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Uncertainty in National Security Strategy: ‘What the Old Lady of Threadneedle Street could teach the old men of Whitehall.’

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Abstract

The UK Government’s 2010 National Security Strategy declared that we live in ‘an age of uncertainty’. What was required therefore was a radical transformation in the way we think about national security. However the National Security Strategy did not define what ‘uncertainty’ meant or what the implications of it were. Instead it offered a comprehensive assessment of UK national security based upon risk methodologies. This paper argues that the conventional methodologies of risk are insufficient when assessing or addressing uncertainty. Uncertainty and risk need to be separated as they require to be dealt with in very different ways. Uncertainty will be defined using the conceof ‘Knightian Uncertainty’. This paper will then apply research and insights developed by the Bank of England for dealing with uncertainty to offer an approach to National Security Strategy in ‘an age of uncertainty’. It concludes that uncertainty needs to be separated from risk using the distinction of ‘Knightian Uncertainty’ and dealt with according to the principle of simplicity and that of a ‘good enough’ performance. National Security Strategy and policy therefore needs to be re-orientated to function under uncertainty, as at present they only function under conditions of risk. The paper suggests that there is a case for a multi disciplinary research agenda that better translates the insights of work on uncertainty to security strategy.

1 The ‘Age of Uncertainty’

In 2010 the United Kingdom National Security Strategy declared that the UK was entering the ‘age of uncertainty’ (NSS 2010, 3). It was a marked escalation in rhetoric from the first National Security Strategy in 2008 which said that Britain lived in an interconnected world, albeit a complex and unpredictable one (NSS 2008, 3). In the foreword to the 2010 document, the Prime Minister and Deputy Prime Minister presented a paradox. Britain was now both more secure and more vulnerable than in most of its history (NSS 2010, 3). This duality, in their view, sat in stark contrast to the ‘brutal certainties of the Cold War (NSS 2010, 3).¹ This new strategic

¹Their predecessors might have raised an eyebrow to the notion that they had lived in a world of certainty, even with the concession that it was brutal.

environment called for:

A radical transformation in the way we think about national security and organise ourselves to protect it... This Strategy (sic) is about gearing Britain up for this new age of uncertainty – weighing up the threats we face, and preparing to deal with them. (NSS 2010, 3)

The document claimed that the assessment was based on a ‘hard-headed reappraisal of our foreign policy and security objectives’ (NSS 2010, 9). Taken at face value, the proposition that uncertainty now characterised the contemporary and future strategic environment, was itself a radical transformation in the way National Security was conceived. But what did this ‘radical transformation’, in the way we thought about national security look like? Annex A of the document specified the methodology used:

A.1 Risk assessment involves making judgements about the relative impact and likelihood of each risk in comparison with others. In order to undertake the National Security Risk Assessment (NSRA) we adapted the methodology used to compile the UK’s National Risk Register (which focuses only on domestic civil emergencies). (NSS 2010, 37)

The radical transformation was in fact the same methodology used in the 2008 strategy. Indeed the UK National Risk Register (NRR) methodology has been used for a long time in order to assess domestic civil contingencies (NSS 2010, 37). The use of a ‘likelihood’ versus ‘impact’ framework has been the foundation of most risk-based approaches for a generation and more. In fairness, the NRR was praised by the OECD as, ‘innovative best practice in risk communication to the public’ (cited in Tesh 2013). However its use in 2010 was neither radical nor transformational. Whatever the 2010 NSS claimed, it was in fact a very good but very conventional assessment of the risks to the UK.

The issue of relevance to this paper is that, whilst the assessments of risk are entirely valid, NSS 2010 drew no distinction between risk and uncertainty. No definition of uncertainty was provided. NSS 2010 appeared to imply that they were the same. The document could, by its own methodology and logic, have been titled ‘A strong Britain in an age of risk’. So what had actually changed between 2008 and 2010 in order to proms such a bold statement as ‘an age of uncertainty’? In short, the Government. ‘A strong Britain in an age of uncertainty’ is a catchy title and uncertainty a good hook to grab the readers attention. The new government needed to say similar things in an apparently new way in order to draw a difference with their predecessor. As a hook it worked well in proving a suitably serious and grand package in which to sell well-established ideas. What the document did not do was take its own proposition seriously.

Just as the Cabinet Office and MoD were declaring an age of uncertainty, the Bank of England (BoE) ² was concurrently conducting innovative research into the strategic and policy implications of uncertainty. On the 13th Se2007 a BBC news report revealed that Northern Rock Bank had approached the BoE for liquidity support (Peston 2007). On the morning of the 14th September there was a run on Northern Rock’s retail deposits during which £4.6 billion was withdrawn (HM Treasury 2012, 19). Northern Rock’s collapse was initially believed to be a risk that

²The ‘Old Lady of Threadneedle Street’ is the traditional nickname for the Bank of England.

was important, but isolated. That assumption proved to be wrong. On the 15th September 2008 the US investment bank, Lehman Brothers, filed for bankruptcy and the world's financial markets went into meltdown. The Global Financial Crisis (GFC) had begun. Since then the Bank of England and HM Treasury have been dealing with the worst financial crisis since the Great Depression of 1928.

For over 40 years the concept of risk has been central to the disciplines of finance and economics (Haldane 2012, 2). The use of risk assessment models within finance has been developed to a level of sophistication that makes the use of likelihood vs. impact models commonly used in security strategy literature look pedestrian. Such was the perceived success of financial risk methodologies, that those who ran the purest manifestation of the concept of risk, hedge funds, were referred to as 'Masters of the Universe'. Bankers and economists had believed in their own power and mastery over the financial world and in doing so created markets that they believed they could control through risk.

