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THESIS

WHY IRAN PROLIFERATES

by

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September 2005

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WHY IRAN PROLIFERATES

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ABSTRACT

Iran and the United States have faced each other across a deep divide ever since the Iranian Revolution of 1979 and the events of the American Embassy Hostage crisis. The absence of diplomatic relations between the two nations has led to a lack of communication which has resulted in difficulties crafting successful policies to build bridges between the two governments. The specter of Iran's quest for nuclear weapons casts a further pall on the troubled relations. Case studies of historical examples of nuclear proliferation using multi-causality can shed light on what factors are motivating Iran to seek nuclear weapons. Once these factors are understood, the United States can craft rational policies to pursue its goals in the Middle East while accommodating the probable rise of nuclear industry in Iran.

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This paper was written in the belief that history is not pre-ordained, and that the Graveyard Spiral is recoverable.

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I. INTRODUCTION

For nearly 26 years, the United States and the Islamic Republic of Iran have ignored, threatened, attacked, and denigrated each other. Despite the arrival and departure of numerous heads of state on both sides, the two countries have been unable to bridge the chasm that opened between them during the Iran Hostage crisis. That defining moment continues to impede attempts at reconciliation more than two and a half decades later. The inability of the two countries to communicate through normal diplomatic channels has only hampered recent efforts to address the Iranian nuclear program. Serious questions have been raised by America and the other developed countries of the world: Why do the Iranians want nuclear technology and what should the rest of the world do about it? The purpose of this thesis is to attempt to answer the first question in order to frame America's response to the second. The premise of this thesis is that without understanding why Iran has been so driven in its quest to build a nuclear infrastructure, America will not be able to make any positive contributions to the solution and will in fact make the situation worse.

A. WHY IRAN MATTERS

Why should America's inability to connect with Iran be of concern? The neighborhood in which Iran lives sits on top of the majority of the world's proven oil reserves.¹ Asia, and to a lesser extent Europe and the United States, rely on the Middle East to produce the oil that they

¹ Erik Kreil, "Persian Gulf Oil and Gas Exports Fact Sheet," <http://www.eia.doe.gov/emeu/cabs/pgulf.html> (accessed August 4, 2005).

actually use.² The United States has major suppliers in South America, but the price of oil is global, and price increases in the Middle East immediately impact the global oil markets.

An actor that threatens the supply of oil to the world therefore represents an enormous threat to the security of the United States. Operating under this assumption, the actions of Tehran assume global dimensions. Should Iran aggressively confront its fellow Persian Gulf countries, not only would this disrupt world oil markets, but it could encourage a regional arms race. Should Iran develop nuclear weapons, there is a possibility that another Persian Gulf country (Saudi Arabia) would begin work on a "Sunni" bomb to equalize the "Shi'a" weapon.³ This possibility becomes a near certainty if Iranian nuclear statehood is matched by renewed efforts to export the Islamic revolution. The desire by other countries in the Middle East to pursue nuclear programs would only increase the chances that a non-state actor might acquire radiological material or even a completed weapon for use in an act of terror.

The presence of more than one hundred thousand American troops in Iraq is another reason why the United States needs to find a way to come to terms with Iran. The continuing discussion of the Iranian nuclear program and the means by which the international community can respond to the program are overshadowed by the conflict in Iraq. The majority of Iraq is Shi'a, and the acknowledged leader for many of those Shi'a, Ayatollah Sistani, is an Iranian

² Erik Kreil, "Persian Gulf Oil and Gas Exports Fact Sheet."

³ James Russell, "Saudi Arabia in the 21st Century: A New Security Dilemma," *Middle East Policy* XII, no. 3 (Fall, 2005), 67.

citizen. The relative quiet of the southern half of Iraq can be at least partially attributed to the continued acquiescence of the Shi'a leadership to the presence of U.S. troops.⁴ As Moktada al-Sadr demonstrated in 2004, Shi'a leaders have the ability to create very difficult operating conditions for Coalition Forces should they so choose.⁵

In this tense environment, Iran can provide either a calming influence or further destabilize the security environment. The Iranian leadership emphasize that calm in the south of Iraq is the result of Iranian efforts.⁶ This is their leverage. That is, should Iran be sanctioned or hit with air strikes because of its nuclear program, the security situation could suddenly deteriorate in Iraq. Beyond Iran's ability to create more problems in Iraq, its location astride the world's oil supply lines also gives it the ability to throw oil markets into a panic. At a time when the global excess pumping capacity has dropped below one million barrels a day, any threat to the export of oil from the Persian Gulf would be enough to push oil prices even higher.⁷

⁴ Andrew W. Terrill, *Nationalism, Sectarianism and the Future of the U.S. Presence in Post Saddam Iraq* (Carlisle Barracks Pennsylvania: Strategic Studies Institute, 2003), 50.

⁵ In the case of Moktada al-Sadr, the Americans aren't always the primary enemy. Recent clashes between the popular leader and Ayatollah Hakim, head of the Supreme Council for Islamic Revolution in Iraq, demonstrate the fragile nature of the intra Shi'a alliance.

⁶ *Tehran IRNA*, "Spokesman Warns US: Iran has 'More Defensive Options' Against US Attack," August 14th, 2005.

⁷ *Tehran Mehr News Agency*, "Full Text of Iran's Statement at IAEA Emergency Meeting," August 10th, 2005. "Nuclear energy is expected to become once again a primary source of energy, with the rising demand for oil and gas and the ensuing increase in the prices, which incidentally can sharply accelerate for any political provocation."

American-Iranian relations are the key to the creation and maintenance of stability in the Persian Gulf and the world oil markets. In order to improve relations, the United States and Iran need to come to a mutually agreeable understanding of Iran's nuclear program. This understanding is impossible unless America makes an attempt to fully understand what the basis is for Iranian policy decisions.

B. METHODOLOGY

The discussion about why states proliferate is not new. These questions have already been framed by authors; they now need to be evaluated to see which theories provide most accurately the reasons why states proliferate. In a broad sense, there are three relevant schools of thought in proliferation studies: security, domestic, and normative. The security school believes that states will build nuclear weapons whenever they feel that there is a security driven need to do so.⁸ The domestic school contains both the idea that nuclear weapons can be used to generate political power within a state as well as the idea of technological imperative.⁹ The normative school ties the choice states make as to whether or not they will pursue nuclear technology to the expected international reaction to that choice. In an article published in 1996, Scott Sagan postulated that the failure of the dominant security school to adequately explain nuclear weapons programs in states

⁸ John Deutsch, "The New Nuclear Threat," *Foreign Affairs* 71, no. 4 (Fall, 1992), 120. "The fundamental motivation to seek a weapon is the perception that national security will be improved. Most nations prefer nuclear weapons because the devices are highly destructive and confer a symbolic status."

⁹ This simply states that states possessing the technology to build nuclear weapons will be tempted to put that knowledge to use. This is closely tied to national pride, and therefore can provide a politician with political capital if wielded in the right manner internally.

such as North Korea, Iran, Iraq and Libya required a new approach.¹⁰ His paper laid out a multi-causal theory in which security, domestic concerns and norms all played roles in decision making.

As stated by Stephan van Evera, there are three ways to find out which of these theories is the most applicable to nuclear proliferation: experimentation, observation using large "n" analysis, and observation using case study.¹¹ In a search for explanations as to why states proliferate, the case study appears to be the best (only) manner of proceeding. Experimentation is obviously not possible, and the limited number of cases limits the ability to use large "n" analysis. As van Evera noted however, with proper management of the cases, the study need not be intrinsically flawed.¹²

The selection of case studies for this test of multi-causality drew from all of the nations that have pursued nuclear programs. The first five states were discarded due to the very different international norms that were in place when they conducted their nuclear programs. The remaining states were grouped by region in order to eliminate biases based on regional peculiarities. A side benefit is that in most of the regions, the states were pursuing nuclear technology at about the same time, which controls for differences in international norms and technological barriers as a function of time period.

¹⁰ Scott D. Sagan, "Why do States Build Nuclear Weapons? Three Models in Search of a Bomb," *International Security* 21, no. 3 (Winter, 1996-97), 54.

¹¹ Stephen Van Evera, *Guide to Methods for Students of Political Science* (Ithaca: Cornell University Press, 1997), 50.

¹² *Ibid.*, 52.

C. ORGANIZATION

This thesis will be split into three basic sections. In the first section a collection of countries will be examined to determine whether or not multi-causality adequately accounts for their decisions in regards to nuclear proliferation. In order to examine a full range of causal factors a wide range of states over a broad period of time will be examined. Using the results from the examination of the case studies, Iran's decision making process will be studied. Using a more in depth case study the lessons of more than 50 years of nuclear proliferation will be applied to describe the policy choices Iran has made in the course of its nuclear program. Using the results of the detailed case study of Iran, recommendations will then be made for American policy. These recommendations will therefore be based on a thorough review of previous counter proliferation efforts both successful and unsuccessful. The policy options will also take into account the multiple issues that overlay the American-Iranian relationship.

II. PROLIFERATION THEORY

The major theories relating to proliferation are security, normative, and domestic. Scott Sagan's theory of multi-causality takes these three schools and combines them into one. In order to more fully appreciate the results of the case studies the three major schools of proliferation theory will be explained in more detail.

A. PROLIFERATION THEORY: SECURITY MODEL

Former head of the Central Intelligence Agency John Deutsch was quoted previously saying that the fundamental motivator for proliferation was security driven. The belief that nuclear weapons will improve the national security situation of a country is the bedrock of this line of thought. In his article in *International Security* titled, "Why do States Build Nuclear Weapons? Three Models In Search Of A Bomb" Sagan likens the security driven model to a series of chain reactions. Each state that successfully developed nuclear weapons drove its neighbors to attempt to do the same out of a need to balance the new threat to their security.¹³ In each of the case studies, the presence or lack of a security based motivator will be discussed. If Mr. Deutsch is correct, then states will attempt to proliferate whenever there is a threat to their security.

¹³ Sagan, *Why do States Build Nuclear Weapons? Three Models in Search of a Bomb*, 58.

B. PROLIFERATION THEORY: DOMESTIC MODEL

The domestic model for explaining proliferation theory is not as established as the security or normative models.¹⁴ There are however proponents of domestic driven causes for proliferation decisions. Peter Lavoy has proposed the "nuclear myth maker" scenario. In this case, champions of nuclear development marshal the domestic support needed to sustain the highly complex and expensive effort to develop either nuclear technology or nuclear weapons.¹⁵ Additionally, there is a body of literature that attempts to refute a perceived security only bias in international relations theory.¹⁶ If the domestic reasoning is the most important then domestic actors should be able to rally support for nuclear programs in the face of negative inputs from the security and normative models. Likewise, without domestic support, security or normative pressures should not be enough to create a proliferating state.

C. PROLIFERATION THEORY: NORMATIVE MODEL

The normative model rests on the belief that shared international values have a decisive impact on the choices states make.¹⁷ Norms can have two different and opposite effects on a nuclear program. The first is that nuclear

¹⁴ Sagan, *Why do States Build Nuclear Weapons? Three Models in Search of a Bomb*, 64.

¹⁵ Peter R. Lavoy, "Nuclear Myths and the Causes of Nuclear Proliferation" in *The Proliferation Puzzle: Why Nuclear Weapons Spread and what Results*, eds. Zachary S. Davis and Benjamin Frankel, 356 (London, England; Portland, OR: F. Cass, 1993).

¹⁶ Ethan B. Kapstein, "Is Realism Dead: The Domestic Sources of International Politics," *International Organization* 49, no. 4 (Autumn, 1995), 751.

¹⁷ Sagan, *Why do States Build Nuclear Weapons? Three Models in Search of a Bomb*, 73.

technology or weapons can serve the same purpose as a state's Olympic team or national airline.¹⁸ That is, they can serve as a symbol of national strength and sophistication. The other effect is the pressure international norms can place on a nation to not proliferate. Through organizations such as the Nuclear Non-Proliferation Treaty (NPT), states can face peer pressure to abstain from the pursuit of nuclear weapons or nuclear technology outside the bounds of the treaty. If norms are the primary factor that influences a nation to proliferate (or not), then the case studies should demonstrate that norms caused a state to take actions even when the domestic and security models predict a different course of action.

