

Heterarchic Strategic Culture and the Resilience of Iran's Nuclear Program (1957–2025)

Tayyaba Jaffery

Muhammad Shoaib Pervez

Introduction

On 13 June 2025, a twelve-day war erupted between Iran and Israel after a series of Israeli airstrikes targeted key military and nuclear facilities in Iran, including Natanz, Fordow, and Esfahan. The strikes sought to cripple Iran's nuclear program and eliminate its senior leadership.¹ Within 48 hours, Israeli forces killed several high-ranking commanders of the Islamic Revolutionary Guard Corps (IRGC), including Muhammad Kazemi, head of the IRGC's intelligence organization, as well as prominent nuclear scientists.² Warplanes and drones struck sites across Iran's vast geography, destroying stockpiles of equipment and temporarily suspending nuclear research. Yet, despite these heavy losses, Iran's political and military leadership framed these attacks as evidence of

¹ Philip Loft, "Iran: Impacts of June 2025 Israel and US Strikes and Outlook," UK Parliament House of Commons Library, 22 July 2025.

² Alia Chughtai, "Visualizing 12 Days of the Israel-Iran Conflict," *Al Jazeera*, 26 June 2025.

foreign aggression, thereby depicting Iran as *mazloun* and vowed to rebuild the program with greater determination. This episode underscores the resilience of Iran's nuclear program and raises pressing questions about the deeper sources of its persistence.

Since the disclosure of clandestine enrichment facilities at Natanz and Fordow in 2002, Iran's nuclear trajectory has become a defining feature of Middle Eastern security politics. The Joint Comprehensive Plan of Action (JCPOA) in 2015 temporarily constrained enrichment activities, yet subsequent developments, including uranium enrichment reportedly reaching 60 percent purity in 2024, demonstrate that the program remains a central pillar of Iranian statecraft. Domestically, it has survived leadership changes, shifting factional coalitions, and even religious pronouncements (fatwas) prohibiting nuclear weapons. Internationally, it has withstood multilateral sanctions, cyber operations, covert sabotage, targeted assassinations, and diplomatic isolation. The continuity of the program, despite these pressures, requires a unique explanation. Hence, our main question is: Why has Iran's nuclear program endured and adapted despite repeated military, economic, and diplomatic efforts to constrain or dismantle it?

Existing scholarship provides important but partial answers to this puzzle. Rationalist and strategic accounts typically frame Iran's nuclear choices as the product of utility-maximizing behaviour under conditions of threat, vulnerability, and geopolitical uncertainty.³ These explanations underscore how US and Israeli capabilities, regional rivalries, deterrence concerns, and regime-survival logics shape Iranian assessments of nuclear value.

Organizational and bureaucratic accounts highlight that Iran's nuclear decision-making underscores the fragmented and contested nature of policy formulation, shaped by institutional pluralism, factional rivalries, and identity-driven imperatives. These works examine the inner workings of the Supreme Leader's office, the Islamic Revolutionary Guard Corps (IRGC), the Supreme National Security Council, the Atomic Energy Organization of Iran (AEOI), and successive presidential administrations.⁴

³ Scott D. Sagan, "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb," *International Security* 21, 3 (1996): pp. 54–86; Etel Solingen, "The Political Economy of Nuclear Restraint," *International Security* 19, 2 (1994): pp. 126–169.

⁴ H. M. Tağma and E. Uzun, "Bureaucrats, Ayatollahs, and Persian Politics," *International Studies Perspectives* 13, 2 (2012): pp. 164–186; Kayhan Barzegar, "Iran's Nuclear Program," *Middle East Policy* 16, 2 (2009): pp. 47–63; Maysam Behraves, "State Revisionism and Ontological (In)Security in International Politics: The Complicated

Although these studies highlight the plural and contested character of the Iranian state, they often assume that the system ultimately resolves through hierarchical convergence, with the Supreme Leader as the authoritative center. This assumption obscures the fact that many nuclear decisions emerge through bargaining, compromise, and overlapping jurisdictions, and that even the Supreme Leader's intervention usually reflects negotiated alignment rather than unilateral command. Although these approaches highlight fragmentation in the decision-making environment, they do not explain why it does not produce policy incoherence or collapse.

Cultural and identity-based perspectives argue that nuclear technology has acquired symbolic meaning tied to sovereignty, resistance, and modernization,⁵ including the emergence of sacred values embedded in Shi'i political theology. On one hand, supreme leaders' fatwas and doctrinal interpretations frame nuclear weapons as religiously impermissible, urging restraint, while on the other hand, they support their civilian nuclear advancement.⁶ This duality has also been identified as the sacralization of nuclear energy, meaning that some segments of the Iranian society treat the nuclear program as a non-negotiable value linking it to their independence and national dignity.⁷ Iran's nuclear policy is shaped by three inter-twined forces: threat perception from neighbouring countries, internal economic and political dynamics, and national pride.⁸

Similarly, the national identity narratives regarding the nuclear program label it as a symbol of sovereignty, modernity, historical redress, and resistance to foreign domination.. While these cultural elements of honour, pride and resistance have galvanized public support, nuclear symbolism has also been politicized by various

Case of Iran and Its Nuclear Behavior," *Journal of International Relations and Development* 21, 4 (2018): pp. 836–857; Elina Shadunts, "From Knowledge to Wisdom: Uncertainty, Ontological Security, and Iran's Nuclear Program," *Global Society* 37, 1 (2023): pp. 62–80.

⁵ Homeira Moshirzadeh, "Discursive Foundations of Iran's Nuclear Policy," *Security Dialogue* 38, 4 (2007): pp. 521–543; Michael Clarke, "Iran's Nuclear Program and the Politics of National Identity," *Australian Journal of International Affairs* 67, 3 (2013): pp. 307–324.

⁶ Muhammad Yousuf and Shafqat Hussain, "Culture, Religion, and Strategy: The Islamic Contours of Iran's Nuclear Policy," *Contemporary Security Policy* 43, 1 (2022): pp. 1–25; Taimur Shameer and Hossein Mousavian, "Religion and Nuclear Restraint: Islam and Iran's Nuclear Program," *The Washington Quarterly* 42, 2 (2019): pp. 43–59.

⁷ Morteza Dehghani et al., "Emerging Sacred Values: Iran's Nuclear Program," *Judgment and Decision Making* 4, 7 (2009): pp. 930–933; Morteza Dehghani et al., "Sacred Values and Conflict over Iran's Nuclear Program," *Judgment and Decision Making* 5, 7 (2010): pp. 540–546.

