1 Introduction

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The Darwin College Lecture Series

The chapters in this book originate from lectures given as part of the 2010 Darwin College Lecture Series on the subject of risk. This series constitutes one of Cambridge University's largest and longest-running set of public lectures. Begun in 1986, the Darwin College Lecture Series has, each year, focused on a single theme and invited eminent speakers from around the world to reflect on what that theme means in their field.¹ Over the last twenty-five years the chosen themes have ranged from survival to serendipity, conflict, power, structure, sound, evidence, evolution, the fragile environment, predicting the future, time and identity, reflecting many of the key issues that affect our local and global societies, as well as celebrating important milestones in our history. 'Origins' was the subject of the first Darwin College Lecture Series in 1986. 'Time' was chosen to commemorate the 2000 millennium series, and in 2009, the title of the series was 'Darwin', celebrating the anniversary of Charles Darwin by looking at his ideas and influence.

The cornerstones of the Darwin College Lecture Series, and the books which accompany them, are their interdisciplinary approach and target audience. In the book following the first Darwin College Lecture Series in 1986, D. H. Mellor, Vice-Master of Darwin College, put it like this:

> University research covers a great range of subjects. To try to comprehend all of them would be foolish: life is too short, and anyway no one is good at everything. But most subjects are to some extent spectator

¹ Further information about past and present lectures can be found on the Darwin College website. www.darwin.cam.ac.uk/lectures/.

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sports. You needn't be a musician to appreciate some modern music – though no doubt it helps – nor a cosmologist to appreciate some modern cosmology. And many spectators have common interests in very different subjects . . . there is, therefore, a predictable demand for a series of public lectures by leading authorities in interdisciplinary topics . . . and not only for lectures: such interests are not confined to Cambridge, nor to any one year.²

Since 1986, each year, over the course of eight lectures, and in the corresponding written chapters, the chosen theme of the Darwin College Lecture Series is thus tackled by a number of experts in a wide range of subjects – the 2010 lectures covered everything from statistics to classics, neuroscience to criminology, government to astronomy and terrorism to news media. As a result, people coming to the lectures, and reading the resulting essays in this book, are treated to a rare opportunity to engage with a wide range of approaches and insights. At the same time, the lecture series is specifically aimed at engaging not just academics, but, just as importantly, a wide public audience. Each lecture and its corresponding chapter assumes no previous knowledge of the subject. In doing so, this series, over the last twenty-five years, has occupied an important place in the way in which Cambridge University reaches out to engage with the wider public on the issues that interest and confront us all.

It is fitting, therefore, that the Darwin College Lecture Series has also been at the forefront of the University's use of new technology to allow even greater access and engagement. In the past, that has meant helping to invest in the digital relay of the lectures to larger lecture theatres to cope with increasing audience numbers. But in recent years it has meant, just as importantly, making the lectures available to communities beyond Cambridge via the internet. For the past few years, the lectures have been accessible online as some of the University's most popular podcasts, and in 2010, for the first time, many of the lectures were available as both podcasts and videos, with more people able to follow the series on social networking sites such as Facebook and Twitter, where we posted regular updates about the series as it progressed. In producing the lectures and also the essays for this book, the contributors have thus been able to reflect not only on their own lecture, but to engage fully with the

² Mellor 1988: ix.

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lectures of others in the series and with the feedback of a much wider audience from across the globe. The book, is, we feel, definitely the richer for it.

Risk in 2010

In conceiving the 2010 lecture series, each of the organisers brought their own ideas about the meaning of risk from their respective fields. In the field of criminology, for example, risk is a concept which has gained in importance, particularly over the last twenty years. A quick search of online criminological resources yields literally thousands of 'hits'. Risk has been thought of in a variety of ways. Since the pioneering Cambridge Study in Delinquent Development³ - which has contributed to our understanding of 'criminal careers' across the life-course - there has been an interest in the 'risk factors' (as well as, more recently, the 'protective factors') that increase (or decrease) the chances of offending in terms of its onset, frequency, persistence or duration. These risk factors include things such as impulsiveness, coming from a large family where parents and/or siblings are convicted offenders, having a low income and living in socially disorganised neighbourhoods.⁴ What are less understood, though, given their new form and focus, are the risk factors for wouldbe terrorists. Nevertheless, Lucia Zedner's thought-provoking chapter in this volume challenges us to think beyond merely what factors propel terrorists, towards a closer examination of the risks inherent in authoritarian governmental responses to them.

