Culture of Command & Control of Nuclear Weapons in the Middle East - Syria

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Executive Summary

Unlike other countries in the Middle East which have not yet initiated a nuclear weapons program, Syria began its nuclear program in the middle of the last decade, and by decision of the leadership acquired a North Korean gas-graphite reactor for the production of weapons grade plutonium for a modest nuclear weapons program –fashioned after North Korea's (DPRK)[1] Yongbyon program (the reactor, in late stages of construction by the North Koreans, was destroyed by air attack in September 2007, thus revealing Syria's covert and undeclared project at the site). Therefore, we may assume that Syria will be one of the first countries in the region to renew the quest for nuclear weapons and to take advantage of faults in the non-proliferation regime. The Syrian motivation to develop a nuclear weapons program is anchored in basic perceptions held by the regime and reflects its conviction that the acquisition of nuclear arms is a strategic necessity for the country in order to deter its enemies – first and foremost Israel but also the United States and other neighbors – from attempting to overthrow the regime.

Notwithstanding, there exists in the Syrian strategic doctrine a basis for viewing nuclear weapons not only as a deterrent, but also as a lever with which Syria will achieve political goals vis-à-vis Israel (and in certain scenarios and circumstances – towards Turkey). The need for a strategic equalizer ("Strategic Parity" in the term coined by the late President Hafiz al-Asad) is a constant tenet of the Syrian strategic *Weltanschauung*. Syria also has traditionally – since the late 1970s when Egypt was accused of betraying the Arab cause by allying itself with the US and signing a peace treaty with Israel, thus abandoning the armed struggle – perceived itself as the established leader of the "rejectionist" front that refused to follow Egypt's path. In this sense, the prospect of Egypt, Saudi Arabia or Turkey going nuclear in the wake of Iran, would raise anxieties about Syria remaining weak and isolated, so a nuclear drive would become an absolute necessity for any Syrian regime wishing to retain a modicum of regional standing.

The Syrian regime is acutely aware of its strategic inferiority and it has no interest at this point in time in a confrontation with the US, or Israel. Conventional wisdom indicates that the preferred track for Syria would be that of nuclear ambiguity, which would provide the regime with the immunity it needs, while escaping the grave consequences of confrontation with the international community. Even if this option fails, and Syria finds itself "outing" its nuclear capability, it would probably prefer to maintain a low profile in order not to increase tensions in the region. However, one cannot exclude the possibility that once becoming a nuclear power, Bashar al-Asad, or a successor, would be tempted to play his cards openly, and to adopt much more assertive policies in regard to Lebanon, the Palestinian arena and Israel, as well as in regard to Iraq. Syria could thus join Iran in the strategic design to undermine, and overthrow, the regional status-quo, by intimidating moderate regimes allied with the US and inimical to the expansion of Iranian influences under the protection of Iran's nuclear posture.

Like his father, Bashar al-Asad tends frequently to act on his own, concentrates control over the centers of power in the state, and retains the key to the decision-making process of the regime. However, in one other area, which is crucial to the issue at hand, Bashar is very different from his father. Bashar has never been directly involved in war. His military training was limited or even fictitious. This lack of personal experience may reflect not only on his ability to direct military operations, but on the extent of his aversion to risks of war.

The Syrian military lacks both the political integrity that exists in most Western military establishments, and the tradition of unconditional discipline that is typical of the former USSR, China and North Korea. However, in light of Syria's long-standing connections with the three latter (nuclear)

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[1] Officially known as the Democratic People's Republic of Korea.

countries, the regime may be willing to adopt some of their nuclear C2 (Command and Control) paradigms. **But essentially, it is the Syrian model of its own *modus operandi*, in a regime structure that has been dominant since 1970, which can be expected to be the most relevant.**

The lack of confidence in the military chain of command may also impact the structure of a future nuclear chain of command. Bashar may have to establish a special chain of command, separated from the regular military chain of command of the Syrian army, based on the President at the top and criteria of personal loyalty and family or other close ties. The small number of people who the President could see as absolutely loyal, though, will have an influence on the structure of the command and control paradigm, the dispersal of installations and weapons and the number of links that the regime may allow itself in the nuclear chain of command. It is unlikely that nuclear assets would be entrusted to tactical units, and it is far more likely that access to them will be severely restricted for security reasons.

The Syrians possess a variety of surface-to-surface missiles (SSMs) of various ranges, which are perceived as "strategic weapons", and have developed C3 (Command, Control and Communications) doctrines for these weapons. Authority to launch strategic SSMs, or to use chemical weapons, is the sole prerogative of the President, and there are safeguards against unauthorized use in place. It is likely that nuclear assets would be organized in a similar manner but entrusted to designated units of the Air Force and the strategic SSM units, which have been part of the Artillery Command, but enjoy a *de facto* separate command.