⁸ Gawdat Bahgat, "Nuclear Proliferation: The Islamic Republic of Iran," *Iranian Studies* 39, 3 (2006): pp. 307–327.

presidential candidates due to the factional competition among reformists, conservatives and nationalists.⁹ The political discourses advanced by these factional elites (presidents) prove to be instrumental in shaping popular attitudes. Public opinion reveals that Iranians favour peaceful nuclear capability and ambivalence towards weaponization.¹⁰

Despite ample literature on this issue, these explanations barely shed light on the two issues related to understanding the resilience of the Iranian nuclear program: the normative explanation of Iran's nuclear discourse based on its unique religio-cultural norms, and the strategic environment of nuclear decision making in Iran. On account of the theoretical parsimony required for empirical analysis, the existing theories overlook one aspect while explaining the other. Existing approaches suffer from three key limitations. First, rationalist models tend to treat the state as a coherent, utility-maximizing actor, thereby overlooking the internal contestation through which nuclear policy is formulated.¹¹ Second, culture is a conceptually diffused and analytically contested concept in international relations. Culturalist approaches are reductionist in nature, and they often reify strategic culture as a static and deterministic force, underestimating the role of elite agency and interpretation.¹² Third, while bureaucratic politics models acknowledge intra-state competition, they insufficiently account for the shared normative frameworks that structure and constrain such competition.¹³ Insights from foreign policy analysis further suggest that states are not unitary actors but are composed of multiple decision-making units shaped by elite interactions and institutional configurations,¹⁴ reinforcing the need for a more integrated framework.

⁹ Farideh Rezaei, "Iran's Nuclear Program: A Study in Political Symbolism and National Identity," *Middle East Critique* 26, 1 (2017): pp. 23–43; Joseph Rivera, "Discursive Practices of Honor: Rethinking Iran's Nuclear Diplomacy," *International Politics* 53, 2 (2016): pp. 222–238; Mohammad Eslami, "Revolutionary Narratives and Nuclear Defiance," *Middle East Critique* 30, 4 (2021): pp. 413–428; Ali Nourani et al., "Discursive Delegitimization of Rouhani's Nuclear Diplomacy," *Politics, Religion & Ideology* 24, 1 (2023): pp. 1–21.

¹⁰ C. Christine Fair, Karl Kaltenthaler, and William J. Miller, "Iranians and the Bomb: Public Opinion and Nuclear Weapons," *Political Science Quarterly* 127, 4 (2012): pp. 613–643; Sivan Herzog, "Iranian Public Opinion on the Nuclear Program," *The Nonproliferation Review* 22, 2 (2015): pp. 163–180.

¹¹ Scott D. Sagan, "Why Do States Build Nuclear Weapons?"

¹² Colin Gray, *Modern Strategy* (Oxford: Oxford University Press, 1999).

¹³ Graham T. Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little, Brown, 1971); Morton H. Halperin and Priscilla Clapp, *Bureaucratic Politics and Foreign Policy*, 2nd ed. (Washington, DC: Brookings Institution Press, 2006).

¹⁴ Valerie M. Hudson, *Foreign Policy Analysis: Classic and Contemporary Theory*, 2nd ed. (Lanham: Rowman & Littlefield, 2014); Margaret G. Hermann, "How Decision Units Shape Foreign Policy," *International Studies Review* 3, 2 (2001): pp. 47–81.

Collectively, these limitations point to the need for an approach that moves beyond treating rationality, culture, and institutional competition as separate explanatory domains. Instead, nuclear decision-making must be understood as a process in which these elements interact, where preferences are neither fixed nor purely exogenous, but are shaped through ongoing contestation among actors operating within shared normative and institutional contexts.

In an attempt to fill in this gap, we propose a Heterarchic Strategic Culture (HSC) framework that integrates insights from rationalist, culturalist, and bureaucratic politics approaches while overcoming their respective limitations. The HSC framework conceptualizes nuclear decision-making as a culturally embedded and structurally dispersed process, in which multiple elite actors operate within a heterarchic system of overlapping authority and draw upon a shared repertoire of strategic-cultural norms to justify and advance competing policy preferences. By heterarchy, we refer to a structure in which authority is dispersed across overlapping and interdependent centers, rather than organized under a single hierarchical command.¹⁵ By strategic culture, we depart from unitary state-level formulations and instead conceptualize culture as a set of shared norms having popular acceptance and legitimacy instrumentally used by the elites at crunch times of nuclear decision making, and these include: *mazlumiyyat* (historical victimhood), *moqavemat* (resistance), technological self-sufficiency, and custodianship of the *ummah*. We argue that in an HSC framework, the strategic preferences of the Iranian elite are shaped by powerful religio-cultural beliefs about resistance, dignity, and national survival in a hierarchically designed heterarchical environment. At the outset, the Iranian theocratic political system seems to be hierarchical, but we think that it is not hierarchical in its literal sense, with a command and control lying with the Supreme Leader. Rather, it is a hierarchically designed heterarchical system which allows differences of opinion among multiple actors. This means that these beliefs are not controlled by just one leader or institution. Instead, clerics, military leaders, presidents, and nuclear experts all draw on the same ideas, but interpret them differently and push for different policies, thrusting upon a diffusion of power logic at the time of nuclear decision-making. Because authority is spread across several influential actors, Iran's

¹⁵ Carole L. Crumley, "Heterarchy and the Analysis of Complex Societies," *Archaeological Papers of the American Anthropological Association* 6, 1 (1995): pp. 1–5; Richard Blanton and Lane Fargher, *Collective Action in the Formation of Pre-modern States* (New York: Springer, 2008).

nuclear program continues even when governments change or when the country faces severe outside pressure.

At this stage, it is also essential to specify the type of elite which we will be focusing on in this article. An integral component of state power is its political elite, who, by exercising their power, can alter the behaviour of large masses, and also influence lesser stakeholders through their political decision-making¹⁶. Moreover, the political elite also reflects the power distribution in a state, hinting at whether power is concentrated or diffused within the political system. In a heterarchic environment, the power may be hierarchically defined, but it is diffused amongst elites. In the case of Iran, the political power is based less on political parties and more on factions. These factions are not homogeneous; rather, they are a loose network of groups, organizations, clergy and religious persons¹⁷, who are the reflection of their own factional strategic culture carrying specific views on socio-economic, political, and foreign policy matters. These factions largely support the Supreme Leader and the idea of the Islamic Revolution, but differ on different issues of national security importance¹⁸. Here, the question arises: how is the decision-making of these elites influenced by their respective strategic culture? We think that elites' socialization is done through their interaction with other members in the factional hierarchy as well as their ideological underpinnings. This difference largely erupts due to their socio-cultural, religious and political grooming. For this article, we would restrict our analysis to the politically relevant elite in Iran, i.e., the Supreme Leader and the President. Since 1979, Iran has had two Supreme Leaders and nine presidents (including the incumbent president, Mahmood Pezeshkian).

This article is significant for three reasons. First, it adds a fresh perspective to the already existing body of literature on domestic politics and nuclear proliferation by arguing how heterarchy based on strategic culture can help explain the entire Iranian nuclear discourse through various regimes, be it secular or Islamic. Second, it provides insights to policy-makers that external/foreign policy pressures alone are unlikely to shape nuclear policy, it is domestic heterarchy and religious-ideological strategic

¹⁶ Marvin Zonis, *The Political Elite of Iran* (Princeton: Princeton University Press, 1971); Robert Putnam, "Studying Elite Political Culture," *American Political Science Review* 65, 3 (1971): pp. 651–681.

¹⁷ Ali Parchami, "Iran's Strategic Culture and Its Implications for Nuclear Policy," *Defence Studies* 22, 3 (2022): pp. 417–437.

¹⁸ Eva Patricia Rakel, *Power, Islam and Political Elite in Iran* (Leiden: Brill, 2009).

narratives which drive and sustain it. Third, it is an exploratory single case study which can further be generalized to other such religiously charged ideological societies, such as Israel, Pakistan, and India.

