

# **GAMBLING, RATIONALITY AND PUBLIC POLICY**

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## **Abstract**

Gambling involves complex social and commercial institutions and practices, large numbers of participants, and vast amounts of money. In this thesis I introduce a philosophical perspective on gambling and its regulation. I develop an account of the rationality of gambling and derive implications for the formation of public policy. The thesis uses methods and theories developed in epistemology, the philosophy of probability, and other branches of philosophy to address conceptual and normative issues about gambling. Along with discussing the concept of gambling the first chapter argues that rational action is tied up with well-informed choice, and that a person can be well-informed relative to choices about gambling in two ways: knowing about the probability of winning both in the short and long-term, or by having relevant skills or information. The second and third chapters aim to show how gambling choices may be irrational because they involve epistemic error, through gamblers forming partial beliefs in ways that fail to be constrained by an adequate understanding of the probable outcomes of events or by basing expectations on ungrounded beliefs about luck. In the fourth chapter I ask whether what I have said so far about the rationality of gambling and its conceptual relationship to autonomous choice raises any ethical issues relevant to public policy. I expand on my claim that the connection between rationality, interests and autonomy forms part of the normative grounds of public policy. I defend the view that public policy concerns practices and institutions which have particular characteristics that suggest the moral principles to be applied in forming policy and argue that the principle of respect for personal autonomy has a central role in good public policy on gambling. The thesis concludes by summarising my arguments for public policy that does not facilitate gambling.

## **Declaration**

This thesis comprises only my original work towards the Master of Arts; due acknowledgement has been made in the text to all other material used; the thesis is fewer than the maximum word limit in length.

William Peter Barrett

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## Preface

My interest in the topic of this thesis originated with the Australian Catholic Social Justice Council asking Professor Tony Coady to write a paper on gambling for their Catholic Social Justice Papers Series. Because of other commitments Tony declined the request and suggested they commission me to undertake the task. At that time Tony was Director of the Centre for Philosophy and Public Issues (the precursor to the Centre for Applied Philosophy and Public Ethics) at the University of Melbourne and I was a Research Assistant. Not being a Catholic, and unfamiliar with the theological framework of the Council's understanding of social justice and its practices, I prepared a paper on the concept of gambling and derived some implications for public policy. As I should have expected, my paper didn't fit the conventions of the Series. The editors graciously said so, and suggested I submit it for publication in a philosophy journal instead. This I did, and it subsequently appeared in *Public Affairs Quarterly*.

By this stage my interest had turned to philosophical questions about the rationality of gambling. I continued to work on the topic and published articles in the *Journal of Applied Philosophy*, the *Australian Journal of Professional and Applied Ethics* and the CAPPE house journal, *Res Publica*. I also enrolled in a PhD, my thesis provisionally titled 'Gambling and Public Policy'. Unfortunately, health issues meant I had to retire from my position as a Research Fellow in CAPPE and discontinue my PhD. Many years later I decided to return to research on gambling and enrol in a Research MA. This thesis, which includes substantial new research, results from my long-term interest in philosophical issues raised by gambling.

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## **Acknowledgements**

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## Introduction

Gambling involves complex social and commercial institutions and practices, large numbers of participants, and vast amounts of money. Given its individual, social and economic impacts gambling clearly requires public policy determination, and extensive academic research and public discussion surrounds its regulation. Work in economics, psychology, sociology and other disciplines provides input to debate on the regulation of gambling. In contrast, though they have provided analysis and insight on a wide range of social practices and institutions, philosophers have said very little about gambling. In this thesis I introduce a philosophical perspective on gambling and its regulation.

My thesis falls under the general heading of applied philosophy. It uses methods and theories developed in epistemology, the philosophy of probability, and other branches of philosophy to address conceptual and normative issues about gambling. The aim of my research is to develop an account of the rationality of gambling, and to derive normative implications for the formation of public policy on gambling. A central component of my research concerns how beliefs about the probable outcomes of events and about luck can involve epistemic error, and how this might bear on the rationality of gambling choices.

The thesis consists of four chapters. In the first chapter I discuss the concept of gambling and lay the groundwork for the following two chapters by introducing some ideas about the relationship between gambling and rationality. Chapter

Two focuses on the subjective probabilities involved in betting choices. In this section of the thesis I attend in some detail to the formation of partial beliefs and how this process might relate to the rationality of gambling. The third chapter presents a theory of the relationship between luck and rationality and attempts to establish if beliefs about luck can have a justified place in decision making.

These three chapters are linked by their concern with the rationality of gambling. Along with discussing the concept of gambling the first chapter argues that rational action is tied up with well-informed choice, and that a person can be well-informed relative to choices about gambling in two ways: knowing about the probability of winning both in the short and long-term, or by having relevant skills or information. My second and third chapters aim to show how gambling choices may be irrational because they involve epistemic error, through gamblers forming partial beliefs in ways that fail to be constrained by an adequate understanding of the probable outcomes of events or by basing expectations on an ungrounded understanding of luck.

In the fourth chapter I ask whether what I have said so far about the rationality of gambling and its conceptual relationship to autonomous choice raises any ethical issues relevant to public policy. In particular I test the following argument in light of moral and political philosophy: autonomy is conceptually connected to rationality; gambling can and often does involve irrational choices; government should respect autonomy; government should not facilitate gambling.



As outlined above, I attempt to answer two key questions. The first concerns the relationship between rational choice, autonomy and gambling. In particular I ask whether and how the beliefs that inform the choices made by gamblers can, in some robust sense, go wrong. I search for answers to this question by considering the roles played by beliefs about luck and by the formation of subjective probabilities in the choices made by gamblers. The second key research question concerns the justification of public policy on gambling: should respect for autonomy influence government policy on gambling, and if so, in what ways? A subsidiary question underlies this one: what links autonomy and rational choice, and can autonomy be undermined by failures of rationality?

The methodology required to conduct this research is that commonly used in the analytic tradition in philosophy, especially as used when researching issues with a moral dimension. I identify and justify certain concepts as being salient to understanding the subject to be addressed in the research and attempt to develop a theory or theories of that subject by analysing the relationship of these concepts. This involves clarifying the various concepts, and making explicit the moral, political and epistemic values and principles involved. I refer to some information about gambling odds and probabilities, the behaviour of gamblers, and other relevant empirical data. As my aim in the research is to relate conceptual findings to normative conclusions the empirical input is slight.

Chapter One opens with a discussion of various definitional issues. I distinguish skilled or informed gambling from situations where these factors are absent and consider ways in which it might make sense to gamble. To refine my account of

gambling and to show it does not apply to either making financial investments or buying and selling insurance I argue that we make a mistake when we identify those practices as gambling. This chapter concludes that participating in many types of gambling with the aim of increasing one's net property fails to satisfy some minimal norms of rationality.

Chapter Two seeks to answer epistemic questions about the rationality of gambling. I recognise that in some circumstances it could well be rational to gamble. The discussion in this chapter of the rationality of gambling is restricted to the case of gambling with the intention of improving one's overall financial situation. To suggest answers to the question of under what conditions it would be rational to bet, I focus on the role of partial belief in rational decision-making, since understanding the epistemic aspects of betting choices is essential for an adequate account of the rationality of gambling. What are the appropriate epistemic constraints on our attitude towards propositions? This question can be expressed in terms of subjective probability: what are the requirements of a method for deciding what degree of belief we should give to propositions? I consider the answer Bayesian decision theory gives to the question and investigate the bearing Bayesianism may have on the rationality of gambling. The chapter concludes by stating a general principle about the rationality of gambling.

Chapter Three opens with a summary of recent philosophical theories of luck, then points out that very little attention has been given the relation of luck to rationality. How does luck bear on our choices? Can beliefs about luck lead to

unwise decisions? In this chapter I argue that no-one is reliably lucky, and that projecting luck can undermine rational decision-making. I give various examples to show the conceptual connection between luck and unpredictability. I present an *a posteriori* conception of projectibility, and argue that because lucky events are rationally unexpected, regularity statements about luck fail to satisfy the conditions of projectibility. I then defend my claim that luck is not projectable against various objections, including the claim that 'lucky' is a dispositional term, and thus projectable. I also aim to determine if David Lewis's Principal Principle, according to which rational degrees of belief are expectations of objective chances, at least when objective chances are known to exist, might ground an objection to my view. I conclude this chapter with a discussion of rational responses to luck, including by gamblers.

The fourth chapter opens by expanding on my claim that the connection between rationality, interests and autonomy forms part of the normative grounds of public policy. I defend the view that public policy concerns practices and institutions which have particular characteristics that suggest the moral principles to be applied in forming policy, and argue that the principle of respect for personal autonomy has a central role in good public policy on gambling. In order for this argument to succeed I defend the view that liberal democratic government has a responsibility to promote the conditions under which individual autonomy can be realised. I propose that respect for autonomy requires that public policy should not facilitate gambling but does not provide sufficient grounds for attempting to prohibit gambling. I then consider the justification of public policy on gambling in light of contemporary interpretations

of Mill's Harm Principle and its relationship to his Principle of Utility and to respect for autonomy. The thesis concludes by summarising my arguments for public policy that does not facilitate gambling.

This thesis aims to develop an account of the rationality of gambling and to suggest what implications that may have for public policy. Although formal models of betting choices are used in the philosophy of probability and in decision theory, very little philosophical work has addressed gambling directly. In order to realise its aims the thesis does not engage in depth with particular works but ranges widely across philosophical and other publications on the various topics addressed along the way.

# 1

## Gambling

The saying that Australians would gamble on two flies crawling up a wall captures the pervasiveness of gambling and the variety of its objects. Similar sayings, or the attitudes they reflect, are present in many different cultures. The objects of gambling can be divided into two categories: facts — what's the world's tallest building, did Napoleon win or lose at Waterloo; and the outcomes of future events — a horse race or a game of poker or pressing a button on an electronic gaming machine. I take facts to be states of affairs which obtain, and the sentence that such-and-such is a fact to be true if and only if that state of affairs obtains. The outcomes of future events are states of affairs which do not obtain but may come to do so. Even where the bet is about a fact rather than the outcome of a future event, the object involves uncertainty and the bet is decided by a future event — the determination of the fact. I will be mainly concerned with gambling on the outcomes of future events, because gambling which involves complex social and industrial institutions, large numbers of participants, and lots of money — circumstances clearly requiring public policy determination — is commonly event-based. From here on, unless otherwise specified, 'gambling' will refer to gambling on future events.

Gambling involves risk — deliberately placing money or other property at risk in the hope of gaining more. I should emphasise at this point that my discussion throughout takes gambling to be a rule-governed transaction, which excludes

the everyday use of 'gamble' to mean taking a risky action.<sup>1</sup> Gamblers cannot predict the crucial events that determine the outcome of gambling with justified certainty. A high degree of uncertainty is not necessary, however. Skilled poker players, at least in circumstances where they have good reason to believe that they are sufficiently skilled to win, relative to the other players, could well have justified expectations that the outcome of placing property at risk is likely to be to their financial advantage, and common usage suggests that playing poker for stakes is gambling. Gambling on facts differs from gambling on events in that it assumes a variation in judgement, but like the skilled poker player one of the parties may be justified in her expectations of winning, in this case because of the grounds of her beliefs about the fact.

A distinction that does not deny this usage can be made between two types of gambling, where one involves the exercise of skill or the use of information not known by all the participants, and in the other the likelihood of winning a bet is uninfluenced by such factors. Skilled poker playing is an example of the first type. Playing on a gaming machine at a club or casino is an example of the second: a bet is made against the house and, except for in extremely unusual circumstances, no application of skill or information influences the likelihood of winning.

In an attempt to ground his theologically based moral condemnation of gambling Henry Davis draws a related distinction, between gaming and wagering: "(I)n

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<sup>1</sup> For an informative discussion of definitional issues about gambling, see the Introduction to Miers, David (2004) *Regulating Commercial Gambling: Past, Present, and Future* (Oxford: Oxford University Press).

gaming, the event on which the stakes are laid is the result of skill, whereas in wagering, the event or fact on which a wager is laid is to be presumed to be beyond the power of the contracting parties to affect. In gaming, the elements of pastime and bet are essential; in wagering, a bet only is involved.”<sup>2</sup>

I have chosen a distinction with wider scope for a number of reasons. First, there are numerous events on which stakes are laid which involve the exercise of skill, even though their outcomes are highly unlikely to be influenced by the contracting parties, or solely determined by the exercise of skill. Trainers, jockeys, and (depending on one’s theory of mind) horses exercise skills which affect the result of races, but gamblers don’t. Davis’ distinction is obscure about events with these characteristics. Secondly, his definition of ‘gaming’ does not capture our understanding of betting on horse or other forms of racing; it would be false to deny that many gamblers exercise skills even though their actions do not affect the result of a race. It is also useful to distinguish between those who have information which increases their chance of winning from those who do not. Davis’ distinction ignores the close connection between the choices of skilful, informed gamblers and the skills exercised by trainers, jockeys (and horses). Gamblers might not be able to influence the outcome of a race, but for many their choices do take into account skills which could well have a bearing on the result. Thirdly, on Davis’ account the element of pastime only enters when gamblers exercise skills which determine the result, for example betting on complex card games such as contract bridge; why isn’t betting on the races a

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<sup>2</sup> Davis, H. (1938) *Moral and Pastoral Theology in Four Volumes*, Vol. 2, 3rd ed. (London: Sheed and Ward) p. 403.

pastime, even if jockeys' colours are the exclusive grounds of selection? Davis aims to disconnect gaming from gambling, on the ground that the game could be played without betting, and thereby to show that only wagering is gambling. Even if this is justified, and I'm not sure that it is, there exist activities where betting is essential but which do not belong in his category of wagering. I think that using gambling as a generic term, contextually defined, which would include amongst other activities gaming and wagering, and then making the distinction I gave above, is truer to common understanding and provides a better basis for identifying and considering ethical issues.

### **Gambling, Investment and Insurance**

What are the boundaries of gambling? Consider cheats and investors. Whether a poker player with a couple of spare aces up the sleeve or someone placing a bet on a race in which she has bribed all the jockeys is really gambling is a moot point. There are situations in which it is quite appropriate to talk of gamblers cheating or attempting to rig the outcome; equally it seems appropriate to deny, if the influence of their actions on the outcome is strong enough, that they are gambling. The solution to this quandary is given by social context; betting on a horse race is gambling even if the outcome is rigged, in the same way that the rigged horse race is still a race even if one of the horses is a 'ring-in', with the consequence that many of those with an interest in the event are deceived. (Substituting a weaker or stronger entrant for the named one in order to change the outcome of the event or to take advantage of the odds offered does not



guarantee a result but does alter the likelihood of benefit for the cheater and disbenefit to other interested parties.) Parallel to social context is the notion of a role; a gambler occupies a role within that context, and that role determines identification as a gambler, even though it seems unjustified to say that someone who is cheating is gambling. Even if I have attempted to fix or otherwise deceptively influence the outcome of a race, I occupy the role as long as I present myself as one who is placing property at risk, and transactions only take place because I have successfully done so. It would also be odd to call a very occasional poker player or someone who only bets on the Melbourne Cup a gambler, even though, unlike the cheat, they are clearly gambling.

These considerations are relevant to public policy on gambling because they tell us what activities and institutions should be covered, and some of the characteristics of those activities and institutions which require attention from policy makers. I will now distinguish gambling from investment and from insurance, in order both to refine my account of gambling and to show that the assessment I make of the rationality of certain ways of gambling does not apply to either investment or insurance.

Stock market investment appears to satisfy the partial description of gambling just given — deliberately placing property at risk in the hope of gaining more, with an element of unpredictability being present — so how are the two to be distinguished? Unlike gambling, an investor's money is not risked against someone else. The amount an investor pays when buying a package of shares should equal the shares' expected value. Financial gain or loss might follow the

transaction as a result of fluctuations in the market price of the shares, but such outcomes are not intrinsic to the purchase itself. Investment does not entail that anyone loses; betting does. In gambling some win, some lose, and the aggregate property of the parties to the gambling transaction remains the same. Although investors may 'lose', their 'winning' does not depend on others losing. Investing isn't a zero-sum game.<sup>3</sup>

We should also note that investment is typically based on rational belief even when the belief is mistaken about the financial benefits likely to result. In this respect it differs from a good deal of gambling. Gamblers often believe that long-term financial benefits will result from their gambling, but entirely lack adequate grounds for their belief. A minimal amount of knowledge about the structure of the gambling industry would undercut such a belief. Totalisator Agency Boards and equivalent institutions, for example, set the final odds after all bets are laid, and pay out at a pre-set rate that is less than the total amount bet on any given event, or combination of events. Electronic gaming machines are programmed to pay out less than the amount bet, over the long term. For example, the minimum return required in Australia is 85 per cent, although gaming machine operators sometimes pay out at a higher rate, depending on state laws and operators' choices. Assuming the minimum rate, this doesn't mean that if a gambler keeps on playing she will eventually get a return of at least 85% of the amount she has bet. She makes a mistake in believing that the minimum rate guarantees a return. A random number generator produces independent

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<sup>3</sup> As well as their conceptual and structural differences, investment and gambling can be distinguished on social grounds. Unlike most gambling stock market investment is a business activity, typically carried on by salary-earning professionals buying and selling on behalf of institutions and individuals.

outcomes of bets on a gaming machine; the outcome of each game has no connection with those that came before or follow. A win is no more likely on any individual spin than any other, and the probability of a win does not increase over time. Outcomes cannot be expected.<sup>4</sup> Given the unfairness of the game and the fact that no particular rate of return is guaranteed, if she continues to bet then over time she will almost inevitably lose more than she wins, and thereby make it increasingly difficult to even recover her losses.<sup>5</sup>

Totalisator and gaming machine gambling differ in that the setting of the odds doesn't affect the *likelihood* of winning on the tote but does on gaming machines. Totalisators do affect the *amount* won. This is a complex issue, but it is fair to say that over the long term a gambler is extremely unlikely to win on gaming machines and given that totalisators pay out less than the amount bet, the same applies for tote gamblers, at least for those who lack relevant skills or information. The overall loss ratio doesn't converge for tote gamblers in the same way that it does for gaming machine gamblers, however, because tote gamblers can make more or less informed choices, and a tote gambler's capacity for informed choice can change over time. In principle at least, tote gamblers can possess relevant skills or information. For gaming machine

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<sup>4</sup> The Gaming Technologies Association confirms these points in its (2016) *Australian Gaming Machines Players Information Booklet*. On the randomness of outcomes of games it says "what has happened in previous games has no influence whatever over any game, or series of games, that might be played in the future." p. 9. On percentage returns it says "To say that a machine is 'set' to return 90% to players simply means that the game mathematics are structured in a way that gives the EXPECTATION that over a long period of time the machine is likely to average a return to players of 90% of the total bets made on the machine." p. 13 (their emphasis).