The level of operational readiness of the weapons will influence the need for direct control and access of the top leadership to them, and hence their physical deployment. While deployment in a far-out area may be advantageous for field security of the weapons if there is little activity related to the weapons, nuclear alerts would require visits of top echelon military and political leaders to that site, thus cancelling that advantage. An operational nuclear force which may be put on a high defense readiness condition ("DEFCON") level every once in a while may then have to be deployed close to the center of government in geographically "trustworthy" areas. The advantages and disadvantages of dispersed deployment of sensitive strategic assets pose a dilemma for the Syrian leadership (as it does for other regimes examined in this study, subject to a certain "nervousness" regarding potential loss of control, e.g. Egypt): dispersed deployment offers the advantage of dispersing targets that the enemy must target, thus reducing the dangers of a debilitating first strike against these assets. On the other hand, a wide geographical dispersal poses C3 problems and challenges that Syria would have difficulty in overcoming, and may increase regime nervousness regarding loss of control over them to either foreign adversaries (US, Israel, Turkey, Egypt) suspected of seeking regime change, or domestic rogue or renegade elements (Muslim Brotherhood, disgruntled military, mainstream Sunni elements desiring to eject Alawite domination, and so on).

Due to the sensitivity of the regime to possible tampering with its strategic assets, and the fear of unauthorized use, Syria may well be amenable to a system of separate custody of weapons (nuclear warheads and bombs) and delivery systems, and even of separation of the components of the weapons themselves, in order to increase security. However, it is highly unlikely that Syria would incorporate Western-origin technological safeguards such as permissive action links (PALs) into the nuclear system to prevent tampering, stealth or unauthorized use. The regime would probably prefer to rely on its own time-tested "human intelligence" and security vetting to prevent such eventualities. The inhibitions behind the use of such technology would derive both from an innate suspicion towards Western technology in such a sensitive component of Syria's national security, and from the fact that a country with only a small nuclear arsenal would probably not endanger it by integrating a system which may cause permanent damage to the weapons in case of improper use. Syria may turn to willing suppliers of technology and expertise in the C3 and PALs realm for assistance – Iran, the DPRK and Pakistan come to mind. In the latter case – albeit less likely than the former two, but not to be

ruled out – US technology, hardware and expertise generously provided in the general interest, could devolve to Syria, with derived advantages and disadvantages to concerned parties.

Overview

Unlike other countries in the Middle East which have not yet initiated a nuclear weapons program, Syria began its nuclear program in the middle of the last decade. Furthermore, whereas for most of the other states in the region, conventional wisdom attributes their motivation for nuclear weapons to the Iranian threat, Syria is an ally of Iran and may even develop its weapon in cooperation with Tehran. Syria and the DPRK also have a long standing strategic relationship, based on the Syrian acquisition of extensive strategic SSM capabilities, including production thereof, from North Korea. It was perhaps inevitable that Syria was able to acquire a turnkey gas-graphite nuclear reactor from the DPRK, with the intention of copying the Yongbyon project onto Syrian territory for the purpose of producing weapons grade plutonium for a modest plutonium route nuclear weapons program, much in the vein of the DPRK's program. While the Syrian nuclear program has been disrupted by the attack on the clandestine installation in Dayr al-Zawr (September 2007), there is no sign that the motivation for developing a nuclear weapon has declined. Therefore, we may assume that Syria will be one of the first countries in the region to renew the quest for nuclear weapons and to take advantage of faults in the non-proliferation regime.

Of all the regimes in the region, the Syrian regime is the most similar to the Iraqi regime in the days of Saddam Hussein; both stemmed from the Ba'th Party and both are based on a personality cult of an autocratic leader and reliance on a tribal-like loyalty of the trusted state apparatus. It is tempting therefore to try to learn from the experience of Saddam Hussein's near acquisition of nuclear weapons, and the information that has come to light regarding the *modus operandi* of the Iraqi regime, and to apply that knowledge to Syria. However, the Syrian regime has characteristics and idiosyncrasies of its own which will surely play a role in determining the command and control of nuclear weapons, once it acquires them. Foremost among these is the proximity to Israel and Lebanon and the risk that conflict in this theatre might deteriorate into a nuclear confrontation. This risk should theoretically motivate the Syrian regime to incorporate stringent C3I (Command, Control, Communications and Intelligence) procedures.