When the GFC struck, the financial universe collapsed, and the markets were revealed to be a complex monster that challenged that risk was ill equipped to deal with. In response some economists and financiers began to question the fundamental assumptions of their profession. Concepts of risk had proved to be inadequate to explain what had happened, or how to deal with it. Their world had been transformed from one characterised by interconnectedness and risk to one defined by complexity and uncertainty.

In the aftermath of the GFC the US Federal Reserve Bank and the BoE have undertaken research with potentially radical and transformational implications. They have revisited the idea of uncertainty and resurrected an older debate about what risk, ambiguity and uncertainty really are. They drew on a PHD economics thesis written in the 1910's by the economist Frank Knight. Knight argued that risk and uncertainty are substantially different and because of this, they must be addressed in different ways. The Bank of England has developed this research agenda with the Max Planck Institute ³ to produce a body of ideas that has aided them in thinking about uncertainty.

The starting point of this paper is to take seriously the proposition of the NSS; that we live in an 'age of uncertainty'. I will not debate whether this is true, that is another paper in itself. From that starting assumption the intention is to do what the NSS did not, and ask what uncertainty means and what might we do about it? The proposition of uncertainty is highly contentious and it will be interesting to see if, in the promised 2015 revision of the NSS, it is sustained, developed, or quietly dropped.

The argument made here is three fold. Firstly that the use of the term 'uncertainty' in security strategy literature is problematic, poorly defined and of little utility in formulating policy or strategy. Secondly that concepts and research outside of the paradigm of security strategy are more satisfactory in discussing the meaning and implications of uncertainty. Finally that risk and uncertainty should be separated, in order to be addressed properly. I will then consider how one might deal with uncertainty in strategy and policy.

Taking a Government statement seriously is a precarious thing to do. However I contend that the exercise is worthwhile precisely because the Government has not taken its own statement seriously, and has not followed through the logical

³Max Planck Institute for Human Development, <https://www.mpib-berlin.mpg.de/en/institute/profile>.

implication of what it might mean. I do not intend to substantially question or critique risk methodologies. It works well when applied to appropriate problems. The case I will make here is that they do not work well under conditions of uncertainty.

It is easy to throw stones at Government work and make cheap criticisms. The work of the 2010 NSS was laudable and thorough. I will assume, for the purposes of this paper, that the judgments it made concerning risk were correct. This paper will instead attempt to 'fill in the blank' that was left by the title.

I deliberately eschew any one paradigm or methodology. Instead it will deliberately embrace the call by the political scientists Sil & Katzenstein for 'analytic eclecticism' (2011). The essence of which is to make,

Intellectually and practically useful connections amongst clusters of analysis that are substantively related but normally formulated in separate paradigms. It rests on a pragmatic set of assumptions, downplays rigid epistemic commitments, and focuses on the consequences of scholarship for concrete dilemma. (2011, 2)

The focus of the paper will be how to turn uncertainty into something understandable and useful for policy makers and strategists.

The Cabinet Office and MoD in Whitehall sit just two miles from the Bank of England's offices on Threadneedle Street, yet neither department was aware of what the other was doing. This paper will synthesise the Cabinet Office and MoD's strategic quandary with some of the insights from the BoE's research. All three offices of state are all charged with ensuring stability and security for the UK within their respective areas. They might share a common fundamental mission, but are separated by physical department and intellectual discipline. There are other approaches to uncertainty advocated outside of the security strategy paradigm and the alternative BoE approaches offered here. However I am unable to address them all within the space allowed.

For the purposes of this paper strategy is defined as the,

Management of a chain of relationships among means and ends on many levels, it is best not conceived of as an identifiable actor or thing, but as the bridge that fuses them all together. (Porter 2013, 5)

Strategy is about achieving a position of advantage (Freedman 2014). Unlike UK strategy documents, I take Strachan's (2005) definition, which draws a distinction between strategy and policy. Policy is the ends you wish to achieve; strategy is the ways and means of achieving it (Strachan 2005, 52).

Analytical eclecticism draws on and applies ideas from different fields. The danger is doing this superficially. Ideas may appeal on the surface, but like a plant one has to bring the epistemological roots with it. This paper is developed conscious of that. However, whilst the disciplines may be different, the fundamental issues they are tackling are not. Complexity, risk and uncertainty are common themes. When discussed at the fundamental level, insights in one area transfer more readily to another. The BoE is learning lessons from the catastrophic failure of the GFC. Security Strategy has the opportunity to observe these lessons and draw useful conclusions from them without having to go through an equivalent crisis.

2 The use and abuse of uncertainty

Risk is the definitive theme of our age (Coker 2009, viii). Based upon the concept of rationality, it is a simple, flexible and robust framework. It has outperformed all other attempts to capture our fears and hopes about what might happen. Coker (2009) states that the dominance of risk is such that it is no longer just a methodological tool, but a mindset that pervades all areas of modern life (vii-xi). Management of risk became the means and the ends.

That the UK NSS of 2008 and 2010 chose to express strategy and policy in terms of risk is therefore unsurprising. However what can be argued about both documents, and indeed wider security literature from around 2001 onwards is that whilst risk is a necessary tool, it has proved to be an insufficient answer. NSS 2010 appears to hint at this, stating:

The risk picture is likely to become increasingly diverse. No single risk will dominate... Therefore achieving security will become more complex... We no longer face such predictable threats... The adversaries we face will change and diversify... Our ability to remain adaptable for the future will be fundamental, as will our ability to identify risk and opportunities at the earliest possible stage. (2010, 18)

Uncertainty haunts risk. However sophisticated our risk methodologies have become, however good we are at identifying and managing risks, the future remains unpredictable and our present world complex. Where risk once offered the chance to manage the world in which we lived, uncertainty and complexity about the past, present and future means we still struggle with the ‘fog’ of reality. The same was true of the financial world pre GFC. Post GFC it has become apparent that risk methodologies alone are not enough.