<sup>5</sup> Roulette is another form of gambling that that is structured so that the outcomes favour the house. All roulette bets offer bad value, even though large wins do sometimes occur, because the odds offered are less than the probabilities of winning. For discussion of this see Rowbottom, Darrell P. (2015) *Probability* (Cambridge, UK: Polity Press) pp. 56-58; Manson, Neil A. (2003) 'Probability on the casino floor', in Gerda Reith (ed.) (2003) *Gambling: Who Wins? Who Loses?* (New York: Prometheus Books) 293-309, pp. 296-98.

gamblers the outcome of betting is a matter of sheer chance and subject to unfair odds. In practice, over an extended term gaming machine odds are unfair no matter what their users believe. For these reasons, perhaps policy-makers should distinguish gaming machine from totalisator gambling. My argument for the irrationality of some forms of gambling, and the significance of this for public policy, is sensitive to this difference.

Operators of totalisators and gaming machines do not gamble, because they do not place their property at risk, except in the very short term, and they are guaranteed of a positive return in the long term. Bookmaking is an interesting case in this context. In one sense — with reference to each individual bet — bookmakers are gambling; but in another sense — the overall perspective given that they set the odds — perhaps they are not. They do not have the same level of certainty of showing a profit as a totalisator, because bookmakers' odds are agreed at the time bets are placed. However, because they have the capacity to systematically adjust the odds bookmakers can minimise the possibility of losing. George Bernard Shaw's remark that "a bookmaker must never gamble, though he lives by gambling" nicely expresses the relationship between the parties to gambling transactions that I'm concerned with here.<sup>6</sup> Similarly, in appropriate circumstances skilled poker players, even though they gamble each time a bet is placed, mightn't gamble from an overall perspective.

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<sup>6</sup> Shaw, G. B. (1956) [1944] 'The vice of gambling and the virtue of insurance', in J. R. Newman (ed.) *The World of Mathematics*, Vol 3 (New York: Simon & Schuster) 1524-31, p. 1524.

Investment and gambling may both be founded on the hope of profit, but the latter expectation lacks the justification of the former. Even if the particular decision about how to invest is not supported by informed judgement, an investor can be assumed to believe that long-term benefit, in the form of dividends or increased value or bonus issues, will result from the investment. Typically for gamblers such a belief would not be well founded. But what about those gamblers who do have information or skills that sufficiently diminish the element of unpredictability to the extent that they are justified in their belief that they are likely to gain in the long term? Such people might well be justified in the belief that they will profit from betting. Unlike others, a gambler of this type may justifiably share an investor's assumption that material benefits will result.

The psychological disanalogy between gambling and investment does not appear to apply so strikingly in this sort of case. But there are other, structural, disanalogies to be drawn between gambling and investment. Firstly, gambling involves the creation of risk for the purpose of transferring property between the parties to the gambling transaction. If I buy shares in a business enterprise I create a risk, but the success of my investment is typically related to the success of the enterprise, which itself can depend on the support of investors. Investment typically supports business activities, with the aim that benefits for the investor will be achieved as a result of those activities. Secondly, the stock market industry does not depend for its profits on the fact that investors sometimes make losses. In contrast the profitability of the gambling industry relies to a considerable extent on losses incurred by gamblers.

We should also note that shareholders are actually owners of the companies they invest in, and companies are expected to operate in a way that serves the financial interest of their shareholders. This requirement is reflected in laws imposing fiduciary duties on company directors. The gambling industry might be said to serve the interests of gamblers by making gambling facilities available, but this claim involves a very different sense of serving interests. Operators of gambling facilities have no fiduciary duties to run their businesses in the interest of their patrons. Significant parts of the gambling industry in fact operate in ways that are contrary to the financial interests of most of their patrons. This institutional difference is not genuine opposition but does provide grounds for distinguishing gambling from this kind of investment even in cases where expectations of return have a fairly high degree of justification.

But what about more speculative investment, such as on currencies or commodity futures? Much short-term speculative investment aims at making a profit as a result of the pattern of buying and selling by other investors. Does this kind of speculation support business activities, with the aim that benefits for the investor will be achieved as a result of those activities? Not obviously. A partial distinction can be made between gambling and speculation of this sort, because often the aim of speculators is to hedge against potential loss, or just to protect capital in a fluctuating market. Speculation doesn't always aim at profit. Admittedly, bookmakers sometimes place hedging bets in order to minimise loss, or to protect other bets. To the extent that someone gambles with money

in mind, however, she gambles to win. Furthermore, each time someone places a bet she wants to win, even if financial gain is not her sole reason for gambling.<sup>7</sup>

Then what about speculators who aren't hedging or protecting capital? Even rash and uninformed speculation occurs in a market that doesn't have a built-in negative long-term payout rate, and in this differs from much gambling. Even though specific financial derivatives such as those that allow trading on movements in share prices are closer to gambling than other forms of investment are, we should remain sceptical of the claim that speculation is *just* gambling. Gambling is not intrinsic to financial speculation. Short-term market speculation does not entail risking an investor's money against someone else's, even though some parties to a transaction may end up regretting having made the arrangement given the outcome. In common usage I gamble in the sense of taking a risk when I leave my umbrella at home even though it might rain. It's only in this sense that a speculator gambles, as opposed to the sort of gambling that concerns public policy.

Insurance is another practice that seems to cross the line between gambling and other activities. Let's assume a policyholder in effect makes a bet with an insurer that a certain event will occur. By taking out insurance on my house, for example, I bet say \$1,000 against the insurer's \$1,000,000 that the house will be damaged. There are good grounds, however, to reject the idea that buying insurance is a form of gambling. Firstly, when I pay an insurance premium I buy a legal entitlement to financial compensation. I don't put my premium at risk by

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<sup>7</sup> No equivocation is present here if we think of gambling as an activity and placing a bet as an action.

doing so. This differs from gambling in that in a bet the other party only keeps my stake if the event I have bet will occur does not. In any case the creation of risk, while necessary, is not sufficient for gambling. I create the risk of being involved in a traffic accident by driving on a public road, but I am not gambling. I am not putting whatever I stake at risk for the sake of a benefit. It simply does not follow from the proposition that gambling involves the creation of risk that risk creation is gambling. Secondly, the chance of my house being damaged — the subject of the contract — exists independently of the insurance contract. Moreover, the associated risk to my interests is not created by the insurance contract. By contrast, gamblers put their property at risk by making a bet, that is by entering a gambling contract. The chance of the event on which I bet occurring only becomes a risk to my interests as a result of making the bet. Unlike parties to insurance contracts parties to gambling contracts create risks. By taking out insurance on my house I aim to mitigate risk, not create it. Apart from extreme cases — taking out insurance on a building then burning it down in order to claim — policyholders do not deliberately put a stake at risk for the sake of a benefit. As far as I can see this is the only possible reason for claiming that an insurance policyholder is a gambler, and it is rarely met. If it were met more often, the practice of insurance would collapse. The assumption that a policyholder in effect makes a bet with an insurer lacks justification. An insurance policyholder is not actually taking a risk of any sort. Rather, she is buying security.

Do insurance firms gamble? This time let's assume that the insurance firm bets \$1,000,000 to \$1,000 that my house will not be damaged. Given the reasons for



rejecting the claim that insurance policy holders gamble, is the risk *all* borne by the insurance firm? I don't risk my \$1,000, but perhaps the insurance firm *does* risk \$1,000,000. I pay the insurance firm \$1,000 in order to avoid the outcome in which I suffer the net loss of the insured value of my house. I pay the insurance firm to take away the risk of that outcome. By accepting my payment the insurance firm risks \$1,000,000. The situation of an insurance firm is in certain ways similar to that of a bookmaker. Bookmakers can adjust odds so as to avoid an overall loss on a race, and insurance firms can adjust premiums in order to show an overall profit from the outcome of a large number of policies. Bookmakers determine odds, and insurance firms' their premiums, on the basis of complex calculations about possible outcomes. A bookmaker's financial success can be undermined by massive plunges, and an insurance firm's by natural disasters. Insurance premiums typically increase substantially after events of this kind because insurance firms adjust their estimations of the likelihood of future claims in the light of both current and past events. They update their prior estimations according to new information and adjust premiums in response.

A bookmaking equivalent would be to lower the odds on future events: not a feasible option given that bookmakers accept bets on specified events with a determinate set of possible outcomes. Insurers' calculations range over whole classes of future events, not just the events the policy concerns: the likelihood of my house being damaged is worked out in reference to the class of similar properties, over an extended period. The same applies to my likelihood of my being run over by a bus. For an insurance firm it is a statistical probability, based

on a complex set of variables, not a matter of whether I am in the habit of carelessly crossing roads on bus routes. Given that insurance firms set premiums on the basis of ongoing risk assessments of what is going to happen to all the houses in a certain area, damage to my house will have little impact on the firm's profitability. Even if we allow that an insurance company does create a risk by insuring my house, the overall pattern of activity of an insurance firm is wrongly described as gambling.

### **Why gamble?**

Given the circumstances, it may be quite rational for someone to gamble. She might not care that much if she wins or loses, setting prudent limits to the amount she is willing to lose and adhering to them, but gambles for some other benign reason. Or she might have a rationally justified expectation — a good reason to believe — that the outcome of placing property at risk is likely to be in her favour, in which case, even though she may be gambling, she is exercising relevant skills or acting on an informed basis. However, if her aim in gambling is to improve her financial position from her net winnings she lacks rational justification unless she possesses such special skills or information. There may be a specific purpose which motivates a gambler's desire to win — buying a car, paying a debt — but that doesn't mean that improving her financial position isn't her aim in gambling.

The argument does not suppose that gamblers' beliefs are sometimes unfounded, in that they have wildly optimistic expectations about winning large sums, for example. Rather, the point is that there is no good reason for anyone who lacks relevant skills or information to gamble, except perhaps peripheral ones. As I have already pointed out, given the nature of the gambling industry, in the long-term the probability of a financial benefit is negative. Gambling with the sole aim of improving my financial position from my net winnings is irrational when my gambling offers bad financial value over the long term, where the odds offered are lower than the associated probabilities.<sup>8</sup>

But what if I only have \$5, and I need \$20 for a taxi home? It's important that I get home, and no other means are available. The only legal way I can quickly obtain \$20 is by betting my \$5 at the Casino that happens to be nearby. Even where the chance of my winning is quite low the expected utility of gambling my \$5 is greater than the range of other available actions. Put another way, the expected value of \$20 is much greater than the actual value of \$5. In this case it looks as if I do have a good reason to gamble. Buying a \$5 lottery ticket in the hope of winning a substantial prize might be justified on vaguely similar grounds — though the chance of winning is minute — if spending \$5 is not a great extravagance, and winning a lottery is the only way I'll ever obtain such a large sum of money. Even so, I think the 'no good reason' claim still holds generally for the form of gambling under consideration. Given my aim in the taxi case gambling is a matter of practical necessity, and only occurs in the very short

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<sup>8</sup> Even if something happens to make my actions worthwhile that doesn't retrospectively give my choice to gamble rational justification.

term. Although it is true my sole aim in gambling on this occasion is to get more money, in no sense am I aiming to achieve financial well-being for some long-term purpose, or even simply to become better off. I can be contrasted with someone who tries to gamble her way out of poverty, for example. I just want to get home. The ratio of the value of the potential loss as against the potential gain needs to be specified, and the latter is not necessarily expressible as a monetary value. As such, my action might properly be thought of as rational. Given the chance of my winning in the lottery case it is stretching the point to talk about my 'aim' of improving my financial position.

What about someone whose aim in gambling is to win, but who knows that it is probable that she will lose? If someone's motivating desire is to increase her property, and she recognises that it is probable that gambling will not have that outcome — the expected financial benefit of placing the bet is lower than that of not placing the bet — her gambling seems to involve a failure of practical reasoning. Alternatively, if she is motivated by the mere possibility that she might win, thinks it would be great to win and hopes it happens, her actions might satisfy practical reason, as long as she does not believe that it is likely that gambling will lead to an increase in her property, and as long as her actions don't seriously undermine her capacity to satisfy her other desires.

What if someone is offered odds of 10 to 1, and reasonably believes her chance of winning is one in four? She could also reasonably think that a bet offered at these odds offers very good value. In these circumstances, even though she believes that it is probable that she will lose, placing the bet has a high expected

utility, and we might think that given her aims she would be acting rationally if she placed the bet. Circumstances like these never occur for gambling on machines programmed to pay out less than the amount bet, over the long term. You can win, but because the odds favour the house, every bet offers bad value. Rational gamblers aim to pick value, not necessarily winners, and gaming machine gambling offers bad value.

Totalisators also offer bad value, but in a way that reinforces the distinction between skilled or knowledgeable gamblers and the rest. On each event the tote takes, say, 10%, and so offers overall bad value. The set of bets made by the tote or a bookmaker is to their advantage — guaranteed so for the tote, but not for a bookmaker — but individual bets may have neutral expected value or even favour the punter.<sup>9</sup> Placing bets on a totalisator or with a bookmaker may be rational if the gambler possesses relevant information and knows how it bears on odds and outcomes. Totalisator gamblers play against each other, and the tote takes its percentage for enabling this, the so-called ‘exit charge’. The claim that totalisers are providing a service for a reasonable charge appears justified in the case of a gambler who remains aware of the fact that totalisers always win overall and acts in ways that reflect this awareness.

In contrast I act irrationally when I gamble with the intention of improving my financial position from my net winnings, as long as my gambling offers negative value over the long term, and I lack relevant knowledge or skill. I might play tennis aiming to win, whilst not expecting to win — my opponent is better than

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<sup>9</sup> I discuss the notion of expected value and the fairness of bets in Chapter 2.

me, but not incomparably so — without being irrational. Similarly, I might buy a lottery ticket because I would love to win — once again, winning is my aim — but without expecting to improve my financial position. The difference between the first and the other two cases is that between intending and aiming. Where a person aims to win part of the purpose of acting is to win. Intending entails aiming but has the further characteristic that one must expect that one's aim will be realised. The gamblers I am talking about believe that by gambling they will improve their financial position from their net winnings.<sup>10</sup> They believe the likelihood of winning is sufficiently high so as to justify their actions. In situations like these, where you aim to bring about a particular outcome and believe that a certain action will most likely result in that outcome, and you perform that action, you intend that outcome.<sup>11</sup>

The claim that it is in general irrational to engage in purposive activity when one is unlikely to achieve one's aim is untenable. If it were true the requirements of practical reason would be absurdly demanding, and a large proportion of human aspirations would count as irrational. A person's attempt to achieve her rational aims, understood as part of her overall well-being,<sup>12</sup> might justifiably include activities that in themselves are unlikely to succeed in their purpose. The

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<sup>10</sup> This excludes the gambler who makes a single bet at odds of 10 to 1, even where the bet offers good value. Two considerations apply here: first, such a gambler can't be said to intend to win; second, my argument applies to gamblers who expect to benefit, even though their gambling offers negative value over the long term.

<sup>11</sup> According to the doctrine of double effect, an agent can foresee that a particular outcome will come about as a consequence of an action, and perform that action, without intending that outcome. It might appear that my proposal either violates the doctrine of double effect or assumes its falsity. The doctrine of double effect, however, concerns outcomes that the agent neither intends *nor* aims for and aiming for is constitutive of the cases I have in mind.

<sup>12</sup> See Scanlon, T. (1998) *What We Owe to Each Other* Cambridge, MA: Harvard University Press) for an account of the role of rationality in achieving well-being, and Crisp, R. (2006) *Reasons and the Good* (Oxford: Clarendon Press) pp. 69-70, for further discussion.

likelihood of someone who spends her childhood and adolescence in intensive training for a career as a professional ballet dancer achieving her ambition is slight. But I don't think she is acting irrationally. She is doing just what is required to realise her ambition, and she does not aim to economise on effort. The claim I am defending concerns gambling with the aim of improving one's net financial position, without worsening it. The principle that applies to the aspiring ballet dancer is that if one's sole aim is to X, then it is rational to select the method most likely to achieve X, as long as moral side-constraints are not being violated. When gambling offers negative value over the long term, gambling in order to improve one's financial position violates this principle. Not only are there methods that are more likely to achieve one's aim, the evidence shows that the sort of gambling I am concerned with is highly unlikely to achieve this aim.

## 2

### Betting on Belief

Is gambling rational? Clearly, in some circumstances it could well be rational to gamble. The pleasure of having a bet might make gambling worthwhile regardless of whether one wins. So might making heroic bets on a sports team to show one's support. The psychological and social motivations of gambling typified by these cases are not my concern here. Neither is gambling where a gambler's confidence in winning is justified by the exercise of skill or by having access to information not known by all the participants.<sup>1</sup> My account of the rationality of gambling concentrates on gambling with the aim of improving one's financial situation where the outcomes favour the gambling provider.<sup>2</sup> Playing on electronic gaming machines epitomises gambling which favours the provider, so I use that as an example. Bias towards the provider is built into all forms of commercial gambling including roulette and lotteries, and also, allowing the caveats above, betting on horse races and other sports.

In order to answer questions about the rationality of choosing to gamble in order to improve one's financial situation, I investigate a series of epistemic topics, framed by rational choice theory: the concept of a degree of belief; the role information about probabilities plays in forming rational degrees of belief; the

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<sup>1</sup> See Chapter 1 for a fuller statement and defence of this distinction between types of gambling.