D. MULTI-CAUSALITY

Scott Sagan's theory of multi-causality takes the previous three models and combines them. It makes the argument that no state makes decisions in a vacuum and that there are multiple sources of inputs when a state decides whether or not to proliferate.¹⁹ Furthermore, Sagan argues that the recommendations for policy makers based on the different models can be contradictory.²⁰ If multi-causality is the best theory to describe proliferation then the case studies should demonstrate the presence of each of the three previously described schools of thought. A second requirement exists that each school should possess equal weight in determining the outcome of decision on whether or not to proliferate.

¹⁸ Sagan, *Why do States Build Nuclear Weapons? Three Models in Search of a Bomb*, 74.

¹⁹ *Ibid.*, 85.

²⁰ *Ibid.*, 86.

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III. CASE STUDIES

In order to test the applicability of multi-causality a wide variety of states must be examined. As was explained, the use of multi-causality requires a wider variety of states to be looked at in order to cover all of the variables, and combinations thereof. This chapter will be divided into the states that have developed nuclear weapons, and those that didn't. The second part will be further divided by region. Each state will be examined for evidence of the presence or absence of the security, domestic, and normative functions that multi-causality predicts will be present.

A. STATES THAT HAVE NUCLEAR WEAPONS

In this grouping are: Israel, Pakistan, India, and North Korea (DPRK).²¹ While Israel has never formally declared that it possesses nuclear weapons, it is commonly understood to have at least 200 nuclear warheads in various stages of readiness.²² Both Pakistan and India have actually tested nuclear weapons. In February 2005 the DPRK announced that it had nuclear weapons and was going to work on expanding its arsenal.²³ While Pyongyang has not yet tested any of these weapons, or actually demonstrated their existence, the Central Intelligence Agency has estimated

²¹ While North Korea has yet to test a nuclear weapon, no one is denying that they have enough fissile material or the expertise needed to build a primitive but function nuclear weapon.

²² T. V. Paul and others, *Power Versus Prudence : Why Nations Forgo Nuclear Weapons* (Montreal: McGill-Queen's University Press, 2000), 138.

²³ Larry A. Nicksch, *North Korea's Nuclear Weapons Program* (Washington D.C.: Congressional Research Service,[2003]), <http://fas.org/spp/starwars/crs/IB91141.pdf> (accessed September 4, 2004), 1.

that the DPRK could possess enough plutonium for 6-10 warheads.²⁴ These states represent the failure of the NPT to curb state's appetites for nuclear weapons. Each of these states has pursued nuclear weapons even though their programs have meant significant sacrifices elsewhere. As such, they can be studied to demonstrate which factors are strong enough to motivate a state to pursue nuclear weapons despite the well known price to be paid for doing so.

India was the first state in this grouping that went ahead with a nuclear weapons program. The presence of a Chinese threat to the north of India is the stated reason for the program.²⁵ The fact that China and India fought a border war in 1962 provides part of the underpinning of this reasoning. However, by some estimates the nuclear weapons research was already underway in India in the late 1950s, preceding the Sino-Indian war.²⁶ Another security factor used by the Indians is the presence of a Pakistani bomb. Since the Pakistani efforts were aided in large part by China, this gives India further reason to feel threatened. However, neither a Chinese threat, nor a Pakistani nuclear threat existed when India began its nuclear weapons program.

The apparent weakness of the security driven argument in India is matched by the strength of the domestic argument. In the presence of a national desire to obtain nuclear weapons, a sense of wounded pride (at having been a

²⁴ Larry A. Niksch, *North Korea's Nuclear Weapons Program*, 7.

²⁵ George Perkovich, *India's Nuclear Bomb : The Impact on Global Proliferation* (Berkeley: University of California Press, 1999), 419.

²⁶ Joseph Cirincione, Jon B. Wolfsthal and Miriam Rajkumar, *Deadly Arsenals : Tracking Weapons of Mass Destruction* (Washington, D.C.: Carnegie Endowment for International Peace, 2002), 194.

colony), and a dedicated core of scientists who championed the program from beginning to fruition, India has all the hallmarks of a domestically driven program. One line of thought that has particular relevance with respect to India is that of the Peter Lavoy's "nuclear myth maker". His argument is that nuclear programs require champions to protect them from other domestic actors that stand to lose resources to a nuclear program.²⁷ The archetypal "myth maker" would be a man like Homi Bhaba, the "father" of India's bomb, who spent the better portion of his life talking up nuclear programs in order to protect them from bureaucratic knife fighting.²⁸

Even though the driving force behind India's nuclear program was undoubtedly Bhaba, who began the program before the first conflict with China, a security element was still present. The proof of its existence is in the continued presence of a nuclear weapons program in India. Whereas other nations have begun research programs only to turn back, India continued with her program through international sanctions and diplomatic condemnation. India's program began with the vision of a man, and was kept alive through his determination and the presence of real security threats; threats that could be sold to a nuclear friendly domestic audience without a great deal of concern for what the rest of the world thought about the program.

Pakistan is a state whose nuclear program must be seen as a direct response to the presence of a program in

²⁷ Lavoy, *Nuclear Myths and the Causes of Nuclear Proliferation*, 356.

²⁸ Cirincione, Wolfsthal and Rajkumar, *Deadly Arsenal: Tracking Weapons of Mass Destruction*, 194.

India.²⁹ At first glance, the security model more than adequately describes Pakistan's program. Islamabad has fought three unsuccessful wars with its larger and more prosperous neighbor. Pakistan was eventually deprived of its eastern half during the third and last war, and has seen the Indian province of Kashmir as essentially enemy occupied territory. Pakistan has only been able to maintain a rough military parity with India through a ruinous military budget while its primary supporter, the United States, has been an on again-off again friend.³⁰

Even though the security model describes Pakistan's program, India's example demonstrates the importance of other variables. Evidence exists to support the idea of a domestic angle to Pakistan's nuclear program as the nuclear tests in 1998 were widely supported by both the government of Nawaz Sharif and the opposition.³¹ Like India, the "myth maker" factor is present in Pakistan. The recent revelations in regards to A.Q. Khan have served to highlight the role that a few individuals played in the creation of the Pakistani bomb. His less well known competitor Dr. Samar Mubarakmand, the head of the National Defense Complex, can also be cast in the role of a myth

²⁹ Cirincione, Wolfsthal and Rajkumar, *Deadly Arsenals: Tracking Weapons of Mass Destruction*, 207.

³⁰ According to the International South Asia Forum, Pakistan's military budget represents 25% of total government spending and 6% of GDP. This has led to a tremendous amount of debt that represents a figure equal to 93% of Pakistan's GDP. According the U.S. State Department, America leads the international effort to assist in Pakistan's economic rehabilitation. <http://www.state.gov/r/pa/ei/bgn/3453.htm>, (accessed September 10, 2004).

³¹ Paul and others, *Power Versus Prudence: Why Nations Forgo Nuclear Weapons*, 135.

maker.³² But before these two men could emerge to drive forward the Pakistani nuclear program there was Z.A. Bhutto. During the earliest debates over a military use for Pakistan's nuclear program he was the leading champion of an atomic bomb.³³ The work of Bhutto, and later Kahn and Mubarakmand, enabled the nuclear weapons program to survive numerous political regimes and changes in international pressures.

The Pakistani nuclear program was therefore the result of an easily defined security threat in the form of India. A handful of individuals in Pakistan championed the notion of a Pakistani bomb and shepherded the program to fruition. It is important to note that they did so in the face of international sanctions and an unfavorable normative environment, demonstrating the power of a perceived security threat.

North Korea's security problem is readily visible. It is one of the most economically and diplomatically isolated countries on earth. Not only is North Korea losing ground to South Korea militarily and economically, but it also faces the United States across the DMZ. For a regime lead by a famously idiosyncratic dictator, there seems to be ample security reasons for developing a nuclear weapon.

North Korea's use of the weapons as bargaining chips leads one to suspect something other than a pure security reason for their development however. Its isolation and the

³² While A.Q. Khan is now practically a household name, Dr. Mubarakmand is a relative unknown outside of Pakistan. Using www.google.com to search for "A.Q. Khan" yields over 403,000 entries, while searching for "Dr. Mubarakmand" yields only 394 entries.

³³ Ashok Kapur, *Pakistan's Nuclear Development* (London ; New York: Croom Helm in association with Methuen, 1987), 77.

hostility it perceives directed at it must certainly have a role to play in the development of a nuclear weapons program. However, if this was the sole reason for the creation of North Korea's illicit research there would be little chance of them trading away the weapons for anything less than a complete cessation of hostilities. That North Korea has been willing to offer the end of the program for economic assistance and a mere 500,000 tons of heavy fuel oil, indicates that these weapons have other roles to play other than merely a last line of defense. Also, announcements from North Korea about their nuclear program have a correlation to the diplomatic and political actions of America.³⁴

Multi-causality is helpful, but not as much as the previous cases. The reason for this is there is little evidence to support the claim that norms mean anything to the regime in Pyongyang. They have waged a low level war with their neighbors to the South and Japan, kidnapping citizens from Japan and sending commando teams into South Korea. Due to the level of repression North Korea's population lives under there is little opportunity for them to make their opinion heard on Pyongyang's nuclear program, which eliminates the possibility of the domestic angle playing an important role.

It seems at times that the intensely negative international reaction to the program has been relied upon to garner the economic carrots needed to keep the DPRK functional. Domestically, the cult of personality around Kim Jong-Il has meant that he needs no weapon to play to a

³⁴ North Korea's more bombastic statements have followed items such as the "Axis of Evil" speech and the beginning of the US led war against Iraq.

domestic audience. What pressure the military establishment might be applying to the revered leader for the development of these weapons is uncertain. However, given the cost of such a program, its dubious value to the military, and the sacrifices the cost must mean for the military services, it is difficult to see why the military would be supportive of the project.

Of all the cases of nuclear weapons acquisition no state has as strong a security imperative as Israel. Since the rebirth of the Jewish state in 1948 they have fought 4 wars with their neighbors, usually outnumbered in troops if not quality of the equipment those troops were using.³⁵ While the rhetoric contained within a state's newspapers is not proof in itself of intentions, Israel's neighbors have allowed their newspapers to print some of the most heated rhetoric of any regional competition.³⁶ Surrounded, outnumbered, and verbally (if not physically) threatened, Israel seems to be an ideal candidate for the security driven nuclear weapon.³⁷ It is important to note than in the case of Israel, the security threat was not nuclear but conventional. In this case the presence of nuclear weapons is seen as the ultimate answer to Israel's lack of strategic depth.

³⁵ Avner Cohen, "Nuclear Arms in Crisis Under Secrecy: Israel and the Lessons of the 1967 and 1973 Wars" in *Planning the Unthinkable : How New Powers Will use Nuclear, Biological, and Chemical Weapons*, eds. Peter R. Lavoy, Scott D. Sagan and James J. Wirtz, 104 (Ithaca, N.Y.: Cornell University Press, 2000). In the original wars of 1948, Israel was very much outgunned both in numbers and quality. Even in 1973 the Israeli Armed forces were only evenly matched in most areas excepting their air force.

³⁶ *Ibid.*, 105. It was not uncommon during the 1960's and 70's to see editorials that called for the annihilation of Israel and political cartoons depicting skulls with the Star of David on them.

³⁷ *Ibid.*, 122.

The use of Scott Sagan's multi-causality model provides some additional insight into the Israeli nuclear program. Domestically, the Israeli public has always been highly supportive of military programs and the democratic state spends a large portion of its GDP on the military.³⁸ The normative portion also sheds some light. When Israel was first thought to have built the weapons the Cold War was on and both sides in that conflict were building enormous numbers of nuclear devices. The nuclear weapon was then seen as the ultimate guarantor of a state's existence. Norms also influenced Israeli to keep the program opaque. Even in the beginning of the program, Israeli leader David Ben Gurion deliberately structured the program to allow Israel to claim its activities were for peaceful use only.³⁹

Each of the states covered in this section demonstrates the key status of security driven decision making. Each of the states faces (or believes it faces) a nuclear armed opponent, or in the case of Israel, an implacable foe bent on its destruction. More important, these states have demonstrated a willingness to ignore international norms in their pursuit of nuclear technology. At the same time, Pakistan and India also demonstrate the importance of the "myth maker" to the successful conclusion of a nuclear research program. Even though these case studies are strongly supportive of a security only model, the deal that North Korea made to exchange its nuclear

³⁸ According to Anthony Cordesman, Israeli defense spending from 1985-2000 averaged 14.06% of the Israeli GDP. By way of comparison, American defense spending as a percentage of GDP averaged 3.32% from 1990-2000.

