What are the Challenges to Nuclear Deterrence in the Second Nuclear Age?

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Deterrence is a strategic concept and has been central to the renewing and planned use of nuclear weapons since the immediate period after 1945. It is the aim of preventing an opponent to act in a given way by convincing them that they face undesirable consequences if they don't retreat. On its first significant incarnation, as the atom bomb, the nuclear weapon was viewed as the ultimate weapon by virtue of its ability to bring decisive defeat to a military opponent in theatre and (as thought later) in tactical levels of combat warfare. These hopes were proven by the use of the atomic bomb on Hiroshima and Nagasaki which rendered the Japanese army unable to go on fighting, and which brought WWII to an end. After WWII the idea that nuclear weapons could have an operational or tactical role was becoming more dubious. Since 1945 and through out the Cold War, a view prevailed that they would be too dangerous to use in battle. Their utility was found in the use of deterrence. An international system characterised with unresolved power consolidations in the wake of WWII, constituted the existence of two superpowers in the Soviet Union and the United States. Subsequently the principle of nuclear deterrence has gone through periods of favour and disfavour as questions of its efficacy have gone hand in hand with the justification of the procurement and maintenance of nuclear weapons. In the period following the end of the Cold War and in the post 9/11 international politics, this has moved to include its efficacy in responding to contemporary threats which seem to require alternative approaches when considering a second nuclear age which is the period after 1991 or the fall of the Soviet Union. This essay examines a number of these challenges to the centrality of deterrence in international politics. Chapter 1, introduces nuclear deterrence in theory and in practice during the Cold War, chapter 2 touches on nuclear proliferation and nuclear deterrence, chapter 3, examines state methods of responding to the rogue players in international relations of transnational terrorism, and lastly chapter 4 explores furtherissues in contemporary international security challenging the centrality of deterrence in the Second Nuclear Age.

1. Nuclear Deterrence in Theory and in Practice During the Cold War.

Deterrence is a coercive strategy, describing all the processes of dissuading an opponent to do what could be advantageous to them but harmful to you, using the threat of force in response to non-compliance. Lawrence Freedman[1] compares deterrence against strategies of persuading others to do what might be harmful to them but which is advantageous to you which is comepllence. For easy description I use the simplified entities of A , B and C to represent opponents in those relationship described as deterrence. A is the initial deterrer and is deterring B. This situation is not always as straightforward as A deterring B. C is a third party.

The deterrence can be seen in the following relationship. A detects and fears B moving to or intending to take action that could benefit itself but which are also in the way of A's interests. A would then attempt to successfully communicate to B that should they take that action they were planning or take advantage of that opportunity, there would be retributive retaliation. A would define the form of this retaliation in the use of military force and try to convince B that the threat is real, in that physical capability is there, and that A is also serious about using it in response to B's failure to take heed of A's signals. Therefore if B understands and decides not to go ahead with the action or gears away from doing or developing a particular set of plans fearing A's response, then B has been deterred by A. Deterrence is then about 'inducing inaction,' as Tom Schelling is quoted by Freedman.[2] In this

way, because A has prevented B from doing something, A has preserved the status quo. This means then that the success of deterrence is seen in nothing happening, Freedman, (2004).

Credibility of the threat is a core decisive factor in successful deterrence. It has to be robust enough to convince B that it is in its own interest to revert from former plans or intentions. Other factors are important in successful deterrence and deterrence is manifested in different ways and to different degrees as would be explored further below. Deterrence is underlined by the idea that the entities of A and B are rational actors therefore asses the likely action of other actors through a rational choice theory. From the point of view of A as it deters B, B has the same rational standards as A. In this way A can view B as the mirror image of itself. This means that it constructs threats in relation to B with the idea that B would do what A would do in the same situation. And therefore, if A takes Y measure to prevent B from doing X, then A would do this by reflecting what it would do and expect B to react likewise.

Inevitably, in practice this idea is contentious not only because what is rational in practice may fluctuate with changing contexts and which at times can lead state leaders acting in ways which are contrary to what they themselves are professing as rational. But also because it is difficult for A to discern what B's interests might be since it would require having an accurate assessment of B's motives and perceptions. It simply is true that some leaders are risk adverse and cautious while others are more aggressive, willing to risk more, not humble enough to negotiate and not phased by the idea of being the cause of deaths of a horrendous number of people.

Successful deterrence also depends on what A is demanding and the extent to which B is capable of or willing to resist A's call. A can be more effective in dissuading B by balancing credible threats with the way it communicates it's message to B, perhaps conveying a sense of urgency as well as providing positive incentives for acceding, and also incorporating reassurances. Credibility can be backed up with demonstrations of political resolve by using force in other conflicts while also showing the availability of resources and therefore fortifying the threat. When the USA gradually entered the Vietnam War in the middle of the Cold War, it was to contain the spread of communism. The war perceived as a task that can be completed quickly and decisively was also likely to have been viewed as an opportunity for the USA to flex its muscles. The USA could demonstrate to hostile states that they would not be allowed to get away with pursuing goals against the USA without consequence. A has to also make it clear to B that the retaliation could leave it in a worst situation than before. This is because A could either prevent B from acquiring or determining what it wants to for itself, but even after that, what will descend on B as punishment from A would significantly out way what it gained from its endeavour. When considering the example of Israel and its repeated Arab wars, Jonathan Shimshoni identifies this as the "costly signal,"[3] to explain that, this engaging in conflicts can support deterrence because it shows determination of resolve. This can also come under what Freedman has called 'enforcement costs.'[4] This point would get across if a timely response was given to those actors that wont give in and that this response should be decisive.