<sup>2</sup> Gamblers may have a variety of financial and material aims that they want to satisfy, but the details of those don't apply here.



interpretation of degrees of belief in terms of betting behaviour; and how these considerations, singly and in various combinations, relate to rational decision-making. Understanding the epistemic aspects of betting choices and how they relate to rational decision making is essential for an adequate account of the rationality of gambling. Facts about the probabilities of outcomes of bets (or series of bets) should be taken into account by gamblers when making decisions about gambling choices. They bear directly on the rationality of beliefs about outcomes. How, then, do they bear on the formation of rational degrees of belief?

### **Gambling and Evidence**

Placing a bet is an action. Choices are involved. And beliefs about the value of bets involve beliefs about probabilities and odds. The probability of outcomes is directly related to the rationality of betting. Because the future events we bet on have uncertain outcomes, my credence in the proposition that I will win will nearly always be less than absolute, and as such representable as a degree of belief.<sup>3</sup>

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<sup>3</sup> I address the concept of a ‘degree of belief’ throughout this chapter. In preliminary outline (ignoring for now how we can measure degrees of belief or test them for rationality) take 0 to stand for my certainty that proposition P is false, 1 to stand for my certainty that P is true, and a number in between to stand for my confidence in the likelihood of the truth or falsity of P. If my degree of belief in P is 0.8, and yours 0.2, my confidence in the truth of P is four times greater than yours.

Epistemic probability theory tells us the normative constraints on the odds a rational gambler is willing to accept. I may well have a high degree of confidence that I am going to win, but if I aim to obtain financial benefit my beliefs about outcomes should conform to the available relevant information. My degree of belief should be sensitive to that information. Understanding how reason constrains degrees of belief — what degree of belief it is reasonable to give to a proposition, in view of existing degrees of belief and the available evidence — provides insight into how reason constrains preferences between bets. Insight into that has direct bearing on the rationality of gambling, and on working out the circumstances in which it is rational to make a bet. Many gamblers have inconsistent beliefs, a situation that reflects inadequate responses to the available evidence. They form beliefs on non-epistemic grounds, such as wishful thinking and unfounded confidence in control over outcomes.<sup>4</sup>

But there is more to the rationality of beliefs about the value of bets than consistency. For example, information about the long-term returns of gaming machines is readily available — even if information were not available it is obvious that the returns would favour the house — and if someone bets on gaming machines in the expectation of financial benefit over the long term they are being irrational. You might think that these gamblers simply have false

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<sup>4</sup> Extensive psychological research supports this claim. See for example, Gilovich, T. (1983) 'Biased evaluation and persistence on gambling', *Journal of Personality and Social Psychology* 44, 1110-26; Dickerson, M. G. (1984) *Compulsive Gamblers* (London: Longman); Wagenaar, W. A. (1988) *Paradoxes of Gambling Behaviour* (Hove: Lawrence Erlbaum); Moore, Susan M and Keis Ohtsuka (1999) 'Beliefs about control over gambling among young people, and their relation to problem gambling', *Psychology of Addictive Behaviors* 13, 339-347; Walker, Michael, Tony Schellink and Fadi Anjoul (2008) 'Explaining why people gamble', in Zangeneh Masood, Alex Blaszczynski and Nigel E. Turner (eds.) *In the Pursuit of Winning: Problem Gambling Theory, Research and Treatment* (New York: Springer), 11-31.

beliefs about outcomes and talk of degrees of belief is pointless. Later I will present a number of theoretical reasons for thinking that degrees of belief are the appropriate epistemic input for decisions in situations involving risk.

When we consider gambling there is also a practical reason. Studies of gambling show that gamblers engage in erroneous reasoning from evidence, or base beliefs on non-epistemic grounds, leading them to have degrees of belief which do not reflect the known probabilities, rather than having straightforwardly false beliefs.<sup>5</sup> Let's assume that a gaming machine gambler's prior probabilities — in simple terms, her credence regarding a proposition before taking further evidence into account — are aligned with the known long-term probabilities, as determined by the gaming machine operators and legal requirements. How does she then come to have inconsistent beliefs? Because she counts as evidence matters that are not salient: luck,<sup>6</sup> beliefs based on desires, and so on. A story about our gambler might go as follows:

1. She gambles in the hope that she will win.
2. Her expectation of winning is undermined by evidence about the payout rate, which she recognises favours the house. A level of confidence of less than 0.5 in her benefiting is justified by the known probabilities.
3. In spite of this, her confidence that she will win is supported by her belief that circumstances are propitious, that today is her lucky day.

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<sup>5</sup> See Gilovich 'Biased evaluation and persistence on gambling'; Productivity Commission, 1999 *Australia's Gambling Industries: Inquiry Report* (Canberra: Ausinfo), Ch. 6.

<sup>6</sup> If things go well for someone, according to her own lights, she may think of herself as being a lucky person. As I argue in Chapter 3, she is making a mistake if she believes that things will keep going well because luck attaches to her in a way that means it will continue to be instantiated in the future. Luck is at best an accidental regularity, and 'lucky' is thus not a projectible predicate.

4. She acts on the basis of a degree of belief greater than 0.5 that she will win.
5. She bets regularly on this sort of basis.
6. Over the long term, she loses.

Sometimes gamblers are simply mistaken in their beliefs about the known probabilities. But often they go wrong in the sort of way described.

The moral of this story is that gamblers should align their degrees of belief with known long-term probabilities. They should also aim to bet in consideration of those probabilities. Certainly, for some individual bets on gaming machines the chance of winning is in fact greater than 0.5, but a gambler cannot know which ones. Only by coincidence will a gambler's degrees of belief align with the chance of winning in individual cases. Given that factor and given that she does have very good reasons to believe that over the long term the probability of winning is less than 0.5, I propose that she acts rationally if she develops a long-term strategy, and refrains from betting.

We might question the validity of the move from 'in the long term I won't win' to 'I shouldn't make this bet'. 'No-one wins in the long term, therefore no-one wins' is a bad argument. The conclusion doesn't follow from the premise, and the premise, as stated, is false, on both modal and empirical grounds. A gambler won't necessarily lose, and gamblers do sometimes win in the long term, albeit

very rarely, and decreasingly so the longer they gamble.<sup>7</sup> It looks as if there is a problem with an argument for the irrationality of gambling that takes the long-term outcomes of gambling as a premise. But what we actually have here is a pair of pragmatically justified beliefs, one based on probable long-term outcomes, and one about short-term decisions.<sup>8</sup> My aim is to show that information about long-term outcomes *is* relevant to gambling choices, and where it is available, or obvious, gamblers would be unwise to ignore it when forming their partial beliefs about the outcomes of bets. I will return to gambling later. For now, I want to support my view by arguing that choosing rationally requires rational degrees of belief, and that in appropriate decision-making contexts these should take known probabilities into account.

### **Rational Choice Theory**

According to rational choice theory, an action is rational if it satisfies the following three optimality conditions: first, it is the most effective means of satisfying an agent's desires, given her beliefs about relevant factual matters; second, her beliefs are sensitive to relevant information, and the processes of belief formation are not influenced by various biases, including wishful thinking; third, investment of resources in information acquisition is neither inadequate nor

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<sup>7</sup> In Chapter 1 I distinguish types of gambling and discuss the probability of outcomes in different forms of gambling. That material provides the background to the claims about gambling I make in this paragraph.

<sup>8</sup> Although I do not argue in detail for a pragmatic conception of the relationship between decision makers' beliefs and relevant facts about probabilities, I think my position satisfies that interpretation.

excessive, given the agent's aims and prior beliefs. Rational choice theory aims to both explain how people do behave, and how they ought to behave. This dual role as explanatory and normative is not a problem: we use norms in explaining behaviour. As Jon Elster puts it:

The theory of rational choice is first of all normative, and only secondarily explanatory. It begins by stating how agents should act in order to realize their goals, and then proposes to explain their actions on the hypothesis that they actually behave in that manner.<sup>9</sup>

The view that rational choice theory tells us how agents should act, and that they do act according to its precepts, faces various problems. The theory tends to make simplifying assumptions that we know in general to be false. It assumes that both an agent's set of beliefs and her set of desires are internally consistent; but sometimes agents make decisions about what to do on the basis of logically inconsistent beliefs and incoherent patterns of desire. It assumes that there is a single 'best' means to satisfy an agent's desires; however, there may be several equally good and no better options, and a rational choice model cannot tell us which one the agent will choose, and in any case satisficing rather than maximising may be the rational response. A further problem concerns a tension

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<sup>9</sup> Elster, Jon (2009) *Reason and Rationality* (Princeton: Princeton University Press), p. 14. A great deal has been written about rational choice theory. My summary has been influenced by the work of Jon Elster in the book cited above, as well as in Elster, Jon (1979) *Ulysses and the Sirens: Studies in Rationality and Irrationality* (Cambridge: Cambridge University Press); Elster, Jon (1983) *Sour Grapes: Studies in the Subversion of Rationality* (Cambridge: Cambridge University Press); Elster, Jon (1985) 'The nature and scope of rational-choice explanation' in Ernest LePore and Brian P. McLaughlin (eds.) *Actions and Events: Perspectives on the Philosophy of Donald Davidson* (Oxford: Basil Blackwell) 60-72; Elster, Jon, (1986) 'Introduction' in Jon Elster (ed.) *Rational Choice* (Oxford: Basil Blackwell) 1-3.

between the three conditions. It is important to note that what counts as the 'best' action is to be understood as subjective, in that it depends on the agent's beliefs. But an agent's prior beliefs can influence where and how she seeks information, and how much information she considers adequate. (She may have basic beliefs that she will not let any evidence count against. She may have beliefs that she simply wants to be true.)

Another problem for rational choice theory is that beliefs also need to be more than just sensitive to the available evidence. A belief needs to be the 'best' belief in light of the available evidence, and needs to be caused by the evidence, in an appropriate way. The agent needs to have taken care to look for evidence. But even with these modifications a problem remains. What if a choice of action must be made in a situation where the evidence does not uniquely determine the correct belief, or even fails to give support to any particular belief? Rational choice theory goes from an assumption of rationality to a unique behavioural prediction and fails to the extent that even on that assumption sometimes a unique behavioural prediction is not possible.

However, that is not in itself a reason to give up the view that the individual conditions rational choice theory lays down capture our concept of rational action. It may be unjustified to call an agent irrational simply because her behaviour cannot be uniquely predicted according to the model generated by rational choice theory. But we do have a concept of irrationality, and typically apply it to violations of those conditions. Failing to choose an action that will help to realise my all-things-considered best judgement; letting my desires determine

my beliefs about what action to choose, or ignoring evidence that needs to be taken into account if I am to achieve my aims; collecting too much or too little information, or otherwise irrelevant information, given my desires: apart from very unusual circumstances, these count as ways of being irrational.

There is both more and less to rationality than rational choice theory recognises, but it does identify central aspects of rational behaviour. It is perhaps best taken as a set of regulative ideals, presenting optimality conditions for rational decision making. But this requires that the theory be modified. Unmodified, it imposes strict formal requirements: I fail to be rational if, for example, my beliefs are not consistent. Understood as a regulative ideal it does not have the same force but suggests that the beliefs of a fully rational agent would be consistent. On this interpretation, the conditions of rational choice theory do not make a unique prediction of the behaviour of a rational agent but, appropriately modified, state the conditions that the actions of a suitably situated ideally rational agent would satisfy.

There is a close connection between rational choice theory and the view that rational agents aim to maximise subjective expected utility. On this view, the epistemic input to the decision-making processes of rational agents consists of subjective probabilities — degrees of belief — and rational degrees of belief are distributed according to the rules of the probability calculus.<sup>10</sup> But is that all there is to rational partial belief? For the theory to be a satisfactory account of rational

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<sup>10</sup> The epistemological doctrine that our beliefs come in degrees and that a rational agent's degrees of belief obey the probability calculus is commonly named 'Probabilism'. See Kyburg, Henry E., Jr. (1970) *Probability and Inductive Logic* (London: Macmillan) Part 1, Chapter 2, for a clear exposition of the probability calculus.



behaviour, should it require that the distribution of an agent's degrees of belief amongst various propositions be more than just consistent in the sense that it satisfies the axioms of the probability calculus? What weight should be given to evidence, or to facts about probabilities? Subjectivism, in its standard Bayesian version, does specify rules for belief change in the light of new evidence. Prior degrees of belief are modified by conditionalising on evidence, leading to posterior degrees of belief. Bayesians argue that the weight of evidence forces convergence of posterior probability over widely diverse prior probabilities, and that the probability calculus entails this result. Even though subjectivists give a role to evidence in the formation of our degrees of belief, coherence is still the fundamental criterion of the rationality of credences.

Typically, actions are successful only if the beliefs they are based on are true and fail otherwise. Given this, rational decision makers should want to reason in a way that leads to true beliefs. They also should want to reason in a way that brings their partial beliefs into accord with the known probabilities. I am more likely to get what I want if my subjective degrees of belief about outcomes are responsive to the relevant facts. In using the phrases 'known probabilities' and 'relevant facts' I do not intend to commit myself to an objective interpretation of probability, nor do I need to. I only aim to establish that we can make sense of the idea that rational degrees of belief should conform to facts about probability that go beyond the axioms of the probability calculus and Bayesian conditionalisation on evidence and can do so without modifying the concept of 'degree of belief'.

Lina Eriksson and Alan Hájek's 'What are Degrees of Belief?' suggests a way to establish this.<sup>11</sup> They argue that we should treat 'degree of belief' as a primitive concept, not analysable in terms of other concepts such as betting behaviour. Taking 'degree of belief' as irreducible to some other epistemic concept fits with claims about how credences align with known probabilities. For instance, I might claim that probability is a relation between evidence and conclusion, where that relation reflects known regularities. Probability statements are constitutive of a body of knowledge. Rational degrees of belief conform to what is probable given the body of knowledge, and that is in turn determined by the empirical evidence that we in fact possess. What it is rational for me to believe to a high degree is what the empirical evidence supports.<sup>12</sup> Alternatively, I might have a propensity theory of chance, and claim that knowledge of propensities makes having a particular partial belief reasonable. Evidence of propensities is provided by chance trials, although propensities, as physical dispositions, can exist without being displayed. In this sense objective chance provides a measure of a reasonable degree of belief in a suitably situated agent.<sup>13</sup> I might claim that probabilities are frequencies, on the basis of which we can make correct predictions. On this view estimates of probabilities that correspond to these frequencies function as the epistemic input to the degrees of belief and consequent practical reasoning of rational decision-

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<sup>11</sup> Eriksson, Lina and Alan Hájek (2007) 'What are Degrees of Belief?', *Studia Logica* 86, 183-213.

<sup>12</sup> This position connects with contemporary debates in epistemology about *Evidentialism*, the thesis that rationally permissible epistemic states supervene on an agent's evidence (see Conee, Earl and Richard Feldman (2004) *Evidentialism* (Oxford: Oxford University Press), and *Uniqueness*, defined by Roger White as follows: "Given one's total evidence, there is a unique rational doxastic attitude that one can take to any proposition." White, Roger (2005) 'Epistemic permissiveness.' *Philosophical Perspectives* 19, 445-59, p. 445. See Kopeck, Matthew and Michael G. Titelbaum (2016) 'The uniqueness thesis' *Philosophy Compass* 11, 189-200, for a survey of debate on this topic.

<sup>13</sup> See Mellor, D. H. (1971) *The Matter of Chance* (Cambridge: Cambridge University Press) for a detailed discussion of this approach, and Hájek, Alan (MS), 'A puzzle about degree of belief'.

makers.<sup>14</sup> ‘Degree of belief’ functions as a primitive element in each of these arguments for a probabilistic theory of rational belief. Theories such as these about how probabilities bear on a speaker’s degree of belief in the outcome of an event support the claim that there can be more epistemic input to rational decision-making than the basic Bayesian desiderata of credences: obedience to the probability calculus and revisability in the light of new evidence.

Ernest W. Adams has proposed a theory of the relationship between decision makers’ beliefs and the relevant facts that concurs with the position developed here. His views are encapsulated in his *Pragmatic Policy Principle*:

The more closely the thoughts on which general policies of action are based correspond to the facts, i.e., the truer they are, the more satisfactory results of actions in accord with them are likely to be.<sup>15</sup>

Adams’ principle expresses why rational decision makers would aim to align their degrees of belief with the known facts. In doing so, it captures the practical dimension of probability.<sup>16</sup>

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<sup>14</sup> See van Fraassen, Bas (1984), ‘Belief and the will’, *Journal of Philosophy* 81, 235-256.

<sup>15</sup> Adams, Ernest W. (1998) *A Primer of Probability Logic* (Stanford, CA: CSLI Publications), p. 231.

<sup>16</sup> See Adams, Ernest W. (1988) ‘Consistency and decision: Variations on Ramseyan themes’ in William L. Harper and Bryan Skyrms (eds.) *Causation in Decision, Belief Change, and Statistics*, Proceedings of the Irvine Conference on Probability and Causation, Vol. 2 (Dordrecht; Boston: Kluwer), 49-69, pp. 53-58, and Adams, *A Primer of Probability Logic*, pp. 227-236, for his pragmatic theory of the relationship between decision makers’ beliefs and the probability relevant facts.

## Degrees of Belief: Betting Analysis

The view that probability statements express degrees of belief is often expressed in terms of bets: simply put, my degree of belief in a proposition is a matter of the lowest odds I am willing to accept for a bet on that proposition. So, if I accept a bet at 4 to 1 on some proposition my belief in that proposition has a strength of at least 0.2.

The betting interpretation of degrees of belief faces numerous problems, and defenders have introduced various qualifications in response. My discussion acknowledges these concerns, but unlike Eriksson and Hájek I am not committed to the view that they provide grounds for giving up on the betting interpretation. Either way, for my purposes the betting interpretation has a practical application, and in this context I do accept their claim that “having a certain degree of belief should explain why you bet the way you do, so it can’t just be your betting the way you do.”<sup>17</sup> Identifying degrees of belief with the bets an agent would accept provides a way of assessing the rationality of actual betting choices made by gamblers.