The rise of risk methodologies has its roots in mathematics, science and technology (Bremmer 2008, 3-4)⁴. As the dominant paradigm in formulating security strategy, it has influenced the discipline of security strategy towards assumptions of rationality, optimization and the scientific approach to knowledge (Strachan 2011). What if security strategy is more of an art than science, or indeed, if it requires a more sophisticated scientific approach?

Rather than being developed as a distinct concept, uncertainty in security strategy literature has become the policy equivalent of ‘caveat emptor’. Few have meaningfully engaged with what uncertainty really is, separate from risk.

In a special edition of the Cambridge Review of International Studies published in 1999, three leading scholars characterised the period 1989 – 1999 as ‘The Interregnum’,

We might have employed a different word or none at all. But in the end, it was felt that the idea of an interregnum as a space between one era and another at least captured something about the ill-defined and almost impossible-to-define character of the last ten years... while we might know what our modern era is not — it is not a Cold War — we are not at all sure what it is, or where it might be leading to. (Cox, Booth, Dunne 1999, 4)

⁴See Paul K. Davis, (2012) ‘Lessons from RAND’s work on planning under uncertainty for National Security’, as an example of RAND’s scientific approach to risk and uncertainty over 40 years.

‘Interregnum’ was a scholarly way of saying that no one really knew what was happening. Cox, Booth and Dunne warned of the ‘problem of uncertainty and the extent to which we can ever really know what lies round the corner’ (1999, 6). Surveying the events of the past ten years they cautioned that,

History has a rare knack of playing tricks on people, increasingly so in this age of the unexpected where the old rules of the game appear to have been torn up and the new ones are still being written. (1999, 6)

Their invocation of uncertainty was a caution against the hubris of the past ten years. Those who wanted to proclaim the ‘End of History’ (Fukuyama...) or a ‘New World Order’ (Bush 1991), or a ‘Doctrine of the international community’ (Blair 1999) were liable to be made fools of by reality.

The journal edition was a sober and measured volume, which urged intellectual and practical humility, and also spoke of the complexity of the problems we faced (1999, 19).

If we learn no other ‘lesson’ from the last ten years of the twentieth century, it is that we rule out the unlikely at our peril. The past has been full of ‘radical surprises’. (1999, 6)

The argued that uncertainty was a fog, but the right questions and research would diminish it and complexity could be accommodated. The Interregnum edition of the Review of International Studies stands as a useful bookmark in the literature as of 1999, because when compared to more recent assessments, it is clear the interregnum is not over. The recent MoD Global Strategic Trends surveys of 2010 and 2014 take up much of the same research agenda as outlined by Cox et al, and are no closer to sketching out a new order or identifying satisfactory theories. The term interregnum never caught on within the wider literature but it is clear that it encapsulates a large part of what was meant when NSS 2010 talked of an ‘age of uncertainty’.

In the wake of 911, uncertainty moved from being a theme, to center stage (Fitzsimmons 2006, 132). On the 30th September 2001, just 19 days after the attacks on the United States, the US Defence Department published the Quadrennial Defence Review (QDR). The main body of the document, in common with the 1997 QDR, and in a similar vein to Cox, Booth & Dunne (1999), emphasised uncertainty as a characteristic of contemporary international relations. However, in the wake of 911, the front piece to the QDR was redrafted and stated:

We can be clear about trends, but uncertain about events. We can identify threats, but cannot know when or where America or its friends will be attacked. We should try mightily to avoid surprise, but we must also learn to expect it... Even before the attack of September 11, 2001, the senior leaders of the Defense Department set out to establish a new strategy for America’s defense that would embrace uncertainty and contend with surprise. (QDR 2001, iii)

In keeping with the rest of the literature was the idea that uncertainty was more prevalent now than before. It also assumed that uncertainty was surprise, deviance from the norm, a failure of risk and rational thinking, but one that could be dealt with through refinement and improvement to risk approaches. The 2005 National Defence

Strategy went even further, identifying uncertainty ‘as the defining characteristics of today’s strategic environment.’ (Cited in Fitzsimmons 2006, 132).

US Defense Secretary Donald Rumsfeld was to push the idea of uncertainty harder and further than any one, and was in turn to provide the most famous summary,

As we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns — the ones we don’t know we don’t know.

It was a neat definition, but it was never actually used as anything other than a clever rhetorical device. The increased discussion and use of uncertainty in strategy since 2001 did not arguably produce satisfactory strategy. Fitzsimmons (2006) criticizes the way and the extent, to which uncertainty was used, arguing,

Who can deny that surprise is a fact of life? It is self evident that that predicting the future is difficult, all the more so when the subject of the prediction is a network of highly complex, dynamic, human systems, like international politics. (2006, 133)

Placing uncertainty at the heart of strategic planning is problematic and can be counter productive. Fitzsimmons argued that the notion that today’s future is less certain than yesterday is overdrawn (2006, 134). His main critique of the use of uncertainty, is that it presents a problem without answer. Planning factors and scenarios become too varied to have depth, assumptions too broad, the very tools and fabric of rigorous analysis collapse in muddle indecision and imprecision (2000, 142). Rather than assisting in creating flexibility, uncertainty invites intellectual confusion into the planning process.