In this, B's intended action or considered intended action, move from the state of being infecting abstract considerations to actually being a decided interest for B to respond to A's demands positively. In considering deterrence through denial, Freedman points to 'two type of costs'[5] that B can incur if it tries to resist A. These are the resistant costs and compliance costs. Glen Snyder describes denial as A creating an environment that denies B the strategic option. The use of force is one way that A can do this. The resistant costs for B will be those that it will bare in order to prevent A from carrying out its threat, in creating that situation which is advantageous to himself. In the Cold War, the USA and NATO worked continuously to maintain that situation by acquiring a larger nuclear arsenal and more accurate nuclear weapons than the USSR, while the USSR did the same vis a vis NATO and the USA. If B fails in its resistance, it has to then deal with the compliance cost[6].

Deterrence through denial is contrasted with deterrence through punishment which is the use of direct force by A to convince B that an attack against A would be extremely undesirable. Nuclear deterrence in

practice could include investment and the building of an anti ballistic missile capability with the view of responding to B's attacks with a force that would effectively disable B. This would discourage B from any such attacks. Maintaining this capability is extremely costly. In punishment, the cost of compliance for B would have to be relatively high to A's compellence costs to justify it. Where the cost are balanced and so that the situation is not decisively advantageous to A so as to deny B choice, B may see opportunity to take advantage of this situation. In this case, A may prefer to gear policy towards denial which is supported by wider measures other than military or in the latter case, a single decisive weapon. Additionally denial over punishment will be less costly. It was because of this reason that NATO unable to meet the War Saw Pact's conventional weapons arsenal, decided to remedy it through denial using nuclear weapons. Arguably, nuclear deterrence through denial characterised the Cold- War.

Where A is able to convince B of the credibility of its threat, the deterrence directed at B could create an internalised deterrence in C or D hostile states. In their calculations of opportunities for securing interests, C and D already make room to consider what the likely reactions of A might be, unwittingly or otherwise. A has made it clear to C and D that to work against A's interests would be 'unwise as it would be unwelcome,' [7]. In this way deterrence moves away from just being directed at B and to a multiple audience.

It's easier for A to convince B of its strengths, when it is stronger than B. The nuclear bomb had an equalising effect in the Cold War that made the relationship of A deterring B deficient to describe the Soviet Union and USA/NATO relationship during the Cold War. In the course of the Cold War, the USSR and USA acquired large enough nuclear arsenals and relevant weapons to impose thorough destruction on the other. They both developed second strike capabilities. This meant that should either the USSR or the USA first strike the other, the other would respond with equal force and ensure that both loose. This therefore assured mutual destruction, the abbreviations of which is not absurdly MAD. At the birth of nuclear weapons, their utility was also able to be considered in tactical use. With large arsenals on both side, even where tactical nuclear weapons could be used, it was judged that there were no adequate measures preventing escalation to total war of super power nuclear exchanges and ultimately to those most terrible and destructive of the bombs. Because of this, there was a consensus that total war should be avoided, and that nuclear weapons had their utility in deterrence. Because they assured indiscriminately decisive annihilation all sane parties saw it in their benefit to ensure that no total war arose. However, limited wars were still prevalent in the Cold War. In limited wars, the powers could engage in proxy wars supporting states with sympathetic ideologies as well as strategic merit to ensure the spread of their particular peace as well as consolidating control over coveted geographical areas. They used conventional weapons and worked to keep it limited. This was seen in the Soviet-Afghan War from 1979 where Soviet Union forces supported the Marxist Peoples Democratic Party of Afghanistan while the Mujahideen resistance they fought against found support in the USA as well as in others.[8] Even as they fought, there was a dreading sense that these wars could escalate into direct confrontations between the USSR and the USA and which could transform into nuclear war.

Deterrence moved away from narrow deterrence, that is incorporating planning at the theatre and tactical levels and instead more towards broad deterrence. A broader deterrence for the major nuclear powers meant avoiding total war, lest it escalate into total war of nuclear exchange which Herman Kahn wrote as 'Type I'.[9] Thinking about deterrence also moved away from central deterrence, which is deterrence of the coherent geographical homeland to extended deterrence that includes the allies. The USA adopted this with the view that in a situation of MAD, a direct attack from the USSR was unlikely but tensions that could erupt into violent conflict against it's extending overseas interests and allies were not negligible. Because of this, even while engaging in limited wars in the non-western world, efforts were made between the USSR and the USA to keep their allies from engaging in foolish wars that could end up employing nuclear weapons and involving them. This could've happen when an ally was directly challenged and nuclear deterrence had to become immediate because of the crisis. The whole world could be placed in danger because of one false miscalculation in the sudden shifting in posturing, or the hasty action of one determined and unrelenting leader. So in a sense, once the bombs were there and it seemed a complicated

situation to disarm either side, what seemed to make the most sense was to ensure nuclear weapons would lead to MAD. In this there was assurance that the thought of launching a first strike would be considered so diabolical and irrational that it would simply not be used. Therefore the utility of nuclear weapons could be seen in general deterrence rather than in immediate deterrence. That is nuclear weapons could be used for A to send a vague threat to B and B would be dissuaded.[10]

With MAD, deterrence could become compellence and the deterrer could become the deterred. When A devises deterrence policy, it has to also consider the real option that B has of resisting it as well as of imposing its own controls on the choices of A. In the October 1962 Cuban Missile Crisis, the USA warned the USSR not to pass ships carrying more missiles in the American blockade and also to stop building missile bases in Cuba. The Soviet Union in turn, was still able to tell the Americans that should their threat be realised, there would be sure consequences. In this way the deterrence process has to be adaptable since A no longer has the advantage of creating a situation where B's choices are denied, and that possibly any coercion can be met with counter coercion. It may mean as it did in the cold war a different way of bargaining and can even offer room for co-operation on another strands of the relationship, as was the case between the USSR and USA, when it came to nuclear arms control, even while deterring each other. This could be seen when the USA and USSR signed in 1972 the SALT I covering a number of areas including the limitation of ballistic missiles. [11] Bilateral actions such as this has, contributed to the vertical decrease in the absolute numbers of nuclear weapons to this day.