As I said, the theory needs to be qualified in various ways. Willingness to bet is often presented as a criterion of degree of belief. It seems plausible, however, for someone to consider a bet at certain odds reasonable, without being

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<sup>17</sup> Eriksson, and Hájek, ‘What are degrees of belief?’, p. 188.

disposed to accept that bet. A connection between belief and disposition to accept a bet can be made by introducing subjective utilities and measuring the value of choices between bets in terms of these.<sup>18</sup> But the subjective utility of a bet depends on an agent's situation, attitudes and values. In order to avoid problems raised by the fact that money has diminishing marginal utility (the value of an extra \$100 might depend on how much money someone already has), by the fact that people differ in their attitudes to risk, by an agent's wish that some things be true and others not, and by the effect of stake size on acceptable odds, a method is required which eliminates these factors. One proposed solution is that the bettor's hypothetical opponent decides the size of the stake and the direction of the bet after the odds are set. The claim is that all that is left to dispose an agent to settle on some odds in preference to others is degree of belief, and thus the odds accepted are a fair measure of that degree of belief.<sup>19</sup> The truthmaker of an ascription of partial belief in a proposition is a possible state of affairs: I have a certain degree of belief if I would have accepted a bet at such-and-such odds in appropriate circumstances.

Degrees of belief are not necessarily rational degrees of belief, so further moves are required to make this a theory of rational belief. The Dutch Book argument often appears at this point. Your set of beliefs is irrational if you are willing to accept a series of bets that guarantee that you will lose, whatever happens. For example, if you bet \$2 for a return of \$1 on each of the horses in a two-horse race, then no matter which one wins, you lose \$1. Bayesians typically argue that

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<sup>18</sup> This method was first developed by Frank Ramsey in the 1920s. See his (1926) 'Truth and probability' reprinted in Ramsay, Frank (1990) *Philosophical Papers*, D. H. Mellor (ed.) (Cambridge: Cambridge University Press) 52-109.

<sup>19</sup> See Mellor, *The Matter of Chance*, pp. 33-37.

a set of degrees of belief that satisfies the axioms of the probability calculus is not susceptible to a Dutch Book, and that rational degrees of belief can be numerically represented in a way that obeys the rules of the probability calculus. In contrast, violations of these rules lead agents to form incoherent valuations of the expected outcomes of bets, making them susceptible to Dutch Books. The concept of a bet's expected value is quite straightforward. The expected value of a bet depends on the relationship between the range of possible outcomes, the probabilities of each, and the odds given. A bet is said to be fair if the expected value is zero, favourable if it is positive, and unfavourable if it is negative. If I believe that the probability of a coin landing heads is half, then a bet at evens is fair, at 2 to 1 is favourable, and at 1 to 2 is unfavourable. In a fair bet on that outcome, the ratio of my stake to the sum of both stakes (for a bet of \$1 at evens,  $1/2$ ) equals the probability of the coin landing heads.

We need the concept of partial belief, because full belief about probabilities does not capture an agent's tendency to act. I may believe that the chance of heads on the toss of a fair coin is 0.5, and not take any action that relates to that belief. If, however, I accept odds of evens and higher that the outcome of that coin being tossed is heads, then I have a partial belief of 0.5 that heads will result from the toss. The notion of betting odds does capture my tendency to act as if a particular event will occur, by representing my confidence in that occurrence, or in the truth of a proposition that that event will occur.

We have seen that the rationality of preferences between bets is connected with the rationality of belief, and that the constraints on the former are closely related

to those on the latter. Insight into the rationality of preferences between bets bears directly on questions about the rationality of a person's degrees of belief.

Nevertheless, a bet someone accepts on a proposition does not necessarily express her degree of belief in that proposition. Taking the betting model fairly literally, someone may have no relevant information but just want to have a bet and so accepts whatever the going odds are on some random choice. An epistemic correlate might be willing beliefs, or acceptance of propositions as premises for further beliefs, even in the case of partial belief. A similar point can be made about Bayesian conditionalisation. Someone may have basic beliefs that she will not count anything as evidence against. The view that we can always go from the bets that people will accept to facts about epistemic states, even using the methods outlined above, places too much stress on the epistemic input to rational decision-making. The betting method can be applied in determining the rationality of partial belief from the perspective of rational decision theory. We should keep in mind that there are other grounds on which our choices may count as rational, such as expressing our moral commitments, that do not impose similar constraints on degrees of belief.

### **Betting, Bayesianism and Indifference**

Returning to rational choice theory, what are the appropriate epistemic constraints on our attitude towards propositions? This question can be

expressed in terms of subjective decision theory: what are the requirements of a method for deciding what degree of belief we should give to propositions?

The method proposed by Bayesian decision theory, when applied to the analysis of degrees of belief as betting behaviour, entails that we have degrees of belief in all decision situations. The principle of indifference requires that lacking evidence in support of any particular proposition among those which divide the epistemic space, I should believe each to the same degree. Taking the simplest case, I am indifferent between two propositions if and only if I am willing to accept the same odds on both; in other words when I do not prefer a bet on one of the propositions where the same odds are offered on both.<sup>20</sup> If I do prefer one bet to another at the same odds, I have a higher degree of belief in one of the propositions. I either prefer one bet to the other, or value them equally. It follows that I have a degree of belief in each proposition, no matter what. Assuming that the bets I will accept in suitable circumstances measure my degrees of belief, and that I am either indifferent between bets or prefer one to another, I will always be able to provide the epistemic input necessary for rational decision-making. Rational decision-making requires that I should always prefer one bet to another or be indifferent between them. So, if I don't have a higher degree of belief for one proposition over another, I will have equal degrees of belief.

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<sup>20</sup> John Maynard Keynes coined the name 'The Principle of Indifference' and wrote that it "asserts that if there is no *known* reason for predicating of our subject one rather than another of several alternatives, then relatively to such knowledge the assertions of each of these alternatives have an *equal* probability." (his emphasis). Keynes, J. M. (1921) *A Treatise on Probability* (London: Macmillan and Co), p. 42.



Now consider indifference in the context of actual rather than hypothetical bets, with an actual rather than hypothetical opponent, keeping in mind, as Frank Ramsey puts it, that probability “is a measurement of belief *qua* basis of action.”<sup>21</sup> (The stronger my degree of belief, the more likely I am to act on its basis.) I don’t have any information relevant to which horse will win in a two-horse race. Should I therefore be willing to accept the same bet on the propositions ‘Neddy will win’ and ‘Dobbin will win’? Given that I don’t know anything relevant to the outcome of the race, it seems unreasonable to require that I give specific values to propositions about the outcome, as required by rational indifference. I might think it rational to accept a bet at higher odds than evens on either horse, if I believe the person offering the odds has no greater information than I do. But if my opponent does offer favourable odds, and is as ignorant as I am, that only shows my opponent’s foolishness. It does not establish that either of us should have formed degrees of belief of 0.5. In such a situation it would be quite reasonable for me to abstain from forming *any* beliefs as to the outcome of the race. As grounds for possible action, in this case entering a betting arrangement, answering the question of which horse I think will win with “I don’t have the foggiest idea” seems more appropriate in terms of rational decision than “they have equal chances”, where the latter response is taken to express my degree of belief.

Further to this, in conditions of ignorance it is rational to abstain from action unless the expected utility of not acting is less than any alternative amongst the range of possible actions. Don’t act under ignorance unless the worst possible

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<sup>21</sup> Ramsay, ‘Truth and probability’, p. 67.

predictable outcome is the one that results from not acting. It may be responded that calculating expected utility requires subjective probabilities. In the imagined scenario, however, it is clear that a possible outcome of betting at evens is the loss of the amount of one's stake, and that is a worse outcome than that resulting from not betting.

This argument advocates employing a minimax loss strategy under situations of ignorance rather than one based on indifference. Interestingly, a minimax argument has also been used to defend indifference.<sup>22</sup> There are circumstances, so the argument goes, in which it is rational to allocate betting odds equally over the alternative outcomes. No other distribution of odds has the potential outcome of an equal or lower possible loss. I am not convinced that the proposed allocation of odds involves indifference. The bettor may in fact value some possible outcome more than another. That is not the same as being indifferent between odds, where the outcomes are being valued equally.

My criticism of indifference has a generalisable practical correlate. In situations of ignorance you should refrain from choosing between bets that are actually on offer, unless you have separate grounds for believing that the outcome of not choosing will definitely be worse than any other predictable outcome. But then you do have information relevant to your choice. Sometimes choices are necessary under genuine ignorance, but typically a rational agent will not place a bet if no information relevant to the outcome is available.

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<sup>22</sup> O'Neill, Len (1996) 'Indifference and induction' in Peter J. Riggs (ed.), *Natural Kinds, Laws of Nature and Scientific Methodology* (Dordrecht: Kluwer) 93-102, pp. 93-97.

Bayesianism requires that degrees of belief be represented as numbers in order to determine whether they are rational, that is whether they obey the rules of the probability calculus. Interpreted subjectively, even allowing rational degrees of belief that do not have a unique value, this requirement is often unachievable. But that mightn't be such a bad thing. Even though you cannot always meet the standard Bayesianism imposes, perhaps that standard functions as a regulative ideal, violations of which open your epistemic states to legitimate criticism, and not as a rule for the conduct of inquiry such that if you violate it you are properly classified as irrational. It lays down the conditions for the solution of problems about what degree of belief to give to propositions and holds that fully rational agents would have solutions to all such problems. Contemporary Bayesians typically hold that in situations of indeterminate or ambiguous evidence we should not form precise degrees of belief. James M Joyce puts it this way: "Imprecise credences have a clear epistemological motivation: they are the proper response to unspecific evidence."<sup>23</sup> The use of 'proper' tells us this is a normative claim. Fully rational agents are permitted imprecise degrees of belief.<sup>24</sup> But a regulative ideal that requires fully rational agents to form degrees of belief in circumstances where there is no relevant evidence on which to base even imprecise ones cannot be justified.

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<sup>23</sup> Joyce, James M. (2005) 'How probabilities reflect evidence', *Philosophical Perspectives* 19, 153–178, p. 171.

<sup>24</sup> *Contra* this view Adam Elga argues that a perfectly rational agent always has precise degrees of belief. His disagreement with those Bayesians who allow perfectly rational agents imprecise credences is motivated by different concerns than mine in this chapter. Elga, Adam (2010) 'Subjective probabilities should be sharp', *Philosophers' Imprint* 10:5, 1-11.

## Evidence, Probabilities and Coherence

Bayesians do have an account of evidence, at least to the extent that the theory gives rules for assigning degrees of belief given new evidence, but even this process starts with assigning prior values to hypotheses. In the end for Bayesians what counts is the internal consistency of an agent's belief set. As I argued earlier, for a theory to be a satisfactory account of rational behaviour, it really should require that an agent's beliefs be more than just internally consistent.

There is clearly more to the rationality of degrees of belief than coherent betting odds. Consider the following situation:

1. A coin has been tossed 100 times, resulting in 40 heads, 60 tails.
2. The same coin has now been tossed 1000 times, resulting in 400 heads, 600 tails.

Here are two propositions based on these circumstances:

- (A) The chance of heads resulting from the coin being tossed is 0.4.
- (B) The result of the next toss of the coin will be heads.

It seems reasonable that my confidence in *A* should be greater in Case 2 than in Case 1. My degree of belief in *B* should remain the same. In Case 1 I form a

partial belief of 0.4 that the result of the next toss will be heads: the minimum betting odds I will accept on the proposition that the result of the next toss will be heads (6/4) measure that degree of belief. There is no apparent reason to modify that in response to the situation in Case 2.<sup>25</sup>

In the circumstances of Case 2 I have more evidence for the hypothesis that the coin is biased in such a way that the expected long-term ratio of tails to heads is 6 to 4. I am thus justified in being more confident that the chance of the next toss resulting in heads is 0.4, even though in both situations the minimum betting odds I will accept on the proposition that the result of the next toss will be heads is 6 to 4. How can we accommodate the idea that I should be more confident of the outcome in Case 2? If I were to bet on the basis of the available evidence in both of the situations described, it would be reasonable to bet at the same odds; but intuitively I should be more willing to bet in the second situation.

Does David Lewis's Principal Principle, which I present in more detail in the following chapter in reference to its bearing on my account of luck, apply to this argument?<sup>26</sup> A component of the Principal Principle is that credence about outcomes should track beliefs about chances, requiring degrees of belief in propositions about the outcomes of future events to be revised according to an agent's confidence in propositions about chances. The principle has no bearing

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<sup>25</sup> If the coin had been tossed 10 times only, resulting in a 6-4 distribution, I would be foolish to accept odds of 6/4. I'm assuming that a 60-40 distribution is sufficient ground for thinking that the coin may be biased.

<sup>26</sup> Lewis, David (1980) 'A subjectivist's guide to objective chance' in R. C. Jeffrey (ed.) *Studies in Inductive Logic and Probability, Vol II* (Berkeley: University of California Press) 263-293; Lewis, David (1994) 'Humean supervenience debugged', *Mind* 103, 473-490.

on circumstances like the ones given here, however. Under these conditions how could a revision in the odds I would accept on the likelihood of heads on the next toss be justified?

Evidence about the coin's behaviour justifies confidence not just about outcomes, but also about the value of bets. I have greater justification for accepting a bet on heads at 6 to 4 or above if I am aware of the 600/400 distribution. The lowest betting odds I will accept measure my degree of belief. I thus have greater justification for having the degree of belief that is measured by the lowest odds I will accept. Evidence about probabilities bears directly on the rationality of my degrees of belief, not just by way of their coherence.

## **Conclusion**

The argument in the previous section suggests how long-term probabilities apply to the rationality of belief. In light of the account of rational belief presented in this chapter and my assessment in Chapter One of when it might make sense to gamble, I will propose a general principle about the rationality of gambling and derive a normative entailment. Gambling with the intention of improving one's financial position from one's net winnings is irrational when the known probability of doing so in the long term is less than half, just because it is less than half. If the probability of winning over the long term is negative, that is less than half, gamblers should be guided by that fact. People who gamble with the intention of improving their financial position from their net winnings have good

reason to make choices that pay off over the long term, and the epistemic input to their choices should reflect the known probabilities.

### 3

## Luck and Decision

In the previous chapters I mentioned factors which might distort gamblers' predictions about outcomes. Prominent among these are beliefs about luck. In this chapter I investigate the relationship between decision making and beliefs about luck, in order to support my account of the rationality of gambling.

The role luck plays in epistemology, ethics and political philosophy makes it a significant concept in philosophy. Debates about knowledge ascription, moral responsibility and distributive justice have all addressed luck. Epistemologists commonly hold that Gettier cases show that knowledge is incompatible with luck; a belief which is true as a matter of luck does not achieve the status of knowledge.<sup>1</sup> Moral luck describes circumstances where someone is subject to moral appraisal for an act over which she lacks control. Political philosophers debate whether distributive justice requires compensation for conditions which result from bad luck. Until quite recently, however, philosophers have not brought their attention to bear on the nature of luck itself. As Duncan Pritchard remarks, treating luck as an undefined primitive "is surprising, particularly given the tendency of analytical philosophers to offer theories of just about any term

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<sup>1</sup> The vast literature on this topic originates with Gettier, E. (1963) 'Is justified true belief knowledge?', *Analysis* 23, 121-3.



of philosophical interest.”<sup>2</sup> This lack has been rectified in the past twenty or so years, with various theories of luck being proposed and refined.

Although they do not bear directly on my concerns here, an outline of recent philosophical analysis of luck and the various theories of luck that philosophers have proposed may provide a useful background. In this debate the presence of luck is typically presented as satisfying one of the following conditions, or some combination of them: chance, lack of control, and significance. Different theories depend on which conditions are judged truly characteristic of luck, and vary according to how they understand these, leading to a rich and complex philosophical literature on the topic. For my purposes it will suffice to briefly state the three theories of luck which dominate this literature. The modal theory counts an event as lucky if it occurs in the actual world but not in a wide class of close possible worlds, keeping the initial conditions for the event fixed; i.e. if the world had varied slightly the event would not have occurred.<sup>3</sup> The lack of control theory counts an event as involving luck for someone if she had no control over the event or lacked the capacity to bring it about; i.e. the event did not result from her exercising her will.<sup>4</sup> Probability accounts of luck define it in terms of the likelihood of its occurrence; i.e. an event involves luck for someone only if its occurrence was improbable.<sup>5</sup> The ongoing debate about luck largely excludes a

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<sup>2</sup> Pritchard, Duncan (2015) ‘The modal account of luck’ in Duncan Pritchard and Lee John Whittington (eds.) *The Philosophy of Luck* (Chichester: Wiley Blackwell) 143-167.

<sup>3</sup> Duncan Pritchard is largely responsible for this view. See Pritchard, Duncan (2005) *Epistemic Luck* (Oxford: Oxford University Press); Pritchard, ‘The modal account of luck’; Pritchard, Duncan (2016) ‘Epistemic Risk’, *The Journal of Philosophy* 116, 550-571.

<sup>4</sup> See Riggs, Wayne (2009) ‘Luck, knowledge and control’ in Adrian Haddock, Alan Millar and Duncan Pritchard (eds.) *Epistemic Value* (Oxford: Oxford University Press) 204-21; Mele, Alfred R. (2006) *Free Will and Luck* (Oxford: Oxford University Press). Greco, John (2010) *Achieving Knowledge: A Virtue-Theoretic Account of Epistemic Normativity* (Cambridge: Cambridge University Press).

<sup>5</sup> For a probability theory, see Rescher, Nicholas (1995) *Luck: The Brilliant Randomness of Everyday Life* (New York: Farrar Straus Giroux).

pure probability approach, and favours the modal and control theories, or approaches that combine theories in some way.<sup>6</sup>

As insightful as these theories are, we should keep in mind the semantic slipperiness of 'luck'. In everyday use the term has widely agreed applications as well as contested ones; has paradigm cases and less clear-cut ones; blurs with related notions such as fortune and accident; and can be context dependent, to the point where the same event can count as both lucky and unlucky for someone. My approach to luck in this chapter is sensitive to the implications of this uncertainty.

Even though luck is now the subject of such extensive philosophical debate, very little attention has been given to the relation of luck to rationality.<sup>7</sup> How does luck bear on our choices? Can beliefs about luck lead to unwise decisions? I aim to show how common beliefs about luck involve epistemic error. I argue that no-one is reliably lucky, and that projecting luck can undermine rational decision-making. I conclude that gambling choices may be irrational when they involve this type of epistemic error, through gamblers basing beliefs on an ungrounded understanding of luck.