³⁹ Avner Cohen, *Nuclear Arms in Crisis Under Secrecy: Israel and the Lessons of the 1967 and 1973 Wars.*, 106.

weapons program for foreign aid calls into question whether security alone drives these decisions.

B. STATES THAT WANTED NUCLEAR WEAPONS: EUROPE

Because of the Cold War and the early imbalance in forces between the West and the Soviet block there were many reasons for nations in Europe to consider developing nuclear weapons. Differences in opinion between the US and her allies in Europe, as well as American actions taken elsewhere in the world led European states at various times to question whether or not Washington would truly come to Europe's defense. The importance of these case studies rests in the fact that despite occasional doubts about the steadfastness of America, no European nation other than Great Britain and France developed nuclear weapons.

Germany is an interesting study. After World War II they were still considered a threat by most of their neighbors and had been constrained by several treaties in their ability to rearm. On top of their mandated weakness, Germany suspected that they would be the battlefield for the next war, this one far more destructive due to the advent of nuclear weapons.⁴⁰ This fear, combined with the European suspicion that the US might retreat to "fortress America", led some German leaders to consider a nuclear program.

Due to the presence of an enormous Soviet army in Eastern Europe, an army that far outnumbered the combined Western forces, there is a good argument to be made for the

⁴⁰ Jennifer Mackby and Walter B. Slocombe, "Germany : The Model Case, a Historical Imperative" in *The Nuclear Tipping Point : Why States Reconsider their Nuclear Choices*, eds. Kurt M. Campbell, Robert J. Einhorn and Mitchell Reiss, 183 (Washington, D.C: Brookings Institution Press, 2004).

security thesis on weapons development. Germany was split in half, occupied, and the front line for a conflict between East and West. Developing nuclear weapons might have guaranteed the integrity of Germany's borders while keeping other people from using its cities and farms as a battlefield. Lacking an army of its own, nuclear weapons would have seemed to be the easiest way to build an enormous defensive ability.⁴¹ Another security driven reason for a German nuclear program would be to ensure that German soldiers were more than just a shield with which to hold the Soviets at bay while the other NATO members dropped bombs.⁴²

At the time the internal debate over a nuclear weapon program was begun, nuclear weapons were just another battlefield tool. Unlike Japan, the German public was not inherently anti-nuclear due to the difference in the way WWII had ended for Berlin. International norms were supportive of nuclear weapons and the German public was not vociferous in its opposition, so why did Germany not go ahead? According to Jennifer Mackby and Walter Slocombe, it was the guarantee of security by America and the other members of NATO that convinced Germany to forgo nuclear weapons.⁴³

At first glance, the security model does an excellent job of explaining why Sweden would choose to pursue nuclear weapons. It was in the middle of the Cold War battleground between East and West, and had negative experiences trying

⁴¹Mackby and Slocombe, *Germany: The Model Case, a Historical Imperative*, 181. Some German leaders saw nuclear weapons specifically as a way to make up for their inability to raise a large army.

⁴² Ibid., 183.

⁴³ Ibid., 199.

to remain neutral in both the World Wars.⁴⁴ While Sweden claimed it was supported under the US nuclear umbrella, they had just as much reason to question the utility of that umbrella as England and France, perhaps more so due to their international claim to neutrality. The security model can also be used to explain why Sweden might have chosen to refrain from continuing the program. Another factor in Sweden's calculations was possession of nuclear weapons, even as a neutral state, could lead to Russia targeting them with Moscow's own nuclear weapons.⁴⁵

Despite the apparent strength of the security model, multi-causality proves to be a useful tool in explaining Sweden's actions. While there was a security threat to be considered, Sweden also had a domestic element which was closely linked to the issue of norms. Sweden's population was at the forefront of questioning of the moral legitimacy of nuclear weapons and the government pursued nuclear weapons bans in the international arena. Another domestic element was the creation of a welfare state in Sweden. This very popular move was extremely expensive; there was not room for everything in Sweden's budget. Therefore, the nuclear weapons program, whose utility was increasingly coming under question, was axed to help pay for welfare.⁴⁶ Therefore, the addition of domestic political considerations and norms in Sagan's model both add depth to the security driven understanding of Sweden's choices.

⁴⁴ Paul Cole, *Atomic Bombast: Nuclear Weapon Decision-Making in Sweden* (Washington D.C.: Henry L. Stimson Center, [1996]), 9.

⁴⁵ *Ibid.*, 28.

⁴⁶ *Ibid.*, 28.

Sweden and Germany demonstrate that even in the face of demonstrated security needs nuclear weapons are always considered vital to a nation's security. In the case of both countries the presence of a security umbrella was used by the governments to justify their decision not to develop nuclear weapons. The Swedish case study also validates multi-causality through the additional inputs of domestic priorities and public opinion based on developing international norms.

C. STATES THAT WANTED NUCLEAR WEAPONS: THE MIDDLE EAST

This region has a cluster of states that pursued nuclear weapons programs. Other than Israel, none have yet succeeded in developing nuclear weapons, and most have only limited access to basic nuclear technology. Despite this failure, the examples of Libya and Egypt offer an opportunity to test multi-causality under two different but related sets of variables. Libya faced a perceived security threat from both the United States and Israel, both nuclear powers. Egypt borders Israel and has fought three wars with her. Despite the shared enemy in Israel, Libya and Egypt took separate paths. The different choices taken by the two states offer a chance to test whether multi-causality can describe the choices made by each of the actors.

Libya was once the icon of a rogue state. It had an unelected leader who supported terrorists and thumbed his nose at the United States. Washington D.C. had occasion to respond to these provocations and the two states clashed, costing Qaddafi several MIGs and his daughter. For years the West watched warily as Libya excavated a mountain and

turned it into an air strike proof repository.⁴⁷ Then, in 2003, seemingly out of the blue, Libya announced it had been pursuing various weapons of mass destruction (WMD) programs and that it was giving them all up. In return for the lifting of international sanctions against him, Qadaffi was willing to tell all. The reasons given for Libya's change in course have depended on who is giving them.

Because of Libya's conflict with the United States, and rhetoric directed by Tripoli against Israel, its decision to embark on a program to produce nuclear weapons is no surprise. Libya's conventional forces had fared poorly in multiple outings against the US. While support for various terrorist organizations did score some "successes" for Libya, these only served to bring the ire of most of Europe down on them in addition to America's wrath. Another security related reason for Libya's program could have been the ultimate goal of giving it up for security guarantees. TV Paul has suggested that just such an arrangement is key to convincing "rogue" regimes to abandon their illegal weapons programs.⁴⁸

Multi-causality adds some dimension to the problem through the examination of Qadaffi's domestic issues. He has survived several assassination attempts that have severely wounded him in at least one case.⁴⁹ Returning veterans from Afghanistan have begun to plague him with

⁴⁷ The site was named Tarhuna and was constructed after Rabita became the focus on international condemnation.

⁴⁸ Paul and others, *Power Versus Prudence : Why Nations Forgo Nuclear Weapons*, 144.

⁴⁹ "Al-Qaeda Targets Gaddafi," *National Post*, December 24, 2004. The suggestion that Qaddafi might be targeted by Al-Qaeda was reported by Canadian intelligence. According to these reports, the Al-Qaeda backed Libyan Islamic Fighting Group wants to replace Qaddafi and create an Islamic state in Libya.

calls for a greater Islamic role in Libya's government and it is highly likely that these groups are responsible for the attempts on Qaddafi's life. Also, Libya has realized that it could not completely develop its natural resources without aid from the Europeans and America.⁵⁰

Libya also introduces a new twist to the domestic leg of Sagan's theory. Since it was buying the capability "off the shelf" from A.Q. Khan's network there was almost no opportunity for a domestic lobby to form around it. Purchasing the equipment also meant less funds for Libya's military without any immediate benefit. The lack of a dedicated cadre of nuclear scientists further prevented the domestic lobby from forming which would then have attempted to steer Qaddafi away from giving up the program. In the case of Libya, the lack of a domestic lobby meant that there were not significant groups within Qaddafi's regime that would have pressured for the nuclear program's continued existence.

Libya's neighbor to the east also had a nuclear program for a time however; Egypt ended hers long before Libya's started. Egypt is an interesting case due to the fact that it has been at war with a nuclear power with which it shares borders. The fact that its program died so early and with so little progress is educational.

While the security model might seem to favor an Egyptian bomb, this would not produce an accurate representation unless the larger picture was considered. Egypt has been under the protection of one or both of the world's superpowers throughout its post colonial history.

⁵⁰ Muhammad Ibrahim, "The Day After - Libya's Sons also Rise," *Foreign Policy* 139 (Nov-Dec, 2003), 32-46.

However despite the fact that it fought three wars with Israel and lost each one, Egypt has never been threatened with destruction by Israel. While Egypt was the ally of the USSR during part of the Cold War, it also received diplomatic aid from the US during the 1956 invasion by Britain, France and Israel.⁵¹ After the Camp David accords Egypt became the number two recipient of US foreign aid, second only to Israel.⁵² This larger picture therefore shows that despite the presence of an Israeli bomb, Egypt has never honestly felt itself threatened by that ability and has always had at least one superpower to call an ally.

On the domestic side of the question, Egypt was ambivalent soil for the growth of a nuclear capability. Its early efforts to attain nuclear technology and "know how" died young, and the trained scientists were soon lost.⁵³ After the "Atoms for Peace" loophole closed, the costs for attaining knowledge and equipment that had been offered freely as a part of that program climbed precipitously. On the normative side, the closing of the Atoms for Peace gateway also marked the end of the "it's just another weapon" mentality in the world.

⁵¹ Steven Z. Freiburger, *Dawn Over Suez: The Rise of American Power in the Middle East, 1953-1957*, (Chicago, IL: Ivan R. Dee, 1992). Egypt started its post colonial life with the United States as a protector. During the 1956 war both the United States and the USSR warned France, England, and Israel to halt their attack. After the United States backed out of the Aswan Dam project the USSR became the primary supporter of Egypt. Finally, after the Camp David accords signed by Anwar Sadat, Egypt returned to the United States as an ally.

⁵² Bessma Momani, "Promoting Economic Liberalization in Egypt: From US Foreign Aid to Trade and Investment," *Middle East Review of International Affairs* 7, no. 3 (2003), 88.

⁵³ Robert J. Einhorn, "Egypt : Frustrated but Still on a Non-Nuclear Course" in *The Nuclear Tipping Point : Why States Reconsider their Nuclear Choices*, eds. Kurt M. Campbell, Robert J. Einhorn and Mitchell Reiss (Washington, D.C.: Brookings Institution Press, 2004), 57.

Once the early cadre of nuclear scientists had faded from view, there was no one in Egypt that was willing or able to champion the cause of nuclear weapons. Even though some attempts were made to maintain a minimal knowledge of nuclear technology, the overall poor condition of Egypt's educational system meant that there was little they could do. In the end, Egypt's attempts to find a path for acquiring fissile material were unsuccessful during the period in which it was most intent on acquiring nuclear weapons.⁵⁴

Both Egypt and Libya share similarities in reasoning. Despite its past enmity with the United States, Libya has come to an understanding with Washington D.C. Since America was Libya's biggest external threat, normalized relations with America removes that motivator. Both Libya and Egypt serve as powerful examples of security driven decision making. In these two cases, the presence of an external actor offering security guarantees (the United States) led to decisions not to proliferate. In Libya, the new focus on internal threats demonstrates a rational choice on the part of Qadaffi to give up a program that was already under considerable threat in order to gain access to resources that would help him shore up his regime at home. Egypt decided that it could gain more security from a partnership with the United States than it could through a nuclear program. Both states also demonstrate the importance of a technological base upon which to build a nuclear program.