Syria's Motivation to Acquire Nuclear Weapons

There is no doubt that Syria under Bashar al-Asad has made a strategic decision to acquire nuclear weapons.[2] The Syrian decision to develop a nuclear weapons program is anchored in basic perceptions held by the regime and reflects its conviction that the acquisition of nuclear arms is a strategic necessity for the country. In the eyes of the Syrian regime, Israel as well as the US (especially under President George W. Bush, but even today under the Obama administration), are viewed as enemies who seek to remove the Syrian regime (forcible "regime change"; the anxiety in this regard having been exacerbated by events in Afghanistan and Iraq), and to destroy its military and economic assets. It was assumed in Damascus in spring 2003 that Washington's next move after the invasion of Iraq might be an invasion of Syria. As for Israel, the lesson that the Syrians drew from the Second Lebanon War of 2006 was that in a future round with Hizballah, assuming Syria supports it, Israel may well target Syria itself. Media reports encouraged the idea that the US was encouraging Israel to strike at Syria, rather than limiting its action to Hizballah alone, which the US viewed as a secondary client of Iran and Syria. Thus, nuclear capabilities are viewed primarily as a weapon of deterrence.

Notwithstanding, there exists in the Syrian strategic doctrine a basis for viewing nuclear weapons not only as a deterrent, but also as a lever with which Syria will achieve political goals vis-à-vis Israel (and in certain scenarios and circumstances – towards Turkey). The need for a strategic equalizer is a constant tenet of the Syrian strategic *Weltanschauung*. Since assuming power in 1970, and the more so since the 1977 Israeli-Egyptian peace process, the (Hafiz) al-Asad regime was convinced that Syria needed to establish "strategic parity" with Israel. In the 1970s Syria sought to achieve a balance of power in relation to Israel by means of an alliance with Egypt, and perhaps Iraq as well. In the 1980s, after the Egyptian-Israeli peace treaty removed Egypt from the "confrontation states" against Israel, Syria sought to achieve a balance of power by expanding its conventional military forces with the help of a massive infusion of Soviet weaponry, including relatively advanced systems at the time such as SA-5 and SA-6 surface-to-air missiles (SAM), and a vast upgrading and expansion of its ground forces. In the 1990s it turned to upgrading its arsenal of SSMs, originally Scud-B missiles supplied by the Soviet Union, by acquiring and producing improved North Korean versions (Scud-C, D), and non-conventional weapons – including chemical weapons. The goal of this was to achieve what Hafiz al-Asad termed "strategic parity", which would enable Syria to deter and defeat Israel on its own, by implication without Egyptian support – Egypt being the primary Arab military power in the region. The present Syrian effort to acquire nuclear weapons may be seen in the context of an attempt to achieve such a strategic parity.

Syria is also cognizant of its perceived leadership role of the so-called "rejectionist" front, of Arab states that have traditionally very emphatically opposed the alignment with the US and compromise with Israel. In the past, Iraq and Libya, and others, were part of this front, but the idea has widespread support among the Arab public in other states as well, even and especially those ruled by pro-Western moderate ruling elites. Thus, Syria has a well-established role and standing in the Arab world as representative of a very significant and widely held political view, inimical to the US and Israel much more than is evident from the policies of the moderate ruling regimes. It is for this motive too that Syria cannot afford, if it wishes to retain its significant role in this context, to lag behind other regimes in the region that may aspire to nuclear status, including Egypt, Saudi Arabia, Iraq, or Turkey.

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[2] On September 6, 2007, Israeli aircraft purportedly attacked and destroyed a nuclear installation the Syrians were constructing with North Korean assistance in the Dayr al-Zawr region in northeastern Syria. Official Damascus quickly reported the Israeli air attack, but claimed that the target was an unmanned military installation. Official Israel kept its silence and made no response to the Syrian announcement. It was the White House in Washington that eventually, in April 2008, confirmed the Israeli attack, saying a nuclear facility the Syrians were constructing at Dayr al-Zawr had been destroyed.

On the whole, Syria has conducted itself with relative prudence and caution over the years. The defensive frame of mind was evident in the logic behind the development of its SSM force, as well as its chemical and biological weapons (CBW) program. These weapons were perceived by the Syrian leadership as meant to create a balance of terror, specifically to deter Israel, and to exclude Syria's population, economic, and infrastructure centers from being targets for Israel's weapons, since severe disruption of the Syrian routine could evolve to a threat to regime survival. Unlike Saddam Hussein, Bashar al-Asad believes that a severe blow to the Syrian economy will bring about a serious threat to the regime's stability, and perhaps even to its very existence.

Even if Bashar's main aim in seeking nuclear weapons is defensive, once Syria acquires nuclear arms, it may move from a defensive to an activist position as a result of a newly optimistic outlook, inspired by feelings of power and self-confidence vis-à-vis Syria's adversaries in the region. Syria's goal may well become to join Iran in attempts to undermine the regional status-quo, perceived as it is as undesirable to Syria, and to at least tilt to some degree developments in such a way as to be beneficial to Syria's interests, by reinforcing "rejectionist" power at the expense of US-influenced moderate forces in the region, including in Lebanon, the Palestinian arena, Saudi Arabia, the Gulf States, Iraq, and Egypt. Miscalculation, however, would continue to be a possibility, if overconfidence becomes escalation, or nuclear brinkmanship.

