
Command and Control in a Nuclear-Armed Iran

In collaboration with the Atomic Energy Commission (CEA)

Shahram Chubin

January-February 2013



Security Studies Center

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Shahram Chubin

Proliferation Papers

Though it has long been a concern for security experts, proliferation has truly become an important political issue with the last decade, marked simultaneously by the nuclearization of South Asia, the weakening of international regimes and the discovery of frauds and traffics, the number and gravity of which have surprised observers and analysts alike (Iraq in 1991, Libya until 2004, North Korean and Iranian programs or the A. Q. Khan networks today).

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Introduction

Since the end of the Cold War, the threat of nuclear proliferation has increased and taken new dimensions. Regional tensions and ambitions as well as greater strategic autonomy have seen the emergence of new candidate states for developing nuclear weapons. We do not know how these states will behave strategically, what security doctrines they will adopt and improvise in light of their different capabilities, and how and whether they will communicate their nuclear intentions.¹

Some states like Iran adopt ambiguous security doctrines that are assumed to have inherent deterrent value. Asymmetric postures, indirect strategies through regional proxies and “deniable” covert actions all have become part of Iran’s operational armory. These are, of course, the opposite of what is meant by “transparency”, considered desirable, at least in terms of doctrine, in the nuclear context. In the long standoff regarding Iran’s nuclear ambition, Tehran has been loath to reliably assure the international community of its ultimate intentions. This cultivated ambiguity, denial of weapons intent while insisting on missiles and enrichment, disparagement of the utility of nuclear weapons while laying the foundations to reach for them, tend to complicate Western efforts to understand, let alone constrain, Tehran’s endeavors.

For the past decade, the primary security concern of Iran has been the prospect of a strike by the United States or Israel disabling its nuclear infrastructure, not to mention a potential attempt of regime change. With the international spotlight focused on Iran and its nuclear intentions, Iran has been playing a dangerous game that involves continuing its program without crossing the assumed threshold that would catalyze a disarming strike. Iran has dealt with this by repeatedly denying any weapons intent while moving to hardened locations for its sensitive sites (e.g. Fordow). Given the sunk costs of the nuclear program, which have surely increased considerably by now due to sanctions, Iran has every incentive to take measures that would protect the country against a strike.

At the same time, over the past decade during which it has been under pressure, Iran has found national unity elusive. The regime has found it difficult to chart a course that encompasses all elements of the revolution. Reformists and conservatives, in various guises, are

¹ Dima Adamsky, *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the US, and Israel*, Stanford, Stanford University Press, 2010 p. 140.

increasingly at odds. The nuclear program has been less effective as a national rallying point as the country has come under punishing sanctions.

As a consequence, the regime has found itself embattled on two fronts, domestic and international, even more so as the regional environment has been transformed by the Arab Spring, to Iran's disadvantage.² Increasingly, the regime has come to rely on the Revolutionary Guards (IRGC) as a political prop.

This force, which was developed for the "defense of the revolution", has become not only a formidable economic actor, with control over large parts of the economy, but also a formulator as well as an executor of security policy. The degree to which the IRGC is a cohesive grouping – with a defined corporate identity and discipline as opposed to an amalgam of different personalities with varying orientations, priorities, and degrees of commitment to the revolutionary ideology and the regime itself – is unknown and debatable.

One implication is that while the regime is more dependent on the IRGC for security, it cannot be sure that the IRGC will behave as a unitary actor in periods of high tension. Different units and Guards Commanders may take different positions in these crises. In past recent engagements (e.g. in the Gulf versus the US) the Guards have been prone to freelancing. The risk of independent, catalytic actions that exacerbate or escalate crises in a nuclear context must be considered. Any move toward decentralization of command and control would thus run the risk of unintended actions unauthorized by central command.

In sum, in the discussion that follows, and based on the current Iranian approach to conventional weapons, I will highlight the necessity for Iran to reconcile two contrasting imperatives: first, to disperse assets and decentralize command and control to minimize the risks and potential damages of a disabling strike, which has been seen as a real – even imminent – threat in recent years. Against this first imperative is a contrasting, perhaps less pressing concern: the need to guard against the risk of unauthorized use of major weapons systems, implicit in devolving responsibility to elements whose absolute loyalties or reliability cannot be guaranteed. How to reconcile these two imperatives and the conditions under which one will take precedence over the other is considered.

Iran insists that it is not seeking to develop nuclear weapons. At the same time, its enrichment, heavy water and missile programs are making steady progress, even if evidence of weaponization remains blurred and unprecedented sanctions seem to have been considerably slowing these developments.³ We cannot be sure how Iran would approach setting up

² See Shahram Chubin, "Iran and the Arab Spring: Ascendancy Frustrated", GRC Gulf Papers, 27 September 2012, available at: http://carnegieendowment.org/files/Iran_and_Arab_Spring_2873.pdf.

³ See "Iran Sanctions Halt Long-range Ballistic-missile Development", *Strategic Comments*, Vol. 18, No. 22, July 2012, available at: <http://www.iiss.org/publications>

nuclear command and control facilities for any putative nuclear weapons it may develop, or, indeed, whether it has devoted much attention to it. Of necessity, one is therefore obliged to speculate about the factors that would influence such a decision. To do so, it is only possible to refer to Iran's national security experience, the lessons it may have derived from this, the experience of other, comparable or analogous cases, and extrapolation from these.

Analogous cases are useful for heuristic purposes. They give examples of non-Western states which have developed nuclear weapons covertly and faced choices similar to those Iran faces. States like Pakistan or China faced similar circumstances, risking preventive attacks on their facilities by a regional or global rival while having civil-military relations that were never as stable or assured as, say, India or Israel (let alone the United Kingdom or France).