⁵⁴ Robert J. Einhorn, *Egypt : Frustrated but Still on a Non-Nuclear Course*, 46.

D. STATES THAT WANTED NUCLEAR WEAPONS: AUSTRALIA

The case of Australia is actually two separate cases, each with its own motivating factors. In the first case the world had just entered the nuclear age and nuclear weapons were signs of modernity and technical prowess. Nuclear weapons were at this time "just another artillery shell".⁵⁵ In this global atmosphere, Australia pursued nuclear weapons as a means of demonstrating its sophistication. Certain senior officers in the Australian armed forces were also afraid that they would be left out of future war plans if they lacked nuclear weaponry. Australia had enormous uranium reserves, and was already being used by Britain both as a uranium mine and a testing area for British nuclear devices.⁵⁶ The Australian government, despite indications from England that a request for a weapon would be honored, declined.

The second case begins in 1960's. By that time China had detonated its first nuclear weapon, while the British were slowly retreating from the Pacific. In this power vacuum Australia's motivation for seeking nuclear technology changed from one of national prestige to a security driven desire. While Australia certainly had the resources to pursue this program, the increasingly negative image being attached to nuclear weapons possession added political considerations to the decision. In the end, Australia chose security guarantees from the United States and pursued a nuclear disarmament program in the international arena.

⁵⁵ Jim Walsh, "Surprise Down Under: The Secret History of Australia's Nuclear Ambitions," *Nonproliferation Review* 5, no. 1 (1997), 2.

⁵⁶ *Ibid.*, 6.

In both stages of Australia's nuclear weapons program it lacked a close security threat. During the second period discussed both India and China, regional powers in Australia's backyard, possessed nuclear weapons. Even so, there were no significant points of friction between those two nations and Australia. Domestically, the primary champions of a nuclear weapons program in Australia were the senior officers in the military. Without a domestic lobby or a credible security threat, these leaders were not able to sustain pressure for a program in the face of changing norms and the promise of security guarantees from the United States.

Australia's case reinforces the need for a genuine security threat in order to support a nuclear weapons program. Australia further adds to the evidence that domestic pressure against nuclear weapons can play a role. In the case of Australia, security guarantees from America were sufficient to keep that country non-nuclear despite the clear capability to develop a nuclear program.

E. STATES THAT WANTED NUCLEAR WEAPONS: EAST ASIA

The East Asian states of Taiwan, South Korea, and Japan offer another chance to test multi-causality. Each of the states faces a nuclear threat, while possessing varying levels of domestic issues, technological ability, and external security considerations.

Taiwan's "Hsin Chu" program was conducted in secret as a means of developing nuclear weapons. While this program was eventually canceled, it gives an interesting lesson in the negative security effects of nuclear weapons. The program led to a Taiwanese realization that their efforts

would not strengthen Taiwan's defenses but risk the complete destruction of the island. This realization was the result of an American communiqué that it would do nothing to protect the island if Taiwan continued with their program.⁵⁷

Multi-causality adds some additional information to the discussion of Taiwan's program. The obvious security concerns aside, there were domestic and normative elements in Taiwan's decision to give up the program. When the Hsin Chu program started, Taiwan was ruled by an authoritarian government. The lack of a free press and opposition parties allowed a small group of advisers close the Chiang-Kai Shek, to choose a nuclear path.⁵⁸ Later, when its nuclear armed foe, China, had begun to issue more threats, the Taiwanese nation, with an anti-nuclear president, free press, and opposition parties was in no danger of backsliding.

Japan is an interesting study; of all the "latent nuclear states" it is probably the most latent. It draws over 31% of its energy from nuclear power, and possesses the most modern techniques in uranium enrichment and plutonium separation.⁵⁹ Despite this capability Japan has long been one of the worlds most outspoken critics of

⁵⁷ Derek J. Mitchell, "Taiwan's Hsin Chu Program : Deterrence, Abandonment, and Honor" in *The Nuclear Tipping Point : Why States Reconsider their Nuclear Choices*, eds. Kurt M. Campbell, Robert J. Einhorn and Mitchell Reiss, 309 (Washington, D.C: Brookings Institution Press, 2004).

⁵⁸ Ibid., 296.

⁵⁹ "Japan: Energy, Economic and Electricity Information," International Atomic Energy Agency, http://www-pub.iaea.org/MTCD/publications/PDF/cnpp2003/CNPP_Webpage/countryprofiles/Japan/Japan2003.htm (accessed April 5, 2005).

nuclear weapons; cracks have begun to show in the Japanese anti-nuclear façade however.

Any nuclear weapons program in Japan would be tremendously aided by two facts: 1) They already possess an abundance of fissile material and 2) they have a large number of very well trained nuclear scientists. Japan is a case of a country that is literally only a political decision away from having nuclear weapons. Since it has never had a declared (or illicit, as far as is known) nuclear weapons program, it is difficult to apply any of our models to examine it. However, recent statements from Japan indicate that a debate has begun about whether or not they should reconsider their stance.⁶⁰

The first leg of the multi-causality triad is security. In the case of Japan, the main security threat is a clear nuclear weapons capability in North Korea.⁶¹ Japan's security concerns are larger than the DPRK however; China is also seen as a long term strategic threat to Japan. Rounding out Japan's security concerns is a resurgent Russia, fear of American drift towards China, and international terrorism. Added up, these threats create a powerful incentive to utilize already existing facilities and stockpiles to create nuclear weapons in Japan. At the same time, the death of many of the victims of Hiroshima

⁶⁰ Campbell, Kurt M. and Tsuyoshi Sunohara, "Japan : Thinking the Unthinkable" in *The Nuclear Tipping Point: Why States Reconsider their Nuclear Choices*, eds. Kurt M. Campbell, Robert J. Einhorn and Mitchell Reiss, 230 (Washington, D.C: Brookings Institution Press, 2004).

⁶¹ Ibid., 231.

and Nagasaki has led to an increase in the number of Japanese citizens that are willing to consider nuclear weapons.⁶²

The norm related concerns of Japan are largely related to the NPT.⁶³ The announcement by North Korea that it has nuclear weapons has exposed cracks in the foundation of the treaty. Should Iran achieve nuclear weapons status other states are going to begin to question whether or not they should continue to be a party to the treaty. Another crack in the NPT has been statements from the Bush administration that they are considering developing a new class of nuclear weapons designed to produce very low yields. The new weapons concern the Japanese, who feel that any attempt to build them increases the likelihood that nuclear weapons will be used in future conflicts.⁶⁴

Like that of Japan, the South Korean nuclear research program was also directly related to the threat from North Korea. The Korean peninsula has a long history of war and occupation, the most recent being the Korean Civil War. This fight ended with the peninsula split at the 38th parallel and an armistice. This armistice did not prevent North Korea from making at least two attempts on South Korean strongman President Park's life; the second attempt missed him but killed his wife.⁶⁵ In short, South Korea faced an aggressive neighbor whose military budget

⁶² Campbell and Sunohara, *Japan: Thinking the Unthinkable*, 242.

⁶³ *Ibid.*, 240.

⁶⁴ *Ibid.*, 240.

⁶⁵ Mitchell Reiss, *Without the Bomb: The Politics of Nuclear Nonproliferation* (New York: Columbia University Press, 1988), 83.

represented 15% of its GDP.⁶⁶ Despite this powerful perception of threat, South Korea has refrained from further pursuit of nuclear weapons. In its transition to democracy, South Korea resembles Taiwan. However, unlike Taiwan, South Korea also has an explicit security guarantee from the United States, which mirrors the status of Japan.

The three case studies from East Asia demonstrate again the power of security driven decision making. Like the European cases, they also demonstrate the additional consideration of domestic politics. That a debate exists at all in Japan over the future of that nation's nuclear status is an example to the shift over time of domestic forces. In Taiwan and South Korea, a shift from an autocratic regime to a democratic regime has added the presence of domestic pressure against the creation of a nuclear program. Japan and South Korea, and Taiwan all demonstrate the ability of external security guarantees to take the place of nuclear weapons programs in the face of a clear and demonstrated threat.

F. IN SEARCH OF A MODEL

The intention of this chapter was to use case studies in order to pinpoint the reasons states chose to pursue (or not) nuclear weapons. Each case demonstrated that the presence of security concerns was the foundation for the consideration of a nuclear program. At the same time, the cases showed that security concerns are never the only input to be considered when deciding whether or not to pursue nuclear weapons. Furthermore, the case studies revealed that instead of a horizontal structure in which

⁶⁶ Mitchell Reiss, *Without the Bomb: The Politics of Nuclear Nonproliferation*, 82.

security, domestic, and normative concerns work in unison, it may be helpful to think of proliferation decisions as a vertical structure. At the bottom are security concerns which form a necessary basis for proliferation decisions. On top of this foundation are then stacked norms, domestic concerns, and technological capabilities. Combined, this structure informs a state's decisions on proliferation. The difference between this idea and multi-causality such as Scott Sagan's model is the necessity for the security requirement to exist before a program can be seriously contemplated.⁶⁷ However, the presence of a security threat alone is not necessarily enough to cause a state to proliferate. Cases such as Egypt and Taiwan demonstrate that even states that face nuclear armed opponents don't always produce nuclear weapons. The right combination of domestic and normative imperatives must exist, along with the capability to produce a nuclear infrastructure (or the ability to buy one).

⁶⁷ Paul and others, *Power Versus Prudence : Why Nations Forgo Nuclear Weapons*, 153.

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IV. FACTORS INFLUENCING PROLIFERATION IN IRAN

In the previous section, a series of case studies were examined for evidence supporting multi-causality as a useful way of understanding nuclear proliferation. The result of the case study was that while there are multiple inputs to decision makers, these inputs are not equal. In order for a state to proliferate it needs a clear security threat. If this threat exists, then further considerations such as domestic support, normative pressures, and technological capability are added. If a state faces a perceived, significant security threat, can muster domestic support, can evade or withstand international normative pressure, and either has the technological capability to proliferate, or can purchase nuclear technology, then the state will proliferate. Many of the case studies demonstrated that a change in one or more of these factors will cause a state to reconsider its choice to proliferate.

A. SECURITY

The first motivating factor to consider is security. In the broadest sense, Iran's security problems are obvious are first glance. A look at a map of Iran and its surrounding areas shows it to be in a neighborhood fraught with uncertainty and instability. Not only is Iran surrounded by new and/or fragile states, but since 9/11 it is also surrounded by the armed forces of the United States. Since the fall of the Shah and the Iranian Revolution of 1979 the United States and Iran have at times fought each other, threatened each other, or just ignored each other. This cycle of neglect and antagonism directly

flavors the relations between these two states in the current atmosphere of concern over the Iranian nuclear research program. Therefore the presence, on all sides of Iran, of American forces is understandably a significant factor in Iranian security calculations. Another problem is that the nations do not have diplomatic relations with each other significantly hampering attempts at real communication.

Unfortunately, the various modes of conduct between the two countries have done nothing to reassure either when it comes to the other's intentions. Since 1979 Iran has had to deal with the near continuous presence of American warships in the Persian Gulf, which was once an Iranian lake. The presence of these forces and the power they represent was dramatically demonstrated to the Iranians in 1988 during Operation Praying Mantis in which a large portion of the Iranian Navy was sunk or damaged. As Ken Pollack points out in his book "Persian Puzzle", the accidental downing of the Iranian Airbus later that year by the USS Vincennes was a wakeup call to the regime in Tehran, and directly led to cessation of hostile activities.⁶⁸

The advent of the Global War on Terror brought fresh attention to the newly liberated "Stan Republics" of Central Asia, as well as Afghanistan. The ability to access landlocked Afghanistan was partially insured through the basing of US forces in countries to the north, which had the simultaneous effect of establishing bases north of Iran. The invasion of Iraq established an enormous American

⁶⁸ Kenneth M. Pollack, *The Persian Puzzle : The Conflict between Iran and America*, 1st ed. (New York: Random House, 2004), 539.

force directly across Iran's western border. The display of firepower which brought down the entire Iraqi regime in such a short time span, something the entire Iranian nation had been unable to do so over eight years of war, was also a potent reminder of just how powerful the United States had become. Finally, the encirclement of Iran was completed by the arrival of US military trainers in Azerbaijan in an effort to build that country's military.⁶⁹ The trainers in Azerbaijan happened to coincide with increased levels of tension between that country and Iran, a fact that was not overlooked in Tehran.