Possible Syrian Nuclear Posturing

The Syrian regime is acutely aware of its strategic inferiority, and it has no interest at this point in time in a confrontation with the US, or Israel. Conventional wisdom indicates that the preferred track for Syria would be that of nuclear ambiguity, which would provide the regime with the immunity it needs, while escaping the grave consequences of confrontation with the international community (and the US). Even with a nuclear capability, Syria will still see itself at a disadvantage against Israel, and would probably be extremely cautious regarding blatant acts of provocation which may result in nuclear escalation and confrontation. Syria is not Iran, and it does not have the power and the resources of that country, which enable it to challenge the international community so blatantly. Syria's territorial expanse is smaller, it is more exposed to opponents and enemies in its immediate vicinity, and it lacks demographic depth and a hinterland that would give it geographic depth. Thus, Syria's overall situation tends to incline it to be somewhat more cautious than Iran, though as explained above, it may join Iran in efforts to undermine the regional status-quo, or at least induce a modicum of transformation that might benefit its leadership position, or might serve to reinforce domestic legitimacy of the regime by assuming more provocative positions against the US and its interests in the region.

Decision-Making and Strategic C2

The Presidency - Bashar al-Asad

The Syrian regime[3] was tailored by and for Hafiz al-Asad. Hafiz al-Asad was not only the anchor for national identification, but the sole source and focus of real power as well. *Ex officio*, the President controls all the pillars of power: he is the Secretary General of the Ba'th Party (which controls the Parliament), Commander in Chief of the armed forces and the authority for all the intelligence services. His informal power goes even further. The models for al-Asad's regime were the autocratic Communist regimes of Eastern Europe, particularly the Ceauşescu regime in Romania.[4] The analogies can be seen in the centralized control of the leader, the terminology of the personality cult, the marginal role of the party which was ostensibly in power, and the dominant role of the family in the regime, creating a sense of monarchy (according to a neologism – a *jamlaka* - a hybrid of a republic, *jumhuriyya*, and a monarchy, *mamlaka*). According to Hafiz al-Asad himself, he was also influenced by the North Korean regime of Kim Il-Sung.

Bashar inherited Syria from his father along with the structure of the regime and the singular role of the President within it. In this context, he also inherited the personality cult, with appropriate adaptations to his age, background, personality and education. Instead of military imagery and allusions to heroes of the past, the cult of Bashar emphasizes his wide education, modernism, and – most significantly – his role as the carrier of the legacy of his father and personification of his last will.

Bashar al-Asad has stabilized his position since he came to power, and today stands at the top of the Syrian leadership and at the center of its decision-making. Similar to his father, Bashar tends frequently to act on his own, concentrates control over the centers of power in the state, and retains the key to the decision-making process of the regime. He has succeeded in taking control over the several power centers and groups in the country, and today they are all dependent on him for their position and power. He appoints them, promotes them and deposes them and unlike previous elites in Syria under his father (the *jama'a*, - or group - of senior figures surrounding the President and creating together with him a kind of ruling upper echelon), these individuals have no common denominator that unites them except for their personal or institutional connection with the President.

In one other area, which is crucial to the issue at hand, Bashar is very different from his father. Bashar has never been directly involved in war. His military training was limited or even fictitious (a crash course as a tank commander and commission as Captain in 1994, and a swift rise in rank to Major in 1995, Lieutenant Colonel in 1997, full Colonel in 1997 and Lieutenant General and Field Marshal in June 2000). This lack of personal experience reflects not only on his ability to direct military operations, but also on the extent of his aversion to acts which may deteriorate to war. While his father was considered to be a master of brinkmanship, he was, in the final analysis, a cautious leader. Bashar's fast-track military training did not provide him with a real understanding of military and strategic matters, and he relies on his circle of advisors. Another possibility is more complex, and involves Bashar's personal attributes: he was always seen as the weak or pale ("nerdy", "geeky") son, which is why his father preferred the uncouth Basil to succeed him until the latter's untimely demise in an inevitable self-inflicted traffic accident.[5] The shy Bashar, who at the time was studying and

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[3] For a comprehensive description of the Syrian regime, see Shmuel Bar, "Bashar's Syria: The Regime and its Strategic Worldview," <u>Comparative Strategy</u>, Vol. 25, No. 5 (2006), pp. 353-445.

[4] After the fall of the Ceauşescu regime, graffiti appeared on Hafiz al-Asad's statues in Syria "Asad Shamsescu" (Sham is the traditional name for Syria). It has been suggested that Saddam Hussein's outburst of aggressive posturing and behavior in early 1990, was a reaction to the shock of the collapse of the Ceauşescu regime and his security apparatus, the *Securitate* – Saddam viewed Ceauşescu's reforms as a catastrophic relinquishing of the reins, which led to his downfall. Lecture by Amatzia Baram at the Van Leer Institute in Jerusalem, 1990.