Inevitably, in the absence of hard evidence, it is necessary to rely on speculation and reasoning by analogy, which can only be impressionistic. Within this limitation, this paper can help to highlight the various elements and tensions that will operate on any future Iranian decision. It is thus a paper for reflection and debate, a "think" piece, rather than an analysis with specific policy implications.

The Background

A great deal of ink has been spilt on the question of how to *prevent* a nuclear Iran. Recently the focus has changed to include how to *contain* an Iran that crosses the nuclear threshold, or influence its decision about crossing the threshold. Not much attention has been paid to the likely posture Iran will adopt should it decide to develop nuclear weapons. This neglect is understandable, as in the US such a focus equates with ‘conceding’ that Iran will, indeed, become a nuclear weapons state, a concession bordering on the unthinkable. The subject is also necessarily speculative: how can we know what posture Iran will adopt, if, as seems likely, Iran itself is uncertain whether to develop operational nuclear weapons? The exercise is worth the effort nonetheless, for it can at least identify the forces in Iran pushing in one direction or another and – more important – examine the trade-offs and alternatives that Iranian decision-makers face, in taking such a decision. This in turn will give us an idea of what would be in the interests of external powers, whether neighbors or non-regional nuclear weapons states, and possibly in exercising what little influence we have to tilt the decision one way or another.

In deciding on the disposition of nuclear forces and their command and control, Iran will be influenced by several factors:

- The threat of an attack on these forces (whether from states seeking to prevent it from becoming nuclear; or, once nuclear, from an enemy state that seeks a disarming first strike);
- Iran’s experience, expectations and military preferences;
- Lessons and advice from other states; notably Pakistan and Korea;
- The nature of the leadership structure (centralized/personal; committee).

The choices Iran makes regarding weaponization, posture, and doctrine are bound to affect the perceptions and the policies of neighbors and external powers alike. How reliable is the safety of the weapons? Are these properly stored and guarded? Does Iran have a posture of launch-on-warning or is it more relaxed? How reliant is Iran on nuclear weapons for

security? How flexible are its conventional capabilities? How do threats to attack nuclear facilities influence Iran's command and control choices?

Threat Perceptions, Lessons and Experience

Before the Iran-Iraq war, which lasted eight years, Iran had no experience of war in modern times. The war was shattering and traumatic: bloody, costly and inconclusive. Iran had to improvise its response, creating a politically dependable revolutionary guard, cannibalizing its weapons stocks, searching for spare parts while adopting a strategy that put the emphasis on morale and martyrdom rather than expertise or weaponry. This approach, necessitated by the lack of weapons and by the leadership's insistence on using the war as a vindication of Iran's superior moral courage and ability to sacrifice, can hardly be said to have been vindicated by the result of the war. Nonetheless, the now-institutionalized Revolutionary Guard (IRGC) have internalized it and ever since insisted on a strictly non-professional approach which emphasizes commitment and ideology over training, education or formal strategy (for some time the guards even denied the need for uniforms, insignia or ranks).

Iran's military has consequently developed, given its formative experience in the war with Iraq, with an emphasis on missiles of all types (possibly with WMD warheads) complemented by other non-conventional capabilities (*i.e.* militias, proxies and groups able to undertake guerrilla or terrorist operations as situations dictate). Iran's conventional capabilities have thus remained under-developed due partly to choice (recall Iran's insistence on avoiding "dependency" by building an indigenous defense industry and the IRGC preference for symbolism over "technology"⁴) and partly to the difficulty of finding suitable, reliable suppliers. This means that Iran has remained deficient in armor, artillery, aircraft and air-defense capabilities. What remains is a combination of high/low-tech capabilities, missiles and guerrillas corresponding to an "asymmetric strategy" in that it does not seek to balance others forces with similar technology or capabilities.⁵

A second legacy of the war was the intensification of Iran's radicalism. Iran emerged from the maelstrom with a sense of anger and resentment, not only at Iraq for starting the war, but at the international community for tolerating it and even encouraging Baghdad in its "crimes". As a result, Iran now sees the current international order as corrupt and unjust, to be fought and over-turned.

⁴ There is a wealth of material on this evident in and since the Iran-Iraq war for convenience see Michael Eisenstadt, "The Strategic Culture of the Islamic Republic of Iran: Operational and Policy Implications", *US Marine Corps Middle East studies Monographs*, No. 1, August 2011, p. 12.

⁵ For Iranian reliance on this "strategy" in face of the Israeli/US threat to its facilities see Y. Mansharof and Ayalet Savyon, "Iran's response to western warnings: 'First strike', 'Preemptive attack', long range ballistic missiles, 'Asymmetric [Guerrilla] warfare'", *Middle East Media Research Institute*, No. 407, 28 November 2007.

A third legacy is the belief that Iran will have to become powerful to be heard and that the currency of power cannot be simply virtue, but must command attention. This presumably animates its search for a nuclear hedge, if not the weapon itself, as well as Iran's willingness to bear the costs of sanctions and embargoes that accompany the continuation of its enrichment program.

Iran has generally shown little interest in getting involved in conventional conflicts, and in this sense is "risk averse". But Tehran has repeatedly demonstrated a willingness to exploit crises and instability for its own ends.⁶

At the same time, given its conventional weaknesses, Iran has felt militarily vulnerable. Iran's Gulf neighbors spend more on arms imports and have access to advanced technology including aircraft, which Iran lacks. Iran's frequent military exercises, missile tests and defiant declarations are attempts at offsetting this while buttressing deterrence.