Risk is also something that needs to be assessed, managed and predicted by those working in the criminal justice system, including the police, probation and prison services. Risk assessment, involving both objective and subjective components, affects how prisoners are dealt with inside prison, whether and when they are released from prison and subsequently how they are managed by the probation service in the community. Paradoxically, through its imperfections, risk assessment is a 'risky business'. Tragic cases of dangerous offenders re-offending on their release into the community show the risk of 'false negatives', while prisoners detained

³ Farrington 2007. ⁴ Ibid.

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for indefinite and lengthy periods of time contribute to the risk of 'false positives'.

Furthermore, the capacity for risk to permeate the operation of the criminal justice system has been captured in two influential criminological theories. The analytical lens of risk has been used to help us understand the way that offenders are punished. It is argued that punishment is no longer concerned with the rehabilitation and reform of individual offenders; rather, it is about the identification and management of categories of risk, which are thought about in ways similar to how risk is conceived of by the insurance industry.⁵ The concept of risk has also been used to challenge the existing ways we understand the police, drawing on social theory about the 'risk society'.⁶ The central argument is that, contrary to a conventional view of the police as maintaining social order, and defined by their capacity to use force in an unlimited array of circumstances, the police are primarily regarded as 'expert knowledge workers' engaged in the surveillance and management of a much wider range of risks than in the past, in conjunction with a loosely connected network of other organisations.7

Just as in criminology, interest in the concept of risk has been building over the last decades in the field of ancient history and archaeology. While it is often impossible, given the nature of the surviving evidence, to perform a meaningful statistical analysis of risks in the ancient world, it is possible to think about ways in which the ancients responded to the uncertainty of the world around them and conceived of ways to limit that risk and adapt to it. How much the modern word 'risk' (and its connotations) is applicable to ancient worlds is a topic Mary Beard returns to in her essay in this book. Most usually, such approaches have focused on how the ancients developed strategies in their domestic economy to cope with fluctuations in agriculture and food production – that is, to mitigate the risk of starvation and maximise the chance of survival.⁸ But more recently the term has also been applied to the analysis of religious behaviour in ancient Greece, in particular of curse tablets. This fascinating source of evidence – lead tablets engraved with a curse by one person

⁸ Cf. Gallant 1991; Garnsey 1988; Halstead and O'Shea 1989.

⁵ Feeley and Simon 1992 and 2003. ⁶ Beck 1992.

⁷ Ericson and Haggerty 1997.

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against another – have been found in different locations around Greece and relate to many areas of activity: business, law, the theatre and most especially to issues of love and marriage. It has been argued that they represent, in a world ruled by gods, attempts by individuals to harness the power of some of those gods to control the actions of others and thus reduce the risk they pose, or, alternatively, to take revenge on those people for the negative risks to which the curser has been exposed.⁹ In the ancient cultures of Greece and Rome, risk has therefore been shown to be both a factor in the calculation of one of the most basic principles of humanity – survival – but also a very sophisticated concept to be moderated, controlled and utilised as part of the business of social interaction.

Research on the much longer geological time-scale of Earth's history shows that there have been many large and sometimes abrupt changes in the Earth's environment. The risks arising from these have threatened the survival, and affected the evolution, of the living world (the 'great extinctions'). In the shorter time-frame of recorded human history, there is much evidence (for example in religious beliefs, traditions, buildings and earthworks) of awareness of the threat of disaster from natural causes such as earthquakes, tempests, floods and volcanic eruptions, and of the steps taken to avoid harm to the community. Archaeological evidence from around the world indicates that such awareness was influential in the development of early human societies. But it is only in the modern age that humans have attempted to measure and predict such events, opening the prospect of reducing the risk of damaging impacts.

As the preceding discussion demonstrates, it is clear that risk is a topic of interest to contributors from a diverse range of disciplines, something which has been a primary concern of organisers of the Darwin College Lecture Series since its inception. Indeed, this was the reason risk was chosen rather than the topic of security, which was initially identified as a possible theme for the 2010 Lecture Series. Security may have had a broader meaning and more positive connotations, but was also more difficult to apply to disciplines in, for example, the natural sciences.