Methodologically, this article uses “theory-guided process tracing”¹⁹ to identify and explain the causal mechanisms that have shaped Iran’s nuclear trajectory from 1957 to 2025. Process tracing enables systematic examination of how cultural narratives, elite interpretations, and institutional configurations interacted over time to produce specific policy outcomes. The empirical analysis is structurally organized into distinct historical phases, thereby providing a historically grounded account of the program’s long-term resilience.

Besides the introduction, this article is divided into three sections. The second section explains the important components of the theoretical framework, i.e., heterarchic strategic culture. The third section provides empirical evidence by offering an analysis of the different phases of Iran’s nuclear discourse. The fourth section will conclude.

Heterarchic Strategic Culture

This section develops the Heterarchic Strategic Culture (HSC) framework as an alternative to dominant explanations of nuclear decision-making. While existing models either privilege material rationality or cultural determinism, they often fail to capture how policy emerges through interaction between competing actors operating within shared normative boundaries. The HSC framework addresses this limitation by integrating two dimensions: the distribution of authority across a heterarchic political structure, and the role of strategic culture as a set of socially embedded norms that both constrain and enable elite decision-making. The framework of HSC comprises two concepts: strategic culture and heterarchy. Let us first explain them separately.

Strategic culture is an elusive concept, lacking a single, universally accepted definition. Broadly, it provides a framework for understanding how a state’s identity and behaviour are shaped not only by material conditions but by historically shared experiences, geography, religious narratives, and ideological traditions. In the nuclear

¹⁹ Andrew Bennet and Jeffrey Checkel, *Process Tracing: From Metaphor to Analytical Tool* (Cambridge: Cambridge University Press, 2015).

realm, strategic culture explains why some states view nuclear weapons or nuclear technology as essential to their identity and autonomy, while others regard them as illegitimate or unnecessary. For example, India's strategic decision to go nuclear in 1998 after a 24-year since 1974, is tied to its Hindutva norms,²⁰ while in Japan, the memory of Hiroshima and Nagasaki has embedded nuclear restraint into its strategic identity.²¹ Strategic culture is also defined as “an understanding of social practices of elites embedded in socio-cultural ideology of their political party, forming some falsifiable determinant of strategic behavior.”²² Scholars such as Colin Gray define the term as a “set of shared beliefs, assumptions, and modes of behavior, derived from common experiences and accepted narratives that shape collective identity and determine appropriate ends and means for achieving security objectives”²³ Thus, strategic culture is often explained as the contextual environment within which decisions are embedded, or as a discrete causal variable that directly determines policy outcomes, as outlined in Alastair Iain Johnston's (1995)²⁴ behavioralist model of strategic culture.

At present, the debate over strategic culture is between its contextual and deterministic nature. Exponents of the former give it the status of an environment or context influencing decisions of strategic importance due to its fluidity, while those of the latter give it a deterministic value, actually causing outcomes or decisions.²⁵ In our case study, we will take strategic culture as a hybrid source not only for providing a contextual environment to elites for popularly accepted norms' cherry-picking but also as the source of causing actual strategic decision making.

In this sense, nuclear choices are not simply rational but are embedded in cultural and normative contexts that drive this decision. The problem with the study of Iran is that it does not have political parties, rather its decision-making is dominated by

²⁰ Muhammad S. Pervez, “Strategic Culture Reconceptualized: The Case of India and the BJP,” *International Politics* 56 (2019): pp. 87–102.

²¹ Scott D. Sagan, “Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb,” *International Security* 21, 3 (1996): pp. 54–86; T. V. Paul, *Power versus Prudence: Why Nations Forgo Nuclear Weapons* (Montreal: McGill-Queen's University Press, 2000).

²² Pervez, “Strategic Culture Reconceptualized,” 9 p. 2.

²³ Colin Gray, *Modern Strategy* (Oxford: Oxford University Press, 1999), p. 132.

²⁴ Alastair Iain Johnston, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History* (Princeton: Princeton University Press, 1995).

²⁵ Gray, *Modern Strategy*; Pervez, “Strategic Culture Reconceptualized,” Johnston, *Cultural Realism*.

factionalism. Let's discuss some of the important norms from the repository of Iranian culture. In Iran's case, the legacy of foreign intervention has entrenched norms of resistance (*moqavemat*), autonomy (*esteqlal*), and vigilance against external manipulation. These 'historical chosen traumas'²⁶ have cultivated a strategic culture that considers self-reliance (*khod-kafai*), sacrifice, and defiance as moral obligations rather than mere strategic options. Accordingly, Iran's pursuit of nuclear technology since the 1980s has been shaped by a cultural logic that associates technological mastery with sovereignty, dignity, and justice, positioning nuclear capability as a symbolic assertion of independence in a historically exploitative international order.

Religion also plays a central role in shaping Iran's strategic culture by embedding state behaviour within a moral and theological framework that defines security as both a spiritual and political endeavour. Shi'i Islam, with its emphasis on justice (*adl*), martyrdom (*shahadat*), patience under oppression (*sabr*), and resistance (*moqavemat*), provides the foundational basis through which Iran interprets threat, legitimacy, and strategic necessity. The Iranian Revolution of 1979 institutionalized these religious norms into political authority through the doctrine of *velayat-e faqih* (guardianship of the jurist), validating governance through clerical jurisprudence. This religio-strategic worldview was further consolidated during the Iran–Iraq War (1980–1988), which Supreme Leader Ayatollah Khomeini framed as *defa'-e moqaddas* (the sacred defence). These narratives of sacred resistance remain central to Iranian strategic discourse, resurfacing in the IRGC's justification of deterrence programs as the continuation of the revolutionary struggle against injustice and Western coercion. The Supreme Leader's numerous fatwas declaring nuclear weapons *haram* (forbidden) demonstrate how religious jurisprudence simultaneously delineates ethical red lines and legitimizes peaceful nuclear advancement as an act of national dignity and divine trust (*amanat*). During the period of early nuclear revival under President Rafsanjani, the discourse of *jihad-e elmi* (scientific jihad) was linked to technological progress with religious duty and revolutionary perseverance. Such ideological constructions generate *strategic cultures of legitimacy* where religiously derived norms define the permissible boundaries of national ambition.²⁷

²⁶ Catarina Kinnvall, "Globalization and Religious Nationalism: Self, Identity, and the Search for Ontological Security," *Political Psychology* 25, 5 (2004): pp. 741–767.

²⁷ M. K. Kartchner, "Religion and Strategic Culture," in *Routledge Handbook of Strategic Culture*, ed. M. K. Kartchner, B. Bowen, and J. Johnson (London: Routledge, 2024).

