of homicide. I showed that in New Zealand the label attached to a killing changes depending on the degree of blameworthiness involved. An individual who kills another person intentionally is deemed more culpable when he/she does so with premeditation. The person who kills another person while acting negligently is stigmatised differently from the person who deliberately kills another individual. Accordingly, New Zealand law subscribes to the principle of fair labelling. Given this, I argued that rejecting DR, and applying the same label to Z and Y, shows an inconsistency in New Zealand law in its adherence to the principle of fair labelling. New Zealand observes the principle by distinguishing between types of homicide, but does not apply it by recognising the DR defence and thereby labelling Z and Y differently. New Zealand law should recognise the defence of DR as a partial defence. This would allow it to fully comply with fair labelling, and it would also remove an inconsistency in the law.

At the end of Chapter Five, I suggested that adopting the DR defence allows members of the jury to decide the issue of whether D’s ability to exercise self-control was significantly impaired. This approach does not exclude the possibility of the court also addressing the issue of DR at the sentencing stage. The jury may decide that the DR defence has been made out. The court may then decide that Z poses a threat to the public (as a result of significant impairment in exercising his/her self-control) and can impose a sentence to address this risk. In this way, the law would comply with the principle of fair labelling and would acknowledge that there are various degrees of blameworthiness. At the same time, the issue of Z’s possible dangerousness can be addressed at the sentencing stage.

In Chapter Six, I introduced two forms of loss of self-control, DR and V-insanity. I then assessed the relationship between GxE, as one form of genetic defence, and those two defences. The question in Chapter Six was this: what would have to be shown if GxE

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evidence were to provide the basis of the DR and insanity defences? In response to this question, I did not attempt to argue that GxE can certainly be accepted as the basis of those defences. Nor did I propose that GxE can certainly meet the standard of evidentiary admissibility. Rather, my aim was to highlight the legal requirements for establishing GxE as the basis of the DR and insanity defences. The legal requirements that I outlined are not just applicable to GxE evidence; they can also be applied to other forms of genetic defence. To establish the defences of insanity and DR, the law adopts a ‘common sense inquiry’. D, who relies on GxE to claim DR or insanity, does not need to prove the effect of GxE on his/her mental states in a scientific way. Instead, D needs to prove the effect of GxE ‘on the balance of probabilities’. According to that standard, D needs to prove that GxE was the more likely explanation for his/her complete loss of self-control (if V-insanity is concerned) or GxE was the more likely explanation for his/her significant impairment in exercising self-control (if DR is concerned).

In this thesis, I examined one piece of evidence of human behavioural genetics and its ‘internal and external challenges’ to criminal law. In summary, my position in relation to both ‘internal and external challenges’ is as follows: the law adopts the doctrine of LC. I am, therefore, in favour of the position that the main basis on which criminal responsibility is built are safe in the face of the ‘external challenges’ posed by free will and determinism. However, the views of some academics show that they are not convinced by LC. They suggest that ‘external challenges’ of science to the fundamental basis of criminal responsibility can overturn the legal system. In response to their viewpoints, I argued that currently the law considers that most people, most of the time, are able to act voluntarily and are able to understand and control their conduct. It is currently impossible for science to prove that people do not have the ability to control and understand the conduct. Accordingly, it seems more relevant to focus – at the moment – on the ‘internal challenges’ which require the criminal law to change its rules in line with scientific advances, including those in human behavioural genetics.

The area of human behavioural genetics is increasingly developing. The effect of the interaction between various genetic and environmental factors (or the effect of genetic factors alone) on ‘antisocial behaviour’ is under investigation in a variety of ways. For instance, in 2002 the Caspi Study found that the combination of MAOA-L and severe childhood maltreatment can develop the risk of ‘antisocial behaviour’. In 2010, a team of researchers discovered that when heavy drinking combines with the high variation of MAOA (MAOA-H), it can develop the risk for violent and ‘antisocial behaviour’.10 The

importance of such discoveries in human behavioural genetics raises some intriguing questions in criminal law.