[5] The unruly Basil turned over while speeding in his Mercedes, and was killed instantly.

practicing ophthalmology in the UK, may have been influenced by Western social constraints, and had later to adapt willy-nilly to the savage world of Syrian regime machinations, including its most vicious aspects; he is constantly haunted by the possibility that his supporting clan might brand him as a weakling, and remind him that Dad was a lion (*asad*, in Arabic means lion), so he had better not be a mouse, or he may become redundant.

The jury is still out on the question whether Bashar al-Asad is a prudent and crafty statesman, or a brash and reckless leader. Bashar has taken decisions and initiated processes that would seem extremely reckless and imprudent, on the one hand, as well as actions which reflected extreme caution and discretion, on the other hand. There are claims that many of the former were born out of decisions that Bashar made on his own, whereas many of the latter seem to reflect the more prudent advice of his advisors. Other explanations for Bashar's seeming duality that are offered include his tendency to worship successful charismatic radical leaders such as Hasan Nasrallah and Ahmadinejad and to take their advice, or that it is his effort to emulate his much more adroit father that brings him to play both sides of the fence to his utmost ability: to posture resolve, even aggression, to placate domestic pressures and to build up his position so as to enhance his personal security; and at the same time to posture caution and a willingness for compromise on the international stage, so as to retain the capability to manipulate Syria's strategic environment to its, and his, best interest, to blunt threats, to ward off isolation, and to mobilize international support from various directions for different purposes at different times. In this sense, there is no inherent tension between the two approaches that Bashar has demonstrated.

The concern regarding Bashar al-Asad's risk-propensity or risk-aversion is particularly relevant to the military context. Syrian behavior in this area since Bashar came to power reflects a tendency towards brinkmanship which seems to indicate that the President and not the military sets the tone. Many of Bashar's personal public statements and actions seem to indicate a high level of recklessness. His behavior vis-à-vis the US during the war in Iraq in 2003, and his alliance with Iran and Hizballah in Lebanon held the risk of drawing Syria into a collision course with the US, Israel and key countries in the EU, at a time when he was in dire need of international support. In the wake of the Second Lebanon War of 2006, he openly supplied Hizballah with rockets, incurring the risk of becoming target of Israeli attacks. His decision to clandestinely acquire a military nuclear option was equally high risk. On the other hand, he refrained altogether – from responding to the Israeli attack on the Syrian reactor in September 2007. These seemingly incongruent policies have led many observers to attribute Bashar's behavior to a "Dr. Jekyll and Mr. Hyde" personality in which each face is displayed at different times, according to the way he grasps the circumstances and his exposure to sober advice. In this sense he is no different from many other authoritarian leaders (Hitler, Nasser, Saddam, Franco), or leaderships (Iran), or even from non-authoritarian Western leaders with a manipulative streak.

Under what circumstances might Bashar al-Asad order the use of nuclear weapons? Does the analogy of the Syrian Ba'th regime to the Saddam Hussein regime in Iraq infer that the President of Syria would order use of nuclear weapons if he believes that the regime is in danger of being toppled (as many assume Saddam Hussein would have done, had he possessed nuclear weapons)? On the one hand, Syria's strategic behavior has been traditionally rather cautious and restrained, and it stands to reason that the leadership will do all it can to prevent escalation to such a level. On the other hand, an analysis of Bashar al-Asad's behavior, and certainly an examination of his rhetoric, raises the possibility that Bashar would use nuclear arms if he found himself in a "doomsday" situation. For such an eventuality, Bashar may charge his close relatives, members of his clan, tribe and ethnic community with responsibility to use the nuclear capabilities if he himself were incapacitated. However, the question remains whether *in extremis*, even the closest Alawite loyalists of the President would obey such orders after it was clear that the regime has been decimated. The political realism which characterizes Syrian political culture does not lend itself to the conclusion that even the most loyal affiliates would commit such a suicidal act after the communication with the President were lost and he was assumed dead.

Political and Military Chains of Command

The Syrian regime has a number of chains of command, for the Ba'th Party, for the government and for the security and military establishments. Within this multiplicity of chains of command real power and influence has traditionally been in the hands of the ubiquitous security apparatuses, which answer directly to the President. At the same time, the issues upon which the security forces traditionally focus are naturally the ones having to do with maintaining the regime's stability. Therefore, they do not tend to interfere in the matters of, or compete with, the other chains of command. This structure is typical of authoritarian regimes in general and of those in the Middle East in particular.

The military chain of command carries much less clout within the Syrian regime (unlike the military in Egypt or even in Iraq) than the security apparatuses. Bashar himself is the Supreme Commander of Syria's armed forces, followed by the Minister of Defense, the Chief of the General Staff, and the commanders of the various military units. However, it is the unofficial status of the officers – their family links with the President or other affiliation with him – that determines their position more than their official ranks.