Moreover, religious institutions such as the *hawza* in Qom and the *Basij* ideological networks reinforce these norms through elite socialization, producing a political class that interprets technological self-sufficiency as moral rectitude. The *hawza* and IRGC academies inculcate a moralized understanding of national security rooted in the values of *velayat-e faqih*, resistance, and sacrifice. For instance, during the 2003 nuclear suspension decision, pragmatist elites like Hassan Rouhani and the Ministry of Foreign Affairs emphasized *maslahat* (expediency) to prevent international isolation, while hardliners within the IRGC framed compromise as moral weakness. Similarly, during the 2015 JCPOA negotiations, institutional competition between the Foreign Ministry and IRGC reflected a heterarchical dynamic: authority was diffused, but all actors operated within the same cultural-religious logic of preserving dignity (*keramat*) and autonomy. This diffusion of power reflects an ideational commitment to deliberation (*shura*) and moral duty (*taklif*) over bureaucratic hierarchy. Elite preferences thus evolve through negotiation within a shared ideological framework, producing a system of strategic governance that is pluralistic in process yet cohesive in cultural rationale. In this sense, Iran's nuclear behaviour emerges from the intersection of moralized strategic culture, religiously anchored identity, and elite interaction within a heterarchical decision environment. This means that while strategic culture alone can explain the religio-cultural aspect of Iran's nuclear program, it cannot explain the variation in its discourse as to how elites strategically use norms in its various phases despite having different world views over the interpretations of these norms. This is where Heterarchy comes into play.

The concept of heterarchy has become increasingly relevant in understanding systems where authority and decision-making are shared rather than strictly hierarchical. Scholars have used this idea to explain a wide range of complex structures: the functioning of the human brain, organizations and firms, societies with weak or decentralized state authority,²⁸ constitutional legal systems, and systems of global governance. Collectively, these studies reveal that heterarchy reflects a system of

²⁸ Karen Stephenson, "Heterarchy," in *Handbook on Theories of Governance* (Cheltenham: Edward Elgar, 2016), pp. 139–148; Daniel Halberstam, "Constitutional Heterarchy," in *Ruling the World?*, ed. Jeffrey Dunoff and Joel Trachtman (Cambridge: Cambridge University Press, 2009); Erik Dekker and Pavel Kuchar, "Heterarchy," in *Encyclopedia of Law and Economics* (New York: Springer, 2021).

coordination and control based on interdependence and negotiation rather than command and subordination.

Generally, heterarchy is defined as “a system composed of differentiated but unranked segments, where no clear hierarchical ordering of social segments can be detected.”²⁹ This means that a heterarchical structure is one in which the elements are either unranked or possess the potential to be ranked in several ways. In stark contrast to hierarchy, it facilitates the allocation of authority to target-specific functionalized centers, and distributes the privilege of decision-making in a way that it can be reversed or re-adjusted according to the needs of the system.³⁰ Within a political system, it refers to the simultaneous concentration and dispersion of power.³¹ Applied to the domestic political structure of states, heterarchy highlights the coexistence of multiple, and often competing logics of authority, such as civil–military power balances, bureaucratic rivalries, party politics, and local–national tensions.³² This perspective aligns closely with polycentric governance models that favour dispersed decision-making over rigid top-down control.³³ Within a heterarchical configuration, authority is distributed across multiple centers, producing both vertical and horizontal accountability and allowing diverse organizational norms and principles to coexist within a single adaptive system.³⁴

In a heterarchic structure, there may be hierarchical sub-units, and in a hierarchical structure, there can be heterarchical sub-units.³⁵ While authority is clearly defined in a hierarchical structure, order in a heterarchic structure is maintained through an

²⁹ Richard Blanton and Lane Fargher, *Collective Action in the Formation of Pre-modern States* (New York: Springer, 2008), p. 90.

³⁰ Carole L. Crumley, “Heterarchy and the Analysis of Complex Societies,” *Archaeological Papers of the American Anthropological Association* 6, 1 (1995): pp. 1–5; Matthew Donnelley, “Heterarchy in International Relations,” *European Journal of International Relations* (2016).

³¹ H. R. Santini, “A New Regional Cold War in the Middle East and North Africa,” *The International Spectator* 52, 4 (2017): pp. 93–111.

³² Bruno Embalo, “Civil-Military Relations and Political Order in Guinea-Bissau,” *Journal of Modern African Studies* 50, 2 (2012): pp. 253–281.

³³ Elinor Ostrom, “Beyond Markets and States: Polycentric Governance of Complex Economic Systems,” *American Economic Review* 100, 3 (2010): pp. 641–672.

³⁴ David Stark, “Heterarchy: Exploiting Ambiguity and Organizing Diversity,” *Brazilian Journal of Political Economy* 21, 1 (2001): pp. 22–41; Tayyaba Jaffery and Muhammad S. Pervez, “Conceptualising a Heterarchical Regional Security Complex,” *The International Spectator* 59, 4 (2023): pp. 78–94; Tayyaba Jaffery and Muhammad S. Pervez, “The Hub and Spokes Plus Model,” *Pacific Affairs* 98, 3 (2025): pp. 533–556.

³⁵ Carole L. Crumley, “Communication, Holism, and the Evolution of Sociopolitical Complexity,” in *From Leaders to Rulers*, ed. J. Haas (New York: Springer, 2001), pp. 19–46.

ambiguously defined hierarchy. This means that heterarchy and hierarchy are not completely divorced from one another; , they are complementary in nature. In the nuclear domain, this means that decisions are rarely the product of a single, unified rational actor; instead, they emerge from interactions among diverse actors with overlapping jurisdictions, distinct threat perceptions, and sometimes conflicting strategic priorities³⁶. In doing so, it increases the chances of collaboration and coordination among actors, enhancing their resilience and flexibility by enabling them to work together to manage crises and to adapt to changing circumstances.³⁷ On a cursory glance, the Iranian political system seems to be a one-man show run by the Supreme Leader, but in reality, especially at the time of nuclear decision making, the diffusion of power plays out through elite factionalism, supremacy of the Grand Ayatollah/Supreme Leader, and various military-technocratic bodies. Hence, the resilience of Iran's nuclear program can be attributed to its heterarchic political structure in which the power was diffused among actors in a way that they could adjust their decisions according to their domestic needs. Understanding nuclear decision-making through a heterarchical lens thus reveals the fluidity of relationships, the interplay of competing claims to power, and the dynamic restructuring of nuclear decision-making within a state's political system.

Importantly, heterarchy and hierarchy should not be understood as mutually exclusive categories, but as points along a continuum where both overlap and at times reinforce each other. At certain moments, particularly under conditions of acute external threat or strong ideological consensus, decision-making may become more hierarchical, with authority concentrated in the office of the Supreme Leader. At other times, particularly when elite consensus is weak or the external environment is ambiguous, decision-making becomes more heterarchic, characterized by dispersed authority and competing policy initiatives. This dynamic variation is central to understanding fluctuations in Iran's nuclear trajectory.

However, heterarchy alone cannot fully explain the persistence of the program. Its explanatory power emerges only when connected to the shared cultural narratives that permeate Iran's elite political sphere. These narratives, rooted in revolutionary history,

³⁶ David Stark, *The Sense of Dissonance: Accounts of Worth in Economic Life* (Princeton: Princeton University Press, 2009).

³⁷ M. D. Ramjit, "Navigating Crisis and Fragmentation in the Public Sector," in *Routledge Handbook on Crisis, Polycrisis, and Public Administration* (London: Routledge, 2025).