2. Nuclear Proliferation and Nuclear Deterrence

Is the Horizontal Spread of Nuclear Weapons Accompanied by Notions of Deterrence?

From the period since 1945 to 1991 or the end of the Cold War international politics can be described as having moved into a Second nuclear age. This is on the account of nuclear deterrence theory having to be re-conceptualised in a world marked by a different balance of power as well as new issues of security facing the nation state as well as international security. At the start of the 21 st century the possibility of further horizontal nuclear proliferation has not been eliminated and the extent to which the doctrine and resulting policies of deterrence is accompanying this spread is likely to affect the view on deterrence. Most of the literature especially as exemplified by the rise in the discourse of rogue and weak states, suggests that deterrence remains contentious in discussions of contemporary international politics. One of the main reasons is the inability to give utility to nuclear weapons in the current multi-polar world. This is demonstrated in the uncertainty that the spread of nuclear weapons has been accompanied with the same ideas of their utility that maintained deterrence in the Cold War. Most of the states so far who want to acquire nuclear weapons have shown themselves to lack those particular qualities that led the USSR and the USA to arrive at a national deterrence strategy once realising the nature of the utility of nuclear weapons. When the NPT was opened for signatures in 1968, it only recognised China, Great Britain, France, USSR/Russia and the United States as the five legitimate nuclear powers. All other non nuclear states that signed did so with the agreement of refraining from acquiring nuclear weapons. [12]All of the World's states are signatories with the exception of India , Israel, Pakistan and North Korea after pulling out in 2003.[13]

Deterrence Problematic in Multi-polar World.

Deterrence after the Cold War has continued to be problematic for at least these reasons. First the long peace written about the Cold War after it had ended was constituted by the assured danger of destruction, which created stability that relied on a situation of too great a balance of accumulated weapons that create danger and the likelihood of war. [14] The particular national cultures of the USSR and the USA allowed them to respond to MAD by adopting deterrence and deciding internally that they would never use nuclear weapons while bluffing to their opponent that they will certainly use them some if they had to. Secondly the bi-polarity created by the two, meant the focus was clear and policy can be directed relatively easily. In the Post Cold War world, the model of deterrence based on mirror imaging

and deterrence through denial by rational actors is not so readily applicable. This is because the fall of the Soviet Union created a relatively more multi-polar balance which was compounded by the economic growth of more countries who are able to assert themselves if not necessarily to balance themselves against the United States but certainly to challenge its consolidated hegemony. Even as there have been a vertical decrease in the numbers of nuclear weapons by the super powers, there has been a horizontal spread of nuclear weapons. There is still concern in the international system that more states could acquire nuclear weapons.

North Korea and Iran Exemplify Case Studies of Continuing Concern over Horizontal Nuclear Proliferation.

The extent to which Chairman Kim Jong Il and president Mahmoud Ahmadinejad are viewed as being likely to adopt deterrence will affect the utility with which it is viewed. Currently and since the Korean War for North Korea and the 1970s Iranian War for Iran represent to the international system, the 'foremost nuclear proliferation issues.' [15] North Korea and its leader has built a reputation of dissent that remains a worrying concern. It formally withdrew from the NPT, and has proved unreliable in its commitments to ongoing talks to prevent it from acquiring nuclear weapons. It has proved unresponsive to talks with the US, Russia, South Korea, Japan and most notably, even with China which has failed to appease it. Instead in October 2006[16] it carried out its first atomic test in defiance of the rest of the international community. In 2006 the a UN resolution banned North Korea from continuing further activity to do with its missile programme. In 2007 when the UN failed to apologise for the condemnation of its programme, it banned international inspectors and also pulled out of the six party talks involving the countries above. Most recently in 2009, North carried an underground test of nuclear bomb it claimed was as big as those dropped by the US on Hiroshima and Nagasaki, and which were also felt in earth quake tremors in South Korea, as well as the China coast. Pyongyang has shown an independent streak with defiance for international regimes of co-operation. Iran is a topical concern because it has a workable bomb design but had not been produced yet. The concern is in the uncertainty of whether or not it wants to develop nuclear weapons. President Ahmadinejad has responded to claims of his intentions to have plutonium converted for nuclear bombs, by repeatedly retorting this and claiming, its for nuclear energy. CIA intelligence claim, that even if it does want to build a nuclear bomb, it is some fifteen years away to that capability.[17]

The USA developed the nuclear bomb as the ultimate weapon able to debilitate an enemy army to the point of total annihilation. For all the latter countries that became nuclear including the USSR itself, did so from the allure of the bomb as an equalising capability. Indeed the USA developed their bomb with the view of meeting the Soviet threat in conventional arms. For Both North Korea and Iran, the concern is that their behaviour in regards to the security regimes of the international system, have not revealed them to be the assuring candidates for maintaining a national strategy of deterrence. In some ways this is hypocritical if we were to talk about an international system characterised by multi-polarity and which can be described an international system of states. When the USA and the USSR developed their arsenals, deterrence came after, in the coming to terms with the implications of the nuclear weapon. They both intended to use them in war situations. And there were no overbearing forces challenging their rights to do so, as the modern USA and Russia as well as the rest of the international community represent against particular states with their eye on the ultimate weapon. They too want to assert their right ands choice as well as maintain national security. Representatives for the North Korean Foreign Ministry emphasise the usefulness of the latest bomb testing as a form of bargaining leverage. It could be understood from their literature that a main goal of Pyongyang is to establish direct dialogue with the USA. And certainly creating a situation of tension for the US could compel its administration to engage with North Korea. For Iran, an investment and the securing of nuclear weapons today can ensure to some extent a more inclined USA/ Western ear. There are prevailing ideas in Iran concerning its state craft as a modern Islamic republic, able to decide its own future without being restricted by the USA and the West. And without western culture marauding national culture. It could encompass a toleration for neighbours outside their borders with unlikely intentions of nuclear attacks for the sake of self-assertion , a lack of unnecessary dangerouse posturing or relentless wars of expansion.