Iran's security is not just predicated on the presence of American military forces, although that is their primary concern.⁷⁰ Iran still has contested claims over a series of small islands just inside the Persian Gulf, whose ownership is contested by the UAE. The possible presence of oil and natural gas fields near these islands has made the issue even thornier than it was to start with.⁷¹ While Iran and the UAE had a dual use agreement for the islands, Iran has recently placed armed forces on the islands and started building an airstrip.⁷² This effort has drawn the attention

⁶⁹ "Azerbaijan: US Force Already on the Ground," Ocnus.net, <http://www.ocnus.net/cgi-bin/exec/view.cgi?archive=68&num=17807> (accessed August 14, 2005).

⁷⁰ Seymour Hersch, "The Coming Wars," *The New Yorker*, January 24, 2005, http://www.newyorker.com/fact/content/?050124fa_fact (accessed August 20, 2005). This article is often cited in the Iranian media as proof of America's intentions towards Iran.

⁷¹ Erik Kreil, *Persian Gulf Oil and Gas Exports Fact Sheet*.

⁷² Central Intelligence Agency, "CIA World Factbook: 1998," <http://guttenberg.elib.com/guttenberg/etext99/world98.txt> (accessed August 4, 2005).

of the United States due to the island's strategic position astride one of the sea lanes leading through the Straits of Hormuz.

There is another facet of security that deserves some discussion. Iran feels that its national security is directly linked to its possession of nuclear technology. In an article published in Tehran recently, Iranian political commentator Dr. Ali Akbari stated that "technology and methods of the development of energy, especially nuclear energy, are among the strategic dimensions of power."⁷³ The reason they feel this link exists is because of the fact that Iran's internal consumption of energy is rapidly increasing. Iran relies heavily on oil exports to finance their economy. A future in which Iran were to either require a significant fraction of its oil and gas for domestic consumption, or, worse yet, become a net importer is disastrous. The Iranian Ambassador to the United Kingdom said as much in a letter he wrote to the House of Commons Select Committee on Foreign Affairs. In this letter he pointed out the potential for Iran to become a net importer of fossil fuels unless it diversifies its energy grid. The Ambassador went on to point out that if Iran were to reach a goal of 7000 megawatts (MW) of nuclear electricity generation they would annually save over 190 million barrels of oil. This comes out to an annual savings of over \$11.7 billion using the recent oil price of \$62 a barrel. Furthermore, when considering whether or not Iran's investment in Bushehr makes sense consider the following; Bushehr is a 1000MW plant, and it cost over \$3.2 billion to

⁷³ Ali Reza Akbari, "Iran's Nuclear Security Capability: An Examination of the Role and Place of Nuclear Capability," *E'Tedal Va Towse'eh*, February 20, 2005.36-38.

construct when the original German built plant's costs are figured in.⁷⁴ Based on the oil saving calculations of the Ambassador, this plant will save Iran \$1.6 billion in oil per year of use.⁷⁵ That means that in 2 years the plant will have paid for itself. This doesn't take into account fluctuations in the price of oil, which could add a significant amount of money to the pot if oil prices continue to rise. For every dollar a barrel that oil prices goes up, Bushehr saves Iran and additional \$27 million a year.⁷⁶

B. NORMATIVE

The issue of norms and their effect on any possible Iranian program to build nuclear weapons has become more apparent recently with the declaration by North Korea that it has nuclear weapons. The main threat that this North Korean adventurism poses in the case of Iran is that if North Korea tests a nuclear weapon and the world sits by, Iran may begin to ask itself why it shouldn't have the same technology. The Nuclear Non-Proliferation Treaty (NPT), which has already lost some of its power due to the quiet consent of the world's other nuclear powers to the nuclear status of Israel, Pakistan, and India would become almost meaningless if North Korea were to be afforded the same latitude. Further attention has been directed at the NPT

⁷⁴ Global Security, "Weapons of Mass Destruction: Bushehr," <http://www.globalsecurity.org/wmd/world/iran/bushehr.htm> (accessed August 4, 2005)..

⁷⁵ At \$62 dollars a barrel of oil.

⁷⁶ If, as was suggested by former ARAMCO executive Sadad al-Husseini, oil prices are headed for triple digits Iran's savings increase further. At \$100 a barrel of oil Bushehr saves Iran \$2.7 billion a year in oil costs while a 7K MW program results in an extra \$19 billion a year in oil sales.

with recent announcements that America will end several decades of nuclear embargo against India. This announcement puts additional strain on the normative strength of the NPT.⁷⁷ The treaty was intended to allow members access to non-weapon nuclear technology in return for their adherence to the non-proliferation portions of the NPT, not access to non-signatory states and intrusive inspections for members.

Another problem that the NPT poses is Article VI requiring the declared nuclear states to phase out their arsenals.⁷⁸ During the Cold War this was largely overlooked by all sides. Since the collapse of the Soviet Union however, there have been an increasing number of calls for the "original five" to perform their Article VI obligations. Not only have the original nuclear powers not disarmed, but some have recently declared their intent to produce new, more sophisticated nuclear weapons. Research on the "Robust Nuclear Earth Penetrator" (RNEP), a nuclear device for reaching deeply buried targets, is a topic of discussion in the American Congress. In fact, the total amount allotted to the program over a 5 year period is in excess of \$400 million.⁷⁹ The Iranians have not failed to

⁷⁷ Ramesh Thakur, "NPT Regime in Crisis After Failed NY Confab," *The Daily Yomiuri (Internet Version)* August 1, 2005.

⁷⁸ Article IV of the Nuclear Non Proliferation Treaty states: "Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control." Full text of the NPT is available at: <http://www.fas.org/nuke/control/npt/text/npt2.htm>.

⁷⁹ Jonathan Madalia, *Robust Nuclear Earth Penetrator Budget and Plan FY2005-2009* (Washington D.C.: Congressional Research Service, [2004]), 5.

notice that the world's most powerful state in the conventional realm still values its nuclear weapons enough to try and update them.

On top of the "do as I say not as I do" feeling that American nuclear renovation sends to states like Iran there is another disturbing signal. This is that nuclear weapons may be re-engineered to return the sense of utility that accompanied the weapons early in their career. As the decline of the "tactical warhead" in world arsenals attests, nuclear weapons are no longer weapons of war, but instruments of strategic power. However, the RNEP, and other low yield warhead designs is an obvious attempt to return utility to nuclear weapons. By attempting to demonstrate that nuclear weapons can be built to decrease their side effects to "tolerable" limits, America is inadvertently telegraphing that they will consider using them. This, when combined with the tremendous conventional strength demonstrated by the American military has weakened international norms against nuclear weapons. A country like Iran that finds itself opposing the United States can't help but notice that North Korea, which occupies the third slot on the "Axis of Evil", has not been attacked despite its open declaration of nuclear weapons. After the swift destruction of Iraq twice in the space of 12 years (a country lacking nuclear weapons) Iran might have taken a lesson from North Korea.⁸⁰

⁸⁰ George Monbiot, "The Treaty Wreckers," *The London Guardian (Internet Version)* August 2, 2005.. The author's quote was that a country with oil and no bomb was invaded (Iraq), a country with oil and the possibility of a bomb was threatened with "sanctions" (Iran), and a country with no oil and a bomb was offered a deal (North Korea).

C. TECHNOLOGICAL

The technological aspect of acquiring nuclear weapons favors Iran. The primary factor keeping many nations from developing nuclear weapons is that they require so much effort and money to produce. With its burgeoning nuclear program, Iran already has in place those technologies that are needed to produce nuclear weapons. Iran has uranium ore mining facilities, uranium conversion facilities, uranium centrifuge facilities, and an indigenous missile industry. This means that Iran can mine, process, convert and enrich uranium sufficiently to use in a uranium based nuclear weapon. Iran can also build test, and deploy missiles capable of carrying nuclear warheads. One area in which Iran has not yet demonstrated any capability is building nuclear warheads. While a simple gun type bomb is relatively easy to construct, miniaturizing a nuclear warhead sufficiently to place it on a ballistic missile is an order of magnitude harder.⁸¹

In order to understand the breadth of Iran's program it is helpful to look at exactly what Iran possesses in the way of nuclear facilities. The most well known is the nuclear power plant at Bushehr. This facility was originally begun by the German company Siemens prior to the fall of the Shah. During the Iran-Iraq war it was repeatedly bombed by the Iraqis. The nearly destroyed facility lay abandoned until 1995 when a Russian consortium inked a deal to build a Russian nuclear facility on the site. While the construction process was repeatedly

⁸¹ Gotz Neuneck, "Terrorism and Weapons of Mass Destruction," <http://www.pugwash.org/reports/nw/TWoMDpapers.htm> (accessed August 20, 2005). Building an implosion type device is far more difficult than building a gun type device. The implosion style nuclear device are the design used for missile warheads.

delayed, the reactor was largely complete by 2004.⁸² In February of 2005, the Russian government, under pressure from the United States, forced Iran to sign a deal in which the Russians would supply the enriched uranium needed to run the reactor and would take back the spent fuel for reprocessing.⁸³ This bargain was pushed on the Russians due to the fact that if Iran was allowed to keep the spent fuel they would have access to nuclear weapons material. The 1000 MW reactor at Bushehr is expected to annually produce enough plutonium for approximately 20 nuclear weapons a year.⁸⁴ In order to do so, Iran would need to construct a spent fuel reprocessing facility. Currently no open source evidence suggest that they have done anything more than bench tests of reprocessesing techniques.⁸⁵

The second major center of Iranian nuclear activity is Esfahan. This town is the site of Iran's uranium conversion facilities. The purpose of these facilities is to take mined uranium and convert it first into yellowcake and then into uranium hexafluoride. This second step is important as it is required before the uranium can be introduced into centrifuges to be enriched. All work at this facility was

⁸² Global Security, "Weapons of Mass Destruction: Bushehr," <http://www.globalsecurity.org/wmd/world/iran/bushehr.htm> (accessed August 4, 2005). Iranian government officials have repeatedly condemned what they claim was American interference in Russia's attempt to finish the reactor at Bushehr. The claim of American intervention is oft repeated in the Iranian media for issues as diverse as unrest in Kurdistan and an air strike scare caused by demolition work conducted near Bushehr.

⁸³ Ibid.

⁸⁴ Victor Galinsky, "Iran's Legal Paths to the Bomb" in *Checking Iran's Nuclear Ambitions*, eds. Henry Sokloski and Patrick Clawson, 28 (Pennsylvania: Strategic Studies Institute, 2004).

⁸⁵ Sharon Squassoni, *Iran's Nuclear Program: Recent Developments* (Washington D.C.: Congressional Research Service,[2004]), 5.

suspended after Iran accepted a deal from the so called "European Troika" of France, England, and Germany in an attempt to defuse the growing tensions over Iran's nuclear research program. In early August 2005 Iran announced its intentions to remove the seals on this facility and restart the uranium conversion process. While Iran currently does not have the large number of centrifuges needed to conduct a military enrichment program, their ability to build even first generation centrifuges means that constructing an enrichment program is not beyond their reach.

The third center of nuclear related activity is Natanz. This location gained notoriety after a dissident Iranian group revealed that a massive construction operation was underway to build and then bury two enormous buildings. The immediate conclusion was that Iran was attempting to hide and/or protect a centrifuge facility that might be capable of holding as many as 50,000 centrifuges. While America spy satellites watched, two buildings were submerged under seventy five feet of dirt and one and a half meter thick concrete walls.⁸⁶ After a concerted international diplomatic effort to extract some answers, Iran admitted that it was building a centrifuge facility in Natanz, but stated that it was not prohibited from enriching uranium under its NPT obligations.

The fourth and final location is Arak, where a heavy water production facility is nearing completion. Heavy water is an excellent moderator for the production of weapons grade plutonium in specially built reactors. In fairness it is worth noting that heavy water can also be

⁸⁶ Global Security, "Weapons of Mass Destruction: Natanz," <http://www.globalsecurity.org/wmd/world/iran/natanz.htm> (accessed August 6, 2005).

used in nuclear plants whose primary purpose is energy forced a line of text down for more text at top of page production. However, the design of these plants has fallen into disfavor due to the proliferation potential they possess.