Deterrence, Defense and Strategy

Iranian officials have never been especially clear as to how they define deterrence. Before the war with Iraq and in the first flush of revolutionary enthusiasm, some talked of a "people's defense", following the Chinese model, that was assumed to have a deterrent effect. This was based on the notion of defense-in-depth. For Iran, the problem with this kind of romantic "revolutionary war" was that Iran's valuable oil installations would thus be exposed and sacrificed.⁷ Thereafter, deterrence was equated with "preparedness".

Today, Iran's strategy is based primarily on *deterrence by punishment*, the ability and willingness to strike back, with missiles and non-conventional means, and inflict costs on its enemies. This has been reinforced by frequent declarations that in its response to any attack, Iran will *escalate*, by targeting third parties and extra-regional targets and *prolong* the conflict so as to increase the costs to the aggressor. Widening the war and making it a war of attrition will presumably act as a deterrent for states contemplating surgical strikes or quick limited war against Iran.

Since 2006, Iran has developed a complementary strategy of *deterrence by denial*, a form of defense-in-depth. Based on their reading of

⁶ Iran's policies in Iraq and Afghanistan are indicative of this. Iran has preferred to weaken the US rather than stabilize two neighboring states that have caused it considerable harm in recent decades. This does not mean that Iran is satisfied only with defense. Iran has shown a proclivity for a tit-for-tat approach to perceived threats, preferring to escalate than to back down. Iran appears to see passivity as more dangerous than escalation, even if the eventual outcome is more costly than a proportional response or "restraint." See for example Steven Ward, *Immortal: A Military History of Iran and its Armed Forces*, Washington, Georgetown University Press, 2009 and Ray Takeyh, *Guardians of the Revolution*, New York, Oxford University Press, 2009.

⁷ Shahram Chubin and Charles Tripp, *Iran and Iraq at War*, London, Tauris, 1988.

the 2006 war between Hezbollah and Israel, Iran's leaders have had recourse to "mosaic defense", *i.e.* a layered, de-centralized defense that takes advantage of Iran's strategic depth and guarantees the aggressor few benefits from a paralyzing decapitation strike against command and control headquarters, given the autonomy of provincial militia to decide for themselves how to continue their defense. The idea here is to deny the aggressor "lucrative" targets for standoff attacks, "denial" meaning here *denial of high value targets* as well as *denial of any obvious success from bombing*. Prolongation of the conflict is another kind of denial: *denial of easy or speedy victory*. The Revolutionary Guards and Basij' command and control have been accordingly reorganized on this model.⁸

For the past decade, Iran's principal threat perception has revolved around the possibility of an attack on its nuclear facilities. Bearing in mind the experiences of Iraq (1981) and Syria (2007), Iran has dispersed and hardened its facilities (*e.g.* Fordow) by burying them and increasing their defenses. Iran has also warned that it will target any "enablers" of such an attack, such as the Gulf States which may provide basing or overflight rights. Iran has also threatened to target Turkey for hosting the radar sites that will accompany the proposed missile defense system led by the US.⁹ It should be noted that Iran considers the missile defense system not as a passive defensive measure but as a measure intended to degrade its (retaliatory) deterrent, and thus open the way to an attack on its nuclear facilities.

Command and Control in Theory and Practice: Some Cases

States can set up nuclear command and control (C2) systems – broadly speaking – to (1) maximize responsiveness to ensure that they will *always* work reliably on demand *or* to (2) maximize safety and security and therefore *never* be subject to unauthorized or accidental use. This always/never phenomenon corresponding to positive/negative control is a choice based on a critical consideration: is the principal threat one of decapitation, which requires early and certain use, or is it rather the threat and possibility of unwanted use?¹⁰

A state that sees itself as vulnerable to a surprising, disarming attack will have an incentive for early use and for a command and control

⁸ Significantly when the risk of an attack on Iran became more serious General Ja'afari ordered the dispersal of Iran's long-range Shehab missiles "to secret sites around the country where they would be safe from enemy attack and could be used to launch retaliatory attacks." Con Coughlin, "Iran's Revolutionary Guards prepare for war", *The Telegraph*, available at: <http://www.telegraph.co.uk/news/worldnews/middleeast/iran/8936797/Irans-Revolutionary-Guards-prepare-for-war.html>.

See Muhammad Sahimi, "A hardliners' hardliner", *Tehran Bureau*, January 21, 2010, and Kamal Nazer Yasin, "Iran: Sepah prepares for a 'hot war'", *ISN Security Watch*, 2 October 2007.

⁹ See *Khaleej Times*, 27 November, 2011.

¹⁰ This discussion is based on Peter Feaver, "Command and Control in Emerging Nuclear Nations", *International Security*, Vol. 17 No. 3, Winter 1992/1993, pp. 160-187 on whom I have drawn liberally.

system that delegates authority. This delegative C2 will grant a degree of autonomy to commanders charged with military operations, placing fewer constraints on their ability to take decisions about nuclear weapon use. Forces would be “on the always side of the operational dilemma”. Nuclear weapons would be deployed for instant use, which implies that the warhead and delivery vehicle would be in close proximity if not actually “married.” In short, the delegative system is time-urgent, focused on usability and designed to protect against decapitation or preemption.

Peter Feaver argues that the state of civil-military relations has a strong impact on the choices in terms of C2. The more stable civil-military relations, the more likely the “delegative” model, noting that the military tend to prefer “the autonomy over operations that is afforded by delegative control”.

Another factor arguing for this model is time urgency of nuclear weapons use and their vulnerability, which is usually tied to the absence of a credible second strike capability. However “invulnerable”, the survival of a small nuclear deterrent is inherently uncertain when facing a vastly superior foe. A small inventory that *might be* vulnerable to external threats will give a state an incentive for early use, before it is attacked. The *always* part of the equation will rule.