For instance, imagine that a person who had MAOA-H activity heavily consumed alcohol. He then commits a homicide and is charged for the crime. In a criminal trial, the person relies on the 2010 study and claims that as a result of MAOA-H and drinking, he was not able to control his impulses at the time of the killing. Under English law, it is no excuse that any D was voluntarily intoxicated. It is no excuse that any D’s powers of self-control were affected so that he/she more readily gave way to temptation than if he/she were sober.\textsuperscript{11} The person claims that it is true that he consumed alcohol voluntarily. However, the effect of alcohol in predisposing him to commit the crime became significant because of the possession of MAOA-H. He had no choice in having that variation of MAOA. This raises the following question for English law: should the law revisit the standard of intoxication in line with the above-mentioned discovery of behavioural genetics? On the other hand, under New Zealand law, the above-mentioned case would not be an issue, as intoxication can be used to negate mens rea even where it is voluntary.\textsuperscript{12} Disentangling the chosen aspect of voluntary intoxication from the unchosen aspect of genetics could be a complex matter for criminal law. The more discoveries made in the field of human behavioural genetics, the harder it is for the criminal law not to adopt/respond to those discoveries.

\textsuperscript{11} Richard Card \textit{Card, Cross and Jones Criminal Law} (Oxford University Press, Oxford, 2012) at 647.

Bibliography

Books


Anderson Gail S Biological Influences on Criminal Behavior (CRC Press, Boca Raton, Fla, 2006).

Alexander Franz and Staub Hugo Criminal, the Judge, and the Public: a Psychological Analysis (Continuum, London, 1931).


Campbell I G *Mental Disorder and Criminal Law in Australia and New Zealand* (Butterworths, Wellington, New Zealand, 1988).

Cane Peter *Responsibility in Law and Morality* (Hart, Oxford, 2002).


Garrow J M E and Turkington Gary L *Garrow and Turkington's Criminal Law in New Zealand* (LexisNexis, Wellington, 2000).


Francis Boyd Sir Adams *Criminal Law and Practice in New Zealand* (Sweet & Maxwell, Wellington, New Zealand, 1971).


Gillett Grant *Subjectivity and Being Somebody: Human Identity and Neuroethics* (United Kingdom, Exeter, 2008).


Martha Tobi Roth *Law Collections from Mesopotamia and Asia Minor* (Scholars Press, Atlanta, 1997).


McDonald Elisabeth *Principles of Evidence in Criminal Cases* (Brookers, Wellington, 2012).


Reznek L *Evil or Ill? Justifying the Insanity Defence* (Routledge, New York, 1997).


Robertson Bruce (ed) *Adams on Criminal Law* (looseleaf ed, Brookers).


Smith EE and others *Introduction to Psychology* (Wadsworth/Thomson Learning, Belmont CA, 2009).


Tollefson EA and Starkman B *Mental Disorder in Criminal Proceeding* (Carswell, Toronto, 1993).


Weihoven H *Mental Disorder as a Criminal Defence, Dennis and Company* (Buffalo, New York, 1954).


**Encyclopaedias**


**Chapters in edited books**

Allderidge P "Why was McNaughton Sent to Bethlem" in Donald James West and Alexander Walk (eds) *Daniel McNaughton: his Trial and the Aftermath*, (Gaskell Books, London, 1977) 100.


Pockett Susan "If Free Will did not Exist, it would be Necessary to Invent it" in Gregg D Caruso (ed) *Exploring the Illusion of Free Will and Moral Responsibility* (Lexington Books, United Kingdom, 2013) 250.


Journal articles


Aslund C. and others "Maltreatment, MAOA, and Delinquency: Sex Differences in Gene-Environment Interaction in a Large Population-Based Cohort of Adolescents" (2011) 41(2) Behav Genet 262.