In the process of building these and other facilities Iran has received much aid from abroad. Russia, Pakistan, China, and North Korea have been implicated in transfers of technology to Iran that could aid its weapons program.⁸⁷ The biggest concern has been the participation of the A.Q. Khan network based in Pakistan. Experts are nearly certain that Iran received centrifuges from Pakistan, possibly even advanced designs using maraging steel.⁸⁸ What's worse, there is evidence to support claims that Pakistan had previously sold a diagram for a Chinese nuclear warhead to Libya, which would have been sufficiently miniaturized to fit on a ballistic missile.⁸⁹ If this is the case, then there is the possibility that Iran might have purchased the same information from A.Q. Khan when they bought their centrifuges. The possession of such blueprints would eliminate most of the testing and experimentation that

⁸⁷ Kenneth Katzman, *Iran: US Policy Concerns and Responses* (Washington D.C.: Congressional Research Service, [2005]), 11.

⁸⁸ David Albright and Corey Hinderstein, "The Centrifuge Connection," *Bulletin of Atomic Scientists*, http://www.thebulletin.org/article.php?art_ofn=ma04albright (accessed August 6, 2005). In a recent development, Pakistani scientists have confirmed that one of two partially enriched Uranium samples that were collected from Iranian centrifuges was almost certainly leftovers from enrichment activities in Pakistan. The IAEA was noticeably silent on the origin of the second (and different) sample they retrieved.

⁸⁹ Douglas Frantz, "A High Risk Nuclear Stakeout," *Los Angeles Times*, sec. A1, February 27, 2005. The author cited nuclear weapon specialists who examined the warhead design that was supplied to Libya. These specialists indicated that the design was for a warhead that had been tested by China, and included production drawings and hundred of pages of notes.

would normally be associated with miniaturizing a nuclear warhead sufficiently to fit on a missile. The elimination of the testing is especially critical as it is something that is relatively easy to detect by other countries.⁹⁰ Unfortunately, the lack of the blueprints does not mean that Iran couldn't build a nuclear weapon. Only that the first generation of such weapons would be too large to fit on a missile and would need to be aircraft mounted.⁹¹

D. POLITICAL

The political reasons to build a nuclear weapon are many and varied. The first political reason relates to international leverage. That is, aside from the purely security related reasons for building a weapon already discussed; the presence of a declared weapon, or a weapon program can be translated into "chips" in a global game of diplomatic poker. As the case studies showed, North Korea has demonstrated that claiming to possess nuclear weapons, even without a demonstration, is enough to garner increases in aid from major world powers. This aid then assists regime maintenance by reducing some of the pressures to produce basic necessities for its people. It also assists the regime by providing it with opportunities to host conferences and to receive delegations from more important or powerful nations. In short, the weapons serve to garner attention from the global community that might not otherwise be forthcoming.

⁹⁰ As an example of how sensitive the monitoring instruments are, they detected the explosion that sank the Russian SSGN Kursk as shock waves transmitted into the sea floor.

⁹¹ This was the same problem that the South Africans faced with their first generation of nuclear warheads.

The second political reason to produce nuclear weapons is entirely internal. According to Dr. Nasser Hadian of the Tehran University the decision making process in Iran is "complex" and can seem "chaotic" to outsiders. However, he makes the express point that decisions are made by consensus, even if they take longer to come to.⁹² There are multiple groups that jockey with each other to form temporary alliances that must be considered. This viewpoint is echoed within the Iranian media. For every decision to be made, there are several groups with the power to do so. To paraphrase an Iranian academic, "There are 10 groups that are supposed to be in charge of fixing the horrific traffic in Tehran."⁹³ Likewise, as Ken Pollack relates in his book "Persian Puzzle", Iran's foreign policy is often subject to competing power groups. While President Clinton was trying to accept then Iranian President Khatami's offer for a dialogue of civilizations, other elements within Iran worked to make it impossible for the two countries to come together.⁹⁴

These competing power centers also make it very difficult for the outside world to understand what exactly is going on inside Iran. Each power center has its own access to organs of the state and is capable of influencing

⁹² Nasser Hadian, *Iran's Emerging Security Environment and Relations with the United States: Dynamics and Prospects* (Washington D.C.: United States Senate Committee on Foreign Relations,[2003]), 5.

⁹³ "Interview with Dr. Mahmud Sari'Olqalam," *E'Tedal Va Towse'Eh*February 20, 2004.

⁹⁴ Pollack, *The Persian Puzzle : The Conflict between Iran and America*, 319.

governmental decisions.⁹⁵ The conflicting messages that are sent make it hard for anyone to understand what Iran's real intentions would be in the event that they achieve a full nuclear fuel cycle. To add to the confusion and concern, Iranian President Ahmadinejad stated that his country would be willing to share "peaceful" nuclear technology with other nations in the Middle East in comments made after a meeting at the United Nations.⁹⁶

Dr. Hadian describes the existence of five groups within Iran that are competing to dictate Tehran's policy on the nuclear issue.⁹⁷ The first believes that neither nuclear weapons nor nuclear power have any relevance for Iran. This group, lead by a Deputy Speaker of the Majiles, Behzad Nabavi, believes that for both environmental and economic reasons Iran should desist from nuclear research in favor of further development of fossil fuel sources for energy generation. The second group believes that Iran should be granted the rights that are spelled out in the NPT. This large group consists of students, university faculty, and policy elites. The third group believes that Iran should develop nuclear power, but should stop short of developing either nuclear weapons, or the capability to do so. A fourth group goes a step farther and advocates full

⁹⁵ Pollack, *The Persian Puzzle : The Conflict between Iran and America*. As example of how this process works, the continuation of the Fatwa against author Salman Rushdie is instructive. In his book Pollack recounts several occasions when religious leaders or hard line politicians re-emphasized the Rushdie Fatwa in order to stall warming relations with other countries.

⁹⁶ "Majles Members Say Iran Will Halt Nuclear Protocol if Political Pressure Persists," *Tehran Mehr News Agency (Internet Version)* September 5, 2005.

⁹⁷ Nasser Hadian, *Iran's Emerging Security Environment and Relations with the United States: Dynamics and Prospects*, 7.

latent capability.⁹⁸ In this, Iran would seek to emulate Sweden and Japan. Both are countries with every capability that nuclear armed states possess, but no nuclear weapons. The final group believes that Iran should follow North Korea's lead, withdraw from the NPT and produce nuclear weapons as soon as possible. The second and third groups are believed to represent the majority of Iranians.⁹⁹

The existence of five competing power groups within Iran, a new President, and Iranian intentions to share its knowledge with its neighbors all indicate a powerful domestic element in Tehran's proliferation case. The new president, no matter what his personal beliefs might be, is constrained by the simple fact that an overwhelming majority of his countrymen support the nuclear program. This support is not only for nuclear energy, but the full spectrum of nuclear technology including enrichment. Iran's legislature, the Majles, has gone so far as to say that continued pressure on Iran to force it to give up key parts of its program will result in Majles actions to block ratification of additional IAEA protocols.¹⁰⁰

The recent addition of an Iranian offer to share its nuclear technology with its neighbors reflects both a domestic angle as well as the more obvious international slant. While on the surface it may appear that Iran is merely trying to tempt its neighbors to exchange support of Iran's diplomatic stand for eventual aid in developing

⁹⁸ A full latent capability means possession of a complete fuel cycle. Mining, processing, enriching, and reprocessing are the components of the full fuel cycle.

⁹⁹ Nasser Hadian, *Iran's Emerging Security Environment and Relations with the United States: Dynamics and Prospects*, 8.

¹⁰⁰ Majles Members Say Iran Will Halt Nuclear Protocol if Political Pressure Persists, "Tehran Mehr News Agency."

their own nuclear industries, there is a deeper political angle. In his reference to "Islamic countries in need" during the speech in which he announced Iran's intentions to transfer "know-how", Iran's President was clearly playing not only to Pan-Islamism, but also to his constituency in Iran, the religiously devoted but impoverished lower class.¹⁰¹

E. FACTORS INFLUENCING PROLIFERATION IN IRAN: CONCLUSION

Iran has factors present from each of the four identified risk categories for proliferation. In security issues the Iranian regime feels threatened by the presence of American forces so close to its borders, and also feels its economic security could be threatened by continued denial of access to nuclear technology. The recent failure of the NPT review conference in New York and the continued presence of nuclear weapons in the world's arsenals, with no plans for reduction (and indeed, plans for new weapon designs) have all served to weaken the normative barriers to the acquisition of nuclear weapons in Iran. Furthermore, the United States has perhaps been its own worst enemy by graphically displaying its conventional power in countries that lacked nuclear weapons, while attempting to bargain with North Korea. As the third member of the Axis of Evil, Iran would no doubt like to receive a diplomatic solution much as has been offered to North Korea instead of the invasion force sent to Iraq.

On the technological level, Iran possesses many of the facilities needed to proliferate. Even more troublesome, Iran appears to have internalized the technology needed to

¹⁰¹"Iran to 'share' nuclear technology with Islamic countries", Telegraph (Internet version), September 15, 2005.

produce nuclear equipment domestically. This means that in comparison to Libya, merely cutting off further technology transfers will probably not be enough to shut down the Iranian program. Likewise, air strikes that destroy the facilities themselves probably won't be able to target the scientists in whom the knowledge lies to rebuild the facilities.

Politically Iran is conflicted about what sort of program it ought to have. It seems clear that the majority of the political players in Iran do not favor either withdrawing from the NPT, or forgoing nuclear technology entirely. However, the Iranian President cannot ignore the fact that the Majles is very opposed to the idea of additional concessions to the European Three in return for recognition of their program. Finally, there are opportunities for Ahmadinejad to translate a tough stand on the nuclear issue into greater support for his domestic economic reforms. As his statements about sharing the technology reflect, he is also seeking to bolster his image as an Islamist as well as an Iranian, which is important to the Sunni and non-Persian minorities living within Iran.

As the Iran case study indicates, all of the axes of multi-causality are active in Iran. The security element appears once again to be the first consideration of the Iranian decision makers. However, in the case of Iran, the strength of the technological and domestic arguments adds up to a picture which is not necessarily one of a nation bent on achieving nuclear weapons. While the security aspects of Iran's program are largely related to Iran's confrontation with the United States, the previous case studies have shown that such a confrontation need not end

in the construction of a nuclear weapon. Indeed, the economic security, domestic arguments, and technological elements all point to an Iran which wants nuclear technology for all of the right reasons. When the statements of the Majles are considered, as well as the Iranian reaction to rumors of American intervention, the real threat of nuclear weapon proliferation in Iran seems to be actions taken by other nations that push Tehran to build a bomb.

V. POLICY RECOMMENDATIONS: BREAKING THE GRAVEYARD SPIRAL

In the world of aviation there is a phenomenon known as the "Graveyard Spiral", in which an aircraft enters a descending spiral without the pilot's realization. If the pilot incorrectly diagnoses the situation he/she will only notice the decreasing altitude, and not the aircraft's angle of bank. This then leads to an incorrect attempt to halt the loss of altitude by pulling back on the control stick. This action only serves to tighten the spiral and increase the rate of altitude loss. The "Graveyard Spiral" condition is analogous to the state of affairs between the United States and Iran. America looks at Iran and sees things it doesn't like. Unfortunately, the inputs we have made to fix the problem are only going to make it worse. This is because American policy makers have not accurately categorized the motivating factors behind Iranian policy. In the previous chapter the factors that motivate Iranian policy were split into four categories: Security, internal politics, technology and norms. For each of these categories there is an appropriate American policy response that could affect positive change to Iranian policy and benefit the U.S.

A. THE SECURITY DILEMMA

In the previous chapter the reasons for Iran to feel the need for additional security were laid out. Iran feels surrounded and threatened by the United States as a result of long term conflicts between the two nations as well as the consequences of the Global War on Terror. Because of historical experience Iran also feels that it can not

guarantee its own security without a large measure of independence from the rest of the world.¹⁰² Finally, Iran's attempts to guarantee its security have been influenced by the recent examples of Iraq and North Korea.