Against this maximization of certainty of an early response through dispersal and delegation of authority, presumably and preferably with PALs, there is the increased risk of unauthorized use.

What of its opposite, the *assertive* model, which focuses on the *never* part? Negative control is intended to guard against accidental or unauthorized use. This approach may leave weapons and delivery systems disassembled and separate. Central commanders prudently will have constrained the autonomy of lower-level operators, asserting control over operations.

Feaver argues that poor civil-military relations are also among the incentives for this approach. Simply put, the greater the fear of a coup, the more likely weapons will be under central or assertive control. However, the key strategic factor seems to be the urgency of a rapid response: how critical is a rapid response and is it worth risking unauthorized or accidental use?

Clearly, different states will assess these risks differently and a few examples should be illustrative.

India is indicative of a state whose program has been under civilian control. Its force-in-being is controlled by the central political leadership, with the military playing a secondary role. Although uniformed military have a role in “storing, maintaining and manning the delivery systems”, the fissile

cores are under the control of the Atomic Energy Commission.¹¹ While India has deployed forces-in-being rather than a recessed deterrent (*i.e.* unassembled weapons) or a robust and ready arsenal, its focus is on preventing unauthorized or accidental use rather than maintaining the ability for prompt use. When dispersing its small nuclear deterrent, India will need to maintain a certain degree of opacity to prevent adversaries from targeting its components.

Israel is another interesting case. Starting from a very different point, in which it does not admit possession of nuclear weapons (or accept a public debate about them domestically), it relies on ambiguity about its actual capability to act as a deterrent. Nevertheless, Israel has an elaborate civilian-controlled C2 system, which requires three layers of approval to be activated. Weapons are preassembled but also require several keys to be activated. In Israel, we are told, thinking and planning about the use of nuclear weapons has evolved more slowly than its nuclear infrastructure.¹²

Israel's model of ambiguity raises a number of questions germane to the case of Iran. Israel does not claim to possess nuclear weapons: it made no formal declaration, nor did it conduct a formal test.¹³ Israel has cultivated a balance between leaking "enough credible evidence to deter enemies and lack of acknowledgement to allow friends to look away".¹⁴ Using ambiguity and absence of debate, "Israel has been able to avoid the either/or decision concerning its nuclear dilemma and have the best of all worlds."¹⁵

The case of China is illustrative of a different form of ambiguity. China does not deny possession of nuclear weapons and has tested them openly. But it has minimized the importance of nuclear weapons in its declarations, and adopted a posture of "minimal deterrence" – even though it has recently embarked on a major modernization program. However, China initially showed no urgency, developing its arsenal methodically over decades. As if to emphasize its lack of dependence on nuclear weapons, China has stuck to a very public "no first use" posture. This suggests that China sees the purpose of nuclear weapons as limited: to deter the use of other nuclear weapons. The ambiguity it has adopted is in the handling of

¹¹ Here and below I have drawn freely from Ashley Tellis' discussion: Ashley Tellis, *India's Emerging Nuclear Posture: Between Recessed Deterrent and Ready Arsenal*, Santa Monica, RAND, 2001. Note that Pal Sidhu argues that India's nuclear forces are in the physical possession of India's weapons; that the scientists and civilian element have always been stronger than the military in the nuclear program and that India has always underplayed the *always* part of the deterrent, "erring on the side of caution and control" with a "built-in bias toward non-use rather than use". Hans Born, Bates Gill, Heiner Hanggi, *Governing the Bomb: Civilian Control and Democratic Accountability of Nuclear Weapons*, Stockholm, Oxford University Press, 2010.

¹² Adamsky, *The Culture of Military Innovation*, *op. cit.*, p. 137. See also Avner Cohen, *The Worst Kept Secret: Israel's bargain with the bomb*, New York, Columbia University Press, 2010, pp. 95-97.

¹³ Cohen, *The Worst Kept Secret*, *op. cit.*, pp. 26-27.

¹⁴ *Ibid.*, p. 46.

¹⁵ *Ibid.*, p.128.

its program with great secrecy or lack of transparency. This has its strategic uses as “letting ambiguity enhance the deterrent effect of its nuclear forces”.¹⁶

China has taken its time, only recently modernizing its strategic forces since their inception in the 1960s. China has appeared from the outset to be anxious about the instability of civil-military relations. China’s minimal – credible – deterrent approach, which assumed that the adversary only needed to suppose “assured retaliation” to be deterred, was – *in theory* – risky for China as it remained vulnerable to a decapitation strike from either the US or USSR. To reduce this risk, China dispersed its forces and located them in caves/tunnels, thus hardening them as targets. However, China seems to have been consistently concerned as much by unauthorized use as by a disabling strike, which appeared more menacing in the early stages of its nuclear program. China was also constrained by a desire to avoid an open-ended arms race, which would be implied if it were to react symmetrically: this would be a race run on the terms dictated by the US or USSR.

The command and control functions of China’s strategic nuclear forces are under the second Artillery Corps, a highly centralized unit under the control of the Central Military Commission, and the Operational Command of the General Staff Directorate. There is apparently no fusion of military and civilian bodies in a National Security Council. Missiles are neither fueled nor mated with warheads and are stored in caves or silos on land, and now also at sea in submarines carrying ballistic missiles.¹⁷

It bears repetition that China has been as concerned with, and more consistently focused on, unauthorized use by an official as by the initial risk of an attack from its nuclear-armed adversaries. As it modernizes and expands its inventory of weapons, this emphasis may continue, even if civil-military relations appear more stable.