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<sup>6</sup> See Coffman, E. J. (2007) 'Thinking about luck', *Synthese* 158, 319-34; Levy, Neil (2011) *Hard Luck: How Luck Undermines Free Will and Moral Responsibility* (Oxford: Oxford University Press) for versions of mixed accounts.

<sup>7</sup> Luck's relationship with rationality obviously differs formally from the substantive role luck plays in the debates in epistemology, ethics and political philosophy outlined above. I don't think this factor lessens the value of enquiry into how beliefs about luck might impact on decision making.

## Luck and belief

As Daniel Dennett points out, people often appear to believe that luck is a “projectible property of people or things.”<sup>8</sup> Such beliefs often inform expectations. People project luck. It is worth noting that in characterising common beliefs about luck Dennett talks of projectible *properties*. To prefigure much of what comes in this chapter, the crucial issue for projectibility is regularity. Conceptions of projectibility differ in the way they relate regularities to satisfaction conditions, not in what they say about properties.

Dennett goes on to claim that “luck is *mere* luck, not a genuine projectible endowment.”<sup>9</sup> He doesn’t defend this claim in detail but tells a story that he thinks makes it so obvious that it doesn’t need further justification. He mentions the sort of circumstances that might lead people to think of luck as “something real”, but not why they misconceive luck in doing so.<sup>10</sup>

Many people act as if luck is projectible. We should be alert to the presence of wishful thinking, of wanting luck to be projectible. But we should also recognise the common belief that some of us are lucky and others not, and that people project luck on the basis of that belief. I agree with Dennett that we ought not to project luck. But rather than just pointing out that common attitudes towards luck are often confused, I want to show *why* luck is not projectible.

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<sup>8</sup> Dennett, Daniel C. (2015) *Elbow Room: The Varieties of Free Will Worth Wanting*, New edition (Oxford: Oxford University Press), p. 92.

<sup>9</sup> Dennett, *Elbow Room*, p. 92.

<sup>10</sup> Dennett, *Elbow Room*, p. 93.

When we call someone lucky we say that chance favours her. But, I will argue, no-one is reliably lucky. Someone might come to think of herself as lucky, because of the degree to which she has benefited from recent chance events. She notices that in this she differs from most other people. She observes that some people seem to negatively mirror her experience of luck: chance events work to their disbenefit. We can understand why she thinks she's a lucky person, and why others agree.<sup>11</sup>

Perhaps her self-understanding as a lucky person will affect her behaviour so that she leads a happy life. She might be confident about the future, more open to new experiences. On the other hand, she might become complacent, simply expecting good outcomes, rather than working towards them. Whatever the impact of considering herself a lucky person, she would make a mistake in inferring from her past experience that she can trust luck. Choices made on the basis that one is lucky are to that extent misinformed choices.<sup>12</sup>

What then should we make of the claim that someone is lucky? Comments like "I'm a lucky person" or "I'm on a run of luck" appear to express commitments about the nature of luck, and the way it attaches to people.<sup>13</sup> And we can see how these commitments come about. If I have a substantial win in a lottery I'm

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<sup>11</sup> A paradigm case of someone thought to be favoured by luck is the multiple lottery winner.

<sup>12</sup> 'Lucky Phil' fell into this trap. Lucky Phil carried the message of an anti-drink-driving promotion on Australian television. To all who know him, one of Phil's most salient characteristics is being favoured by luck. He's a really lucky bloke. But he makes a mistake in believing that his luck will keep him away from the police 'booze bus'. He gets caught drink-driving, and there goes his driving license.

<sup>13</sup> Psychological research by Darke and Freedman suggests that while some individuals view luck as unreliable, others firmly believe that luck is a stable influence in some people's lives. See Darke, P. R. and J. L. Freedman (1997) 'The belief in good luck scale', *Journal of Research in Personality* 31, 486-511.

likely to believe I was just lucky; after all who wins a lottery is a matter of chance. But if I win in the same lottery the next week, I might start to think that I am favoured by luck, and that belief entails that luck has a life independent of the outcome of chance events. This shows a tension in our understanding of luck. On the one hand, I think that I can have no role in the outcome of a lottery (apart from participating, of course). It's just luck if I win. But if I win again, I start to think that there's something special about my relationship to luck. It's not mere accident that I won; I won because I am a lucky person, or because luck is running my way. To repeat Dennett's characterisation, I might come to think of luck as something real. No radical belief revision here; just an easily understood confusion. I still mean 'luck', but with an inconsistent overlay.

We should reject the idea that the constituents of personal identity could include being lucky, or that 'lucky' can be predicated of someone on more than accidental grounds. To the extent that they do express beliefs about the reality of luck and about continuing states of persons, statements such as "I'm a lucky person" or "I'm on a run of luck" are ungrounded. Perhaps we can best make sense of such statements by taking them as ways of talking about chance, and its presence in our lives.

We have reason to believe that many of our attributes will continue. Tall people usually remain tall and skilled chess players usually retain their capability. Having consistently achieved good results in high jump competitions provides grounds for believing that you will continue to do so, as long as you remain fit, continue to train, and so on. 'Tall', 'a skilled chess player', and 'a successful high

jumper' are all, in different ways and to different degrees, projectible predicates. We can go from knowledge of the past to predictions about the future. What about 'lucky'? Why shouldn't we predict future luck on the basis of past luck? I've already hinted at my view, but it can be encapsulated in the claim that luck is at best an accidental regularity, and 'lucky' is thus not projectible.

### **Projectibility**

Some regularities are projectible, others are not. But how can we distinguish? Pre-theoretically, it often just seems obvious which are which. If all ravens observed so far have been black, we feel justified in believing that the next observed raven will be black. On the other hand, we wouldn't feel confident about the next Australian Federal election being held on a day when Canberra has a maximum temperature more than five degrees below the monthly average, even if all previous elections had been. We feel that the regular observed connection between being a raven and being black justifies the judgement that the connection will continue to hold for future observations. But we wouldn't feel confident about the future connection in the case of temperature and elections. We would consider it to be an accidental regularity that we didn't have grounds for projecting into the future. Background assumptions about connections play a decisive role in discriminating projectible from non-projectible regularities.

But background assumptions can and do differ along various lines, and we can imagine a framework of understanding that posited a non-coincidental connection between weather and elections, or more fancifully, between the death of the present Duke of Dorset and owls on the ramparts. This correlation occurs in Max Beerbohm's novel, *Zuleika Dobson*.<sup>14</sup> The presence of owls on the ramparts of the ancestral home presages the death of the incumbent Duke the following day. At the relevant point of Beerbohm's story, the Duke plans to commit suicide the next day. But he is having second thoughts. Should he or shouldn't he? His vacillation ends when he hears that owls have landed. He understands that he will die tomorrow and goes ahead as he planned. His confidence about the connection is so great that he acts so as to make it true.

We need, however, to be careful how we interpret beliefs about correlations. Assume that members of a traditional agrarian community hold that harvests are bountiful when red robins are seen during planting. There may in fact be a causal connection between the two regularities that, if known, would justify projection to future cases, even though the actual grounds for believing that the correlation will continue in the future are blind to that connection. In our imagined community, it is almost universally believed that red robins are sent by the Gods as a sign that they are pleased with sacrificial offerings and will thus favour the crops. But however we interpret that group's system of belief, the correlation may also be projectible on independent grounds, perhaps ones that satisfy contemporary scientific standards. The migratory patterns of red robins might depend on local climatic conditions, and when those favour the success of

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<sup>14</sup> Beerbohm, Max (1998) [1911] *Zuleika Dobson* (New York: Modern Library).

crops, they also favour the reproductive success of red robins. These birds have evolved migratory habits that make for the correlation.

But we have to be careful here, too. There may be an intricate relationship between the grounds of the group's beliefs about natural processes and its religious beliefs. It might even be the case that a certain understanding of natural processes creates the conditions for the possibility of those religious beliefs. Fertility gods constitute our imagined community's pantheon, standing in a range of relationships to reproductive success, including the success of crops. The gods represent the group's grasp — its cultural knowledge — of the cycles and circumstances of nature and growth. Offering the sacrifice is symbolic of the desire for a good harvest, rather than showing a belief in irreducibly occult forces.

This story raises three related points about projectibility. First, if we believe that a regularity is projectible, does it matter what grounds others appeal to in making that projection? Does it matter if they project regularities on grounds that we judge to be false? Second, we should not take it for granted that the apparent or surface grounds fully represent the reasons for projecting regularities. Third, and most importantly, our practices don't decide the issue about which regularities are projectible. What we feel depends to some extent on the 'we', and 'our' background assumptions. And even if we get clear about the framework of understanding, the considerations raised by my first and second points show how difficult it is to clearly identify which regularities are projectible.



Even a minimal conception of rationality would rule out projecting all observed regularities. Doing so denies coincidence, a pervasive feature of the world. It undermines the workings of practical reason and makes planning nigh on impossible. We do feel that some regularities are projectible, but not all. I have aimed to show that although not all regularities are projectible, we can't determine which ones are simply by reflecting on our belief that they are, and on our inductive practices. What I have said doesn't tell us which regularities we are justified in projecting and doesn't establish a rule for inductive reasoning.

We want our beliefs about the future to fit the way the world will be, especially given the role of belief in realising our desires. Of course, we should trust our inductive practices. The fact that they have been generally reliable suggests that they incorporate ways of discriminating between projectible and non-projectible regularities. Some philosophers argue that the reliability of our inductive practices should be understood in evolutionary terms. Making this point, W. V. Quine remarks that "Creatures inveterately wrong in their inductions have a pathetic but praiseworthy tendency to die before reproducing their kind."<sup>15</sup> The possibility of catastrophic environmental changes shows that evolution cannot however guarantee such reliability.

Without denying the efficacy of our inductive practices, and at the cost of tautology, here's a normative conclusion: we should only project observed regularities that are projectible. Determining a rule for projection becomes

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<sup>15</sup> Quine, W. V. 'Natural kinds' (1969) in Nicholas Rescher (ed.) *Essays in Honour of Carl G. Hempel: A Tribute on the Occasion of his Sixty-Fifth Birthday* (Dordrecht: Springer Netherlands) 5-23, p. 13.

pressing, not because all agents would then have guidance — that would be the most naïve revisionism — but because such a rule would describe the reasoning of a fully rational agent. At least it would provide a regulative ideal for all us less than fully rational agents. A rule for projection can tell us when someone is going wrong and help us grasp the structure of failures of practical rationality, such as compulsive behaviour, weakness of will, and recklessness.<sup>16</sup>

Formulating a rule of projection is notoriously difficult. Some regularities are not projectible, but why? An answer would recognise that the scope and size of previous observed regularities bear on the content and justifiability of projections. It would also recognise that merely coincidental uniformities are not projectible. Events coincide where two or more independent causal chains have the same outcome. It would be a matter of coincidence if Australian Federal elections have always been held on a day when Canberra has a maximum temperature more than five degrees below the monthly average. The causal chain that leads to one has always been independent of the other. The events are not purely coincidental — the election is held in Australia, and Canberra is an Australian city — but they are sufficiently coincidental to sustain the rejection of a common cause. Generalising these points, we can see that past regular connections only justify future projections if those connections are known to be not merely coincidental. An answer to our question would assume that the future will resemble the past, but only in certain ways, and that not all regular

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<sup>16</sup> For discussion of the differences between these see Watson, Gary (1977) 'Skepticism about weakness of will', *Philosophical Review* 86, 316-339; Smith, Michael (2003) 'Rational capacities, or: How to distinguish recklessness, weakness, and compulsion' in Sarah Stroud and Christine Tappolet (eds.) *Weakness of Will and Practical Irrationality* (Oxford: Oxford University Press) 17-38.

connections justify beliefs about how the world will be. These considerations don't define a rule for projection, but they limit what projections a satisfactory rule would allow.

### **Why luck is not projectible**

We cannot predict luck, so we should not project luck. This claim is normative, not empirical. Projectibility *licences* beliefs about future instances of tokens of event types. Given this, the inference from 'cannot predict' to 'should not project' is partially constitutive of projectability, in that it specifies a justificatory condition for projection, rather than stating a fact about our current epistemic limitations. Of course, luck's unpredictability is not essential in the same way as the behaviour of objects at the quantum level. Particular contexts are required. Unless I intended to go to the World Trade Centre on the morning of September 11, 2001, but for some reason didn't make it, it makes little sense to say that I was lucky not to be there when the planes hit. Likewise, it's not a matter of luck that I didn't slip on a banana peel thereby not getting run over by a passing car, even though if I had slipped I would have been run over, and that would have been bad luck. Luck requires something unintended or otherwise unexpected, not something we are justified in expecting. The very idea of having good grounds for projecting luck is at odds with luck's unpredictability. Every day can't be my lucky day.

Jack works at the World Trade Centre. Or he's a tourist, or he's seeing a stockbroker — it doesn't matter how often he goes to the WTC, or his reason, as long as he intends to be there early on September 11, 2001. Now, it happens that the previous evening Jack's friend Bill slipped on a banana peel near a busy intersection in Brooklyn and was run over and suffered a broken leg. The following morning, instead of going to the WTC as planned, Jack visited Bill at a Brooklyn hospital. Jack was lucky that Bill was run over. Bill was unlucky. But Bill was also lucky — he'd planned to go with Jack to the WTC.

On the same morning Mary was sitting at home in Canberra, reading a novel. Until a month before she had intended to be at the WTC on the morning of September 11. In the meantime, like Bill, she had broken her leg. She couldn't make it to New York. This case raises a number of issues. For one, how far back should we go in ascribing luck? Unless a line is drawn, luck attaches to all events, and collapses into determinism. Without such a line, any event in the causal chain that leads to Mary staying in Canberra could be called lucky. Given that most people have rich sets of aims and plans, the same event could probably also be called unlucky.

We need to keep in mind that luck involves chance, not just good or bad outcomes. We can distinguish between chance events and those events whose causes involve deliberate choice or other factors that ground predictions. In order to understand why Mary had intended to be at the WTC on September 11 it helps to know that she works in international finance. And even if you hold that ultimately all events are matters of chance, or that in principle all events are

predictable, you ought to distinguish at the local level between events that can be predicted and those that can't be; that is between events where your knowledge of circumstances justifies causal inference, and chance events. A person with some relevant information about Mary's job, her aims, and so on, could have worked out that, other things being equal, Mary would be at the WTC on the morning of September 11. But, to the extent that it was accidental, breaking her leg was not predictable. So, in one regard at least, the accidental (and thus unpredictable) damage to her leg was lucky for her. If Mary's friend Jane, who was also in Canberra that morning, and who had never planned to go to New York, had accidentally broken her leg around the same time, relative to what happened at the WTC that would not have been lucky for her.

Given what happened to many of the people who were there at the time, was Mary lucky simply because she wasn't there when the planes hit the WTC? Well, no. For starters her good luck, relative to that event, was breaking her leg. After that happened and Mary cancelled her ticket, we could confidently predict that Mary would not visit the WTC on September 11. Mary only realised on September 11 that she had been lucky to break her leg. Before then she had cursed her bad luck. But it remains tempting to think that those people (apart from the terrorists) at the WTC when the planes hit were dreadfully unlucky. This temptation should be resisted: they were unfortunate, but they were not unlucky. "Being there then" won't do, except for those whose presence resulted (in the right sort of way — I'll come back to that) from the outcome of some unpredictable event, which was made unlucky by the planes hitting. And what

about all the people who suffered unexpected misfortune as a result of the event? Were they *unlucky*?

Mary was fortunate not to be there then not just because that's when the planes hit, but because if events had taken their expected course, she would have been there. Mary's friend Jane had no expectation of being near New York then. Asserting her good fortune because of what could have happened to her if she had been is unsustainable, because if true it would be equally true of *everyone* who wasn't there.

Stories like these can be invented and elaborated endlessly to illuminate the nature of luck, or perhaps show how difficult that task is. But they do help us see that luck is relative to contexts and to agents (not always individual persons — a group collectively might have good or bad luck), as well as to events, and that luck and unpredictability are conceptually tied.

This brings us back to the notion of a lucky person. Clearly a 'lucky person' can't just be a person for whom things regularly and predictably go well. Luck entails rationally unexpected good or bad fortune. You might regularly and predictably have good things happen to you, as a result of possessing natural abilities, or because of social circumstances. Even so, some of the good things that happen to you might not be predictable. Does this mean that contrary to what I say here, according to my claim that luck entails rationally unexpected good or bad fortune you are in fact lucky? No, because being justified in expecting good fortune doesn't require that you can predict each good thing you expect to happen.

So being a lucky person can't mean that the unexpected is not so for you. And by extension you can't even 'expect the unexpected'. The 'lucky person' can't expect to be lucky. And that doesn't leave the concept with much content beyond mere accident. Just as coincidental regularities are not projectible because the coinciding events result from independent causal chains, luck is not projectible because chance events are causally opaque.

Using causal opacity to characterise luck helps in avoiding regress in identifying the relevant chance event. Even though chance played a role in Jack's meeting Bill, that event didn't make for Jack's luck on 11 September 2001. The causal chain leading from that event to Jack visiting Bill in that hospital in Brooklyn is not opaque through and through. Jack's good luck depended on Bill's accident, not on a long chain of events going back to their first meeting, or on the extended history of banana cultivation, for that matter.

### **Summary: Luck and Projectibility**

I have developed an *a posteriori* conception of projectibility. To know if a regularity is projectible we need a lot of auxiliary information about the world. My interpretation implicitly rejects the claim that for some regularities we can know *a priori* that an observed regularity gives good reason for predicting its continuance in unobserved cases; that we can know *a priori* that a particular premise provides good reason for a particular conclusion. Proponents of *a priori*

conceptions argue that inductive inference must depend on some *a priori* justificatory principle.<sup>17</sup> Extraneous information doesn't allow us to determine which regularities are projectible. *A priorists* argue that the premise "all observed emeralds have been green" supports the conclusion "the next emerald to be observed will be green" because we know *a priori* that inductive reasoning is justified. But, to paraphrase Nelson Goodman, *a priori* conceptions can't confirm at this time whether an emerald is grue (green if observed before some future date and blue if observed during or after that date) or green. *A posteriori* conceptions of projectibility deny that we can know *a priori* that inductive inference is a justified form of reasoning.