The United States has the ability to positively affect Iran's policy by altering Tehran's perception of its security problems. This opportunity is largely the result of the fact that the United States is the only country that Iran feels truly threatened by.¹⁰³ While the perception of threat gives the US the opportunity to affect positive change in Iran, it should not be seen as leverage. The ability of the regime in Tehran to rally domestic support for their nuclear research program through the use of nationalist slogans is clear evidence that perceptions of US threat to Iran do not translate into leverage. Demonstrations by otherwise pro-reform Iranian students after Iran's decision to halt nuclear activities in Esfahan and Natanz further demonstrate the ability of disparate and competing power structures in Iran to rally in the face of perceived interference by foreign powers.¹⁰⁴ Likewise, the most powerful tool of the conservatives in Iran to

¹⁰² This is due to the fact that Iran was completely cut off from the world arms market following the 1979 revolution. The experience of fighting the Iran-Iraq war on its own while Iraq received Western aid and arms was deeply scarring and is reflected in everyday government statements. One obvious example is the constant reference to the needs for self sufficiency in Iran's planned nuclear power network.

¹⁰³ Benham Qolipur, "An Inquiry into the Issue of National Security and the Nuclear Case: The Globalization Domino in the Midst of The Nuclear Crisis," *E'Tedal Va Towse'Eh*, February 20, 2004.

¹⁰⁴ "Iranian Students Hold Pro-Nuclear Rallies Outside French, German, UK Embassies," *Tehran IRNA (Internet Version)*, August 23, 2005.

discredit opposition politicians has been to link those individuals and their political parties to supposed CIA money.¹⁰⁵

The easiest way for the United States to affect positive change to Iran's perception of security is deceptively simple: Open a dialogue with Iran. One of the largest impediments to Iranian-American rapprochement is the simple fact that the two countries have no official relations with each other.¹⁰⁶ Excepting back channel negotiations for hostages in Lebanon and coordination for operations against the Taliban, the United States has treated Iran much the same way as it treats Cuba: it ignores it with the hope that one day it will go away and be replaced by a more acceptable regime.

The Shakespearean tragedy of the Iranian-American story is that the two countries could coordinate on a wide range of issues that are of interest to both. In the realm of security, Iran is just as concerned about the spread of militant Salafi Islam as the United States. With a Shi'a population scattered throughout the Sunni dominated Gulf States, Iran is rightly concerned with the spread of an ideology that sees them as apostates. Evidence of just how concerned Iran is with the spread of Sunni extremism can be found in the lengths to which Iran went to work with the "Great Satan" during the Operation Enduring Freedom

¹⁰⁵ Roger Howard, *Iran in Crisis? : Nuclear Ambitions and the American Response* (New York: Palgrave Macmillian, 2004), 179.

¹⁰⁶ Kori N. Schake and Judith Share Yaphe, *The Strategic Implications of a Nuclear-Armed Iran* (Washington, D.C.: Institute for National Strategic Studies, National Defense University, 79. The strategic implications of a nuclear-armed Iran. 64, : 79, pp VII. This point was also made by Senator Biden in the Senate Committee on Foreign Relations' discussion of Iran, Minutes of the Senate Foreign Relations Committee, October 28th, 2003.

campaign in Afghanistan.¹⁰⁷ Iran and America also share concerns about the heroin trade in Afghanistan. America is concerned because the drug money has distorting effects on the fabric of Afghan society, while Iran is concerned because those drugs run straight into Iran and fuel the explosive growth of drug use.¹⁰⁸

If contact between the two countries could be useful in helping combat mutual enemies of the two countries it could be even more useful in reassuring each other that the other side is a rational actor. American contacts with the Soviet Union were kept up throughout the Cold War, and certainly proved useful in defusing tensions between the two super powers.¹⁰⁹ Likewise, America kept up relations with Communist China even during periods of tensions between the two such as the recurring Taiwan issue and the Tiananmen Square massacre.

B. UNDERSTANDING IRAN'S INTERNAL POLITICS

America's current policy towards Iran as it relates to domestic politics is another example of the wrong input. How can America expect Iran to take criticism about its electoral process when unelected monarchies such as Saudi Arabia are given such lavish attention? It is true that Iran's elected government sits under an unelected theocracy, however, what the US often doesn't consider is

¹⁰⁷ Pollack, *The Persian Puzzle : The Conflict between Iran and America*, 345.

¹⁰⁸ U.N. Office for the Coordination of Human Affairs, "Bitter Sweet Harvest: Afghanistan's New War," United Nations, <http://www.irinnews.org/webspecials/Opium/regIrn.asp> (accessed August 20, 2005).

¹⁰⁹ Anthony Cordesman, *Iranian Security Threat and the US Policy: Finding the Proper Response* (Washington D.C.: Senate Committee on Foreign Relations, [2003]).

how this compares to many other countries with which America maintains relations. Throughout Africa, the Middle East, and Asia, American embassies and military to military relationships exist in countries lacking democratic elections, political parties, and basic freedoms such as universal suffrage.¹¹⁰ Underneath the admittedly un-elected layer of mullahs and Pasdaran officers lies an active multi-party system that has regular elections. These elections are not always held in ideal conditions, and there have been reports of illiberal practices during the elections. What American policy doesn't take into account is how hollow it sounds to condemn Iranian elections as un-democratic after a President there is elected with a seven million vote lead while the Saudis are applauded for allowing limited elections in which only men were allowed to vote.¹¹¹

The solution for American foreign policy as it relates to Iran in the matters of internal politics is to take actions to remove any taint of American "meddling" in Iran. A quick review of Iranian history will show why the mere hint of CIA funds in a politician's war chest is enough to derail a political campaign. The United Kingdom, Russia,

¹¹⁰ As per the 2005 Freedom House report US allies in the GWoT that ranked at Iran's level or lower include: Saudi Arabia, United Arab Emirates, Pakistan, Tajikistan, Turkmenistan, Uzbekistan, and Azerbaijan. The full report is available at <http://www.freedomhouse.org/research/index.htm#reports>.

¹¹¹ "Joint Statement by President Bush and Saudi Crown Prince Abdullah," Office of the Press Secretary, www.whitehouse.gov/news/releases/2005/04/20050425-8.html (accessed September 14, 2005).. In this article Bush congratulated the Saudi leader for the elections held in the desert kingdom. On the other side of the coin, President Bush said of Iran "Power is in the hands of an unelected few who have retained power through an electoral process that ignores the basic requirements of democracy". "Bush Criticizes Iran's Election," British Broadcasting Corporation, http://news.bbc.co.uk/2/hi/middle_east/4100476.stm (accessed September 14, 2005).

and America have all interfered in Iranian governance at one time or another for what are successfully portrayed in Iran as self serving reasons. While few Americans may know anything about the boycott of the British tobacco concession, or the CIA sponsored overthrow of Prime Minister Mossadegh, most Iranian's know all about it.¹¹² In fairness, they know the angle they have been told by their government and its media interests, but perceptions matter. These perceptions mean that Iranians, no matter whether they are left wing, hard-line conservatives, or moderates have a reflexive reaction to anything with the taint of foreign influence.¹¹³ This means that no matter what the intent of the US Congress when it authorized three million dollars for "opposition support" in Iran, the result is a negative response from all segments of Iranian society.¹¹⁴

Another change for American foreign policy is more of a change in mindset. When America looks at Iran it sees revolutionary Islam and images of the American Embassy hostage crisis.¹¹⁵ When Iran looks at the US, and the Iranian opposition funded TV stations beaming content to satellite dishes across their country, they see government influence. America shouldn't be surprised when the Iranian government accuses it of directly funding these opposition

¹¹² The American sponsored overthrow of Mossadegh is commonly cited in Friday Sermons and domestic political dialog in Iran. Of note, England's role in the event is rarely mentioned.

¹¹³ Shahram Chubin and Robert S. Litwak, "Debating Iran's Nuclear Aspirations," *The Washington Quarterly* 26, no. 4 (Autumn, 2003), 46.

¹¹⁴ Hon. William Luers, *Statement by William H. Luers* (Washington D.C.: Senate Committee on Foreign Relations, [2003]). "The number one block in Iran to dialogue is their feeling that we only want regime change."

¹¹⁵ This instinct was reflected in the accusations that the newly elected hard line President of Iran was one the Embassy hostage takers, a claim later refuted by the CIA.

groups. US policy makers also need to be better informed on how this perception in Iran shapes the way in which opinions are formed there. If you are the Iranian government, and you believe that American money funds the opposition groups, while the U.S. Congress appropriates money earmarked specifically to promote regime change in Iran, it becomes easier to imagine why Iran assumes that the US is out to get it.¹¹⁶

C. TECHNOLOGY: WHY THE GENIE WON'T GO BACK INTO THE BOTTLE

During the recent meltdown in the dialogue between the European Troika and Iran over Iran's nuclear program one theme has been repeated over and over in the Iranian press: Why doesn't Iran get to have the benefit of its membership in the NPT? While this question also delves into the issue of norms, the discussion should also look at the related technology. At its heart, nuclear science isn't cutting edge. The theories behind the industry of nuclear power are well developed and widely distributed. Countries on every continent have mastered the related scientific fields and produced everything from power plants to bombs. As the unraveling of the A.Q. Khan network has shown, even if you lack the internal technological capability to produce nuclear technology, someone will find a way to supply you as long as you are willing to pay the black market price.

In the case of Iran, unlike Libya, not only was technology purchased, but it was internalized. Instead of only buying centrifuges, Iran learned how to produce them

¹¹⁶ Sonni Efron and Mark Mazzetti, "The World; U.S. may Aid Iran Activists; Officials at State have Money in Hand but are Still Weighing how to Best Effect Change." *Los Angeles Times*, Mar 4, 2005.

as well.¹¹⁷ This means that attempts by the United States through arrangements like the Proliferation Security Initiative are trying to close the barn door long after the horse left. If it is nearly impossible to prevent the spread of older nuclear technology, there is also an issue of safety. Through US pressure, European firms with excellent safety records have been prevented from completing Bushehr, which was originally designed by Siemens. Instead, Russian firms with questionable safety records have attempted to shoehorn their own reactor design into the pre-existing foundations built for the German reactor. This has been further compounded by the inclusion of homemade Iranian parts. The safety implications for such an arrangement are clear.¹¹⁸

Considering that the technology that underlies nuclear weapons is the same that underlies nuclear power it is not difficult to see what the American foreign policy concern might be over Iran's acquisition of said technologies. However, the current policy does nothing to stop the continuing development of Iranian nuclear technology, while serving as a continuing irritant to the volatile student movement in Iran.¹¹⁹ As was previously discussed, there are very real economic benefits to the production of electricity through nuclear power not to mention potential environmental benefits. Iran already has the technology it

¹¹⁷ David Albright and Corey Hinderstein, *The Centrifuge Connection*.

¹¹⁸ Katzman, *Iran: US Policy Concerns and Responses*, 36.

¹¹⁹ Amin Modher, "Iran Asserts Security of British Embassy," *Washington Times*, <http://www.washingtontimes.com/upi-breaking/20040603-080851-5006r.htm> (accessed September 16, 2005). In recent weeks, the Embassies of Germany France and Great Britain have been subjected to numerous street demonstrations from Iranian student organizations. Meanwhile a group of college students have formed a "human chain" around the nuclear facilities at Esfahan.

needs to develop its nuclear industry, and there is virtually nothing America can do to turn back that clock.¹²⁰ Continued opposition to Iran's nuclear technology programs gains nothing, while providing a vast amount of political ammunition for Iran's hardliners.

D. DO AS I SAY...THE NORMATIVE DEBATE

So far the discussion about how to affect a positive change on Iranian policy has focused on American foreign policy. The normative debate adds a domestic element to the American side of the equation. This is to say that what America does internally also has an impact on what Iran may or may not choose to do with the technology it already possesses. Norms are a shared set of values that can change over time.¹²¹ In the realm of nuclear technology these norms are affected by external relations between countries and the internal policies of the major states. Early in their life, nuclear weapons were considered a standard part of any well equipped army. Nuclear land mines, artillery shells, depth charges and even mortar rounds where

¹²⁰ Geoffrey Kemp, *Iran's Bomb and what to do about it*, ed. Geoffrey Kemp (Washington D.C.: Nixon Center, 2004). Kemp states that "even if the United States were able to conduct effective strikes against those installations that we know about it would be unlikely to do more than delay the Iranian nuclear program. Meanwhile in his testimony to the Senate Foreign Relations Committee on October 28th, 2003, Anthony Cordesman stated that such strikes would most likely encourage more rapid development of nuclear technology.