Shi'i political theology, and long-standing experiences of intervention, provide a common foundation upon which diverse actors justify their claims. Because clerics, military elites, technocrats, and elected officials all draw from a similar cultural vocabulary, they each possess partial but credible authority to interpret what nuclear responsibility entails. This creates a system in which nuclear policy is neither dictated from above nor fragmented beyond coherence, but negotiated within a culturally anchored, polycentric security environment. By integrating these insights, HSC offers a conceptual bridge between existing literatures.

At this point, it is important to distinguish the HSC framework from traditional bureaucratic politics models. While both emphasize competition among state actors, bureaucratic politics approaches primarily focus on institutional interests, bargaining, and power struggles.³⁸ In contrast, the HSC framework highlights that such competition is not normatively neutral; it is structured and constrained by shared cultural narratives that define what constitutes legitimate and acceptable policy. Thus, actors do not merely compete over interests, but over culturally grounded interpretations of national security and strategic necessity.

HSC shows that nuclear policy is sustained through the interaction between cultural meaning and institutional structure; a cultural repertoire that legitimizes nuclear capability and an institutional architecture that distributes authority in ways that protect that capability from both external shock and internal reversal. In doing so, HSC provides a more comprehensive explanation of why Iran's nuclear program has proven so resistant to coercion, negotiation breakdowns, and political change. The core of this argument is that Iran's nuclear program is neither the product of a unitary strategic culture nor the outcome of a clear bureaucratic hierarchy; rather, it is shaped by the interaction of shared cultural narratives and polycentric authority structures that mutually reinforce one another. Strategic culture in Iran is not a fixed or monolithic worldview residing at the level of the state, but a collection of historical, religious, and civilizational narratives such as resistance to domination, *izzat* (dignity), *mazlumiyyat* (historical victimhood), technological self-sufficiency, and the ethos of *moqavemat* that are broadly shared yet interpreted differently by various elite actors. These narratives furnish nuclear policy with moral, symbolic, and emotional meaning, framing nuclear capability as a marker of

³⁸ Graham T. Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little, Brown, 1971).

sovereignty, autonomy, and civilizational purpose. At the same time, authority over nuclear decisions is distributed across a heterarchic constellation of institutions: the Supreme Leader's office, the IRGC, the Supreme National Security Council, the Atomic Energy Organization of Iran, the presidency, and influential clerical and security networks. None of these actors holds absolute or unilateral authority; instead, each derives partial legitimacy from the same cultural reservoir, enabling them to claim custodianship of the correct interpretation of national security.

Additionally, HSC explains Iran's nuclear trajectory as a resilient, negotiated, and culturally anchored project, sustained not because every actor agrees on strategy but because no legitimate actor can reject the cultural meaning embedded in the program. Strategic culture provides the symbolic glue; heterarchy provides the institutional architecture; together, they create a nuclear policy that is neither strictly rationalist nor purely ideological, but a durable hybrid shaped by both meaning and structure.

Phases of Iran's Nuclear Program

This section explicates the various phases of Iran's nuclear program by mapping its oscillation between cooperation, defiance, suspension/ambivalence, and rapid advancement. For each phase, we will attempt to answer three questions: who were the dominant elite? Which religio-cultural norms were prominent? How did the heterarchic environment and cultural norms shape the nuclear trajectory?

Early Cooperation Phase (1957 – 1979)

The dominant political elite in this phase was the authoritarian Shah, who had curbed all kinds of opposition to his regime domestically. The initiation of the nuclear program was deeply rooted in his westernized mindset and the cultural/historical experiences which he had internalized while growing up. This means that while decision-making power was hierarchically concentrated within the Shah, he had limitedly distributed power among technically specialized units to get the job done. Hence, it was a hierarchically heterarchic setup in which Iran initiated its nuclear development.

Muhammad Raza Pahlavi took the oath as the Shah of Iran on 17 September 1941, at a time when the Second World War had reached its peak. He had experienced the

abdication of his father by Britain and Russia, the two great powers of that time. He had also internalized that Iran's geostrategic location and natural resources had subjected it to deleterious foreign meddling, cementing the belief that external powers were taking advantage of its resources more than the country itself. Consequently, the two overarching goals of his reign were to modernize Iran and restore its lost Persian glory, and the only way to do so was by allying with the Western world. The Shah equated modernization with westernization, envisioning Iran as an increasingly urbanized, educated and technologically advanced country.³⁹ So, under his leadership, the strategic culture of Iran was defined by a blend of pride in Iran's heritage, humiliation from foreign interference, and modernization as a force against dependency. In continuation thereof, under the 1955 Second Development Plan, the Shah's government spent huge amounts of money on economic and social projects. The perfect conduit for industrial and economic progress in those days was nuclear supremacy.

Nuclear power was synonymous with the prestige, identity and sovereignty of a nation. Prestige is a nebulous yet very real idea in international politics. It is best defined as power based upon reputation rather than reputation based on power.⁴⁰ The Shah used this program to both create and exemplify the identity of a modern and Western Iran. Although the acquisition of nuclear power, intertwined with notions of national pride and progress were a normal desire for any developing country, in Iran's case, they were undertaken not by defying the developing world but by donning the western clothes. This aspect differentiated as well as shaped Iran's nuclear posture. This program was one of the many manifestations of Shah's paradoxical need to escape the Western oppressor while simultaneously emulating it.

Efforts for nuclear cooperation began in 1957 when the Shah of Iran signed a civil-nuclear cooperation deal with the United States under its Atoms for Peace Program. Additionally, a 5MW light-water research reactor was installed at the Tehran Nuclear Research Center (TNRC) in 1967. Subsequently, the Atomic Energy Organization of Iran (AEOI) was established as a domestically powerful technocratic body under Akbar Etemad, who cultivated significant autonomy in setting nuclear priorities and managing scientific cooperation with Western states. Bureaucratic actors, including the Planning

³⁹ Daniel Patrikarakos, *Nuclear Iran: The Birth of an Atomic State* (London: I. B. Tauris, 2012).

⁴⁰ Patrikarakos, *Nuclear Iran*, p. 28.

and Budget Organization and the Ministry of Court, also played important roles in allocating resources and negotiating foreign contracts. These efforts reached their apex with the signing and subsequent ratification of the Non-Proliferation Treaty (NPT) in 1967 and 1970, respectively.⁴¹ Even though the Shah remained the final arbiter, he relied on technocrats and external expertise, making nuclear policy the product of negotiation across bureaucratic, scientific, and royal circles.⁴² This shows that the nuclear program's initial trajectory was shaped by a web of heterarchic, overlapping units working under a broad hierarchical royal command. Additionally, it was Iran's strategic culture rooted in historical experiences which ignited Shah's desperation to modernize/westernize Iran, for which he was even ready to give those heterarchic units some degree of decision-making power. Thus, a purely security-driven explanation cannot sufficiently explain this phase because Iran faced no existential threats during this time. Instead, the HSC framework, emphasizing cultural motivations and dispersed authority, best explains why nuclear development advanced and persisted across regime change. Accordingly, the nuclear program of Iran began in a hierarchically heterarchic setup guided by the norms of westernization, rejuvenation of national pride and prestige.