I hold that projectibility occurs where we have rational grounds for expecting a correlation to continue, and contingent information about the world constitutes rational grounds. I invoke various *a posteriori* conceptions of projectibility, without deciding between them. I talk of causal connections, invoking the principle that a regularity is projectible if and only if there is some known *a posteriori* truth about causal connections that taken in conjunction with a regularity statement supports an inference to future cases. An enriched version

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<sup>17</sup> For one such argument, see Chapter 7 of Bonjour, Laurence (1998) *In Defense of Pure Reason: A Rationalist Account of A Priori Justification* (Cambridge: Cambridge University Press). Bonjour proposes an inference to the best explanation account of induction: the best explanation of the premise of an inductive inference is the truth of its conclusion. Specifically, he proposes the principle that "In a situation in which a standard inductive premise obtains, it is highly likely that there is some explanation (other than mere coincidence or chance) for the convergence and constancy of the observed proportion" (p. 208). This principle is formulated more succinctly by Anthony Brueckner as "It is highly likely that there exists some explanation (other than chance) for the truth of a standard inductive premise." Brueckner, Anthony (2001) 'Bonjour's a priori justification of induction', *Pacific Philosophical Quarterly* 82, 1-10, p 3. Bonjour goes on to say that "once general prejudices about *a priori* knowledge have been defused, the *a priori* status of [this principle] seems sufficiently obvious as to require little discussion." p. 208. As to be expected, however, the obviousness of the principle's *a priori* status has been challenged, for example by Brueckner in his article cited above.



asserts that a regularity is projectible if and only if a future case is predictable on the basis of all prior relevant information, including the regularity statement.

I also talk about accidental regularities. Here I appeal to the principle that a regularity is projectible if and only if we have evidence that it is a non-coincidence. I don't deny that an accidental regularity may be stated using only projectible predicates. Let's assume that the following is a true accidental regularity: every cubical piece of pure gold weighs less than 100kg. It is accidental in the sense that things could have been otherwise. But each of the predicates it contains is projectible. 'Accidental' also means purely co-incidental. Taken this way, 'accidental' is ambiguous between an accidental regularity and accidentally making a correct prediction. Purely by accident all the marbles in an urn happen to be white. Having taken out ten white marbles in a row, and none of any other colour, I correctly predict that the next marble I draw will be white. Given that the composition of the contents of the urn could well have been different — after all, only by co-incidence are they all white — my prediction is successful by accident, no matter what proportion of the marbles I have already seen. My account of projectibility appeals to the anomic rather than the predictive sense of 'accidental'. An accidental regularity results from independent causal chains, rather than having a law-like cause. Drawing ten white marbles and none of any other colour makes it reasonable to predict that the next marble will be white. After the tenth white marble, however, I draw a black one. On my interpretation a regularity is projectible when certain epistemic conditions are satisfied. Weaker conditions apply to making reasonable predictions.

Abstracting from these principles, an observed regularity is projectible if and only if we have evidence concerning the genesis of the past members of the regularity that gives us good reason to believe that the regularity holds in unobserved cases. Luck doesn't satisfy this requirement. Someone who is favoured by the outcomes of chance events to a higher degree than chance doesn't have such evidence. *A posteriori* truths about causal connections and statements of non-coincidental regularities do not apply to luck. Regularity statements about luck fail to satisfy the conditions of projectibility.

We can test my account of projectibility by imagining that the ball has landed on red for the previous twelve spins of a roulette wheel. The first six were chance outcomes; the rest we know result from the wheel being rigged. According to my account, there are two regularities: one that isn't projectible, and a second that is. Why not just one regularity? After all, the ball has landed on red twelve times in a row.

We can separate the two regularities by considering unobserved spins. Imagine that we know that unobserved spins occurred, interpolated between the observed ones. Where they occurred prior to the rigged outcomes we do not have grounds for holding that they conformed to the regularity. We don't have evidence that gives us good reason to hold that unobserved spins resulted in red. We shouldn't project the regularity. For post-rigged spins, we do have evidence that unobserved results conformed. The regularity is projectible. Counter-factual cases tell the same story. If more spins were interpolated

between the actual ones, we would be justified in holding that all those occurring post-rigging would be red, but not all those prior to rigging. That's the situation in possible worlds that vary from the actual world only in the number of observed spins in the overall sequence.

I have given an epistemic account of projectibility, which has consequences for beliefs about luck.<sup>18</sup> We have grounds for believing that a regularity involves luck only if we do not possess evidence concerning the genesis of the past members of the regularity that gives us good reason to believe that the regularity holds in unobserved cases. We should believe that a regularity does not involve luck if we possess evidence concerning the genesis of the past members of the regularity that gives us good reason to believe that the regularity holds in unobserved cases. An agent makes an epistemic mistake taking a regularity as evidence of luck. "I've been lucky in the past, so I can expect to be in the future" doesn't even make it to the starting post.<sup>19</sup> Another test of the justification of a belief is whether the actions it might inform tend towards satisfying the agent's goals. "I've been lucky in the past, so I can expect to be in the future" also fails this test. As Jon Elster says, "For action to be rational, the beliefs on which it is based must themselves be well founded."<sup>20</sup>

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<sup>18</sup> Steglich-Petersen, Asbjørn (2010) 'Luck as an epistemic notion', *Synthese* 176, 361-377 presents an epistemic theory of luck, according to which luck is understood in reference to an agent not being positioned to know if an event will occur. Although I also consider luck in epistemic terms, it is not my aim here to present an epistemic *theory* of luck.

<sup>19</sup> My argument doesn't depend on the justification of either an internalist or an externalist conception of epistemic rationality. Admittedly, on the standard version of internalism an agent might blamelessly form radically false beliefs about the workings of luck. In this sense, an agent might rationally project luck; something I rule out as irrational. Powerful objections have been raised for the standard version of internalism, however. See Goldman, Alvin (1999) 'Internalism exposed', *Journal of Philosophy* 96, 271-93; Wedgwood, Ralph (2002) 'Internalism explained', *Philosophy and Phenomenological Research* 65, 349-369.

<sup>20</sup> Elster, *Reason and Rationality*, p.23.

## **Objections and Defence**

I will now consider four potential objections to my claim that luck is not projectible. The first takes on my apparent commitment to the idea that a lucky event requires that something unusual occurs. The second views 'lucky' as dispositional, and so a projectible predicate. The third argues that we talk of luck in circumstances where statistical distributions of events are well-established, or where the chances are known. The fourth objection asserts a distinction between 'pure' and 'impure' luck and argues that characteristics of 'impurely' lucky people ground projections of luck.

### ***First Objection***

I have claimed that luck is not projectible. I have stressed luck's unpredictability and illustrated the conceptual ties between luck and unpredictability. But I can't establish luck's unprojectibility by simply pointing to its unpredictability, because, relative to the justification of rational inference, 'unpredictable' means 'unprojectible'. What substantial argument do I have for the move from luck's unpredictability to its unprojectibility? I suggested earlier that luck requires something unexpected. My examples so far might be taken to support the view that for an event to be lucky it either has to be unusual or the consequence of an unusual event. On this basis, I might be understood as arguing that lucky

events are unprojectible because unexpected, and unexpected because unusual.

The first objection gives counter-examples to this claim. Fred works at the World Trade Centre. He goes there on the subway. Subway trains are often delayed because of breakdowns and other problems, and as a result Fred often gets to work later than he wanted. He's not sure how often, but it feels like about half the time. Was Fred lucky that his train was delayed on September 11, 2001? It seems perverse to deny that Fred was lucky, so it looks like we don't need unusualness to get from unpredictable to unprojectible.

But does my argument really depend on unusualness? No: unexpectedness does the work. And in the sense at issue, expectedness differs from predictability.<sup>21</sup> Consider the following. An urn sits on the table in front of you. You know it contains red balls and black balls, but you don't know the proportions. You can't rationally predict the likelihood of the first ball drawn being red. You shouldn't expect it either.<sup>22</sup> Now vary the scene. You know the urn on the table contains 50 red balls and 50 black balls. In this case you can reasonably believe that the chance of the first ball drawn being red is 1/2. It

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<sup>21</sup> Martin Smith makes a related point, distinguishing surprisingness from probability. This distinction depends on the following insight: "If I'm surprised by 92 heads in a row, on the grounds that it's so unlikely, then I'd have to be surprised by *any* sequence that came up — surprised *no matter how the 92 coins land*." Smith, Martin (2017) 'Why throwing 92 heads in a row is not surprising', *Philosophers' Imprint* 17:21, 1-8, p. 4 (his emphasis).

<sup>22</sup> It has been argued that lacking sufficient reason to assign different probabilities agents should assign equal probabilities (the principle of indifference) but that argument concerns the epistemic input to rational choice in situations of uncertainty, not what beliefs the raw known facts justify. I discuss this issue in some detail in the previous chapter.

would still be unreasonable for you to expect, in the sense of assume as a future event, that it will be red.

Fred has taken the underground to work hundreds of times, and his train has often been delayed. The urn story shows that even if he knows the proportion of delays Fred cannot reasonably expect that his train will be delayed on any particular occasion, although he may be justified in predicting that event's likelihood.

But what if Fred's train is delayed considerably more often than not? There must be some threshold above which expectation becomes justified. Because of train problems Fred arrives late at the WTC eight out of ten times. He would reasonably expect to be late on any particular day. Was he lucky his train was delayed on September 11, 2001? It might have been one of the two out of ten days he arrived on time. Now imagine that Fred only goes to the WTC once each year; or every two years; or that he's never been there but thinks he might visit one day. Until he decides when, he can reasonably expect not to be at the WTC on any specific day. I can't give a precise line of demarcation, but in those situations where Fred could reasonably expect to be somewhere else — including on a delayed train — he wasn't lucky to be absent from the WTC. The ticket-holder who wins the lottery has good luck. The thousands who miss out can't reasonably claim to have suffered bad luck. Relating luck to rational expectation helps us understand why quantity matters.

Someone might respond that Fred could not reasonably expect large aeroplanes to crash into the World Trade Centre, and that his luck consisted in his train being delayed on the day that happened. Whether he could expect his train to be delayed has no relevance. Now, admittedly, something had to happen to justify the claim that Fred was *lucky* his train was delayed. Planes crashing into the WTC fits the bill. Many people were unlucky to be there at the time that happened, and many others lucky not to be. The planes crashing into the buildings caused the misfortune of those who suffered misfortune. But suffering unexpected misfortune doesn't suffice for bad luck. For 'luck' to have meaning we must distinguish between those for whom luck played a part and the rest. If Fred was lucky it was because his train was delayed on that day, and then only if he could not reasonably assume it would be.

The first objection to my claim that luck is not projectible fails because I hold that the element of chance in luck entails unexpected events, not unusual ones. You can sometimes predict the occurrence of an event that turns out to be lucky, but you cannot predict that it will be lucky. If you reasonably expect an event, any associated fortune or misfortune is not a matter of luck in virtue of that event.<sup>23</sup>

There might be a situation in which I expect an event to occur as the result of a cause which turns out not to operate, and the event occurs anyway, as a result

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<sup>23</sup> Nicholas Rescher draws a similar contrast between luck and fortune; "You are heir to a great estate by auspicious fortune, but you are lucky when you inherit it just in the nick of time to save you from bankruptcy." Rescher, *Luck: The Brilliant Randomness of Everyday Life*, p. 29. Duncan Pritchard and Matthew Smith note that on the basis of distinguishing luck from fortune "[O]ne could regard lucky events as being part of a more general class of fortunate events." Pritchard, Duncan and Matthew Smith (2004) 'The psychology and philosophy of luck', *New Ideas in Psychology* 22, 1-28, p. 21. Susan Hurley's distinction between *thin luck* (whatever people are not responsible for, that bears on their interests or concerns) and *thick luck* (which has more specific content) would perhaps be better characterised as between fortune and luck. See Hurley, S. L. (2003) *Justice, Luck, and Knowledge* (Cambridge, MA: Harvard University Press), p. 107.

of chance. I was rational in expecting the event to occur, but it turned out to be a matter of sheer luck that it did occur. The possibility of such situations doesn't count against the claim that lucky events are rationally unexpected. I have no grounds for expecting the event that brought good luck.

We need to be careful in identifying lucky events. Fred and Mary married on the first day of July. A local radio station has a "wedding lottery" and gives prizes to all couples who come to the station with evidence that they got married on one of five randomly chosen days. It was lucky for Fred and Mary that the lottery selected that day, not that they married then. If the rationally unexpected outcome of some chance event resulted in the terrorists choosing the WTC, rather than some other place, then maybe many more people suffered bad luck than my account suggests.

### ***Second Objection***

What if we see 'lucky' as identifying a dispositional predicate, like 'fragile'? Something is fragile at a particular time if it would break if subject to a suitable degree of force at that time. Analogously, someone is lucky at a particular time if she would be more likely than chance to get a favourable outcome if subject to a chancy situation at that time. Unfortunately for proponents of a dispositional analysis of luck, the analogy fails. Even on an anti-realist conception of dispositions, which rejects the view that dispositions should be understood as categorical grounds such that an object with a particular disposition differs from an otherwise identical object lacking it, something counts as fragile if it breaks



when subject to a suitable amount of force. No such definitional guarantee can be provided for single-case lucky outcomes. Saying I was lucky to win a lottery does not entail anything beyond chance about my likelihood of winning any other lottery I enter.

But what about so-called lucky people, where 'lucky' names a standing rather than a transient or single-case disposition? On this realist conception there exists a class of lucky people: those who are lucky much more often than not. This view does assert a categorical difference between lucky people and the rest. So we should replace 'at a particular time' with 'more often than not'. To reformulate the definition: someone is lucky if she would be more likely than chance to get a favourable outcome more often than not if subject to a chancy situation. On this dispositional definition 'lucky' is a projectible predicate: it identifies a connection between a lucky person's being in a chancy situation and that person's getting a better than chance favourable outcome.<sup>24</sup>

But a chancy situation is just one where such connections with outcomes don't exist. Any ticket in an honest lottery has the same chance as any other. The chance of my having the winning ticket in a sold-out honest lottery depends on how many tickets were offered and how many I bought, nothing else. Understood dispositionally the notion of luck is incoherent, and as such can't be instantiated.

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<sup>24</sup> For a critical discussion of opposing conceptions of dispositions see Mellor, D. H. (2000) 'The semantics and ontology of dispositions', *Mind* 109, 757-80, Sections 5 & 6.

A potential challenge to this claim arises if we admit totally inaccessible (perhaps mystic) properties. In that case there might be nomic regularities whose instances we cannot rationally predict. If so, even if I couldn't rationally anticipate instances of good luck, I could have the disposition of being lucky.<sup>25</sup> This possibility, though interesting, doesn't threaten my account of luck, which depends on what we can know about. The challenge depends on the existence of properties that we cannot know about, so *a fortiori* the data that would justify claims of dispositional luck is not available. To return to my argument: if luck can't be instantiated, 'lucky' can't be projected. The dispositional interpretation makes 'lucky' both projectible and not projectible. My account of luck doesn't make the notion incoherent and avoids the entailed contradiction.

### ***Third Objection***

According to David Lewis's Principal Principle rational degrees of belief are expectations of objective chances, at least when objective chances are known to exist.<sup>26</sup> It tells us to align degrees of belief with chances. The result of a toss of a fair coin is a matter of objective chance. Lewis's principle tells us that if we believe a certain coin is fair, and so, as of now, to have a 50% chance of falling heads at the next toss, we should assign a degree of belief of 0.5 to the proposition that the coin will fall heads at the next toss. This seems a reasonable requirement.

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<sup>25</sup> The relationship between properties and predicates is a significant philosophical topic. Rather than enter debate on this topic I have aimed to consistently adhere to Mellor's position, that "Dispositionalism is a feature not of properties but of predicates." Mellor, 'The semantics and ontology of dispositions', p. 767.

<sup>26</sup> Lewis, David, 'A subjectivist's guide to objective chance'; Lewis, David, 'Humean supervenience debugged'.

Now, if I bet on heads, and win, have I been lucky? I do have some responsibility for this outcome — I chose to bet, and to bet on heads — but was it lucky for me that the coin fell heads? It might equally have fallen tails. The third objection to my argument that luck is not projectible appeals to situations like this, where outcomes are matters of chance, and where there exist rational grounds for our degrees of belief in particular outcomes. I claimed that if an event is lucky, it is rationally unexpected. Lewis's principle, by linking chance events and rational degrees of belief about outcomes, appears to undermine this claim.

Lewis states that "certainty about chances ... makes for resilient degrees of belief about outcomes".<sup>27</sup> Credence about outcomes should track beliefs about chances. As long as I continue to believe that this coin is fair, I should retain my existing degree of belief of 0.5 that it will fall heads on the next toss. If I come to believe the coin is biased towards heads, thereby increasing the objective chance that it will fall heads on the next toss, I should revise my degree of belief in that outcome. And in that case, I wouldn't be inclined to think I was lucky to win on heads.

I shouldn't think I was lucky to win on heads where I believe the coin has a 50% chance of falling heads, and my expectation accords with that. I would be very lucky, however, if I called heads nine times in row, and won each time. That *would* be unexpected. It certainly would not accord with my expectation of the objective chance of it happening. Similarly, if I believed the objective chance of

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<sup>27</sup> Lewis, 'A subjectivist's guide to objective chance', p. 266.

heads on the next toss was 20%, I would think myself lucky to win on a call of heads. Presented with what Lewis calls “admissible” evidence, that is evidence that bears on my degrees of belief *via* my judgement of chances, I might revise my belief about the objective chance of heads.<sup>28</sup> Only in such circumstances should I revise my degree of belief, and my judgement about whether I have been lucky. Certainty about chances is compatible with lucky outcomes, precisely because lucky outcomes diverge from those our beliefs about objective chances lead us to expect.