⁹ Eidinow 2007.

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More importantly, though, the lecture series was conceived, planned and finalised between April 2008 and December 2009, a period marked by uncertainties in the face of a worldwide economic downturn. It seemed like risk was all around us and, furthermore, that people were beginning to question how the realities of the risks we faced were being conveyed and understood, particularly through the media.¹⁰ What better time, then, for a lecture series on this very topic? We hoped it might contribute to the debate and help the public to better understand what risk is and how it can be applied to a variety of areas, and offer a way of mitigating, not fuelling, public anxieties. Knowledge not ignorance can be a powerful tool enabling the public to move beyond being the passive victims that Mary Beard argues, in her essay in this book, are characteristic of contemporary risk societies.

Apart from this, risk is a topic deserving of academic and public attention in and of itself: it is an intriguing concept, difficult to define. The essays in this book show just how varied these definitions can be. For example, David Spiegelhalter defines it as 'anything to do with situations where "bad" (or "good") things may, or may not, happen', while Christopher Hood argues that the risk that matters most, at least in politics, is the risk of blame.

Moreover, risk is of cultural significance in contemporary society. It is a term that features regularly in public debates, not only about the economic downturn, but also about many other things, including health and safety, diet and public health, dangerous offenders, transport and the environment. Searching any online broadsheet newspaper under the term risk confirms this impression of how regularly the word features in newspaper articles and commentary by journalists and the public. Risk is furthermore of growing interest across academic disciplines, not just in criminology and ancient history. Consequently, we found that in the early stages of planning the lecture series, we had a number of potential topics and speakers to choose from. Of course, the obvious topic to select would have been risk and the economy, but we decided on other topics which were of equal importance culturally, socially, empirically and epistemologically, which would also provide the audience with context

¹⁰ Gardner 2008.

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and perhaps even with ways of better understanding the unfolding economic risks.

The lecture series led our audience from an understanding of key concepts to an examination of risk on individual, societal and global scales, schedules of speakers permitting. David Spiegelhalter's lecture was placed first to provide a clear definition of risk and therefore a firm foundation for what was to come. Before looking at risk on an individual level, the lecture took a slight detour from its unfolding sequence, thanks to the second lecture in the series by Ben Goldacre on risk, science and the media (not included in this volume). To explore risk and the individual, initially, we wanted to ask people who engaged in risky behaviour, such as mountaineering or ballooning or space travel, to talk about their personal experiences of risk, but to our surprise few of the people we approached viewed what they did as risky. Perhaps rationalising risk in this way is what enabled them to carry on doing these activities. Consequently, we took the opportunity to go beyond a person's experiences and look deep into their brain, which was the subject of the third lecture by John O'Doherty.

From this point onwards the lectures began to broaden their scope to take in risk on a societal scale. The fourth lecture in the series, by Christopher Hood, on risk and government, was followed by lectures on risk in the ancient world by Mary Beard, and by Lucia Zedner's lecture on risk and terrorism in the present. The final part of the lecture series explored risk in a global setting, focusing, in particular, on potentially catastrophic environmental issues. This global focus was enabled by Mark Bailey, who spoke about risk and asteroid strikes, and by Bob Watson talking about risk and climate change.

Internationally renowned speakers were selected because of their specialist knowledge and skills as communicators. Indeed, their reputations contributed to an extremely popular lecture series. For example, Ben Goldacre's lecture rivalled Desmond Tutu's held at the Cambridge Union (because of its larger capacity than the Lady Mitchell Hall) in 1994, as the most popular lecture in the twenty-five-year history of the series. With an audience of over a thousand, this meant that the Lady Mitchell Hall and the two overspill lecture theatres were completely full and the audience waited patiently, in spite of his slightly late arrival – with the latter being

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another first in the history of the series. Furthermore, the risk lectures seemed to capture the public's imagination. Their popularity might also have been because of our comprehensive approach to publicising them through traditional means such as the *Cambridge Evening News*, BBC Radio Cambridgeshire and student newspapers such as *Varsity*; mediums such as Facebook, Twitter and the newly established Cambridge University TV, whose staff interviewed most of our speakers; as well as by involving local people in the lecture series through events, which helped raise the profile of the lectures in the wider community in Cambridge.