A strategist who sees uncertainty as the central fact of his environment brings upon himself some of the pathologies of crisis decision-making. (2006, 135)

Summing up his critique Fitzsimmons argues that,

Undue emphasis in planning on uncertainty creates an intellectual temptation to cognitive dissonance on the one hand and confirmatory bias on the other. And the effect, both insidious and ironic, is that the appreciation for uncertainty subverts exactly the value that it professes to serve, flexibility. (2006, 136)

Eight years on that last paragrastill accurately captures the use of uncertainty, which is rife in strategic planning and the wider literature.

However Fitzsimmons’ answer to the problems of using uncertainty was a robust defence of the traditional analysis and planning methodology. Citing common cause with Betts (2000), he argued that,

A risk orientated approach seems to be the only viable model for national security strategic planning... Unless they (strategists) are willing to quit and go fishing, then, strategists must sharpen up their tools of risk assessment. (2006, 143)

In that respect he mirrored the assumptions of officials within the security and strategy establishment and a significant portion of the academic literature. One simply needed to reinvigorated and expanded existing methodologies in order to meet the challenge of uncertainty (for example Edmunds 2014).

Security strategy had still not produced a meaningful appreciation of uncertainty, separated from the risk, in contrast to other academic disciplines. The proposed answer to the shortcomings of risk comes in the form of platitudes, calling for ‘adaptability’, ‘flexibility’ and ‘resilience’ (for example NSS 2010, 18 or QDR 2006, 1–2). But do these statements really tell us how to address uncertainty as a distinct phenomenon? To expose just how vacuous the statements are, one only needs to turn them on their head. Under what circumstances would anyone advocate a rigid, inflexible and delicate security strategy? Has there ever been a time when Governments didn’t advocate flexibility in strategy? At the height of the Cold War US Secretary of Defence Robert McNamara reshaped US nuclear policy under the heading of ‘Flexible Response’.

We don’t know how to respond to uncertainty because we haven’t confronted it in isolation from risk and have yet to define it properly. It is used as a synonym for unclear, changeable, tentative, unreliable and ambiguous. The US placed uncertainty front and center in their security strategy and the UK has followed suit. As such our current strategic disposition favors risk but is unable to address uncertainty. Uncertainty needs to be defined and separated from risk.

3 Separating risk and uncertainty

On one level everything is uncertain. Discussions of uncertainty are therefore problematic and can collapse rapidly into vague circular discussions that have little utility for strategy. The challenge the security strategy community faces is to produce policy recommendations of action or inaction in the face of an issue. It is an answer-orientated community and I believe that this leads to a tendency to conflate risk and uncertainty. It is unsurprising that NSS 2010 neither provided a definition of uncertainty, nor meaningfully used the conceto do anything other than simply imply, ‘we just don’t know’. In a world where every action or inaction, statement and decision by government is forensically scrutinized in hindsight, uncertainty is a sophisticated sounding hedge against anything.

In science and economics the meaning and significance of uncertainty has been has been a subject of intense research and discussion (Peat 2002, xiii–ix). This body of work is potentially transferable across disciplinary boundaries. As explained earlier, uncertainty is often used to make the obvious statement that we cannot predict the future (for example Cox, Booth and Dunne 1999). However Bayesian mathematician Lindley states that real uncertainty is personal; it is not *the* uncertainty but *your* uncertainty about something (2014: 1-2). It expresses a relationship between the person making the statement and the real world about which the statement is made.

In that respect uncertainty is not objective in the sense that it expresses a property that is the same for all of us (2014, 3). The UK Government may well feel that it exists in an age of uncertainty, but other nations could believe the opposite. The use of the term uncertainty in security strategy is often used to refer to the outcome of a policy or future states of the world. In that sense it isn’t saying anything useful, as we are never able to be certain about the future. Taking Lindley’s conception of uncertainty, a statement about a relationshiuncertainty becomes useful. We are never

able to predict future ends but we may be able to alter or influence relationship of the means and ways, and so alter the extent of our uncertainty. Placing the emphasis on the relationship moves dealing with uncertainty into the realm of strategy, the management of relationship (Porter 2013, 5)

Lindley argues that one should admit and highlight uncertainty rather than suppress it (2014: 11). The arguable natural tendency of risk methodologies is to suppress it. Risk is conventionally formulated, as the likelihood of an event occurring, versus impact of the event occurring will have. It therefore attempts to frame a problem by assigning values to the key factors of it. This can be done either quantitatively or qualitatively, making it an incredibly flexible tool. The use of a risk methodology does not require certainty. That is to say, the factors you input do not have to be absolutely precise in order for it to work (Bremmer 2008: 3). It can accommodate a level of uncertainty. Hence the two are often used in the literature interchangeably. The NSS uses uncertainty as a general statement about knowledge of the future and the imperfection of prediction.

What a risk methodology does assume is that one can identify the relevant and important factors, and assign some form of value to these factors. It assumes that the world in which we live in knowable and discernable. Contrary to this position, the economist Hayek, in his 1974 Noble Prize acceptance speech, argued that,

Unlike the position that exists in the physical sciences, in economics and other disciplines that deal with essentially complex phenomena, the aspects of the events to be accounted for about which we can get quantitative data are necessarily limited and may not include the important ones. While in the physical sciences it is generally assumed... that any important factor which determines the observed events will itself be directly observable and measurable. (1974)

Hayek's speech, 'The Pretense of Knowledge', was a continuation of his long running critique of an excessively scientific approach to economics and social sciences. Thinkers such as Hayek (1974) and recently Taleb (2010 & 2012) take the imperfections of knowledge as their foundational assumption. The problem with risk is that it sits within an epistemology that seeks to know all that we can and then hedge against it. What if the world which security strategist's deal with is one in which important factors are not observable or measurable, and therefore subvert risk assessment?