How do I differ from Fred? He had grounds for expecting his train to be delayed about half the time; I have grounds for my degree of belief of 0.5 that this coin will fall heads on the next toss. Note that expectation in the coin case derives from belief about chances. My degree of belief, and thus my level of expectation, that this coin will fall heads on the next toss is 0.5, because I believe the objective chance of heads is 1/2. Lewis gives a subjectivist account of objective chance; his principle relates degrees of belief to beliefs about objective chance. In contrast, Fred’s expectation that the train will be delayed on any particular occasion doesn’t derive from a belief about the objective chance of its being delayed.

Lewis’s subjectivist explanation of beliefs about objective chance actually supports my epistemic approach to luck. Applying Lewis, where objective chances exist outcomes are lucky only if they don’t fit expectations. On the other

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<sup>28</sup> “Admissible propositions are the sort of information whose impact on credence about outcomes comes entirely by way of credence about the chances of those outcomes. Once the chances are given outright, conditionally or unconditionally, evidence bearing on them no longer matters.” Lewis, ‘A subjectivist’s guide to objective chance’, p. 272.

hand, lots of the chance events that might be lucky or unlucky for someone don't have objective possibilities. The statistical distribution of lightning strikes in a specific area might be well established, but that is a different matter from the objective chance of a coin falling heads on the next toss. There is no knowable objective chance of my being struck by lightning. Even where statistical distributions of events are well-established, the chances are often not known, and are perhaps unknowable.

#### ***Fourth Objection***

The fourth objection argues that only 'pure' luck is not projectible: if it is purely a matter of luck that you have won so far, for example, then you have no reason to believe that you will win again. But is there is another type of luck, that we might call 'impure'? On this conception individual events may occur by chance, but there is something about lucky people that causes the trend to favour them. The reverse holds for unlucky people. In a sense, it was bad luck that the car broke down just when you were on the freeway trying to catch an international flight — why didn't the car break down an hour earlier, when you could have gone by taxi instead? — but your failure to keep the car properly maintained causally contributed to your bad luck.

The 'impurely' lucky person possesses skills and traits of character which increase the probability of the occurrence of undetermined favourable outcomes and is well-equipped to seize advantage of events that are genuinely random. Impure luck *is* projectible.

But is it? Is this a conception of *luck* at all? Characteristics of people, rather than of events, ground the apparent distinction between ‘pure’ and ‘impure’ luck. The so-called ‘impurely’ lucky person acts prudently, and with foresight. She recognises that things often do not go as planned, and positions herself to take advantage of unexpected circumstances, or to minimise harm. If you keep your car properly maintained breakdowns are less likely. A breakdown that happens just when you are on the freeway heading to catch an international flight is no more a matter of luck than any breakdown, if it could have been avoided by proper car maintenance.<sup>29</sup> ‘Luck’ talk still has a place here, but only counterfactually: “It would have been really bad luck if the car had broken down just at that time and place, but fortunately I’d just had it serviced.”

There’s a purpose to the use of ‘fortunately’ in the example sentence. In one sense ‘fortunately’ functions as a causal explanation — “it didn’t because” — not as a reference to chance. In another sense ‘fortunately’ might refer to chance — “I don’t normally have the car serviced until it’s done another 2,000 kilometres, but my mechanic was closing up for a month’s holiday” — but nothing about that establishes the existence of ‘impure’ luck. Maybe I’m saying that by having the car serviced I’m minimising the potential for bad luck. It would be awfully bad luck if the car broke down on the way to the airport, and I’m aiming to avoid that happening. But even in that sense, the remark is about my acting responsibly, not my being lucky.

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<sup>29</sup> Duncan Pritchard makes a similar point: “If one has good genes (from a health point of view) and one takes good care of oneself (one exercises, eats the right things, receives regular medical check-ups, and so on), then is it really a matter of *luck* that one has good health? Surely not.” Pritchard, ‘The modal account of luck’, p. 157.

You might say it was unlucky that it happened then, rather than in less drastic circumstances, even though the car was properly maintained. But in that case the example fails to illuminate the distinction between 'pure' and 'impure' luck.

Sensible people aim to take advantage of favourable chance, and to avoid the impact of unfavourable chance. They are less hostage to fortune than they otherwise would be. By relating the characteristics of such people to chance events, we can see that the probability of the occurrence of favourable outcomes of undetermined events (good luck) will be greater for them than for others. We can also see that they will be less affected by bad luck. But calling someone who does what is needed to get on side with luck a lucky person is unjustified. Although the elements of luck — chance and benefit or disbenefit — are present, 'lucky' isn't a predicate applicable to people on the basis of their capacity to deal with luck. Conversely, the view that consistently unlucky people deserve what they get because they must have miserable natures confuses the capacity to affect the impact of luck with the idea that being unlucky is a personal characteristic. When we say that bad luck consistently happens to someone, we do not comment on that person's nature. What we say might imply a belief that that person has not taken efforts to diminish the impact of luck. Being imprudent or apathetic is not the same as being naturally unlucky.

So, characteristics of people are *not* relevant to the distinction between 'pure' and 'impure' luck. The concept of an 'impurely lucky person' is vacuous, and the

claim that 'impure' luck is projectible is not sustainable. The claim that 'lucky' is not a projectible predicate survives.

### **Conclusion: rational responses to luck**

My discussion of luck has focussed on the relationship between decision making and beliefs about luck. If you want a comprehensive theory of luck, go to the philosophical literature I outline in the opening section of this chapter. My aims are less ambitious but do suggest analytic and normative conclusions. I argue that luck entails rationally unexpected good or bad fortune. On my analysis luck cannot be rationally expected, so expecting luck violates an implicit norm of rationality.

What lessons can we draw for rational responses to luck? First, we shouldn't just drop the idea that luck can be managed. We can limit the impact of luck by prudential planning and by action. But we need to recognise that we can't influence luck directly. Luck belongs to events beyond our capacity to rationally predict or to influence. We can't act on the basis of such events. We think of them as matters of chance, even if determinism is true. We can't alter the workings of chance, but we can attempt to diminish the impact of chance, and we can also diminish disbenefit or increase benefit by planning. Gambling provides a good illustration of this point: someone who bets on the basis of known probabilities can diminish the element of bad luck in outcomes, and good luck may still go her way. Someone who rubs a rabbit's foot wastes her efforts.



We can manage risk, even though we can't manage chance outcomes. Conversely, lucky outcomes don't justify actions. Consider moral luck: if you act viciously but the outcome of your action happens to be morally unobjectionable or desirable, it doesn't mean that you have in fact acted morally. Likewise for rationality: that you are in some case lucky — chance outcomes are to your benefit — does not make the associated actions rational. Luck can make for good outcomes of actions, but it doesn't bear on the rationality of those actions.

## 4

### Gambling and Public Policy

Debate about the regulation of gambling largely concerns outcomes: the individual and social benefits and damages associated with increased opportunities for legal gambling.<sup>1</sup> These are clearly important for public policy on gambling. But public policy concerns practices and institutions that are not just sets of outcomes, but which have particular characteristics that suggest the moral principles to be applied in forming policy. In this chapter I aim to show that the principle of respect for personal autonomy has a central role in good public policy on gambling. I have defended the claim that gambling with the aim of increasing one's net property is irrational in a range of circumstances. With this in mind, I argue that the connection between rationality, interests and autonomy forms part of the normative grounds of public policy and conclude that respect for autonomy requires that public policy should not facilitate gambling but does not provide sufficient grounds for prohibiting it.

Are any ethical issues relevant to public policy raised by what I have said so far in this thesis? In order to answer this question, we first need to distinguish the moral permissibility of gambling from the proper grounds of government policy

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<sup>1</sup> Assessments of the social costs of gambling are provided in Browne, M, N. Greer, T. Armstrong, C. Doran, I. Kinchin, E. Langham and M. Rockloff (2017) *The Social Cost of Gambling to Victoria* (Melbourne: Victorian Responsible Gambling Foundation); Browne, M, Langham, V. Rawat, N. Greer, N, E. Li, J. Rose, M. Rockloff, P. Donaldson, H. Thorne, B. Goodwin, G. Bryden and T. Best (2016) *Assessing Gambling-related Harm in Victoria: A Public Health Perspective* (Melbourne: Victorian Responsible Gambling Foundation).

on gambling. I believe that attempting to rig the result of a horse race is immoral, and also ought to be against the law. Even if those directly or indirectly responsible for attempting to rig the race do not gain property as a result of their deception — maybe that is not part of their aim — others are being unfairly disadvantaged by their actions.<sup>2</sup> In contrast, one might judge lying to be wrong but only think forms of lying such as perjury or making false statements to police should be against the law. It does not automatically follow from the moral impermissibility of a practice that it should be made illegal. In any case the claim that all gambling is morally wrong proscribes a very common and often innocuous human practice and is not worth entertaining here. The question still arises, however, whether government policy should restrict gambling.

### **Autonomy and rationality**

The most common argument for not legally restricting gambling is that people want to gamble. The argument appeals to the idea that whether someone gambles is a matter of individual choice, as long as those activities don't cause harm to others. We can ask why choices should be respected, and answer that only by respecting choices do we respect personal autonomy. Respect for autonomous self-determining agents entails respecting their freedom to choose. Autonomous agents act on their freely chosen plans, which entails not just that

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<sup>2</sup> Perhaps a sensible gambler should allow that such things occur, and constitute part of the risk, in the same way that someone who believes that factors other than the possible outcomes of discrete events determine the outcome of a series of events — say coin tosses — is not necessarily reasoning fallaciously: the possibility that the coin is weighted or some sleight of hand is present cannot always be ruled out.

they be allowed freedom of choice, but that they have the capacity to choose. I will develop the view that having the capacity to choose is bound up with rationality, and that being irrational can undermine a person's capacity for freedom of choice.

Suzy Killmister observes that “In order to provide a concise account of what autonomy is, we need to know what work it is intended to do.”<sup>3</sup> My account of the highly contested concept of personal autonomy focusses on the role it plays in the formation of public policy. Against this background, I take autonomy to have certain minimal existence conditions. First, when presented with alternative courses of action, an autonomous agent has the psychological capacity to choose which course she will take. Second, she is capable of rational deliberation, and of acting on that basis. These two features of autonomy determine the constituents of respect for an agent’s autonomy. Others should recognise that she is capable of choosing between actions and of acting on the basis of her rational deliberation. For an agent to exercise autonomy others need to permit or enable her to act on the basis of her rational deliberation: she freely chooses what she wants to choose; her will is free. This respect for autonomy is not just a matter of non-interference, of letting people act on their choices; it also has a positive element — enabling agents to develop their capacity for making rational choices, and for enacting those choices — and in so emphasises the need to create an environment that encourages autonomy.

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<sup>3</sup> Killmister, Suzy (2013) ‘Autonomy, liberalism, and anti-perfectionism’, *Res Publica* 19, 353-69, p. 356.

Respecting autonomy doesn't entail respecting all choices, but at most those that are compatible with autonomy. And autonomy is conceptually linked to rationality, in that rationality provides a criterion for distinguishing autonomous from non-autonomous choices. I accept a belief/desire account of reasons for action, but also think that reasons may fail to be rational.<sup>4</sup>

I agree with Frederick Schick when he says:

We can say that reasons are rational where their component beliefs and desires constitute grounds for rational choices.... [T]he choices we make are rational where we have grounds for them. They are no less rational where those grounds aren't part of our reasons (where our reasons aren't rational too.)<sup>5</sup>

A rational reason provides grounds for a choice of action. A rational agent would thus aim to form beliefs in a responsible way, in order that she makes well-grounded choices. If someone has a *good reason*, all things considered, for a choice, and chooses on the basis of that reason, her choice is rational. Schick's point is that if there are good grounds for a choice then that choice is rational, even if the reason for the choice is not based on those grounds. Consider

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<sup>4</sup> Derek Parfit endorses this view, but also alerts us to its inverse form: "[I]f I believe falsely that my hotel is on fire, it may be rational for me to jump into the canal. But I have no reason to jump. I merely think I do. And, if some dangerous treatment would save your life, but you don't know that fact, it would be irrational for you to take this treatment, but that is what you have most reason to do." Parfit, D. (2001) 'Rationality and reason' in Egonsson, D., J. Josefsson, B. Petersson and T. Rønnow-Rasmussen (eds.) *Exploring Practical Philosophy: From Action to Values* (Aldershot: Ashgate) 17-37, p. 17.

<sup>5</sup> Schick, F. (1997) *Making Choices: A Recasting of Decision Theory* (Cambridge: Cambridge University Press) p. 34.

choosing either to gamble or not to gamble: someone might have a *reason* to gamble and still lack rational grounds for gambling. Someone's desire to improve her financial well-being, and her belief that she can do so by gambling, constitute a reason for her to gamble, but it is not a good reason if the probabilities weigh against her satisfying that desire. To that extent she acts irrationally if she gambles. Choosing not to gamble for whatever reason would count as rational in circumstances where gambling fails in this way.

Amongst other things, rational agents adopt effective means to achieve their ends, and assign appropriate weights to more or less likely consequences of their actions. On this account, the possibility is left open that rationality can fail in various ways, including acting in the light of false beliefs, at least when an agent has not engaged in rational belief revision.<sup>6</sup> I have argued that for many types of gambling gamblers cannot be well-informed if they believe that long-term benefits may result, at least in a substantial majority of cases, and thus there is no good reason for anyone to engage in those types of gambling apart from ones peripheral to the transaction. Gambling will not satisfy their desires. The failure of rational choice is built into the activity.<sup>7</sup>

It is worth noting that although there might be a number of reasons why someone's gambling causes harm to herself and to other people, a common reason is because she *loses*. A related way irrationality and the consequences

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<sup>6</sup> See Wedgwood, 'Internalism explained', pp 352-69, for an argument that rational belief revision accords with an internalist conception of rationality.

<sup>7</sup> Even on the Humean view that reason has no normative bearing on desire, desires might still have an irrational object from a wider perspective, which places limits of coherence and consistency on desires. Desiring to gamble now is compatible with there being no good reason to gamble.

of gambling are linked is that action based on irrational choices can seriously undermine autonomy — gambling regularly now on the basis of your false belief that it will be financially profitable could lead to you compulsively chasing your losses. My argument doesn't depend on the potential damaging effects of gambling on personal autonomy, however, but on the connection between respect for autonomy and the purposes of public policy.

Irrationality is often present in another way; wishful thinking or its close relative superstition may interfere with someone's capacity to form coherent sets of beliefs. It is not unusual for gamblers to correctly believe that the outcomes are set against them and also to believe they are going to win, because some special condition prevails: it's the third Tuesday of the month, or I dreamed I would win, or I just feel lucky, or it's my turn. Interference also occurs when a strong desire to win influences someone's belief about the likelihood of her winning. A related case is when someone's belief that they must win to avoid potential disaster — itself perhaps brought about by earlier failures of rationality — induces the belief that winning is imminent. Studies of gambling consistently show that gamblers think in these ways, leading them to have degrees of belief about outcomes that do not reflect the known probabilities, rather than having straightforwardly false beliefs.<sup>8</sup>

Delineated this way rationality is not just a matter of satisfying desires given beliefs, but also of the justification of the processes and results of belief

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<sup>8</sup> See, e.g., Gilovich, 'Biased evaluation and persistence on gambling'; Wagenaar, *Paradoxes of Gambling Behaviour*; Productivity Commission, *Australia's Gambling Industries: Inquiry Report*.

formation. In any case, it would be irrational to continue to engage in those types of gambling if correct beliefs were formed. In this way, an agent fails to be rational when she tries to realise her aims by gambling where it should be obvious to her that her belief that this outcome is likely does not reflect the long-term probabilities. And, as Robert Young points out, an autonomous person might choose irrationally, but autonomy does require "that that person be prepared to revise false beliefs or poor choices when further evidence arises which implies that such beliefs are false or the choices poor."<sup>9</sup> Autonomy also requires that a person's beliefs and choices fit the evidence that is already present. People who choose irrationally fail to act in the light of beliefs they would have if they were better informed, and if they persist in making choices in the face of evidence that their desires will not be satisfied, do not act autonomously.

Rational action is tied up with well-informed choice, and a person can be well informed relative to choices about gambling in two ways: about the probability of winning both in the short and long term, or by having relevant skills or information. As I have argued, allowing for the exceptional cases mentioned earlier, gambling that has the sole aim of gaining property lacks rational justification, unless the gambler has relevant skills or information. So gamblers often do not act autonomously. In information sensitive cases, and where the gamblers are in effect playing against each other — totalisator gambling being

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<sup>9</sup> Young, R. (1986) *Personal Autonomy: Beyond Negative and Positive Liberty* (London: Croom Helm) p. 11. I take it that government policy should be formed on the basis of the best evidence available to citizens, so the fact that an irrational choice is made by an *autonomous* person does not entail that the government should respect that choice in forming policy.



the obvious example — the informed gambler may actually seek to exploit the diminished autonomy of other gamblers.

Suzy Killmister's substantive theory of autonomy supports my view.<sup>10</sup> She distinguishes four dimensions of autonomy. The first three, which I focus on here, address the role of selfhood in autonomous identity and agency. The fourth concerns whether someone possesses the capacities necessary for her to be thought of and treated as an autonomous being.

She identifies the first two dimensions as 'self-definition' and 'self-realisation'. The former concerns how the coherence of someone's values, beliefs and goals underpins her level of autonomy. The latter concerns agency: the commitments that someone develops in forming agential intentions. The third dimension, 'self-unification', relates the first two, and is realised to the extent that someone's agential intentions embody her values, beliefs and goals and the commitments these bring about.

As I have acknowledged, gambling need not be irrational or non-autonomous even if it involves risking financial well-being, as long as the gambler's beliefs do not willfully discount the known probabilities. On Killmister's account of autonomy gambling could satisfy a person's freely chosen and considered views about what was valuable and cohere with choices she makes about how to live her life. However, where a gambler's beliefs and aims are sufficiently

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<sup>10</sup> Killmister, Suzy (2018) *Taking the Measure of Autonomy: A Four-Dimensional Theory of Self-Governance* (New York: Routledge).

inconsistent, giving rise to actions that do not reflect her goals, this is obviously not the case. Her actions are clearly incompatible with agential commitments which might include supporting a family, being financially responsible and so on. Her actions fail to realise Killmister's 'self-unification' dimension of autonomy.