Finally, Pakistan is the case that might have the most relevance to Iran. One area of similarity is in the “disproportionate focus [by Pakistan] on the nuclear program ahead of other security needs.”¹⁸ Pakistan relies on nuclear weapons as a “psychological equalizer” vis-à-vis India. Moreover, and unlike the Chinese policy – at least if we are to believe the stated doctrine –, nuclear weapons are seen by Pakistan as usable against conventional as well as nuclear adversaries. Indeed, Pakistan has neglected its conventional forces, preferring to focus on nuclear weapons at

¹⁶ I rely heavily on the text on Jeffrey Lewis, “The Ambiguous Arsenal”, *Bulletin of Atomic Scientists*, May/June 2005, and Stephen Polk, “China’s Nuclear Command and Control”, in Lyle Goldstein (dir.), “China’s Nuclear Force Modernization”, Newport Papers No. 22, 2005.

¹⁷ The technology of command and control for this is being developed and improved.

¹⁸ Alexander Rothman and Lawrence Korb, “Pakistan doubles its nuclear arsenal: Is it time to start worrying?”, *Bulletin of The Atomic Scientists*, 1 February 2011, available at: <http://www.thebulletin.org/web-edition/features/pakistan-doubles-its-nuclear-arsenal-it-time-to-start-worrying>.

one end and terrorist groupings used strategically at the other end of the conflict spectrum. The degradation of conventional capabilities has lowered the threshold of nuclear use, tending to early use.¹⁹

Pakistan looked to nuclear weapons after the 1971 loss of East Pakistan and the realization that it could not hope to balance India with conventional means. Between 1986 and 1998, Pakistan had a form of “non-weaponized” deterrence. Initially, the decision to go down the nuclear route was a civilian one (President Bhutto’s) but later was taken over and controlled by the military. Thus, while 1971-77 was a period of exclusively civilian control, it was followed by either an exclusively military or joint civil-military control. The military, and especially the army, has had decisive influence on strategic matters, even if formally, in the current organization, military *and* civilians are included at the top of the decision-making structure.

Historically, depending on the period, either the President or the Prime Minister ultimately would have decided on nuclear weapons use. For most of the period, the role of the President in nuclear decision-making has been stronger than that of the Prime Minister but this ended recently (see below). However, the military’s predominant role cannot be overstated, for during most of Pakistan’s history, the government – whether under the military or a President – has been, in fact, led by a serving or retired general officer. The Parliament has not been consulted, and civilians, as such, have played no particular role. The military, as the strongest and most stable institution, has inevitably been at the centre of all decisions relating to the nuclear program.

In 2000 a National Command Authority (NCA) was established, comprised of military and civilians who were tasked with managing and coordinating the development of nuclear weapons, their use and command and control. Initially the President was to be Chairman and Prime Minister the Vice-Chairman of the NCA. This changed in 2010, when the roles were reversed with the Prime Minister becoming the Chairman. The NCA also comprises the Minister of Defense (Vice-Chair), ministers of Foreign Affairs, Finance and Interior, the Chairman of the Joint Chiefs of Staff Committee, and the three Chiefs of the armed services, plus the Director-General of the Strategic Plans Division (SPD) which serves as the NCA secretariat.

The NCA has two committees to manage nuclear weapons-related issues: a) Employment control committee (ECC) and b) Development Control committee (DCC). The formation and composition of these committees (NCA, SPD, ECC and DCC) are intended to show that the civilian and military leaders are collectively involved in nuclear decision-making.²⁰ The Strategic Plans Division is entrusted with developing and managing all dimensions of Pakistan’s nuclear development, including

¹⁹ Zafar Iqbal Cheema, “Pakistan” in Hans Born, Bates Gill and Heiner Hangi (eds.), *Governing the Bomb: Civilian Control and Democratic Accountability of Nuclear Weapons*, Stockholm, SIPRI, Oxford University Press, 2010, pp. 195-214.

²⁰ Iqbal Cheema, “Pakistan”, *op.cit.*, p. 204.

operational planning, weapons development, C2, storage, safety and budgets. The SPD Director-General is a senior (three-star general) officer appointed by the chair of the NCA, the Prime Minister. The SPD is responsible *inter alia* for command and control and oversees a security division led by a two-star general, who commands 10,000 men, responsible for the safety and security of Pakistani nuclear weapons and ballistic missiles.²¹ The Strategic Forces Command of each service branch is responsible for the deployment of nuclear weapons and delivery systems, as well as for the implementation of the national targeting policy.

Nuclear authorization comes from the Prime Minister as Chairman of the NCA, but Pakistan's military forces continue to play an important role in the formulation of the overall nuclear strategy. The military is highly centralized, and one expert argues that pre-delegation of authority to the field commander regarding nuclear use "seems improbable". In practice, reports and decisions need unanimity in the NCA, with any single individual being unable to make a decision alone.²²

For our purposes, a number of aspects of the Pakistani model should be emphasized.

- The reliance on nuclear weapons to compensate for weak conventional forces, hence lowering their threshold of use;
- The very strong role of the military in politics, as well as in the nuclear program;
- The military is the state's strongest institution with strong corporate identity, equating its interests with that of the nation;
- In practice Pakistan appears to fear a disarming attack on its facilities *more* than unauthorized use, leading it toward an *always* rather than *never* emphasis on command and control.

Two other characteristics of the Pakistani case will bear comparison with that of Iran: firstly, the issue of safety of weapons and weapons storage sites in the face of the domestic extremist threat; secondly, the issue of the security of the nuclear weapons if the guardians of the nation's "crown jewels" are susceptible to radicalization, *i.e.* the "insider threat".

²¹ The ECC is responsible for policy regarding nuclear use and the DCC for preparing and upgrading nuclear weapons systems.

²² *Ibid.*, p. 207.