The US Federal Reserve and the Bank of England faced this problem in the wake of the GFC. Their risk methodologies proved to be inadequate. The issue as Haldane, Executive Director of Financial Stability at the BoE, states, is that models of decision-making under risk assume that future states of the world are known by agents and so are able to be priced and hedged (2012, 2-3). Combined with this, is the assumption of rational expectations, that information collection is close to costless and that agents have sufficient cognitive facilities to weight probabilistically all future outcomes (2012, 1-2). The pursuit of stability and security pre GFC was the pursuit of further perfecting knowledge and refining the risk models. Post GFC the two central banks began to wonder if the world in which they lived was not one of known knowns and known unknowns but rather of complex unknown unknowns.

The response of both organisations was to resurrect a concept of uncertainty that had largely disappeared from mainstream economics due to the success of risk methodologies, that of 'Knightian Uncertainty' (Haldane 2012, 2 and Pritsker 2010).

Frank Knight, later professor of Economics at Chicago University, published his 1916 PhD thesis in economics in 1921, as the text *Risk, Uncertainty and Profit*. In it he attempted to explain the role and contribution of entrepreneurs in a capitalist system. The most enduring idea was his definition of risk and uncertainty. Knight drew a distinction, which is worth quoting at length, as it is central to this argument,

Uncertainty must be taken in a sense radically distinct from the familiar notion of Risk, from which it has never been properly separated. The term “risk” as loosely used in everyday speech and in economic discussion, really covers two things which, functionally at least, in their causal relations to the phenomena of economic organisation are categorically different. The essential fact is that ‘risk’ means in some cases a quantity susceptible of measurement, while at other times it is something distinctly not of this character; and there are far-reaching and crucial differences in the bearings of the phenomena depending on which of the two is really present and operating... It will appear that a measurable uncertainty, or ‘risk’ proper, as we shall use the term, is so far different from an *unmeasurable* one that it is not in effect an uncertainty at all. (1921, 19)

For Knight, true risk could be quantified in some form and real uncertainty could not (1921, 233). Knight belonged to the school of economics that placed the imperfection of knowledge at the heart of theory and used it to explain the world (1921, 206–210). The distinction became known as ‘Knightian Uncertainty’, but as a theory it was overtaken by the rise and apparent success of probabilistic risk methodologies.

There are two basic critiques of ‘Knightian Uncertainty’. Firstly, that it presents a false dichotomy. Taleb argues that one never ever knows the odds of any situation but has to discover them (2010, 128). In his view Knight is wrong to say that there is no such a thing as true risk, known knowns, as differentiated from unknown uncertainty.

The second criticism of ‘Knightian Uncertainty’ is that uncertainty is already accounted for in the conventional risk models. Uncertainty is a component of likelihood. This could account for the lack of a distinction or definition in the risk models used. Uncertainty is ubiquitous and risk approaches do not claim, or require, absolute certainty, in order to work.

One can argue that ‘Knightian Uncertainty’ is a false dichotomy and still find value in it as a tool. All tools are, to an extent, over simplifications in order to aid in thinking about difficult problems. Even if a false dichotomy, provides a useful vehicle to surface and accentuate the extent uncertainty in security strategy problems. Uncoupling uncertainty allows risk methodologies to play to their methodological strength. Conflating the two subverts the overall product and has the tendency to hide uncertainty or at least undervalue it. This is the weakness of the NSS 2010. ‘Knightian Uncertainty’ addresses these issues whilst also respecting and allowing for the methodological strengths of risk approaches.

4 Adapting security strategy to the ‘Age of Uncertainty’

Gigerenzer (2014) states that in dealing with uncertainty, ‘You will fail if you use the tools of risk’. I will draw on the body of research by Gigerenzer and the BoE

(principally Haldane) and translate the strategy and policy ideas they have developed to security strategy. The main conclusion of this body of work is that the answer to ‘Knightian Uncertainty’ is simplicity. As Haldane states,

Under risk, policy should be fine respond to every raindroit is fine tuned.
Under uncertainty, that logic is revered. Complex environments often call for simple decision rules. That is because these rules are more robust to ignorance. Under uncertainty, policy may only respond to every thunderstorm, it is coarse tuned. (2012, 3)

The proposition of simplicity in the face of complexity and uncertainty may at first appear a somewhat glib response. However it is based on accepting the limits of knowledge and understanding the true nature of uncertainty. It supposes, as Hayek argued, that our knowledge of the world is limited and incomplete. Complexity can create uncertainty because the variables are too great to calculate and because what is important might not be observable or measurable. You are in the realms of unknown unknowns by virtue of complexity and it requires an appropriate response.

The conventional response within literature is to meet complexity with complexity. ‘Complex Adaptive Systems’ or ‘wicked problems’ require an equally complex solutions or an adaptive strategy. These approaches share a fundamental assumption with risk methodologies. It is that we are able to eventually find out all that we need to know about a problem, and so convert unknown unknowns into known knowns, or at the very least known unknowns. It also assumes that we have the cognitive capacity to process this information and act upon it.

The approach to uncertainty advocated by Knight (1922), Taleb (2010), Gigerenzer (2014) and Haldane (2012) all reject this conclusion and instead assume the opposite. Rather than trying to fight complexity and uncertainty they advocate accepting the limits of our knowledge and working within it to produce satisfactory rather than optimal results. Harford (2011) highlights the applicability of this approach in a number of different fields. From engineering to business to biology, attempts to meet complexity with complexity, or apply rational optimization approaches, don’t just result in a worse performance relative to simple approaches under uncertainty, but rather catastrophic results. Bremmer calls optimization under uncertainty a ‘false idol’ (2013, 213).