A fundamental requirement of liberal democratic government is that it respects personal autonomy. Respect for autonomy is basic to any liberal political philosophy. But does respect for autonomy require government to promote autonomy by discouraging action based on irrationally formed beliefs? Answering 'yes' might appear to commit me to a particular position in the debate between 'comprehensive' and 'political' liberalism, favouring the former. Entering the debate between these different conceptions of liberalism in depth would overwhelm the central topic I address. I hope it will suffice to give a brief defence of the idea that discouraging action based on irrationally formed beliefs is compatible with both conceptions.

Comprehensive liberalism proposes a substantive conception of autonomy and appeals to perfectionist political principles in proposing some particular view of what is objectively good for human beings. Joseph Raz sums up this view with his argument that "Since our concern for autonomy is a concern to enable people to have a good life it furnishes us with reason to secure that autonomy which could be valuable. Providing, preserving or protecting bad options does not enable one to enjoy valuable autonomy."<sup>11</sup> Rationality counts on this view

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<sup>11</sup> Raz, Joseph (1986) *The Morality of Freedom* (Oxford: Oxford University Press) p. 412.

because it is intrinsic to autonomous choice and, perhaps more contentiously, developing it is necessary to achieve the fundamental good of fulfilling human nature. Further to this, an agent's attempt to satisfy her aims on the basis of irrationally formed beliefs could thwart the state's aim of fostering her objective good.

Political liberalism is based on respect for persons. It rejects perfectionism as imposing a particular understanding of the good, so making it incompatible with respect for persons. Political liberalism recognises autonomy in its appeal to the moral norm of respect for persons in order to justify state neutrality regarding conceptions of the good. Possessing autonomy, persons are understood as rational agents, capable of responding to reasons. State neutrality assumes citizens' capacity to rationally pursue conceptions of the good.<sup>12</sup> As such, political liberalism doesn't rule out the state discouraging actions based on irrationally formed beliefs. This way of characterising political liberalism allows for public policy that goes beyond the idea that only when it involves harm to others are restrictions on gambling justified.

### **Gambling and public policy**

I have aimed to establish a series of linked propositions: autonomy is conceptually connected to rationality; gambling can and often does involve

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<sup>12</sup> For elaboration see Rawls, John (1996) *Political Liberalism* (New York: Columbia University Press) pp. 72-75.

irrational choices; government should respect autonomy. I propose that together these lead to the conclusion that government should not facilitate gambling.<sup>13</sup> The conclusion is weaker than the three propositions might appear to support, but I will introduce further considerations that restrict it to this strength.

Assuming for now that respect for individual autonomy requires government refraining from facilitating gambling, we might go further and ask why certain types of gambling shouldn't be legally prohibited. Gambling *is* a contentious public policy issue, so the question is doubly well motivated. What is assumed by the question is that certain sorts of gambling are not in people's interests, either individually or as a community, and should therefore be illegal. I understand interests to be not just what matters to someone, but what would matter to her if she had different beliefs.<sup>14</sup> Interests are reflected in choices. A rational choice is based on beliefs that satisfy conditions, so a rational person would recognise that gambling is not in her interest and would not choose to gamble. I am not suggesting that someone not choosing rationally doesn't know her interests — she might choose carelessly, for example — but only that a rational choice shows that she is not mistaken.<sup>15</sup> Given the connection between rationality and autonomy, we might conclude that public policy which respects autonomy should prohibit those types of gambling.

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<sup>13</sup> A government facilitates gambling in a variety of ways, including through economic incentives for business, through legislation allowing the wide availability of gambling amenities, by permitting advertising by the gambling industry, and by emphasising gambling in state advertising promoting tourism.

<sup>14</sup> Jon Elster's account of interests supports this conception: "It seems to me that interest properly understood includes at least two components. On the one hand, it considers the long-term consequences of action ... On the other hand, it is based on well-founded beliefs." Elster, *Reason and Rationality*, pp. 11-12.

<sup>15</sup> See Schick, F. (1984) *Having Reasons: An Essay on Rationality and Sociality* (Princeton, NJ: Princeton University Press) pp. 45-47, for a discussion of this point.

A problem with the line of argument developed here is that it is based on too narrow a grasp of people's interests. People's interest in gambling is often not purely financial gain and might not even involve the expectation of such. Increasing her financial position from her net winnings may have at best a derivative connection with someone's reasons for gambling. Psychological or strategic benefits might justify financial losses. She might go to a club or the races expecting to lose, but still think the outing worthwhile. This might even be the case if she does nothing on that occasion but gamble. We should recognise that it is possible for someone to both be rational and value gambling. Rational people could well value gambling, and not think of any losses as a waste of resources. The position argued by Lisa Newton, that gambling violates the responsibilities attached to ownership — in her terms "the duty of stewardship of property" — fails for the same reasons.<sup>16</sup> Gambling can involve much more than gaining and losing property. Putting the family farm at risk in order to impress someone could well be judged irresponsible, but there are many other morally neutral or even laudable reasons for gambling. Why should what a person owns be morally privileged in this way? Although there may be special factors that give moral significance to retaining what one owns, such as emotional attachment or family heritage, in many cases we should only be concerned if the disutility of losing property is greater than the utility of other benefits accruing. In any case, Newton's restrictions could only apply on occasions where relatively large amounts of property are being placed at risk, without being reduced to absurdity.

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<sup>16</sup> Newton, L. (1993) 'Gambling: A preliminary inquiry', *Business Ethics Quarterly* 3, pp. 405-18.

That some people might have good reasons to gamble doesn't vitiate the argument that government ought not to facilitate gambling. Justification for limiting choice — and it would need to be shown that a government *does* limit choice by not facilitating certain practices — is more often grounded in considerations of harm to self or others. I discuss the connection between harm and autonomy and its significance for gambling policy below. The issue of harm only bears on the present argument, however, if limiting freedom of choice *itself* constitutes a harm, and that is not necessarily the case. I am not free to drive on the right-hand side of the road in Australia, but I am not being harmed. The reply to someone who argues that it is merely illegal to drive on the right-hand side, and I can choose to if I want, is that I can in the same sense freely choose to attend an illegal gambling house.

Another consideration here is that the reasons I have called peripheral, although they may be motivationally central, are not internally related to gambling. They can be achieved in other ways. The excitement that gambling causes in many people might be intrinsic to the experience, but it remains peripheral unless one believes that states such as excitement can be categorically distinguished in reference to their causes. Deliberately placing property at risk in the hope of gaining more, however, is internally related to the activity, and in many circumstances it is irrational to participate in gambling if you expect to win. One cannot both gamble and not gamble at the same time, but one can achieve the benefits that provide peripheral reasons for gambling without gambling. Peripheral reasons really are peripheral, but their bearing on public policy on

gambling, and the extent to which their force is constrained by the argument from irrationality, still need to be determined.

Two other factors should be taken into account when considering the role and justification of public policy on gambling. Historically the principal basis for public policy on gambling has been to place it under some form of state control. Recognition that people are going to gamble led to public policy that aimed to overcome corruption and abuse. Legalising various forms of gambling while restricting its promotion appealed as a way of dealing with the various associated harms and criminal activities, whilst not encouraging or increasing demand for gambling.

This control has enabled the second relevant factor. Governments have used gambling as a way of raising revenue, through selling licences and through tax impositions on gambling providers. Reliance on this revenue has led to a more open policy on the promotion of gambling, commercially and by government agencies. I have aimed to establish the irrationality often present in gambling. By facilitating gambling through legislation government encourages people to engage in irrational activity in order to raise revenue and perhaps keep other taxes down. In effect some people are being exploited for the benefit of others.<sup>17</sup>

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<sup>17</sup> Research shows that in Australia gaming machine losses are far greater in lower socio-economic areas than more affluent ones, entrenching disadvantage. Extensive evidence supports this finding. See for example Rintoul, A. and J. Deblaquiere (2019) *Gambling in Suburban Australia: Study Report* (Melbourne: Australian Institute of Family Studies). According to the Victorian Commission for Gambling and Liquor Regulation (VCGLR) gaming machine losses in hotels and clubs in Victoria for the period July 2018-June 2019 amounted to \$2.69 billion, with the state's poorest municipalities being over-represented. See <https://www.vcglr.vic.gov.au/news/2018-19-victorian-gaming-expenditure-data-released>. For losses by local government area see <https://www.vcglr.vic.gov.au/resources/data-and-research/gambling-data/gaming-expenditure-local-area>

## Autonomy and harm

Whatever its other consequences, gambling can and does cause harm. So far I have argued for the centrality of autonomy in assessing the morality of gambling. But concern for consequences and respect for autonomy are not antithetical. In his *On Liberty*, John Stuart Mill derived what has come to be known as the Harm Principle (or Principle of Liberty), which restricts actions in virtue of their consequences, from a concern for personal autonomy, which he valued as “one of the elements of well-being”:<sup>18</sup>

(T)he sole end for which mankind are warranted, individually or collectively, in interfering with the liberty of action of any of their number, is self-protection ... (T)he only purpose for which power can be rightfully exercised over any member of a civilised community, against his will is to prevent harm to others.<sup>19</sup>

Mill conceived of the Harm Principle as governing the proper limits of social coercion. It restricts the imposition of legal penalties and the pressure of public opinion. I can properly be prevented from acting only if my action causes harm to others. Mill asserts that this principle is "entitled to govern absolutely the dealings of society with the individual in the way of compulsion and control, whether the means used be physical force in the form of legal penalties, or the moral coercion of public opinion."<sup>20</sup>

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<sup>18</sup> Mill, John Stuart (2003) [1859], David Bromwich and George Kateb (eds.) *On Liberty* (New Haven: Yale University Press) Ch. III, 121-38.

<sup>19</sup> Mill, *On Liberty*, p. 80.

<sup>20</sup> Mill, *On Liberty*, p. 80.



A major challenge for the argument of *On Liberty* is whether it can be interpreted or supported in a way that makes the Harm Principle systematically cohere with Mill's commitment to the Principle of Utility, according to which we should aim to achieve the greatest happiness of the greatest number. Discussion has tended to focus on the level of application of the Principle of Utility — does it guide action directly or indirectly? — and the bearing of different views on this on how we should understand 'happiness'. If an indirect guide, the Principle of Utility might be compatible with the idea that happiness can be realised in an individual's life taken as a whole. Linking happiness and individuality motivates respect for freedom. Only if free can someone discover and follow the path that constitutes a happy life for her. The pursuit of happiness is thus linked with an interest in making free choices, and so with exercising autonomy. To complete the picture, developing a capacity for making rational choices, and for enacting those choices — tending towards fulfilling the character ideal of rational self-determination — can be part of the content of happiness, and part of the justification of the limits on legal and social coercion that the Harm Principle demands.

Philosophers have tried to resolve the apparent conflict between respect for autonomy and the maximisation of utility by establishing conceptual connections between happiness and individual liberty.<sup>21</sup> One at least plausible view is that Mill holds that damaging someone's capacity for self-realisation prevents her

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<sup>21</sup> There is extensive philosophical discussion of this topic. Of particular relevance are Gray, John (1991) 'Mill's conception of happiness and the theory of individuality', 190-211, and Ten, C. L. (1991) 'Mill's defence of liberty', 212-38, in John Gray and G.W. Smith (eds), (New edition 2003) *J.S.Mill's 'On Liberty' in Focus* (London: Routledge).

from achieving the form of happiness most expressive of human nature. It prevents her becoming a fully autonomous agent. It follows that legal and social coercion is unjustified because it prevents individuals from achieving fully human happiness. Freedom as constituted by autonomous agency requires freedom from coercion. The Harm Principle links liberty and utility by protecting the development of autonomy, which is a necessary condition of the most valuable form of human happiness.

On this interpretation, the Principle of Utility entails the Harm Principle: the former says we should aim to achieve the greatest happiness of the greatest number, and the latter is necessary for the achievement of happiness. But this interpretation faces problems. Does it ignore a range of forms of happiness? Does it restrict utility to a specific form of happiness? Does identifying happiness with the development and achievement of autonomy make the Principle of Utility unacceptably exclusive? We need an account of the relationship between happiness and utility that recognises the role of autonomy in happiness; otherwise respect for liberty of action does not cohere with the aggregative maximisation of happiness demanded by the Principle of Utility. We could give greater weighting to the form of happiness that comes with autonomy in calculating utility. But then the relationship between the two principles becomes a contingent matter; happiness does not presuppose liberty. How can we sustain the claim the Principle of Utility entails the Harm Principle? We might revise the concept of utility. More radically, but perhaps more consistently, the Principle of

Utility could apply to lives as wholes, and function as an evaluation of a society and its institutions, not just as a principle of action.<sup>22</sup>

The character ideal of autonomy can be understood as motivating the Harm Principle: reflectively developing one's own wants and being able to act on them requires freedom from coercion. Liberty is justified because it enables the development and exercise of autonomy. Even so, the Harm Principle is morally prior to the promotion of this ideal of autonomy. We can make sense of freedom of action without referring to autonomy. Individuals can act freely without being fully autonomous. But autonomy presupposes liberty of action. In this sense, linking autonomy and liberty extends the Harm Principle, giving it a degree of ethical complexity that goes beyond its content. As stated by Mill, the principle applies to actions, and is satisfied as long as legal penalties or the pressure of public opinion are only used to interfere with someone's freedom of action in order to prevent harm to others.

How does the Harm Principle apply to gambling? It suggests that people ought not to be prevented from gambling unless their actions harm others. But what about compulsive gamblers? If the compulsion meant someone were not capable of rational deliberation and acting on that basis, or of freely choosing which action to make, then preventing her from gambling would not violate the Harm Principle. She lacks full autonomy, but that's not the issue; as long as she lacks the relevant constituents of autonomy, the principle does not apply to her

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<sup>22</sup> Mill supports this interpretation with his statement "I regard utility as the ultimate appeal on all ethical questions; but it must be utility in the largest sense, grounded on the permanent interests of man as a progressive being." Mill, *On Liberty*, p. 81.

actions. Conversely, someone only needs to be able to act on her own free choice, not full autonomy, for the principle to apply to her actions.

Mill continued his statement of the Harm Principle by saying that

His own good, either physical or moral, is not sufficient warrant. He cannot rightfully be compelled to do or forbear because it will be better for him to do so, because it will make him happier, because, in the opinion of others, to do so would be wise, or even right.<sup>23</sup>

On Mill's view, preventing someone from gambling, for example by banning, would only be justified if her actions were causing harm to others, not for her 'own good', as perceived by others. But if others are not being harmed, she should remain free to act as she deliberately chooses.

We enter the muddy waters of paternalism once we consider justifying violations of the Harm Principle. Paternalism involves restricting a person's liberty for her own good; that is, to prevent her from being harmed or enabling her to receive a benefit. There is an obvious conflict between paternalistic justification and the Harm Principle. If a person's gambling is damaging her life, then we have a clear-cut reason to encourage her not to gamble, or at least to seek help. If she persists, does concern for her well-being justify preventing her from gambling?<sup>24</sup> Our concern about her well-being remains. But if she wants to continue

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<sup>23</sup> Mill, *On Liberty*, p. 80.

<sup>24</sup> For a discussion of paternalism and gambling see Prior Jonson, E., M. Lindorff and L. McGuire (2012) 'Paternalism and the pokies: unjustified state interference or justifiable intervention?' *Journal of Business Ethics* 110, 259-68.

gambling, and her actions are not presently harming or in future likely to harm others, we find ourselves in a dilemma. On the one hand, we want to stop her harming herself, and on the other we want to respect her liberty of action. Even if we interpret the Harm Principle as instantiating the value of autonomy, and hold that the irrationality of her gambling choices undermines her autonomy, should we conclude that as long as her actions don't harm others, and she isn't acting under an uncontrollable compulsion, we should not interfere with her liberty of action? Public policy on gambling should take into account the interlocking demands of respect for autonomy as I have characterised it, and of the Harm Principle.

## **Conclusion**

In *The Morality of Law* Lon Fuller argues from the perspective of what he calls 'the morality of aspiration' that gambling ought to be legally prohibited, not because of harms associated with gambling, but because gambling is "a form of conduct unbecoming a being with human capacities." The specific relevance of his view is in his claim that "[T]here is no way open to us by which we can compel a man to live the life of reason. We can only seek to exclude from his life the grosser and more obvious manifestations of chance and irrationality."<sup>25</sup> Even though I have emphasised the irrationality often present in gambling, in contrast to Fuller's seemingly universal condemnation of gambling as irrational I

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<sup>25</sup> Fuller, L. (1964) *The Morality of Law* (New Haven: Yale University Press) pp. 8-9.

recognise that in a variety of circumstances gambling behaviour may be rationally justified.

In addition to questioning whether governments should legally restrict gambling, we can ask if they should facilitate it. As noted earlier government can facilitate gambling by economic incentives, through legislation allowing gambling amenities to be widely available, by permitting advertising by the gambling industry, and in various other ways. It is worth observing what Jan McMillen says about gambling in Australia: "Australian gambling has been built on the basis of government initiative. Private entrepreneurs have been influential in determining how gambling is managed, but they operate in frameworks set by the actions of government".<sup>26</sup>

My account motivates concerns about the availability of gambling, especially gambling such as on machines that are programmed to pay out less than the amount bet over the long term. A government ought not allow these means of gambling to be widely available and readily accessible, falling short of outright prohibition. I say this because of the peripheral reasons for gambling. Many people who gamble have good reasons, and my view is compatible with those people not being denied a variety of gambling means and opportunities.

I reject the view that peripheral reasons are sufficient to justify the facilitation of gambling, because of the central role I give to autonomy in the formation and

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<sup>26</sup> McMillen, J. (1996) 'Gambling as an industry' in M. Cathcart & K. Darian-Smith (eds.) *Place Your Bets: Gambling in Victoria* (Melbourne, The Australian Centre: University of Melbourne) p. 52.

justification of public policy. I have argued that government facilitation of gambling can and often does involve undermining autonomy, and that government should respect autonomy. In the liberal tradition political obligation depends on the advantages provided by the existence of government, which implies at least that government should not exploit citizens. Even if the financial benefits of legalised gambling fund valuable social services, government should not aim to achieve those benefits by encouraging autonomy-undermining irrational choices by citizens, with their associated harms. Facilitating gambling does this, and so should not be public policy.

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