Austin Jacob "Should Irresistible Impulse be a Defence in Criminal Law" (1953-1958) 2 U B C Legal Notes 108.


Baum Matthew "The Monoamine Oxidase A (MAOA) Genetic Predisposition to Impulsive Violence: is it Relevant to Criminal Trials?" (2011) 6(2) Neuroethics 287.


Casey MD and others "YY Chromosomes and Antisocial Behaviour" (1966) 288(7468) Lancet 859.

Casey MD and others "Sex Chromosome Abnormalities in two State Hospitals for Patients Requiring Special Security" (1966) 5023(641) Lancet 641.

Caspi A and others "Description of Methods and Measurements Used in the Dunedin Multidisciplinary Health and Development Study (supplimentary materials)" (2002) 297 Science.

Caspi A and others "Role of Genotype in the Cycle of Violence in Maltreated Children" (2002) 297(5582) Science 851.


Cowlishaw Sean and others "Pathological and Problem Gambling in Substance Use Treatment: a Systematic Review and Meta-analysis" (2014) 46 J Subst Abuse Treat 100.

Damasio Hanna and others "The Return of Phineas Gage: Clues about the Brain from the Skull of a Famous Patient. (Brain Injury Patient) (Cover Story)" (1994) 264(5162) Science 1102.

Davis O C M "The Macnaughton Rules" (1940) 4(1) JCL 75.


Filippo Santoni De Sio "Irresistible Desires as an Excuse" (2011) 22(3) KLJ 289.


Forssman Hans and Hambert Gunnar "Incidence of KlineFelter's Syndrome Among Mental Patients" (1963) 281(7294) Lancet 1327.


Frankfurt Harry G "Freedom of the Will and the Concept of a Person" (1971) 68(1) J Phil 5.


Gerber RJ "Is the Insanity Test Insane" (1975) 20 Am J Comp L 111.


Gillett Grant R "Free Will and Events in the Brain" (2001) 22(3) Journal of Mind and Behavior 287.


Goldstein Abraham S "The Insanity Defense (Book review)" (1968) 77 Yale LJ 1029.


Hall Jerome "Mental Disease and Criminal Responsibility" (1945) 45(5) Colum L Rev 677.


Hall Jerome and Menninger K "Psychiatry and the Law — a Dual Review" (1952) 38 Iowa L Rev 687.


Harding-Barlow M "The Need for a New Conception of Insanity in its Relation to Crime" (1949) 66 SALJ 389.

Harris Nikos "The Utility of a Diminished Responsibility Defence: can an Accused be Half Responsible for a Murder?" (2002) 60(2) The Advocate (Vancouver) 211.


Horder Jeremy "Rethinking Non-fatal Offences against the Person" (1994) 14(3) OJLS 335.


Keddy Edwin R "Irresistible Impulse as a Defense in the Criminal Law" (1952) 100(7) U Pa L Rev 956.


Kerr Judith Ablett "A Licence to Kill or an Overdue Reform: the Case of Diminished Responsibility" (1997) 9(1) Otago LR 1.


Knoll IV James L and Resnick Phillip J "Insanity Defense Evaluations: toward a Model for Evidence-Based Practice" (2008) 8(1) Brief Treat Crisis Interv 92.


Libet Benjamin "Unconscious Cerebral Initiative and the Role of Conscious Will in Voluntary Action" (1985) 8(4) Behav Brain Sci 529.

Libet Benjamin and others "Time of Conscious Intention to Act in Relation to Onset of Cerebral Activity (Readiness-Potential). The Tnconscious Initiation of a Freely Voluntary Act" (1983) 106(3) Brain 623.


Maclean N and others "Sex Chromosome Abnormalities in New Born Babies" (1964) 283(7328) Lancet 286.
MacPherson AD "Insanity as a Defense in Criminal Law: the Medical View" (1961) 1 Alternative LJ 36.


Martin GA "Insanity as a Defence" (1965-1966) 8(240-250) Crim L Q 240.