Members of the al-Asad family, the Qalbiyya tribe, and the Alawite community in general still play a central role in the conduct of Syrian affairs, as they did in the days of Hafiz al-Asad. These groups are still dominant among the military officers and security forces. Indeed, as in the past, Bashar's regime continues to rely heavily on the top echelons of the Syrian military, which is still based upon the members of the Alawite community who occupy key positions in it. According to the estimates, 70-90% of the men holding senior officer ranks and key positions in the military and security forces are of Alawite origin. The officers of the elite units are still mostly members of the Alawite community. In a nuclear Syria, it may be assumed that the ethnic-communal makeup of the population will continue to influence the chain of command. The Alawites and the al-Asad family will continue to be at the top of the chain.

Advancement in the top echelons is hierarchic and tends to create stagnation in the top levels of the military. Formal promotions are determined for the most part on the basis of seniority, beginning with the Minister of Defense, currently 'Ali Habib (an Alawite), going on to the Chief of the General Staff, currently Lt. Gen. Da'ud Rajiha (a Christian), and ending with the more junior officers' corps. Ever since the last days of Hafiz al-Asad's rule the Syrian leadership has been making efforts to limit the term of duty of an officer at the same rank or post, meant ostensibly to ensure the infusion of new blood into the senior officer corps, and to lend it vitality, effectiveness, and professionalism. However, the hidden, real, motive is to prevent the formation of power centers in the army.

Syria has had intimate connections over the past few years with the military and strategic establishments of Iran and the DPRK. The veteran generation of officers had the benefit of Syria's close military relationship with the Soviet Union, including having been trained there (this included Hafiz al-Asad's combat pilot training, which led to his eventually becoming Air Force Commander and subsequently allowing his takeover of the regime), until its collapse in 1991, and some remnants of the security relationship have been carried over to the Russian era. As such, Russian naval units continue to regularly visit Tartous to establish a presence in the Eastern Mediterranean. Some Syrian military personnel have also had connections with Western military establishments (French Gazelle helicopter training, for example, and a very recent report told of Syrian pilots training in Spain, where one of them crashed, thus revealing the story). So, Syria has always borrowed military and defense traditions, and strategies, from worthy partners, but essentially, **it is the Syrian model of its own *modus operandi*, in a regime structure that has been dominant since 1970, which can be expected to be the most relevant.**

Delegation of Authority

In general, Syrian tradition does not provide for delegation of authority. The regime prefers to keep authority in the hands of the top leadership, and not to release it to lower echelons. This was the tendency in the Syrian army even in the time of Hafiz al-Asad, who was a notorious "micro-manager" – a trait that his son, apparently, did not inherit. In Bashar's era, the aversion to delegation of authority to military echelons derives also from the lack of confidence that he projects towards the leadership of the army. A case in point was the project for construction of the nuclear reactor; it was authorized directly by Bashar al-Asad himself and managed by his close confidant, Muhammad Sulayman, while all the heads of the state apparatuses, and the army as well, were completely compartmentalized. The lack of confidence in the Syrian military has also been evident in Bashar's attitude towards Hizballah. Bashar seems to believe that the Iranian-trained Hizballah forces would fill a vacuum and correct the defects he identifies in the performance of his own army and the ability of his commanders to develop a creative and effective answer to the Israeli challenge.[6] This precedent of encouraging foreign (Lebanese and Iranian) involvement in Syria's defense and security affairs may develop in the future into co-option of those elements into the nuclear program, thus weakening Syria's control over its nuclear assets. This may particularly be true if Syria turns to Iran for help in developing its nuclear program, or if Iran offers Syria the substitute of extended deterrence, possibly including the stationing of Iranian nuclear weapons on Syrian territory under Iranian, or joint, control, borrowing from the NATO and Warsaw Pact models of the Cold War, still partly evident today in NATO.

The President's lack of confidence in the Syrian military will probably impact the structure of a future nuclear chain of command. We may assume that Bashar will put people close to him and loyal to him in charge of his nuclear capabilities. These might be his family members, or members of his clan, tribe or his Alawite community. Bashar will then have to establish a special chain of command, separated from the regular military chain of command of the Syrian army. In such a body the ties will be personal and direct, based upon personal loyalty and family or other close ties, without the behavior patterns of large bureaucratic agencies. This apparatus would probably have the President at the top of the pyramid, a chain of fiercely loyal trustees to advise, coordinate and dispatch nuclear commands, and an independent designated unit organization to execute the orders. The small number of people who the President will accept as absolutely loyal, though, will influence the structure of the command and control paradigm, the dispersal of installations and deployment mode of weapons.