The first and most important task of strategists therefore, is to determine whether the nature of the problem one is dealing with is a risk or an uncertainty. To use techniques appropriate to uncertainty to address problems of risk would be just as mistaken. Applying the Knightian distinction, or the Rumsfeld short hand, aids in the correct diagnosis. Using Lindley’s conception of uncertainty helorientate strategists to the fact it is the relationship that matter, not the outcome, which is always uncertain.

Gigerenzer (2010) Haldane (2012) argues that one should use simple heuristic rules to make decisions under uncertainty,

As you do not fight fire with fire, you do not fight complexity with complexity. Because complexity generates uncertainty, not risk, it requires your regulatory response to be grounded in simplicity not complexity. (Haldane 2012, 24)

Simple heuristic rules are those that look at only a few parameters and try to be robust (Gigerenzer 2014). Accepting the limits of knowledge and the difficulty of

acting under uncertainty, the most appropriate aim, according to Gigerenzer is to be 'good enough', as opposed to risk-based approaches that seek to tailor and rationally optimise actions. The Bank of England's research bases their concept of simple heuristic rules approach on five ideas.

First, information gathering is not cost free and the cost of cognition is detrimental. Unfortunately the founding models of risk assumed that it was cost free (Haldane 2012: 2). In that respect they made neat models but fall foul of Taleb's (2010: 128) critique that they were elegant in the laboratory but are less useful in the real world. If one accepts Hayek's argument about the limit of knowledge and adopts Knightian Uncertainty, then gathering more information is a cost that does not yield results. Information can exceed our cognitive capacity or becomes too costly to gather. At a certain point a decision has to be made and compromise reached. Risk approaches in contrast place a premium on rational optimization and maximization of information. Here the distinction between risk and uncertainty is highly useful because it would allow a decision maker to recognise that less information is actually more useful. Simons (1956) called this 'bounded rationality' and 'satisficing', getting just enough information but no more. The aim is to be 'good enough' in general, rather than ideal in particular.

Secondly disregarding information can produce not only cognitively cheaper but better decisions (Haldane 2012, 4). Too much information can oversensitise decision-making models. Historical data can be misleading, it is deductive about the past but is not necessarily inductive about the future. Haldane points to research that demonstrate that 'decision rules based on one, or a few, good reasons can trump more sophisticated models' (2012, 5). Risk responses based upon past information will not just underperform relative to simple rules; they may actually be catastrophic. Talib states that learning from the past is 'negative knowledge' that may prove to be at best irrelevant, or at worst, viciously misleading (2010, 40-41). Risk methodologies can be so finely tuned that when they fail, they fail completely, particularly in tightly woven complex problems as shown by the GFC (Harford 2011). They are ideal responses for specific circumstances but not good enough for a broad range of possibilities. It is what is known in the military as preparing perfectly for the last war.

Thirdly, giving equal weighting to all options available can outperform more sophisticated weighting models used in risk. This is the 1/N rule, where all options (N) are weighted equally as 1. Rather than weighting each option by differentiating between them on likelihood and impact, you assume all possibilities are equal. You therefore do not try to discriminate between possible outcomes; instead you adopt a broad capability based approach that allows for you to deal with as many of them as occurring as possible. Done properly this means that performance will be average (good enough). You will not perform to the optimum level, but you will not catastrophically fail by preparing for what turns out to be the wrong event. Gigerenzer (2014) notes that the economist Markowitz, famous for developing the risk weighting strategies used in financial investment, adopted the 1/N approach in investing for his retirement.

Fourth, the small samples on which so many assessments are made are deeply problematic, they simply cannot support the weight of assumptions placed upon them. Smaller samples increase the sensitivity of estimates to past information (Haldane 2012, 6). Bigger samples taken over longer periods of time can support complex and detailed decisions in depth. One must realize just how big a sample

needs to be and indeed how small so many of our supposedly 'big' samples really are. Haldane cites the evidence of De Miguel et al (cited in Haldane 2012, 6) whose study of investment strategies showed that the sample threshold at which complex rules outperform simple rules (such as 1/N) was when there was in excess of 250 years worth of data. How many security strategy risk models have data sets that large?

Finally, simple rules are easy to understand by all actors and therefore encourage the correct behavior (2012, 7). Because as Lindley states, our relationships with the real world are personal, and so statements of certainty or uncertainty are personal, interpretations of the world can vary dramatically. Therefore sophisticated or complex responses to problems can easily be misunderstood both in meaning and intent. Simple heuristic rules are easier to understand and harder to get wrong. They are pejorative, but again this is acceptable under conditions of uncertainty because the aim is good enough performance, not ideal. Haldane (2012, 7) also points to the fact that people are less able 'game' simple heuristic rules. Gigerenzer (2014) calls this tendency to 'game' risk based rules 'defensive behavior'. Risk approaches encourage optimum responses and so under conditions of uncertainty actors seek to minimize their liability and reduce the risks they take, in short 'covering your ass'. Risk methodologies are all about minimizing risk. This can lead, under uncertainty, to the wrong behavior or indeed bad behavior. Simple rules, correctly aligned to the issue, keep people focused on the bigger picture, rather than the small print. I will illustrate this point later with regard to NATO Article 5.

In the part 2 it was shown how the response within both US and UK security strategy to uncertainty was to advocate 'flexibility' and 'adaptability'. They were largely hollow phrases because they were not based upon a rigorous methodology. The responses advocated here, simplicity in response correctly diagnosed uncertainty, provides a meaningful basis on which to base a flexible and adaptable strategy under uncertainty.