In the second nuclear age we are able to talk about security being more than the geopolitical security of the state but also as security of the human. This view comes under broader definitions of security, or under the liberal peace thesis of the 'responsibility to protect,' which shot roots in the aftermath of the Cold war and which are discussed further in chapter four. Under these frameworks the security of the integrity of the state can be justified in its capacity to protect its citizens. If the international community has a responsibility to protect, then the question of national security is international. In this way security concerns of any one country is able to be assessed the international community, in terms of its effect in the wider family of human beings. Under this framework we can justify the concern that so far North Korea and Iran refuse to engage in calls from international regimes of peace. However, it can be said once more that these regimes prevailing regimes of peace could simply be a reflection of the prominent power and their peace. Nonetheless, their dissident behaviour as also marked by their domestic politics has led some commentators to describe them as presenting an aggressive and hot headed tendency, which is not compatible with the ideas of the rational actor, which underpins the working of nuclear deterrence.[18] And also which worked to prevent total war even in the absurdity of MAD. Furthermore, the second nuclear age exists in an international system where developing communication and transportation technology is able to transform the methods used by violent dissident groups, as exemplified though not unique to the 9/11 attacks in New York as wells the 7/7 London bombings, in most recent times. In being uncertain about the character of the statesmen as wells national strategy leading Iran and North Korea, this very much presents opportunity for thinking about worse case scenarios of nuclear weapons getting into the wrong hands which challenges the existence of deterrence in the 21 st century and the utility of nuclear weapons.

Illegitimate Israeli and Indian Nuclear Capability Tolerated because Their Motives are Viewed as Calculatingly Rational.

The concern over Iran and North Korea are contrasted with the blind eye turned to the nuclear weapons possessing states of Israel, India and Pakistan. Arguably this is because their acquisition seems so far to be accompanied by a recognition of the significant role of deterrence in justifying the existence and use of the nuclear weapons. That is they should be used for deterrence purposes only and should be handled coolly with adherence to the standards of rationally entrenched in the international system. In the case of Israel, nuclear weapons are used for deterring its Arab enemies which encircle it. Since acquiring nuclear capability in 1966, [19] during its Arab wars, it has not resorted to use nuclear weapons against opponents. This to a certain extent supports and has contributed to the lack of backlash from decision enforcing bodies in the international community about its nuclear weapons even if it shows an underlying hypocrisy in the conduct of the international community which is at the same time working to bring non nuclear states under the umbrella of legal nuclear states. However it does show that the main concern is that the proliferation of nuclear weapons is feared because the national strategic styles of certain states or their leaders may render them unlikely to then apply stringent and controlled deterrence policies. The fear that this might happened leads to the resulting concern that it will increase the chances of wars by states with nuclear arms, who cannot impose restraint on themselves alongside the increased odds numerically. Israel has also applied a preventative strategy against an opponent without using its nuclear capability. In 1981 it launched an air attack on Osirak, the Iraqi nuclear facility. [20] It was a preventative attack to remove the chance that Saddam Hussein had of building a bomb by destroying the reactor they had which could produce fissile material for a fissile nuclear bomb. In most recent times, 2007, they preventively attacked a suspected Syrian nuclear facility before they could go nuclear and challenge them. Israel accurately judged that each country had not yet reached a stage where they were too dangerous to attack and took appropriate military action against it. This is still contrasted against what is perceived to be likely to be seen from Iran and North Korea because Israeli's action seemed to fit the kind of calculation attributed to the rational choice theory supporting deterrence. With Israel it seemed that they had adopted deterrence. Essentially the crux is in the fact that it didn't use its nuclear weapons. There remains uncertainty about whether or not Iran and North Korea would. The decision enforcing bodies were assured Israel would not even in spite of its apparent bellicosity for military campaigns.

These concerns also once extended to India and Pakistan, though relatively less in recent years. India had nuclear capability before Pakistan and when after 1998 they both had it, there was concerns that a war between the two, over the ongoing unresolved ownership rights over Kashmir, a total war might breakout between the two. Since the turn of the century there have been conventional limited wars between India and Pakistan in Kashmir but no nuclear weapons were used demonstrating their rationally calculated decisions. Up until just before the declaration of the 'War on Terror,' there has been a real sense that perhaps both India and Pakistan having nuclear weapons has lead to a decreased chance of total interstate war between them. Yet, in the last three years at least, and even more so with former General Pervez Musharraf being voted out of government, Pakistan is now being viewed as a 'unstable nuclear state.'[21] This worry is based on the idea that certain states unlike others can ensure that no matter who comes into power, political life would remain stable. The west viewed General Pervez Musharaf as relatively prudent and it was able to bargain and make deals with him to a certain extent especially on common goals of bringing fundamental Islamic terrorist to justice. However on leaving, he left a Pakistan who's image has been more and more associated with Taliban and Al – Qaeda terrorist migrating from unsecured borders with Afghanistan as wells as from other places. It's almost described along with other rogue states certainly when it is described as harbouring terrorists. Even though it cannot be said for sure that Iran and North Korea will not act up to the standard promoted by international regime, it seems safer to prevent nuclear proliferation rather than allow it and hope that deterrence will work to prevent interstate war. In this way deterrence in the 21 st century as a means to avoid war remains is viewed as decreased in utility.