Moore Michael S "Causation and the Excuses" (1985) 73(4) CLR 482.


Munafò Marcus R and Flint Jonathan "Replication and Heterogeneity in Gene x Environment Interaction Studies" (2009) 12(6) Int J Neuropsychopharmacol 727...


Penney Steven "Irresistible Impulse and the Mental Disorder Defence: the Criminal Code, the Charter, and the Neuroscience of Control" (2013) 30(2) Crim L Q 207.


Power Helen "Towards a Re-definition of the Mens Rea of Rape" (2003) 23(3) OJLS 379.


Raab Francis V "Moralist Looks at the Durham and M'Naghten Rules" (1961) 46 Minn L Rev 327..

Raine Adrian "From Genes to Brain to Antisocial Behavior" (2008) 17(5) Curr Dir Psychol Sci 322.


Roe David and others "Reduced Punishment in Israel in the Case of Murder: Bridging the Medico-Legal Gap" (2005) 28(3) Int'l J L & Psychiatry 222.


Ryan Stuart HR "Mental Abnormality and the Criminal Law" (1967) 17(1) UNBLJ 13.


Safwat S "Concept of Volition in English and Sudanese Law" (1984) 9(3) I L P 98.


Sims Frederick Wilner "The "Brain Storm," or the "Irresistible Impulse" Test, as Affecting Criminal Responsibility, and as a Substitute for the "Unwritten Law" Defense" (1907) 13(2) The Virginia Law Register 93.


Trustees AMA Board of "Insanity Defense in Criminal Trials and Limitation of Psychiatric Testimony" (1984) 251(22) JAMA 2967.


Wachter Daniel von "Libet's Experiment Provides no Evidence against Strong Libertarian Free Will because Readiness Potentials do not Cause our Actions" (2012) Not yet accepted.


Williams L M and others "A Polymorphism of the MAOA Gene is Associated with Emotional Brain Markers and Personality Traits on an Antisocial Index" (2009) 34(7) Neuropsychopharmacology 1797.


Witkin HA and others "Criminality in XYY and XXY Men: the Elevated Crime Rate of XYY Males is not Related to Aggression. It may be Related to Low Intelligence" (1976) 193(4253) Science 547.


**Reports**


**Internet materials**


The audio version of the testimony of psychiatrists and the defence attorney and lawyer in the case of Bradly Waldroup. [Internet]. Available from: http://www.npr.org/player/v2/mediaPlayer.html?action=1&t=1&islist=false&id=128043329&m=128232579 [Accessed 2 February 2015].


**Working papers and conference papers**


Hall D and others "Tracking the Evolutionary History of the Warrior Gene in the South Pacific" (paper presented to 11th International Human Genetics Meeting, Brisbane, Australia, 2006).
Dissertations and theses

News paper articles

"Once were Warriors: Gene Linked to Maori Violence" Sydney Morning Herald (Aug 9, 2006).


Pinker S "Genetics: are your Genes to Blame?" Time 20th January 2003).


Yong E "Dangerous DNA: the Truth about the 'Warrior Gene" New Scientist Magazine (7th April 2010).
Publication and conference presentations of the author of this thesis

Peer-reviewed journal article


Conference papers


Seminars

Amir Bastani “Legal and Ethical Issues of the Genetic-Based Defence; Concerning Criminal Responsibility”. Faculty of Law, the University of Otago. May 2014. Dunedin, New Zealand. (Speaker)

Amir Bastani “Technologies of Prediction: Genetics and Law” (paper presented to the Post Sentence Detention and Predicting Dangerousness workshop, Nov 2013, Dunedin, New Zealand). (Speaker)

Amir Bastani and Colin J Gavaghan “Legal and Ethical Issues of the Genetic-Based Defence; Concerning Criminal Responsibility”. Genetics Otago, the University of Otago. Dec 2012. Dunedin, New Zealand. (Speaker)