Iran's Decision-Making, the IRGC and Command and Control

Decision-making in general in Iran is opaque, even more so where national security is concerned. In theory, major decisions are made by consensus in the Supreme National Security Council (SNSC), where the security institutions, ministries and tendencies are all represented.²³ The Supreme Leader also has his official representatives in this body, though he is not a member himself. The SNSC is presided over by the President and his National Security advisor is the body's Secretary. Iran's decision-making cannot, however, be captured by organigrams and delineation of official lines of authority, for it is notoriously informal, ad hoc and dependent on individual rather than institutional relationships. Overlapping authority, competing mandates, secrecy and informality are both 'cultural' and cultivated by the leadership to enhance its power and to weaken the ability of opponents to cooperate against it. The "coup-proofing" (which is a widespread concern in the Middle East) may secure the power of the leadership but it does so at a price: the absence of clear lines of authority and weakened morale.²⁴

As far as the nuclear issue is concerned, it is not difficult to identify the major institutions which have had input into policy, notably the Atomic Energy Organization of Iran (AEOI), the Foreign Ministry and the Revolutionary Guards (IRGC).

Individuals like Hashemi Rafsanjani were the prime movers of this program at its inception but it is doubtful that he is much involved any more. Similarly, the Head of the AEOI have changed at least three times since the late 1980s. The one visible continuous link is Khamenei, though he has seldom pronounced on nuclear issues except in the broadest, most general terms. The turnover of major figures, the naturally conspiratorial nature of the regime and the need for secrecy make for a program that operates in the shadows.

²³ For further discussion see Shahram Chubin, *Iran's Nuclear Ambitions*, Washington, Carnegie Endowment, 2006, and also the "Chart of Iran's National Security Establishment", in Frederic Wehrey *et al*, *The Rise of the Pasdaran. Assessing the Domestic Roles of Iran's Islamic Revolutionary Guards Corps*, Santa Monica, RAND Corporation, 2009, p. 9. See also Anthony Cordesman and Adam Seitz, *Iranian Weapons of Mass Destruction: Doctrine, Policy and Command*, Washington, CSIS, 12 January 2009, pp. 14-15.

²⁴ See James Quinlivan, "Coup Proofing: Its Practices and Consequences in the Middle East", *International Security*, Vol. 24, No. 2, Autumn 1999, pp. 131-165.

When trying to assess Tehran's future options in terms of nuclear weapons command and control, a critical question is to what extent the leadership is apprized of the nature of the program, and – if apprized – capable of understanding its dimensions and the full implications of, for example, different routes to a nuclear capability. Leaders need specialists to brief them and the latter can, of course, put their own “spin” on these briefings, thus having disproportionate influence, intended or not.

If this indeed is the case, or if the direction and oversight of the program has been delegated by the leadership to those who can understand and manage it (whether scientists or not), then it is likely that these “program sponsors will have their own institutional and personal interests in shaping the program”.²⁵ Unless tightly controlled, such a program runs the risk of corruption, distortion and personal rivalries for resources among the different elements managing it. Although a program may not be subject to tight political control and may be pushed by scientists justifying the impetus with reference to “sunk costs”, given the relationship of the program to other demands (e.g. missile) and concerns (foreign policy), it cannot remain a self-contained program for long.

Without careful oversight, the chances of corruption are high but the risks of the program being pushed by scientists insensitive to the politics of nuclear proliferation, and to the risks related to it, are also increased.

The IRGC is a major actor which keeps appearing in different guises in parts of the nuclear program. It conspicuously protects Iran's nuclear installations, the enrichment plant at Natanz, the Heavy Water Plant at Arak, and the newer Fordow plant. As the most politically reliable element, it is natural that it would be tasked with assuring the safety of the state's most sensitive installations. As custodians of the revolution they are also associated with domestic missile production, their weapon of choice. Yet the IRGC seems to have footprints beyond merely ensuring the physical security of these installations. Although not a serving officer, the current Head of the AEOI, Fereydoun Abbasi Davani,²⁶ is identified as having strong affiliations with the IRGC. Many of the scientists and technicians connected to the nuclear program are identified as having links with, or being members of, the Guards. So close is this relationship that one can scarcely see much daylight between the nuclear program and the IRGC, which has its own laboratories and facilities. Indicative of this connection is the fact that a review of the risks of earthquakes for Iran's nuclear industry was conducted by President Ahmadinejad, Mr. Davani, the Secretary of the SNSC, Saeed Jalili, and the IRGC head, General Mohammad Ali Jafari.²⁷

²⁵ The quote, as well as many of the ideas in this paragraph are drawn from Michael Crawford's excellent article “Exploring the Maze: Counter-proliferation Intelligence”, *Survival*, Vol. 53, No. 2, April/May 2011, pp. 144-147.

²⁶ Davani is a nuclear isotope separation expert.

²⁷ See “Iran rejects concerns over nuke plants risks”, *Arab News*, 18 May 2011, available at: http://corp.gulfinthemediamedia.com/gulf_media/view_article_en_print.php?action=print&id=562595.

The IRGC has evolved from being trusted security forces to become a pillar of the regime. It is no longer *one* interest group among several, but an institution that has spread its tentacles throughout the country, the Majles, business and corporate interests as well as the executive branch of government. While the Supreme Leader periodically shuffles the leadership, he cannot rid himself of dependence on the Guards for the maintenance of security and the assurance of his authority.