National Strategic Culture and Nuclear Deterrence

Writers such as Valerie Hudson and Colin Gray would agree that culture can be a variable that affects the national strategy of states. The relevance of observing national security culture in considering nuclear deterrence is to assess the likely nuclear policy that states would have. But more importantly it can help elucidate the extent to which the culture of deterrence will spread hand in hand with a horizontal proliferation of nuclear weapons. It is clear to see that in the language of rogue states and the fear of rogue states acquiring nuclear weapons, there is a sense that earlier legal nuclear powers such as the United States, Russia, France and the UK or unofficially, Israel have demonstrated to have a national strategic culture that understands the nuclear weapons' crucial relationship with deterrence. This is contrasted with the fear that the leader of North Korea has shown an aggressive streak that is unlikely to be compatible with looking after nuclear weapons. This is also the case for Iran and fear of nuclear weapons being accessible to violent dissident groups. This reflects the affects of culture on national policy expressed by Parsons [22] when he says that culture can even determine 'substantive beliefs like support for democracy or the futility of war.'

Particular national strategic culture are seen in for example the entrenched sense of Isolation that Israel feels encircled by states who questions the legitimacy of its existence and who are willing and have gone to war with it to prevent its expansion. It also faces unresolved insurgency retaliations from Occupied territories of the former Palestine. Nuclear weapons for Israel could deter neighbouring enemies from pursuing total war with it, though this is limited in what it can do to defer insurgence who look like and can hide within civilians. Another limitation though to Israel and which give it more reason not to use nuclear weapons is that those opponents who it would most likely use them on are geographically very close. Israel itself could face the fall out. For Iran and North Korea, a historical legacy in both of western intervention and the imposition of foreign orders could paint nuclear weapons as advantageous because it could neutralise the gap in conventional capability between the USA and NATO and themselves from which they could gain a certain level of influencing power they yield. For Iran and North Korea, it could create a bargaining atmosphere that is more balanced. Again, here with the geographical distances between NATO and themselves being relatively far, a smaller bomb shot via a missile launcher might produce less fallout that could affect them and thus to a certain extent, increase the chances that a nuclear strategy under Iran and North Korea could include real possibility of a first strike to the USA or Europe, should they be provoked.

The extent to which deterrence is spread with nuclear weapons can be analysed in support or against the view expressed by some writers such as Kenneth Waltz who believe that 'nuclear weapons: more may be better.'[23] This view would argue that with more states possessing nuclear weapons, more states would have reached the conclusion that war is undesirable because of the tremendous damage it would cause (in a situation where all conventional wars eventually lead to nuclear wars). This is in the view that all states adhere to what is defined as rational in rational choice theory and will therefore be inclined towards deterrence once acquiring nuclear weapons. This is then worked out because the more destructive the weapons are the greater propensity to avoid war increases. This is contrasted with the view that different factors determine national nuclear strategies, and so may not necessarily always lead to a steady policy of deterrence. In fact, few more states could economically afford the ultimate most destructive bombs to support MAD. This has meant and possibly be reflected in the nearer future, higher levels of acquisition of smaller tactical weapons which could contribute to increased incidences of total war because the nuclear weapons they possess would be viewed as strong enough to be decisive in war but not destructive enough to consider their use unthinkable.

In this way nuclear deterrence is likely to be transformed further into the preserve of the initial nuclear powers. It is possible to see the idea of nuclear umbrellas incorporated into the calls of a new paternalism seen in the liberal internationalist debates around post war state building and weak states. This however is likely to be constitute tighter internationally integrated, agreed and implemented nuclear policy compared to current international non-proliferation efforts by bodies such as the International Atomic Energy Agency (IAEA), or treaties and programmes such as the Non-Proliferation Treaty (NPT), Strategic Arms Limitation Treaty I (SALT I) or Strategic Arms Limitation Treaty II (SALT II).

3. Responding to the Rogue Players.

In the Second nuclear age and at the start of the 21 st century transitional terrorism is amongst the most prominent threat to international security. Certainly it has produced a significant amount of literature since the years after 9/11 attacks. The inability for deterrence to ensure neither international security nor national security from the threat of violent political dissident groups working in an international politics with vastly increased communication capability, means the utility of nuclear deterrence has to be re-examined differently.

In recent times a lot of security think tanks have written about the continued threat of violent divergence from international security by transitional terrorism. In the years after the start of the 2001 war in Afghanistan and the declaration of the 'War on Terror,' the threat from fundamental Islamist groups remain high. Some commentators asses that in spite of the efforts of the Western world in wars of attrition in Iraq and Afghanistan and domestic crackdown of fundamentalist, the core of Al-Qaeda has remained 'adaptable and resilient,' [24] and capable of planning major attacks against the west which could inflict major damage. This could be seen in the continuous incidences of uncovered plots of planned terrorist acts such as that discovered in the UK in April 2009 when 12 terror suspects were arrested across England. [25] This then would mean measures put in place have been working precisely because they haven't happen. The fact that no major attack such as that of the aeroplane crashing into the Twin Towers in New York or the sequence of bombs in London buses means the threat is to a certain extent being contained. Jacob Shapiro and Rudolph Darken [26] point out that it is mainly an adaptation of domestic policies that are being used to respond to the threat and they are succeeding.

There is worry to be had from evidence suggesting that al-Qaeda have gained sworn support from jihadist groups including al-Qaeda groups from the Middle East as well as North Africa. What is alarming is that they have demonstrated loyalty when they have shown ambition from their local political concerns expanded to include supporting the objectives of al-Qaeda on a global scale. However it can be argued that transitional terrorism whether in action for local goals or international goals, are not a unique concern to the contemporary international world security after 9/11. Several examples can be drawn from the past to demonstrate this. For example similarities can be drawn between the goals of Al-Qaeda and other fundamental Islamic terrorist groups of the past in their goals of firstly driving western imperialism from

Arab states, replacing these with Muslim Caliphates and then spreading it to the rest of the world. [27] Shapiro and Darken also compare this with European socialist violent political movements since the 1890s.