Extending our reach in 2010

We wanted to ensure in 2010 that as wide an audience as possible was involved, not just in listening to the risk lectures, but also in putting forward their own understandings of risk through many different media. To that end, we approached art and film institutions across Cambridge to work with us on responding to the subject of risk. The results were impressive. Kettle's Yard organised its half-term art classes and its regular poetry classes for children around the subject of risk. Cambridge Film Consortium ran film classes on the theme. Sixth-form students at Long Road Sixth Form College and students from Anglia Ruskin University made short films about risk as part of their studies. In addition, the British Film Institute opened its archives to us to provide some fantastic examples of very early films reflecting our risk theme. All of these were incorporated into a video presentation shown before each of the lectures and made available online.

Responses ranged from a visual interpretation of risk as a dog coming perilously close to one's leg (shown in Figure 1.1) to a poem about risk in the twenty-first century, exploring the dangers of children using the internet unsupervised (shown in Figure 1.2), to clips of the first filmed ascent of Everest and a short film about the risk to one's personal life of being too passionate and engaged in one's work. Our thanks go to everyone who participated in this project. As a result of their work, we felt that not only were more people engaged in thinking about what risk meant to them, but, equally importantly, that we were all being encouraged to realise just how many different elements of our history

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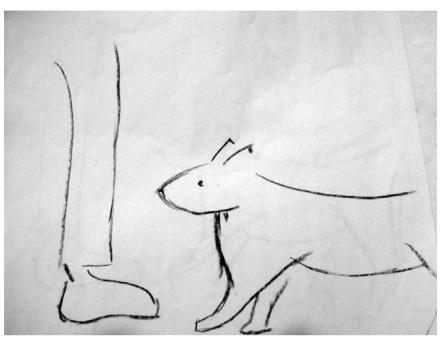


FIGURE 1.1 Drawing of dog by Kettle's Yard Saturday drawing class participant, autumn term 2009.

Risk A Verse

She lowers her Daily Mail, Reaches for the Oxford marmalade; 'I'd never let mine Play out, Unsupervised' She says, 'Un-sup-er-vised', The syllables stretch, As she teeters along her moral high wire.

Upstairs, her child Runs Deep into the dark Of his very own wood; He smiles. Silently, a wolf slips Through the black trees Of the cyber forest, Prowling.

Sophie Smiley, creative writing course, Autumn 2009

FIGURE 1.2 Poem by Sophie Smiley, Kettle's Yard creative writing course, autumn 2009.

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and lives revolve around the concept of risk and just how fragmented and diverse our understanding of risk can be. It confirmed once again how appropriate this topic was for the Darwin College Lecture Series and how much there was still to learn about it.

The chapters ahead

In Chapter 2, David Spiegelhalter explains with great clarity about quantifying uncertainty, with examples ranging from the election of Barak Obama to football odds to cycling. He begins by highlighting that while 'true risks' may be eclipsed by gut reactions, these may not suffice all the time, which is why we need a more systematic and analytical approach. He sets out how probabilities are allotted to events, how they can be represented and what these representations mean. For example, he explains about the quantification of small but lethal risks with the help of the 'friendly unit of deadly risk', the micromort, which represents a one-in-amillion chance of dying. The main argument in his essay, though, is that statistical models which attempt to quantify uncertainty are inherently subjective, as well as inaccurate due to 'unknowns' and, in the words of Donald Rumsfeld, the 'unknown unknowns'. And he suggests that public figures need to act with humility when communicating about these uncertainties.

Ben Goldacre's lecture was next in the 2010 series. In it, he implicitly addressed the risks associated with 'bad science', which is communicated to the public through the media. We briefly outline his lecture here, since he was unable to contribute an essay to the present book. In his lecture, he debunked stories in the press, ranging from the changing strength of cannabis, to the factors that improve school children's performance, to the links between mobile phone masts and suicide, and between MMR and autism. He persuasively argued that the media have deceived the public and have failed to uphold their end of the bargain, in terms of publishing stories that are factually accurate. Rather than relying on 'gold-standard' scientific evidence published by established academics, 'churnalists' have shown a preference for 'experts' who conduct research in their 'Shedquarters' or for the 'lab that always gives positive results' because, according to 'Goldacre's Law', there will always be one doctor