A strategy based upon flexibility and adaptability doesn't really tell you what not to do. One would never advocate being inflexible. However one could argue against 'satisficing' and or adopting a 1/N approach. The opposite of both would be optimization and discriminatory risk weighting. Unlike in so much of security strategy, the research identified here offers both what to do, and also makes clear what not to do, because the arguments can be falsified. Much of the above would provide a rigorous definition of flexibility and adaptability. The body of literature may well label it 'simplicity' but one could, to put anxious minds at ease, re-label it within security strategy. It would back fill an otherwise intellectually empty vessel.

NSS 2010 called for a radical transformation of the way we conceive of strategy in response to the age of uncertainty (2010, 3). The research and strategy developed by the BoE does exactly that, and the ideas would have been regarded as heresy pre GFC. I will now offer some brief examples of how, using Knightian Uncertainty, the principle of simplicity in response to complexity, and the aim of a good enough performance, might better orientate security strategy under uncertainty. I use the term 'orientate' deliberately. By its very nature you cannot directly counter uncertainty in the concrete terms you would under risk. Instead you re-orientate strategy and policy so that it is able to perform under conditions of uncertainty. It should be seen as complementary to the NSS assessment of risk, not in competition. Security strategy should be divided between risk and on uncertainty and then these areas addressed in separate and appropriate ways.

The most far-reaching conclusion of the study of uncertainty, compared to risk, is that risk approaches do not just under perform relative to simple, uncertainty orientated approaches, they can fail catastrophically. Has the security strategy discipline constructed a falsely reassuring world of risk, as the financial markets did pre GFC?

The evidence that risk approaches perform worse under uncertainty can be addressed using the 1/N equal weighting methodology. Balanced, flexible and adaptable forces have been the aspiration of defence planners for years; yet have been undermined by the demands of the day and the prejudices of yesterday. The appropriate intellectual arguments have never quite been made because it lacked a persuasive evidence base, which tentatively now exists. Separating risk and uncertainty would allow for some force elements to be calibrated towards optimisation against identified risks and other elements to adopt a 1/N approach against uncertainty. One area this is already applied, but is under renewed debate, is the UK's nuclear deterrence. Trident is an example of a 1/N approach to the threat of interstate war. It is however the only 1/N tool we have for a multitude of uncertainties.

Explicitly adopting a procurement policy that aimed for 'good enough' performance in some areas, and optimized equipment in others, could ease the requirement on procurement. Davis (cited in Bremmer 2008, 209) argues for a capability based upon, modularity, adaptiveness and robustness over optimization. As an example of the policy relevance of this approach, the Royal Navy decided against the building of a new class of modular, economical and multi role corvette, because the RN still prefers hyper optimized platforms.⁵ The research advocated here could have provided the intellectual justification, that has been either absent or found wanting, in making the case for what a flexible and adaptive forces would actually be based on.

Simple heuristic rules may well operate well under uncertainty but their performance will be directly linked to the people exercising judgment. Haldane (2012) states,

Simple rules are not costless. They place a heavy emphasis on the judgment of the decision maker, on picking appropriate heuristics. (7)

This is especially true when one defines strategy as one of managing relative relationship between ends ways and means; it is always in flux and relies on judgment. Gigerenzer (2014) places huge emphasis on the value of experience and intuition in dealing with uncertainty. However exactly who and what type and nature of experience is deeply problematic. How do we develop the right people in the right way? It is in a sense an appeal to reinstate 'wisdom' as a formal requirement in security strategy apparatus.

If the UK is uncertain about the world then it needs to develop experience and retain it. Currently the departments of Government do not develop deep experience, instead placing greater emphasis on generic skills and a modularized approach education. The House of Commons Foreign Affairs Select Committee recently took up this debate with the Foreign Office stating that:

Our concern, which persists, is that certain strengths, such as depth of understanding of a country or a highly developed ability to communicate in a local language, appear not to carry significant weight in comparison

⁵See UK MOD DCDC, (2012) Future 'Black Swan' Class Sloop-Of-War: A Group System, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/33686/20120503JCN112_Black_SwanU.pdf, accessed 1st Sep 2014.

to more generic skills... which make up the core competencies. (House of Commons 2013, para 54-61)

The Foreign Secretary had previously stated a desire to place a premium on languages and regional experience in the selection and deployment of diplomats, saying that,

Our diplomats need to have an unrivalled knowledge among diplomats of the history, culture, geography and politics of the countries they are posted to, and to speak the local languages. (Ibid, para 57)

However, in the committee's opinion, little action was taken.

Gigerenzer's research confirms what people (ironically) intuitively believe anyway, experience matters. People are inclined to defer and refer to those who they perceived to have it. Field Marshall Lord Wavell maintained that the most important quality of a strategist was,

What the French call *le sens du praticable*, and we call common sense, knowledge of what is and is not possible. (cited in Gray 1999, 32)

Hayek (1976) made a similar appeal in his Nobel Prize lecture,

If man is not to do more harm than good in his efforts to improve the social order, he will have to learn that in this, as in all other fields where essential complexity of an organized kind prevails, he cannot acquire the full knowledge which would make mastery of the events possible. He will therefore have to use what knowledge he can achieve, not to shathe results as the craftsman shapes his handiwork, but rather to cultivate a growth by providing the appropriate environment, in the manner in which the gardener does this for his plants. (Hayek 1976)

In order to deal with uncertainty we need to develop and reward real experience, over time. It is a policy recommendation that should be explicitly linked to the National Security Strategy and justified as an effective means of developing strategy under uncertainty. It is by no means a quick or easy task, and requires further substantive research and implementation, but it is an example of a recommendation missed by NSS 2010 because it did not follow through its own proposition. The BoE meanwhile is reforming structures to ensure institutional wisdom through its people.