The Defiance Phase (1979-1989)

The phase of defiance was dominated by two kinds of elites: the Supreme Leader, and the president. The two important events which critically impacted the course of Iran's nuclear program during this phase were: the Iranian Revolution (1979) and the Iran-Iraq War (1980-1988). Decision-making in this phase was guided by a defiance of westernization and strict adherence to Islamic norms of resistance and self-reliance.

An Islamic Republic was established in Iran in 1979 by Ayatollah Ruhollah Khomeini, who was born in 1902 in the Khomein town of Qum to a family linked with religious and seminary knowledge. He was a simple man who lived in a two-bedroom apartment attached to an *imambargah* (a religious space of Shi'i Muslims) even after the revolution.⁴³ As a religious cleric and *fiqh* instructor, he was an ardent follower of the Shi'i sect of Islam. He followed popular Shi'i norms of worshipping shrines, invoking saints

⁴¹ Shahram Chubin, *Iran's Nuclear Ambitions* (Washington, DC: Carnegie Endowment, 2006).

⁴² Mark Fitzpatrick, *The Iranian Nuclear Crisis: Avoiding Worst-Case Outcomes* (London: Routledge, 2006); Abbas Milani, *The Shah* (New York: Palgrave Macmillan, 2011).

⁴³ A. S. Shah, "Imam Khomeini: Brief Biography," *Pakistan Horizon* 62, 2/3 (2009): pp. 25–28.

and observing the mourning of the martyrdom of Shi'i imams.⁴⁴ He did not take part in any political activity until 1962, when the Shah's government promulgated new laws concerning the local elections, and he omitted taking the oath on the Holy Quran.⁴⁵ Moreover, the land reforms undertaken through the White Revolution, the increased westernization of Iran, and many other activities made him a religious opponent of the Shah. At the international level, the Cold War had reached its apex. The US was using its blue-eyed Shah as a tool to contain communism and export secularism to Iran.

In this regard, the strategic culture shaped Ayatollah Khomeini's preferences of international politics as an incessant struggle between the forces of good (*Mustazafin*) and evil (*Mustakberin*). The term *Mustazafin* (plural of *Mustazaf*), derived from the Arabic root *zafa*, meaning weak or oppressed, refers in the Qur'anic tradition to those who are marginalized, exploited, or deprived. This norm was used to refer to both the impoverished and disenfranchised masses within Iran and the broader oppressed populations of the Global South. He argued that divine promises in the Qur'an ensured eventual victory and empowerment for these groups.⁴⁶ Conversely, *Mustakberin* (plural of *Mustakber*), derived from *karaba*, meaning arrogance or pride, refers to those who reject divine authority out of hubris. In Khomeini's interpretation, this norm encompassed both the ruling elites of Third World states and the great powers—particularly the United States—that dominated and exploited weaker nations. By equating the *Mustakberin* with imperial arrogance and casting them as embodiments of satanic forces, Khomeini's preference as a binary worldview of Self versus Other structured Iran's foreign relations.

The *Mustazafin* represented the righteous and oppressed, while the *Mustakberin* embodied domination, corruption, and rebellion against divine order. This dualistic framework decisively shaped Iran's post-1979 identity, which was based on an anti-Western orientation, deeply rooted in historical grievances and reinforced by the Shi'i norm of *mazlumi*—a concept emphasizing victimhood, oppression, and resistance to unjust domination.⁴⁷ Moreover, the Ayatollah was convinced that the Shah and the US

⁴⁴ G. Bhagat, "Khomeini: Leader of Islamic Revolution in Iran," *Indian Journal of Political Science* 48, 1 (1987): pp. 31–41.

⁴⁵ Shah, "Imam Khomeini."

⁴⁶ Tareq Taremi, "Iranian Strategic Culture: The Impact of Ayatollah Khomeini's Interpretation of Shiite Islam," *Contemporary Security Policy* 35, 1 (2014): pp. 3–25.

⁴⁷ Ali Parchami, "An Iranian Worldview: The Strategic Culture of the Islamic Republic," in *Routledge Handbook of Strategic Culture*, ed. M. K. Kartchner et al. (London: Routledge, 2024).

were the two evils that had been the cause of the problems of the Muslim World.⁴⁸ This is why he revoked nearly all of the initiatives undertaken by the Shah, including the nuclear program. Hence, his perception of *Mustakbirin* versus *Mustazafin* was further consolidated during this phase. He firmly believed that it was the responsibility of the clergy to oppose all kinds of anti-Islamic traditions. Being the moral, religious, and political leader of Iran (and all of Shi'i Muslims), he came to be known as Imam Khomeini. As per Shi'i norms, Imam means the agent of Allah, and as Imam, he has been appointed by God to restore the political and religious power to the clergy. As the custodian of the Holy Quran, he can interpret and represent the will of Allah and His Prophet on earth. These Shi'i norms helped him attain popular acceptance and legitimacy among the masses.

Amidst this backdrop, he propagated a model of governance known as Khomeinism, which refers to a religio-political doctrine which is based on a combination of Shi'i norms and the principle of clerical rule, also known as *Vilayat-e-Faqih*. This new framework asserted that only a senior religious cleric (Supreme Leader) was capable of ruling the country and its armed forces.⁴⁹ It was made part of the Iranian constitution in 1979, which further reformed the domestic political structure of the state. Clergymen, who were previously denied access during the Shah's reign, began to populate the entire political sphere. In the parliamentary elections of 1980, 61 percent members were elected from the clergy, thereby leading to a politicization of the clergymen. Since both these elites were heavily influenced by Khomeinism and his worldview of *Mustakbirin* versus *Mustazafin*, they defied all kinds of westernization.

The clergy-military elite believed that the state should be governed according to norms of Shi'i Islam, and relations with all forces of modernity should be severed. Resistance against the US, Israel and the West at large was rendered as a moral duty, for which the Islamic revolution should be exported to other oppressed Muslim Nations (*Mustazafin*) to create a global Islamic rule, which would consequently pave the way for the re-occultation of Imam Mahdi (the Twelfth Shi'i Imam) – again a powerful belief in Shi'i Islam.⁵⁰ The strategic culture, henceforth, was not based on seeking prestige through

⁴⁸ Bhagat, "Khomeini."

⁴⁹ See No. 47.

⁵⁰ William Stanley, "The Strategic Culture of the Islamic Republic of Iran," United States Threat Reduction Agency, 2006.

technological prowess; instead, the post-revolutionary president prioritized ideological purity, Islamic authenticity, and resistance to perceived Western domination. This new revolutionary regime was against the Shah's vision of a modern and Western Iran, and nuclear power was viewed as a continuation of colonialism by other means. It was labelled as un-Islamic and contradictory to God's principles, and they preferred conventional tactics of war over modern nuclear weapons. Consequently, all efforts towards the nuclear program were stopped, and this was the first act of defiance which Iran undertook against Western imperialist influence.

However, the strategic calculus and normative disposition of Iran were altered by the Iran-Iraq war (1980-1988), both domestically and regionally. Iraq's invasion in 1980, coupled with the use of chemical weapons and the pursuit of nuclear capabilities, created an existential threat perception among the Iranian elite. This war created a 'siege mentality' among the Iranians, meaning that Iran was encircled by hostile enemies who were determined to destroy the country. Hence, Iran needed to be self-reliant and self-sufficient. This episodic war reinforced the ideological narrative of Khomeinism and norm of *mazlouniyyat* into the Iranian strategic culture, thereby cementing the fact that Iran was among the *Mustazafin*.