¹²¹ International Communication and Negotiation Simulations Center for International Development and Conflict Management, "Research Library: Glossary of Scenario Terms," University of Maryland, http://www.icons.umd.edu/pls/reslib/display_glossary#I (accessed September 3, 2005). Defines norms as "ideals, values and practices held in common by a majority of states in the international system. If enough states recognize a specific norm and consistently use it in their relations with other states, that norm will likely become part of international law."

commonplace.¹²² Not surprisingly during this period nuclear power was considered the wave of the future, and everyone was planning on taking advantage of it.¹²³ This is the period of the Atoms for Peace program which was supposed to usher in an age of clean and plentiful energy. Over time the perception of nuclear weapons changed as the weapons themselves became more capable and more numerous. The evolution of the Mutually Assured Destruction strategy finally opened the public's eyes to the enormous potential for destruction while accidents like Three Mile Island in the United States simultaneously changed the domestic perception of nuclear energy.¹²⁴

Only two nuclear weapons have ever been used as a part of combat operations. After an early start as weapons of battlefield utility, nuclear devices quickly became strategic weapons. This has had two effects: The first is that no one arms their troops with nuclear mortars anymore, and the second is that the nuclear weapon has become the ultimate guarantor of national survival. In Israel's case this guarantee is necessary due to the extreme lack of strategic depth. For a state geographically so exposed to multiple potential enemies the possession of nuclear weapons allows the creation of artificial depth. This is

¹²² Wikipedia, "Nuclear Weapons: Delivery Systems," http://en.wikipedia.org/wiki/Nuclear_weapon#Other_delivery_systems (accessed August 20, 2005).

¹²³ Paul S. Boyer, *By the Bomb's Early Light : American Thought and Culture at the Dawn of the Atomic Age* (Chapel Hill: University of North Carolina Press, 1994), 109.

¹²⁴ World Nuclear Association, "Three Mile Island: 1979," <http://www.world-nuclear.org/info/inf36.htm> (accessed August 16, 2005). The accident at Three Mile Island and the public perception of a massive tragedy narrowly averted directly lead to a decline in the public's perception of nuclear energy. This also directly influenced the sharp decline in nuclear construction following the incident.

possible due to the fact that the capitals of those enemies are all within range of Israeli air power. Moreover, throughout its history, Israel has repeatedly demonstrated the ability to enter its enemy's most sensitive air space. Likewise, Iran fears that its place on the "Axis of Evil" has marked it for harsh treatment by the United States. Iranian policy makers seeking to understand what their label means might look at the other two members of the axis. One state was assessed by American intelligence to have enough material to construct a few nuclear weapons, while the other had once tried, but was assumed to be currently lacking the ability to repeat the attempt. Their dissimilar fates would have been instructive.

The recently renewed interest in nuclear weapons within the American administration has further weakened the norms against nuclear proliferation. As has been previously discussed, one need not look further than the US budget to see almost a half billion dollars earmarked for research on a nuclear bunker buster. This represents a reversal of decades of transition away from the idea of nuclear weapons being at all useful in general combat. The unspoken statement is that if a nuclear device is designed to have manageable or even negligible side effects, it will find use again on the battlefield.

In order to assuage Iranian concerns about the utility of nuclear weapons, and therefore gain some bargaining leverage in the discussion of their efforts to develop a nuclear industry the US would need to make some major changes in its strategic nuclear policy. As has been mentioned, Article VI of the Nuclear Non-Proliferation Treaty specifically calls on the nuclear states to work

towards the eventual destruction of all nuclear weapons. While impressive steps on this were made following the end of the Cold War, recent statements about the need to restart nuclear tests in order to guarantee the reliability of the American stockpile as well as the Robust Nuclear Earth Penetrator discussion have completely ignored the Article VI requirements.¹²⁵

Another hot button issue relates to the three nuclear powers who are not signatories of the NPT. Pakistan and India are declared nuclear powers while Israel maintains a thin layer of doubt about the existence of its arsenal. While Iran is being pressured to give up its rights under NPT, India Pakistan, and Israel all have relations with the United States that include military exchanges. The last presidential campaign in America is illustrative of the lack of interest for serious change in nuclear policy in America. Despite the fear of nuclear weapons falling into the hands of terrorists, the debates between President Bush and Senator Kerry never focused on nuclear policy. Furthermore, nuclear policy was not among those issues that the voters worry about.¹²⁶ As long as nuclear weapons remain out of the public's spotlight, there is little chance that political leaders will take the time to debate their continued presence in the American arsenal. Nevertheless, for those crafting America's foreign policy it is important

¹²⁵ Refer to footnote 79 for the exact wording of Article VI. In 2002 America and Russia negotiated SORT. This treaty limits the two nations to no more than 2200 operationally deployed warheads in their arsenals.

¹²⁶ Mark D. Camillo and Marvin Fields, "California Voters Continue to Hold Negative Views on Bush's Job Performance and the Direction of the Country," Field Research Corporation, <http://field.com/fieldpollonline/subscribers/RLS2135.pdf> (accessed September 1, 2005). Terrorism, the war in Iraq, and the economy were the top three issues for California's voters.

to fully understand how this reality plays in Iran. It is ironic that both American and Iranian officials can legitimately claim that domestic politics make it very difficult to accommodate the other on this matter. No American official can seriously attempt to pressure Israel to become a signatory to the NPT, whereas demonstrations against Iranian chief negotiator Hassan Rowhani calling him a traitor for agreeing to freeze activities at Esfahan and Natanz demonstrate the domestic pressures in Iran.¹²⁷

¹²⁷ "Majiles must Denounce Delegation Talks with Europe," *Jomhuri-Ye Eslami*, May 8, 2005.

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VI. CONCLUSION

This thesis set out to accomplish three tasks: Use a series of case studies to validate or modify multi-causality as a method to describe proliferation decisions, to apply this theory to Iran, and to discuss policy options for the United States in light of the first two sections. The reasons why the United States should take a fresh look at its policy towards the Islamic Republic were also stated: Iran sits on top of one of the world's main oil reserves, it sits astride the geological nexus of the world oil economy, and it also has the potential for dramatic impact on the two main US efforts in the Global War on Terror currently underway.

The attempt to curb nuclear proliferation has a close parallel in the ongoing "War on Drugs". In both efforts, the international community is trying to restrict the trade in certain illicit materials. Because the demand for these goods is so high, potential suppliers can make a large profit through successful deliveries. As long as the demand keeps the price high, someone will find a way to supply the illegal material. By this reasoning, unless the international community can curb demand for nuclear weapons, their suppliers will always find a way.¹²⁸ American policy should therefore concern itself more with forging security ties in order to reduce the "demand" than with policies like the Proliferation Security Initiative. America need not be the guarantor of security for everyone; in fact, we have a vested interest in involving the other nuclear powers in this project. The basic problem is that

¹²⁸ Paul and others, *Power Versus Prudence : Why Nations Forgo Nuclear Weapons*, 152.

in the age of American conventional supremacy, nations that have cause to distrust Washington's intentions have only nuclear weapons to turn to. The more Washington flaunts its power, while renovating its nuclear stockpile, the greater demand will be elsewhere in the world for nuclear technology. Unfortunately, there appears to be little chance that the "original five" will fulfill their Article VI obligations anytime soon. The only other alternative is to arrange for nations that request it, an extension of the nuclear umbrella from one of the established nuclear powers.

This line of thought directly intersects with the debate between Scott Sagan and Kenneth Waltz in the book "The Spread of Nuclear Weapons: A Debate Renewed".¹²⁹ Most of Sagan's concerns for instability in new nuclear states would be taken care of if the nuclear deterrent was supplied by an established nuclear power. This would give all the benefits of deterrence with none of the drawbacks. Also, since the established nuclear powers have fully developed nuclear deterrence forces and survivable counter strike arsenals, there could be no temptation by a smaller nuclear power of achieving a surprise strike. By this argument, with a worldwide umbrella in place, states would not feel the need to achieve nuclear weapons status. Of course, a major issue with this idea would end up being whether or not the protected states actually believed in the promises of their protector. This concern can be answered by the examples of Germany, Sweden and Japan. As was reviewed, their motivation in choosing not to develop

¹²⁹ Scott Douglas Sagan and Kenneth Neal Waltz, *The Spread of Nuclear Weapons : A Debate Renewed : With New Sections on India and Pakistan, Terrorism, and Missile Defense* (New York: W.W. Norton & Co., 2003), 220.

nuclear weapons has been directly tied to the belief that they lived under an American nuclear umbrella. Even though it is difficult to see which state Iran might choose to rely on for such a guarantee, their close cooperation with China might present an opening.

Nations choose to develop nuclear programs for a variety of reasons. Depending on the location of the nation in question, and the time period in which the program was begun, the reasons for attempting to proliferate fall into four categories: security, technology, domestic concerns, and norms. It is important to note that in no state is there only one category active. Each nuclear program is influenced by all four categories; the degree of influence is the variable. History also points to the primacy of security needs. Of all the nations that pursued nuclear programs only in India were security concerns not demonstrably the root cause.

In the case of Iran, security concerns are also the dominant factor in their decision to pursue nuclear technology. Security in this instance is not only physical security, but is also economic security as well. As a major oil exporter, reliant like so many of its neighbors on the sale of natural resources to keep its government operational, Iran has enormous incentives to develop a power source that saves oil. As demonstrated, using nuclear power will be immensely profitable for Iran. Adding to Iran's reasons for pursuing nuclear technology are domestic pressures, technological ability and norms. Iran's domestic audience is largely in favor of pursuing all aspects of peaceful nuclear technology. As was previously discussed, the possession of a full spectrum of peaceful nuclear technology is almost indistinguishable from a military

nuclear capability. Iran has also developed a domestic technological base to continue its study of nuclear technology. This sets it apart from other nations such as Libya and Indonesia that have attempted to acquire nuclear technology in the past. Finally the issue of norms has affected Iran's calculations. The difference on how the international community handled fellow "Axis of Evil" members Iraq and North Korea was surely instructional. Likewise, clear intent to research a new generation of nuclear weapons in America has resurrected the idea of military utility for nuclear weapons.

Based on this understanding, a series of policy recommendations for the United States were presented. These prescriptions for resolving tensions with Iran were based on the four areas that are leading Iran to proliferate. The intention of these recommendations is not to convince Iran to give up its domestic nuclear program, as the author does not believe that this is a realistic goal. The intention is to solve the series of misunderstandings between Iran and the United States that continue to plague their relations. In the end, the ideal outcome would be for Iran and the United States to end decades of isolation and re-establish diplomatic relations. In the meanwhile, these recommendations are designed to alleviate concerns between Tehran and Washington over Iran's desire to develop a nuclear industry. Only through understanding the factors that influence Iran's decision making can America craft a workable policy to insure continued security in the region.

The United States needs to get past the events of the Iran Hostage Crisis and the skirmishes of the "Tanker War", just as Iran needs to understand that the events of Mossadegh's overthrow in 1953 are distant memory for most

Americans, if remembered at all. Iran represents a country struggling to find answers to the same questions American foreign policy is attempting to answer. What does an Islamic government look like? How does Islamic fundamentalism coexist with the modern world? How should the countries of the Middle East come to terms with the facts of their creation and govern their populations in an equitable manner? Obviously Iran has not yet discovered the optimal answer, but the fact that the people of Iran regularly vote on the issue through national elections is a good start. It makes no sense that American should continue to have close relations with the un-elected monarchy of Saudi Arabia while it refuses to even extend basic diplomatic recognition to Iran. The refusal to accept the outcome of the Iranian Revolution, and the attendant hostility in American policy towards the elected government of Iran is the biggest threat to the broader American goals in the Middle East, not Iran's nuclear program.

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