Another example of reassessing and re-orientating strategy for uncertainty is the application of simple rules that are robust in the face of complexity. NATO Article 5 is an excellent example. It states that an attack on one is an attack on all (NATO 2014). The response to an attack therefore is war with the NATO alliance. Rather than being able to manipulate alliances or pick off individual countries, the simplicity and robustness of this rule means that the adversaries have to weigh all actions on the basis that it could provoke an overwhelming response. Likewise NATO had to be mindful that its actions did not undermine the rule. Actions were orientated towards their bigger implications, not the small print. Gigerenzer (2014) provides a fresh basis on which to reinvigorate an old idea.

Appreciating the value of simple heuristic rules under uncertainty could assist in appreciating rules and international norms. You could seek to orientate your activity to uphold the integrity of rules you valued under uncertainty. Rather than match

complex threats and continually try to optimize the response, the actual goal would be to minimize the extent to which adversaries can find asymmetric means to subvert the integrity of a rule. One only has to look to see the very real threat of this in Ukraine now. In Crimea, Russia reportedly employed asymmetric tactics to create doubt and maximize complexity. They successfully subverted basic international rules such as borders and sovereignty, and in doing so achieved their aim.

If one applies the insight of Gigerenzer et al, one would understand that the real threat that NATO faces is not necessarily how to match and defeat Russian asymmetric tactics, but how to preserve the integrity of robust simple rules such as Article 5, in the face of subversion. One could also apply this approach to thinking about how to uphold international rules and clarify thinking about what it is in those rules that matter most, a priority of the NSS 2010 (33). The BoE is currently exploring simplifying financial regulations in order to ensure the correct response from the financial services and not asymmetric assault by armies of bankers and lawyers. Robustness trumps sophistication under uncertainty.

Defensive behaviors, as promoted by risk, stands in contrast to the offensive, or 'positive', behavior advocated under uncertainty. By solely adopting a risk approach we have adopted a defensive approach that undermines performance under uncertainty. Knight used his distinction to draw a difference between business people, who were comfortable operating under risk (defensive) and entrepreneurs who performed well under uncertainty (offensive) (1921, Chap X). The UK may be a nation that has decided that it operates under risk, but other nations in the world, currently Russia, have clearly decided to embrace uncertainty. Russia is, in a Knightian sense, a 'strategic entrepreneur'. Risk orientates us to the consequences of our actions and so we are likely to miss opportunities. Strategic entrepreneurs such as Russia will face consequences for its actions, but are exploiting and sowing uncertainty in order to shatter their overall strategic environment. We may well choose to continue risk averse policies, but it is useful to understand the nature of such a choice. The end goal of other nations might be global uncertainty itself, where they are comfortable operating and we are not. As Coker states,

At the heart of the paradox... is the fact that other societies are willing to take very great risks indeed. It is their predisposition for risk-taking that may force us to confront or overcome our own predisposition to be risk averse. (2009, x)

We are going to have to deal with a world of uncertainty and strategic entrepreneurs.

Finally the issue of the cost of cognition, that less information can lead to better decisions, and the danger of small samples sizes; all contribute towards putting the wider issue of information and decision making in a different context. Rather than believing that the more we know about something, the less uncertain it will be, we would understand that less is more. Identifying and knowing a few key things, and understanding them very well, would aid in prioritizing information requirements. The BoE has reduced the number and type of indicators it requires banks to submit (Gigerenzer 2014) and so freed BoE capacity for other tasks. Governments often decide not to find something out, not out of choice, but lack of capacity.

Conclusion

What this eclectic approach to uncertainty has attempted to do is part of what Bremmer has called 'shifting from solutions based approach to one of a management approach' in strategy (2008, 302). This matches Lindley's conception of uncertainty as a statement about a relationship rather than objective fact. Bremmer's argument is in favor of adopting a broader range of approaches to strategic risk, ambiguity and uncertainty. Gigerenzer's and the BoE's research doesn't solve the problem, but reconstitutes the problem in a useful way. Even those who might dispute conceiving of uncertainty separately within strategy cannot deny that traditional risk based approaches have proved insufficient, and in other fields catastrophic. Attempts to improve them through greater refinement or increased sophistication do not address the fundamental methodological problems. At the very least this paper offers a number of areas that would warrant an interdisciplinary research agenda, as there appears to be a gap in the literature when it comes to uncertainty.

The UK NSS led with uncertainty because the US had made it a main theme in the 2000's. The 2014 US Department of Defence QDR has quietly dropped uncertainty when compared to the 2006 QDR. Instead it uses terms such as volatility and change. It will be interesting to see what use the 2015 UK NSS makes of uncertainty.

Risk is susceptible to measurement in some form. Uncertainty by the definition employed here, is not. Uncertainty therefore requires a substantially different approach, one that seeks satisfactory performance based on a principle of simplicity. Paradoxically, simplicity under uncertainty is the optimum approach. The Global Financial Crisis showed what happens when exclusively risk-based approaches fail. Global financial systems have been incredibly fortunate to survive the crash, but it has exacted a heavy cost. It has exposed us to a weakness that had been overlooked and also provides the possibility of insight and lessons to be learnt. It is a shame therefore that the lessons have not been carried across to security strategy. Gigerenzer's research has been used in medicine, finance, business and technology. Because he has focused on general principles and their relevance and application to real life, the ideas are readily transferable. Security Strategy needs to approach uncertainty in a more intellectually rigorous and multidisciplinary way. Uncertainty needs to be freed it from risk methodology, thereby allowing risk methodologies to perform to their optimum, and for uncertainty to be addressed in the appropriate ways.

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