In terms of decision-making, although the Supreme Leader had discredited overt nuclearization, the on-ground reality, as perceived by other elites such as President Ali Khamenei (who later became the Supreme Leader), was different. Ayatollah Syed Ali Khamenei, born in 1939 in the Iranian city of Mashhad, played a crucial role in the 1979 revolution, remained the president from 1981 to 1989, and later succeeded Ayatollah Khomeini to become Iran's second supreme leader.⁵¹ He was deeply influenced by the writing of Sayyed Qutub, the Egyptian theoretician behind the Muslim Brotherhood. Like Ayatollah Khomeini, he was also convinced that the West, particularly the US, was inherently Islamophobic and hell-bent upon inducing regime change in Iran.⁵² But he did not consider the US to be the cause of all of the Islamic world's problems. Rather, he believed that science and progress are the two significant truths of Western civilization, and the Iranian people must embrace them. Moreover, while being traditionally against the Western model of liberal democracy because it brings domination, he believed in a

⁵¹ Sanam Vakil and Hossein Rassam, "Iran's Next Supreme Leader," *Foreign Affairs* 96, 3 (2017): pp. 76–86.

⁵² Akbar Ganji, "Who Is Ali Khamenei?" *Foreign Affairs* 92, 5 (2013): pp. 24–48.

religious democracy based on the divine rights and duties of man. His worldview relates to the Shi'i Islam's norm of *taqiyyah*, which means concealed or dissimulated practices of religious beliefs to ensure survival or avert any danger. Based on his ideological underpinnings, he demanded a practical action, thereby leading to a policy of dual hedging. This policy pertains to adopting an ambivalent nuclear posture by outrightly rejecting nuclear weapons on ideological grounds, yet preserving nuclear know-how and expertise for peaceful usage and development.

In April 1984, Iranian President Ali Khamenei discussed the nuclear program with his political and security officials, and concluded that a nuclear deterrent was the only way to secure the very essence of the Islamic Revolution from the schemes of its enemies, especially the US and Israel, and to prepare the nation for the emergence of Imam Mehdi. A nuclear arsenal would thus serve Iran as a deterrent in the hands of God's soldiers.⁵³ Similarly, in 1986, Ali Akbar Rafsanjani, then Chairman of the Iranian Parliament/Majles, articulated that the nuclear program was now a national service and a patriotic duty. He urged all Iranian nuclear scientists to return to Iran and serve the country. During one of his speeches in 1988, President Rafsanjani reiterated the narrative of Khomeinism and betrayal by neighbours to create a sense of nuclear nationalism among the nation. He said that the Iran-Iraq War of 1988, the partiality of the IAEA, and domestic compulsions in the form of electricity shortage and rapid population growth had forced Iran to restart its nuclear program.⁵⁴ The Islamic Republic of Iran had now begun to embrace an alternate conception of modernity, which would be based on the acquisition and use of nuclear technology on the basis of Islamic ideology. Thus, these two instances reinforce that it was due to elite socialization with socio-cultural norms that led to heterarchic decision-making in the nuclear realm.

The Beginning of Ambivalence (1989-2005)

The dominant elite during this phase was the Supreme Leader, the various presidents who belonged to different factions, and some prominent technocrats who played a crucial role in Iran's nuclear program. The year 1989 was significant for two main reasons: the end of the Iran-Iraq war, and the death of Ayatollah Khomeini. Iran's

⁵³ Patrikarakos, *Nuclear Iran*, pp. 120–121.

⁵⁴ Patrikarakos, *Nuclear Iran*, p. 130.

strategic culture and nuclear posturing were now influenced by the worldview of Ayatollah Syed Ali Khamenei, who believed that a nuclear deterrent was pivotal in preparing the nation for the occultation of Imam Mahdi. The power of the clergy had reduced, and the technocratic elite led by a reformist president, Ali Akbar Rafsanjani, had assumed a more powerful position in the country because Iran was in dire need of reconstruction and rehabilitation post the eight-year war.

Under the leadership of President Ali Akbar Hashemi Rafsanjani (1989-1997), Iran began its journey of postwar reconstruction. As an ardent supporter of the Supreme Leader and Head of the Guardian Council, he reframed nuclear technology as essential for postwar reconstruction, deterrence, and national prestige rather than as a symbol of Western decadence.⁵⁵ Resultantly, during this period, Iran departed from its radical and revolutionary foreign policy to a more pragmatic one. The radical elites were marginalized, and the political elites, less influenced by ideology, took control. This de-ideologization was done by prioritizing the norms of *takhassoos* (technical expertise) over *tahood* (ideological commitments). He depoliticized the leadership of the IRGC and gave the technocrats an upper hand. For example, Akbar Turkan, a civilian technocrat, was appointed as Minister of Defense and Armed Forces Logistics.⁵⁶ While Supreme Leader Ali Khamenei continued to uphold an overt religious ban on nuclear weapons, he endorsed peaceful nuclear development, signalling a recalibration rather than abandonment of prior norms.⁵⁷ This normative shift led to the beginning of an ambivalent nuclear posture, and legitimized renewed nuclear activity, including the 1992 nuclear cooperation agreement with Russia to complete the Bushehr Nuclear Power Plant, and covert procurement of centrifuge technology from Pakistan's Abdul Qadeer Khan network. By the late 1990s, nuclear capability was portrayed as a sovereign right and technological imperative, broadening the permissible policy space within which Iranian actors operated.

During the presidency of Syed Mohammad Khatami (1997-2005), the power of the clergy was reduced, and the technocrats assumed an upper hand in the clergy-technocrat

⁵⁵ R. Scott Kemp, "The Iranian Nuclear Program: Origins and Policy Evolution," in *Handbook of Iran's Economy*, ed. R. E. Looney (London: Routledge, 2014).

⁵⁶ Saeid Golkar, "Configuration of Political Elites in Post-Revolutionary Iran," *Brown Journal of World Affairs* 23, 1 (2016): pp. 281–292.

⁵⁷ Chubin, *Iran's Nuclear Ambitions*.

alliance. Muhammad Khatami was the son of an Ayatollah and a reformist in approach. He advocated a *dialogue between civilizations*, presuming that doing so would reform Iran's image in the outside world. Consequently, Iran's foreign and domestic policies had become more pragmatic rather than revolutionary. Due to his socialization with reformist norms, he emphasized international engagement and transparency.⁵⁸ The post-revolutionary state structure distributed decision-making power across multiple rival centers — the AEOI, IRGC, SNDC and the foreign ministry without any clear hierarchy.⁵⁹ The AEOI pursued civilian projects openly and engaged with the International Atomic Energy Agency (IAEA), while IRGC-linked procurement networks clandestinely sought sensitive fuel-cycle components from China and Pakistan.⁶⁰ These parallel tracks often operated with minimal coordination or mutual awareness. For instance, while the AEOI signed contracts with Russia between 1993 and 1995 for reactor and fuel-fabrication projects, the IRGC simultaneously developed covert enrichment capabilities at the Natanz site, which remained undeclared until 2002.⁶¹ Such compartmentalization reflects the diverse options for elites' preferences, further reinforcing the logic of heterarchy in this phase. However, this reformist era was not favoured by the Supreme Leader Ali Khamenei, and with his support, the IRGC again became active in politics. Between 2001 and 2005, they controlled all kinds of reformist action in Iran, and resultantly, a hardliner group called the Coalition of Builders of Islamic Iran won majority seats in the municipal elections of 2003.⁶² Members of this group were conservative technocrats with fewer academic credentials and closer links to IRGC and the Supreme Leader. Interestingly, the forthcoming president of Iran, Mahmood Ahmadinejad, also emerged during this time from this very system of hardliners. Formerly a Basij militia member, he was appointed as the Mayor of Tehran in 2003. While on duty, he appointed similar conservatives as mayors of 22 districts in Iran, thereby replacing the reformist elite with a conservative-hardliner one.