It remains worrying to see that the potential terrorist plots have been uncovered in and they include numerous others stopped in time in Canada as wells as the Arabian Peninsula, including Turkey. They also point to a growing sense of radicalisation in these parts. In some ways it could be argued that the declaration of the War on Terror as well as making it easier to strategize in theory to respond to violent Islamic fundamentalism also helped consolidate disparate groups into single clarified aims against the West and the values that confront Islamic fundamentalism. This has been done by geographically placing terrorist groups and linking them to rogue states that wouldn't think twice about having them live in their societies and making plans against opponent targets wherever they manifest. The new concern is that they may come across leaders of such states that have nuclear capability and which are willing to sell them to terrorist groups. Such states included the regime of Saddam Hussein's Iraq and Afghanistan under the Taliban an extremist terrorist group itself.

This could be done when terrorist groups simply want to maximise violence and are not affected by a sense of horror arrived at by leaders maintaining deterrence to refrain from the actual use of nuclear weapons. Such leaders could include Osama Bin Laden who seems more concerned with fulfilling al-Qaeda objectives above all else and to a certain extent even innocent Muslim lives as can be observed in the promotion of suicide bombings in public places in post interstate war Iraq, such as those repeatedly shown on the television news. Shapiro and Darken once more emphasise that this ambition to inflict maximum violence is not new and they remind the reader of two examples. These the Bader-Meinhoff Gang attempting to acquire tactical nuclear weapons in 1970s from the united states arsenal in Europe, as well as members of the Japanese Aum Shinrikyo who successfully acquired the nerve agent Sarin. [28] This shows that because a transitional terrorism is not new even after 9/11 a news strategy is not needed for it. Nuclear deterrence at least in this view is not a doctrine that can be used to deter transitional terrorist groups directly. It can only be done so by linking them to states and then threatening the states for their favourable behaviour towards the terrorist groups.

However at the turn of the century with the fear of nuclear weapons and other weapons of mass destruction being passed to terrorist groups the response as well as criminalizing terrorism domestically, it has internationally been military. In Iraq a doctrine of pre-emption was carried out which on finding no pre-eminent threat was still justified as preventative. The US and allies were convinced that Saddam Hussein had weapons of mass destruction that he could use within 45 minutes, so they invaded Iraq before its leader could strike at NATO allies[29] or sell it to terrorist groups. When they discovered that there were no WMD the justification was found in the idea that it prevented Saddam Hussein from acquiring the capability. So deterrence has given way to pre-emption and prevention. After judging where the danger is, the concern is in how the response can be justified. To accompany and support this would be a conscious entrenching of norms of co-operation and umbrella deterrence which would mean providing opportunity for common goals with states with divergent world views.

Sadam Hussein as possible candidate to do as such has been eliminated. In spite of North Korean continuing nuclear tests, the Security Council is struggling to arrive at an appropriate response, since induced isolation form the international community, even China its ally, as well as lawful prohibitions in UN resolutions has not impeded it from its path. Recently President Obama in response to Pyongyang requests for bilateral dialogue responded by emphasising the importance of conversation about its nuclear programme involving the rest of the states in the six-party-talks (consisting of China, the United States, North and South Korea, Japan, and Russia). The choice of military action in style of Israel against Iraq and Syria to disable its potential nuclear capability, has been taken away from USA and NATO and their advancing potential seen. There remains significant amount of literature a policy of appeasement towards and wooing of Iran. Terms like 'axis of evil' and 'rogue state,' could be counter productive as well as a reflection of power between states. As the Iranian regime attempts to keep its national culture in favour of modernisation which does not mean infiltration of Western in particular American culture, they could call

the United States 'rogue' in the promotions of what can be seen as the raising importance of immoral values such as liberal sexual attitudes, disrespect for parents and elders. Instead of branding states incapable and therefore having no right to have nuclear weapons which is a manifestation of state sovereignty, there could be progress to be had in arguing for non-proliferation as an effort to secure human security. This could be an extension of a view that the international community has the 'responsibility to protect' and discussed further in chapter four.

Shapiro and Darken have also demonstrated that the threat of contemporary terrorism had been responded to mainly by adding to the domestic legislation such as that produced in the UK through the Terrorism Act. Thus being treated as criminal rather than a much broader transformation of national strategy. The utility of deterrence remains to be found in broad deterrence against dissident states. This policy could play a bigger and more proactive role in promoting nuclear regimes of umbrella deterrence that would work towards getting those states that are at risk at wavering from the norms of international security. This can only be done if it can be seen that the peace that is being maintained is to the benefit of everyone. It would seem that a majority of states either don't have the economic finance and adequately funded scientific research programmes to develop nuclear capability or are satisfied with being non-nuclear and sit under the umbrella of the NPT. Those states that pose a danger are being responded to diplomatically. On the lesson of North Korea who became nuclear before anything can be done, there may prevail the idea that preventative military campaigns may be more of a tool for counter-proliferation (for example for Iran) rather than waiting for when the threat becomes eminent, for it may be too late.

4. Issues in Contemporary International Security and Deterrence in the Second Nuclear Age.

Nuclear deterrence played a central role in the conduct of the international politics in the post – WWII world, which was constituted by the Cold War. In this polarised world, state centric policy orientated analysis drove and legitimised the concept of deterrence as an effective foreign policy on the side of both the USA and Soviet Russia against each other. One state centric reading offered by Realism offered a coherent analysis and reduced analysis of security to security of the state. It complimented an ideologically polarised world. The aftermath of the Cold – War characterised by a much more multilateral international politics left the UN Security Council with more freedom to concentrate efforts and policy on a greater number of security issues. This is captured in the securitization of newer and more issues than have been allowed in previous decades. This recognition has been driven by the normative purpose encapsulated in Liberalism, of economic development and democratic progress.