It is unlikely that nuclear assets would be entrusted to tactical units, and it is far more likely that access to them will be severely restricted for security reasons. A renegade takeover of nuclear assets could conceivably bring about a collapse of the regime's authority or the loss of control strategically or domestically. In this sense, the "nervous" aspects of a regime leadership in a country like Syria would probably work to restrict the devolution of authority (more than in Egypt, which has a tradition of relatively more extensive control).

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[6] According to Major General Amos Yadlin, Head of the Israel Defense Forces (IDF) Intelligence, in testimony delivered before the Knesset Foreign Affairs and Defense Committee on October 26, 2008, "Syria has become an arms silo for Hizballah. And al-Asad relies more today on Hizballah than on his own army. The senior figures of the organization act in Syria as if the country belongs to them. The Syrians have lifted all restraints."

Deployment and Custody of Weapons

The Syrians have been in possession for over four decades of a variety of surface-to-surface missiles (SSMs) of various ranges, based mainly on developments of the Soviet-produced Scud missile and North Korean variants, and also a significant arsenal of tactical rockets of various ranges and payloads, some based on Iranian models and some developed indigenously, and an inventory of chemical warheads. Moreover, Syria has gained experience with the C3I issues relating to these weapons. The assumption is that these, at least in their strategic aspects, are subject to strict leadership control and discipline, and the fact is that they have not been used in spite of several conflagrations with Israel (except for one lone incident in 1973.[7])

Nuclear assets would probably be entrusted to designated units of the Air Force (the *alma mater* of Hafiz al-Asad, which still holds a *prima inter pares* – first among equals – status in the Syrian military) and the strategic SSM units, which have been part of the Artillery Command, but enjoy a *de facto* separate command.

There is a relatively good picture of the deployment of strategic assets in a pre-nuclear armed Syria. SSM and CBW assets are deployed in various areas in the country and are not necessarily placed in areas where the regime is strongest. A case in point is the secret North Korean Yongbyon-type gas-graphite reactor that was intended for the production of weapons grade plutonium. The reactor was established in great secrecy, in Dayr al-Zawr in Northern Syria. The construction of such a strategic facility in that area may indicate an assessment of the regime that it was both safe from prying eyes and from domestic unrest. This may indicate that in the future, the North my be a preferred area for deployment of nuclear assets.

On the other hand, once nuclear weapons are acquired, the deployment may have to take into other considerations. The degree of operationalization of the weapons will inevitably influence the need for direct control and access of the top leadership to them, and hence the physical deployment. While deployment in a remote area may be advantageous for field security of the weapons if there is little activity related to the weapons, nuclear alerts would require visits of top echelon military and political leaders to that site, thus cancelling that advantage. An operational nuclear force which may be put on a high alert ("DEFCON") level every once in a while may then have to be deployed close to the center of government in geographically "trustworthy" areas, either around Damascus, or in areas where the regime feels confident, such as the Alawite areas of the northern coastline.

The advantages and disadvantages of dispersed deployment of sensitive strategic assets poses a dilemma for the Syrian leadership (as it does for other regimes examined in this study, subject to a certain "nervousness" regarding potential loss of control, e.g. Egypt): dispersed deployment offers the advantage of dispersing targets that the enemy must target, thus reducing the dangers of a debilitating first strike against these assets. On the other hand, a wide geographical dispersal poses C3 problems and challenges that Syria would have difficulty in overcoming, and may increase regime nervousness regarding loss of control over them to either foreign adversaries (US, Israel, Turkey, Egypt) suspected of seeking regime change, or domestic rogue or renegade elements (Muslim Brotherhood, disgruntled military, mainstream Sunni elements desiring to eject Alawite domination, and so on).

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[7] The only known exception is the launching of Syrian Frog-7 rockets against Israeli strategic targets and civilians during the October 1973 War, which resulted in severe Israeli strategic retaliation, including destruction of the Syrian Air Force Command Headquarters in downtown Damascus, presumably a deliberate affront as well as a signal to the Syrian President who had commanded it only three years before.

Due to the sensitivity of the regime to possible tampering with its strategic assets, security issues with respect to the danger that rogue or renegade elements might steal them, and concerns regarding unauthorized use, Syria may well be amenable to a system of separate custody of weapons (nuclear warheads and bombs) and delivery systems, and even of separation of the components of the weapons themselves to increase security.

Authority to launch strategic SSMs, or to use chemical weapons, is the sole prerogative of the President, and there are safeguards against unauthorized use in place. These procedures may have borrowed from the Soviet Union/Russia. The chain of command authorizing their use is believed to run down from the President through a hierarchy of special trusted personalities, and their launching by the field units is under the command of the regular armed forces. The fact that there has been to date no unauthorized use of these weapons indicates that these safeguards have been, at least until now, solid.