While as fragmented as any other institution, the Guards – serving and alumni – are a constituency that has to be appeased. No longer content with a purely military role, they are insistent that the civilian leadership take their interests into account.²⁸

Unlike the Pakistani army, the IRGC does not have a strong corporate identity. However, it has a strong sense of entitlement, whether in terms of controlling the nuclear and missile programs or having a monopoly over much of the country's imports. This can lead to rivalry and overlap with other institutions, such as the Intelligence Ministry, which can become entangled in politics.²⁹

There are already signs that the IRGC acts autonomously, free from the constraints of having to coordinate with other government agencies, such as the Foreign Ministry. The Qods force under General Suleimani has not been bashful about dominating policy in neighboring Iraq and Afghanistan. The seizure of British sailors (twice) in the Shatt al Arab and the attendant publicity about their release, were not actions ordered by the government.³⁰ Such free-lancing (or rogue) operations apparently have not been punished but accepted, which may not discourage more attempts in future.

²⁸ Maj. Gen. Mohammad Ali Jafari, who succeeded General Safavi as Commander of the IRGC, described the Guards as not “solely a military organization” but also a “political and ideological organization”. At times also the Guards have balked at the idea of civilian control arguing that non-interference between the political and military should be mutual. Ali Alfoneh, “The Revolutionnary Guard’s Role in Iran Politics”, *Middle East Quarterly*, Fall 2008, pp. 3-14.

²⁹ At the root of the hostility between Ahmadinejad and Ali Khamenei in mid-2011 was the attempt by the President to change the Intelligence Minister Heydar Moslehi, which the Supreme Leader resisted. Apparently the political rivalry over patronage and power had extended to the competitive use of the Intelligence Ministry and the IRGC Intelligence Directorate, which had become entangled on different sides. See Ali Alfoneh, *Iran News Roundup*, 3 May 2011, available at: <http://www.irantracker.org/roundup/iran-news-round-may-3-2011>. The IRGC itself reportedly has fissures and a continuing rivalry with the regular military.

³⁰ The dispatch of arms to the Palestinians by sea on the Karine A, in 2002 which triggered President Bush's inclusion of Iran in the “axis of evil” had the hallmarks of an IRGC operation, deliberately designed to undermine President Khatami's attempts at reconciliation. An equally serious case is that of the IRGC rogue commander who was nearly successful in using missiles against US forces stationed in Saudi Arabia on the eve of Desert Storm. See Ali Alfoneh, “The Revolutionary Guards’ role in Iranian politics”, *Middle East Quarterly*, Fall 2008, pp. 3-14, available at: <http://www.meforum.org/1979/the-revolutionary-guards-role-in-iranian-politics>.

Iranian politics is in flux in part due to generational change, in part to societal change and changing expectations. The Islamic Republic has to adapt and redefine its mission in a new context, and with it its ideology and institutions. Inevitably, with Ali Khamenei's demise, the future of the institution of the Supreme Leader will be called into question. There are three post-Khamenei scenarios:³¹

- a) Emergence and selection of a strong and charismatic replacement;
- b) The selection of a weak or figurehead successor; and
- c) The formation of a committee to act as a substitute for a single Supreme Leader.

What is clear is that Khamenei's replacement will not be accorded the deference that he has enjoyed, due primarily to his relationship with Khomeini. Impressive neither as a clerical scholar nor as a charismatic leader, Khamenei has virtually ensured that the position in its present form will not survive. As a consequence, the most likely scenario would thus either be the first or the second. In either case, real decision-making will be transferred to the regime's praetorian guard, even more indispensable as the guarantor of the transition, which will probably have the last word in the eventual choice. As both kingmaker and behind-the-scenes wielder of power, the IRGC role will be more public and overt than today, but the difference would only be one of degree, a further step in the ascension of the IRGC. The IRGC has already begun to resemble the ISI in constituting a "deep state" within the Iranian polity.

In light of the above, what might a possible Iranian command and control system for nuclear weapons look like?

If the Islamic Republic of Iran continues to feel under serious threat, it may follow North Korea, cross the threshold, test, and declare itself a nuclear weapon state. With its hold on nuclear and missile installations, its involvement in weapons fabrication, and the weak political control exercised, which stands to become even weaker post-Khamenei, the IRGC is unlikely to be subject to strict oversight from political authorities or civilians. The IRGC will thus be not only the custodian of the weapons but also the main entity to decide on their use.

For similar reasons as Pakistan (the relative weakness of the country's military, stemming from a long neglect of conventional forces), Iran will be tempted to "stretch" the use of nuclear weapons. Like Pakistan, it may be tempted to use sub-conventional forces for terrorist attacks and use nuclear weapons as a shield against any militarily significant retaliation.

³¹ For a discussion along these lines see Peter Jones, "Succession and the Supreme Leader in Iran", *Survival*, Vol. 53, No. 6, December 2011 / January 2012, pp. 105-126.

In any case, there is a serious risk that this would lead to the adoption of policy with a low threshold of use or of the threat of use of nuclear weapons, if only to compensate for the costs sunk in the program, and to derive some practical utility from it.

Like their Pakistani counterparts, the Guards will, because of their recruitment focus and ideological character, always be at risk of ideological extremists who constitute an “insider” problem for the program.

Unlike Pakistan, however, the security of nuclear sites should be easier to ensure in the absence of a strong or effective extremist or ethnic dissident movement. This might change if the regime becomes more unpopular, the Mujaheddin (MEK) more active, or the Sunni ethnic elements more restive, but none of these situations looks likely in the future.

The small number of weapons will dictate extreme caution in their deployment. The concern about a disabling attack on facilities, *i.e.* concern about a disarming strike,³² will be a factor pushing toward an emphasis on the *always* side of the *always/never* divide. Hence control would be positive, with weapons dispersed and hardened and probably assembled or mounted to use.³³ The chances that missiles and warheads will be kept separated, or nuclear weapons unassembled, appear low in today’s political climate. Nevertheless, in the absence of any regional threat, that is if Tehran can improve its relations with the US and Israel, it would have no pressing urgency and thus could decide to keep its deterrent recessed.