In the Second Nuclear age, the notion of Human Security has been allowed to thrive. The 1994 United Nations programme Report coined the term to refer to human security as the quality of where 'people are given relief from the traumas that besiege human development.' [30] It means not only immediate freedom from hunger and disease as well as from forms of repression, but also from sudden disruption in the routine of everyday life. [31] Human Security securitizes human life in the way state centric frameworks of analysis for international politics securities the integrity of the state. For Human Security the security of humans is the primary referent point and can be summarised into broad and narrow security. Essentially however, it is defined in insecurity from violence as the independent variable affecting all other forms of insecurity. In the violent intra-state conflicts seen in the developing world, since the early 1990s, a state experiencing violent conflict also brings in other insecurities; of stagnant or limited economic growth, poor infrastructure, limited access to health care and appropriate levels of sanitation and food. Citizens of these countries also have to live with the threat of sudden upheavals of ordinary life. This can be seen in the internal displacements of 4.9 million people as of 2008 in Sudan. [32]

The significance of human security in the post Cold War world is that it challenges the extent to which state centric analysis can fully explain all the new threats to the international system. The framework espouses the view that the Realist framework for analysing policy in a state centric manner is not enough to fully explain all of the threats to the international system in the second nuclear age. These were markedly seen in the wars seen in a number of developing states characterised by ethnic conflicts and violence directed

from the state to its citizens, or violence allowed to ensue because states were too weak structurally to protect their citizens, as well as conflict caused from an overspill of wars in neighbouring countries, such as the sporadic internal wars in the Democratic Republic of Congo from the mid 1990s, as an overspill from the Rwanda wars in which hundreds of thousands of ethnic Tutsis and Hutus were killed. In the wars of the former Yugoslavia from the early 1990s, a war strategy of ethnic cleansing was also applied in which hundreds of thousands of people died, consisting of ethnic Serbs against Croatians, Albanians and Bosnia's. Human security therefore sees the value of state as a means to securing the ends of security of the people in it. Alan Collins points out that at least the Realist state centric reading fail to be explicit about to what extent the security of the state is to be ensured at all costs including human life. This is clearly seen in current debates forwarding a Liberal Paternalism approach to state building, in which state sovereignty is conditional on the ability for states to protect their citizens, no matter how controversial this debate is. Therefore, states exist to secure human beings and not state security for state security sake.

Even as Human Security sheds light on these other prominent concerns for international security it doesn't manage to define itself as a coherent theory which captures most threats to the international system capable of challenging the dominance of state centric frameworks. It fails to grasp the historical threats that existed for the integrity of the state in the way state centric frameworks do and which can also be used to describe prevailing security issues for a number of states in the contemporary world including the states of Israel as well as some states in sub-Saharan Africa with contentious borders facing possible risks of invasion from neighbouring states. The broadness of the topics for analysis makes focus for international policy problematic. Where state centric frameworks can primarily defend the state militarily and from defined military threats, Human Security analysis can struggle to priorities between a myriad of concerns. To invest funds and time to preventing climate change, or securing cease-fires, investing in economic development or education. What is clear however is that neither state centric views alone nor human security frameworks alone can sufficiently explain the security agenda in the post cold war world. In this way the state centric analysis of policy which supported a doctrine of deterrence is challenged because the variety of alternative security concerns even as has been added to in reconceptualising security, means that international politics has to be conducted differently. Notably where states have to take into account how these conflicts, though internal, can have effects for the rest of the world. Especially as seen for example in internal conflicts causing mass international migration which can have the effect of disturbing the coherence of public society of host states of refugees. Also considered is the disruption to oil flows as a result of the internal domestic state arrangement of other states. This can drive energy prices up and have severely negative effects to economies of other countries other than that from which the crisis derides. This is a picture somewhat different of the relatively much more defined enemy in the Cold War, on the part of the USA and Soviet Russia and the countries supporting them. This made posturing relatively much more workable. In the second nuclear age, new threats require states to write their foreign policy in a much more sensitive and multifaceted way.

In the first decade of the 21 st century state foreign policies continue to be challenged in arriving at policy efforts which recognises the contemporary nature of an interdependent global economy underlined by distinctly new developments in communication and information technologies even alongside effects of traditional transformations of labour movement from areas of high cost production to those of low cost production. States find themselves having to rethink their state sovereignty for securing economic prosperity seen in developments states gathering in regional or international economic organisations. Since its creation the European Union (EU) has seen two further enlargements, as well as increased powers as an organisation and further integration as body of individual states, as for example the opportunity for countries to join a common European Union (EU) currency which 12 countries have joined. In 2007, a Referendum was held in European Union countries to ratify an updated EU constitution. Over 80% of the members exchanged their sovereignty for more open trading markets and economic environments. The example of the EU is supplement to the continued existence and working of international economic organisations such as the International Monetary Fund and the World bank. A large number of developing countries continue to have their prerogatives for domestic policy challenged by these organisations in the form of conditional loans since the 1980s. In the second nuclear age they have not left. The relevance of sovereignty in discussing

challenges to deterrence is seeing nuclear deterrence as a strategy conducted in an international society of states with equal judicial and de facto sovereignty. With similar capabilities, they can deter each other. The contemporary international relations, causes states to find alternative ways of securing a varieties of national interests, which cannot be reduced to ideological containment or defence and expansion.