Technological Safeguards

Once Syria acquires nuclear weapons assets, it can be expected to incorporate a blend of models of C3I based primarily on its own traditions of conventional command and control. It is unlikely that Syria would incorporate advanced Western-type technological safeguards such as PALs into the nuclear system to prevent tampering, stealth or unauthorized use. The regime would probably prefer to rely on its own time-tested "human intelligence" and security vetting to prevent such eventualities. The inhibitions behind the use of such technology would derive both from an innate suspicion towards Western technology in such a sensitive component of Syria's national security, and from the fact that a country with only a small nuclear arsenal would probably not endanger it by integrating a system which may cause a melt-down in case of improper use. Syria may turn to willing suppliers of technology and expertise in the C3 and PALs realm for assistance – Iran, the DPRK and Pakistan come to mind. In the latter case – albeit less likely than the former two, but not to be ruled out – US technology, hardware and expertise generously provided in the general interest, could devolve to Syria, with derived advantages and disadvantages to concerned parties.

Syrian communication culture is relatively modern, and Syrian society has been traditionally open to the infusion of Western technology, hardware and software. For many years, the Syrian leadership and the Syrian armed forces were happy to incorporate the most advanced systems that the Soviet Union was willing to supply, and when available – Western technology was sought and acquired. Syria's turn to acquiring extensive capabilities from North Korea and Iran was a default option, when other sources of supply were closed to Syria. Thus, it can be assumed that a Syrian leadership would incorporate redundancy systems that would provide for a technologically advanced C3 capability in normal circumstances, but would seek to provide for redundancies, "Plan B" and default options in case these systems are deemed corrupted or incapacitated. These could include a multiplicity of "primitive" communication systems, such as coded broadcasts, PTP telephones, trusted runners, and so on.

Whether authority to launch nuclear weapons would be pre-delegated to field echelons, as was alleged to have occurred in Saddam Hussein's Iraq regarding the use of CBW agents and SSMs prior to the 1991 Gulf War in case of a collapse of the primary chain of command, or death or incapacitation of the Leader – it may be assessed that this would be highly unlikely in the Syrian context.

Possible Scenarios for a "Post-al-Asad" Nuclear Syria

At the time of this writing, the Syrian regime appears to be firmly established. Three possible scenarios regarding a regime change in Syria can be perceived.

- The first, and most probable, is a secular process in which elements from the military and from civilian sectors gradually displace the current ruling elite. Given that Syria is a Sunni-majority nation ruled by an Alawite minority with affinity to Shiite groupings in the region, such a process would be reasonable.

- The second could involve a fundamentalist Sunni Islamist ("Muslim Brotherhood") takeover, currently assessed as a much lower probability scenario, but one that cannot be ruled out entirely. A "Muslim Brotherhood" scenario in Syria would include ambiguities and ambivalences towards the Iranian dimension – in terms of the commonality of interests and fierce competition both existing simultaneously.

- The third, very theoretical scenario, regarding "regime change", is by foreign intervention of various kinds, and emanating from various quarters. Although the Syrian leadership became acutely concerned of a US-inspired regime change after the events of Afghanistan in 2001 and Iraq in 2003, it now probably recognizes that such a threat has profoundly receded, if it ever was realistically in the cards in the first place at all. However, a spectrum of other interested parties in the region, including Saudi Arabia or a regime successor to the House of Sa'ud in Arabia, Iran, Turkey or Egypt could instigate intervention in a nuclear armed Syria for a multitude of reasons.

In terms of C3 issues in a nuclear weapons armed Syria, the first scenario would probably result in retention of essential elements of the current regime's standard operating procedures (SOPs), security and chain of command – regarding authorization and prevention of unauthorized use. In the second scenario of an Islamic takeover, many of the elements of an Islamic fundamentalist regime, similar to those expanded upon regarding a Muslim Brotherhood takeover of a nuclear armed Egypt or the Jihadi-Salafi model (see regarding both separately), could be suggested, borrowing in part from the Iranian model, while at the same time retaining some of the elements of a secular Syrian C2, C3 and C3I structure.[8]

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[8] Since this scenario is considered at this time to be of a very low probability, the possibilities are not expanded upon here, and the reader is directed to the discussion of the model in the chapter on an Egyptian Muslim Brotherhood scenario. Suffice it to add that some of the characteristics of the (current, Alawite, secular) Syrian *ancien regime* would naturally be incorporated in an evolving revolutionary Islamic conception of how to manage C3 in a nuclear environment. Some of the problems regarding these issues already evident in the Iranian model, such as the Supreme Leader's selective access to information through channels of "gatekeepers", conflicting vested interests within the regime, the natural tendency for the more extreme and brutal elements to prevail, and so on, would very likely be repeated in a radical Islamic nuclear armed Syria. Thus the multiple dangers of religious fervor mediating perceptions of reality, the divine exhortation of great sacrifice to achieve victory of the righteous, and ignorance regarding the *realpolitik* world of nuclear weapons and of Western adversaries – would all be disconcerting contributors to the danger of nuclear war by miscalculation, rather than by reckless design.