Iran’s conventional strategy of “mosaic” defense would also argue for decentralization of nuclear weapons and command and control. But as mentioned earlier there is little assurance that the civilian leadership today – in the absence of a credible threat of an impending strike – would want to chance devolving responsibility to individual guards commanders. On the other hand, a future regime under the Guards might not see this as a problem.

Without a single figure as leader, command and control will be subject to a collective decision. In the Iranian context it is difficult to see how this would function: a committee would be ponderous and inefficient and its constituent parts subject to personal and political rivalries. More likely is pre-delegation and a ready-to-launch posture.

³² Iran likes to warn Pakistan about the dangers of a US attack on sabotage of its nuclear facilities.

³³ Iran is constantly emphasizing its hardened facilities whether at Fodrow or its missile facilities. See for example Ali Akbar Dareini, “Iran Underground missile silos revealed”, *Huffington Post*, June 27, 2011; and *Global Security Newswire*, 28 June 2011, available at: http://gsn.nti.org/siteservice/print_friendly.php?ID=nw_20110628_3837.

Whether Iranians will worry about unauthorized use, given the rogue operations noted earlier, is uncertain. Iran has invested more effort in hiding its program and dodging sanctions than in considering where it wants to go with the capability once attained.

Conclusion

I have argued that given current conditions, the credible threat of an attack on Iran's facilities, and Iran's experience from conventional wars and lessons derived therefrom, lead it to favour a decentralized system of decision-making for any putative nuclear forces it may develop. But this is not without its own tension, given uncertainties about the fact the loyalties and orientations of individual guards commanders cannot be taken for granted. After Khamenei, the Guards' role in the nuclear program will become even more important, especially if the Supreme Leader is replaced by a committee.

But this is getting ahead of ourselves and *assumes* that Iran will develop nuclear weapons. Iran has exploited ambiguity about its nuclear intentions. Ambiguity exists about what constitutes a "nuclear capability" and Iran has sought to benefit from getting as close to the threshold as possible without provoking an attack – to become a "breakout state" without risking its nuclear infrastructure. Iran has manipulated this ambiguity, fed and fostered doubts and made claims and offered denials in equal measure, all to one strategic purpose – to increase doubts about its capabilities. Iran has been able to do this because there is no clear criterion for "determining the existence of a nuclear smoking gun".³⁴

If Iran is allowed to develop a nuclear weapons capability, which is in practical terms easier to define than it is politically feasible to enforce, Iran will have reached a "point of no return": the chances of persuading it to give up that capability, given the sunk costs, will be vanishingly small. Once "there", there will be many rationalizations for maintaining or developing the capability, irrespective of whatever changes may occur in the strategic environment.

But this does not imply that Iran has thought through the kind of nuclear weapons program it wants, command and control, targeting or doctrine. Like the development of the program itself, which has been steady, incremental and determined, the elaboration of these considerations will probably be slow, not hasty.

³⁴ Emily Landau, "Decade of Diplomacy: Negotiations with Iran and North Korea and the future of Nuclear Nonproliferation", Institute for National Security Studies, Memorandum No. 115, March 2012, p. 47.

Assuming that Iran is not “there” yet and is still anxious not to further provoke the international community nor to stop its program, what are its options?

Firstly, like Israel itself, Iran can continue to exploit ambiguity for deterrent purposes. The benefits of this may be limited in that loud claims about capabilities may attract an attack or push its neighbors further under the US umbrella. Ambiguity and relative silence may be more effective in buying time to develop fissile material for a large weapons stockpile, without the attendant controversy. Staying close to the threshold without weapons, but with an option for weaponization in short order, should this become necessary, may be attractive as a hedging, bargaining strategy. Hence here, Iran stops short of weaponization and retains an opaque posture resting on uncertainty. Iran lets it be understood that it is “nuclear-capable”, retains only fissile materials but keeps its arsenal latent and disassembled.

My view is that this is the current Iranian position or aim. It could, however, be transformed by a US or Israeli attack which would precipitate a move to an explicit nuclear posture.

In a second possible scenario, Iran would shed its ambiguity and cross the threshold toward operational nuclear weapons specifically intended to deter an attack or deter against a renewed attack. It would declare itself a nuclear weapon state and test a weapon – if it is still able to do so following the attack. Doctrine would be improvised, and would possibly include a no-first use declaration, intended for public relations as much as for operational doctrine. In this scenario the command and control system would be decentralized as noted above. There would be few regional benefits for Iran – as other countries, like Saudi Arabia, may be tempted to react – and, depending on the scenario, probably little to be gained internationally.³⁵

Iran is not yet a nuclear weapon state and, unlike other weapons states like India, Pakistan, and Israel, has no “permanent” or historic security problem or enmity pushing it towards becoming one. The vagueness of the strategic rationale contrasts with those of the above-mentioned states. Much of Iran’s nuclear program has been improvised, persistence substituting for (grand strategic) planning. This paper has looked at some of the issues Iran will or might eventually confront regarding command and control, by reference to the experience of others. Clearly there is room for existing nuclear weapons states to share their own lessons based on their experience regarding the safety of installations and the integrity of command and control systems, including PALs.

³⁵ For example by seeking an “off the shelf” nuclear weapon from Pakistan, which would complicate Iran’s targeting policy and make demands on the size of its inventory. See Yoel Guzansky, “Saudi Arabia’s Nuclear Options” in Emily Landau and Anat Kurz (eds.), *Arms Control Dilemmas: Focus on the Middle East*, Institute for National Security Studies, Memorandum No. 122, September 2012, pp. 73-90.

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