In an international politics free to focus on more issues other than the super power nuclear stand- off, Climate change has been recognised as a major threat to international security. Today it grows in importance in policy analysis. The notion that burning fossil fuels are leading to increased global temperatures which could melt ice caps and lead to floods in some areas of the world and droughts in others, was initially driven by a normative purpose to secure the survival of human life in the preservation of the earth. The challenge against it , as it was in the beginning was its difficulty in being justified as a major priority since policies to prevent further climate change were and are still juxtaposed against policies for economic growth. In recent years however the impact of climate change on international security is being increasingly seen as significant even as there remains difficulty in reconciling it with economic policy. The aim of the Stern Review in 2006 was to calculate an economic cost of taking no action against climate change in the immediate term. The Kyoto Protocol plays a role in recognising climate change and so do world wide efforts accompanying it. However these efforts of states coming together to tackle a common evil, which renders nuclear deterrence counterproductive, is not universal. International politics still has decisive streaks of real-politick which are not overcome by these international threats. For example the US, before being over taken by China as the worlds biggest polluter in 2007, refused to join and apply the Kyoto Protocol. However more recent investigations show increased domestic efforts guided by international regimes are growing and expanding in domestic sectors to fight against climate change.

At least in the last five years, the theme of energy security with the notion that this has to be sustainable has become more pronounced. Arguably the debate on climate change has been sustained also because of the realisation that the resources countries use today (coal, oil, gas), to run the technologies that sustain the modern society will not be provided by the earth indefinitely. In this initial stage there has been international pressure for training the continued development of the world economy to grow in a sustainable manner. This has been accompanied and will likely gain momentum as the years go by, for pressures to find alternative sustainable energy sources. The British Royal United Services Institute (RUSI) since 2007 has been developing an Alternative energy and Sustainability programme[33] to research how the British Ministry of Defence (MoD) can decrease vulnerability to capability by becoming less reliant on scarce energy resources. It aims in the short run to reduce the level of energy the whole army and its support requires, in the medium run securing alternative fuels, and in the long run to secure alternative energy sources and therefore also changing technologies, equipment and practices appropriately. Alternatives are combined heat and power plants, solar and hydrogen cells, heat pumps and wind power , synthetic, hybrid or bio fuels, are being considered in 2009. The hope for alternative energy seems to lie in a technological fix of capturing Carbon Dioxide from the air or renewable energy. There may be a perceived need for international efforts to move this process along to facilitate more efficient use of scarce energy or methods of power generation and technology that captures CO2. This is likely to be seen along with domestic analysis such as that of the MoD, spread in most sector of society across many states in the near future. Energy security remains a profound challenge to the existence of states if states exist as a means to protect human beings. It threatens modern lives as we know it today. This then displaces nuclear deterrence as a central priority in national security at the start of the 21 st century. However, these efforts are just as likely to encourage much more uncooperative foreign policies of national security where each state senses a growing insecurity and a growing untrustworthiness for other states. Instead each wants to secure scare energy for itself. There maybe more efforts aimed at being less vulnerable to lack of energy, relative to other states and move to more unilateral efforts for national interests.

Nonetheless a sense of an international community is likely to be reconstituted as there remains a notion of having to co-ordinate internationally to find energy that is sustainable not only in being available indefinitely but also in a way that isn't risky to the earth and therefore to human life. The consequences of detrimental usage of natural resources are understood as being capable of affecting every country. So

security even if narrowed down to state security is challenged by a threat that requires co-operative methods which is contrary to the oppositional politics that allowed deterrence to thrive. This first decade on the new millennium also sees a continuation of efforts against terrorism after 9/11. This international co-operation has called for states to find ground for mutual benefits even in ideologically differing states such as Pakistan and USA, to interact for a certain outcome.

There remains a myriad of policy areas demanding of states an international relations whether in more mutually beneficial co-operation or ones much more underlined by relative power relations, to tackle international threats such as global warming and energy security or countering terrorism. They require an international relations and politics that is much more sensitive and multifaceted. This is whether in the kind of relationship formed by states with other states but also in the way they have to incorporate policies to support non state actors such as multinational companies for some countries a, or defending domestic policies against non-state actors such as multinational companies for some. It is an international politics that doesn't easily incorporate the notion of an indefinite end of states acquiring nuclear weapons and then deciding to use it in deterrence against regional or distant enemies.

Conclusion

Nuclear deterrence was out of favour at least since the end of the Cold War mainly because in order to work it was supported by both the USSR and the Soviet Union acquiring nuclear arms more than the other. It was a reversal of logic that the maintenance of uncertainty created by one country against the other should secure inaction and peace. The two superpowers held the whole world at risk. Nuclear deterrence was also criticised because it worked on the assumption that all actors involved are rational actors, so that their behaviour could be rationalised and appropriate policy arrived at. The calculations for this exclude and ignore the other options available for the state being deterred or the state being compelled in return. Those are for example the chance that the deterred or target of deterrence could have alternative perceptions and so may misread signals, also that each might have a different view of what constitutes rational behaviour. This could be seen in the way different national strategic culture can affect nuclear policy.

Nuclear proliferation remains dangerous not least because of the continued threat of international terrorism but also of unstable states. Military preventative action has been the main response to national nuclear deterrence where for example preventative action against Iran and North Korea might be considered. There are calls for a much more democratic transformation of deterrence into a broader umbrella and one which emphasises the common interest of survival along with other contemporary threats to the international system seen in this light such as global warming.

The fact remains however states have to live in world where other some nuclear weapons exist and some states do have them. In the second nuclear age, this fact competes against other emerging contemporary issues impacting the foreign polices of states, such as climate change, energy security human security and economic security in way in didn't have to during the cold war. The total number of nuclear arms has been decreasing since the height of the Cold War, on the account of Both Russia and the USA decreasing their absolute vertical numbers. However horizontally the have spread, often with the countries who acquired them expressing the same views of wanting to secure national borders from stronger enemies. Nonetheless most states in the world it would seem do not mind falling under the nuclear umbrella of the initial nuclear powers. What is strikingly different in the Second nuclear age is the rising number of threats confronting states attention, policy time and effort as well as funds which are likely to win over nuclear weapons for non nuclear sates. For nuclear states it seems a safer bet to remain maintaining ones own while the enemy is still capable of using theirs even if this is to a much less degree than in the cold war. Certainly central place of nuclear deterrence is being continually challenged.

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