⁵⁸ Wyn Q. Bowen and Joanna Brewer, "Iran's Nuclear Challenge: Nine Years and Counting," *International Affairs* 87, 5 (2011): pp. 923–943.

⁵⁹ Suzanne Maloney, *Iran's Political Economy since the Revolution* (Cambridge: Cambridge University Press, 2002).

⁶⁰ Mark Hibbs, "Iran's Procurement Network for Centrifuges and Related Technologies," *Nuclear Fuel* 28, 26 (2003).

⁶¹ Joseph Cirincione, Jon B. Wolfsthal, and Miriam Rajkumar, *Deadly Arsenals: Nuclear, Biological, and Chemical Threats*, 2nd ed. (Washington, DC: Carnegie Endowment, 2005).

⁶² Golkar, "Configuration of Political Elites."

These deeply entrenched inter-factional clashes led to the 2002 revelation by the National Council of Resistance of Iran (NCRI) of secret facilities at Natanz and Arak, which surprised many civilian officials, underscoring how horizontal information flows were obstructed by bureaucratic silos.⁶³ Thus, rather than a coherent state-driven master plan, Iran's nuclear advances during 1989–2002 were emergent outcomes of inter-factional bargaining influenced by competing socialization processes, leading to both overt and covert nuclear development.

The period of revelation, sanctions and diplomacy (2002-2015)

The prominent elite during this phase were the various presidents, prominent technocrats and the IRGC group, which paved the future course of Iran's nuclear program. The revelation of clandestine enrichment facilities at Natanz and Arak in 2002 marked a decisive moment, intensifying international scrutiny and triggering the securitization of Iran's nuclear program.⁶⁴ This period reflected Iran's deep-seated quest for technological self-reliance and deterrence, rooted in its historical experiences of foreign intervention and isolation.⁶⁵ Iran's elite framed nuclear advancement as a symbol of resistance against perceived Western hegemony, fusing nationalist and revolutionary narratives.⁶⁶ This ideational backdrop legitimized nuclear progress as integral to national sovereignty, even under the threat of sanctions and diplomatic isolation.

Mahmood Ahmadinejad, belonging to the hardliner conservative faction, assumed the presidency in 2005. He belonged to a normal middle-class family. His father changed his family name from Sabourjian or Sabaghian (thread painter) to Ahmadinejad (from the race of Ahmad) to show the family's piety. To emphasize his pious credentials, he held his first presidential cabinet meeting at the Imam Reza shrine – one of Shi'i Islam's holiest sites.⁶⁷ Being a former militia member, he had socialized with the idea of an independent and self-reliant Iran, and on this pretext, he defended the nuclear program, arguing that the arrogant Western powers wanted to limit Iran's industrial development.

⁶³ Paul K. Kerr, *Iran's Nuclear Program: Status*, CRS Report RL34544 (Washington, DC: Congressional Research Service, 2012).

⁶⁴ Fitzpatrick, *The Iranian Nuclear Crisis*.

⁶⁵ Anoushiravan Ehteshami and Mahjoob Zweiri, *Iran and the Rise of Its Neoconservatives* (London: I. B. Tauris, 2007).

⁶⁶ Chubin, *Iran's Nuclear Ambitions*.

⁶⁷ Patrikarakos, *Nuclear Iran*, p. 216.

In 2004, Ayatollah Khamenei issued a fatwa against nuclear weapons, but the president got it reinterpreted by Iranian legislator M. Taqi Rahbar, who claimed that Iran was surviving in a region of proliferators and there were no legal restrictions on having nuclear weapons as a deterrent.⁶⁸ Hence, Ahmadinejad appointed Ali Larijani (replacing Rowhani) as the Secretary of the Supreme National Security Council and Chief Nuclear Negotiator. He believed that a popular and fundamentalist government would quickly change the international situation in Iran's favour. His confrontational stance emboldened hardliners and marginalized technocratic moderates, accelerating nuclear enrichment while provoking punitive United Nations Security Council (UNSC) resolutions.⁶⁹

Despite being a hardliner, he had a close alliance with the clergy, particularly the Supreme Leader. He enjoyed their full support, and in return, his government increased the seminary budget and proposed the expansion of seminary schools in Iran. However, a gap emerged in 2011 due to some of his policies – such as allowing women to enter into athletic stadiums and attend sports events. Such policies were considered un-Islamic, forcing the clergy to raise their voices against the president. Consequently, President Ahmadinejad began to believe in the idea of 'Islam minus the clergy', meaning thereby that an independent investigation of truth should be carried out, rather than one based on the interpretation of the clergy.⁷⁰ Gradually, he lost all of the clergy's support, and the presidential elections of 2013 saw the victory of presidential candidate Hassan Rouhani, a moderate clergy.

Born as Hassan Feridon, he changed his surname from Feridon to Rouhani, which means *spiritual*, after completing his clerical training in Qum. Before becoming President, he had been appointed to premium political positions, such as member of parliament (1980-2000), secretary of the Supreme National Security Council (1989-2005), and lead nuclear negotiator in diplomatic rounds with European Powers and IAEA. His appointment was supported by the clergy due to his clerical background, while the technocrats favoured him due to his intent of de-racializing the Iranian domestic and foreign policies.⁷¹ Since he had been a close ally of both the Supreme Leader and the

⁶⁸ Patrikarakos, *Nuclear Iran*, 219.

⁶⁹ Ehteshami and Zweiri, *Iran and the Rise of Its Neoconservatives*.

⁷⁰ Golkar, "Configuration of Political Elites."

⁷¹ Fitzpatrick, *The Iranian Nuclear Crisis*.

prominent political elite, he had socialized with the norms of *Mustakbirin* versus *Mustazafin*, and *Taqaiyyah*. So, his top priorities were to improve Iran's relations with the international community, stabilize its economy, and help it survive amongst regional enemies. He appointed foreign qualified technocrats in his cabinet with the hope that they would rehabilitate Iran's economy, which had been crippled by sanctions and international pressures. For instance, he elected Javed Zarif, an alumnus of the University of Denver and a former ambassador to the UN, as the foreign minister of Iran. With his help, he hoped to manage Iran's nuclear program and ease the sanctions imposed on it. Relying on the support of the Supreme Leader and the expertise of the technocrats, he was able to sign a nuclear deal with the P5+1 (France, Germany, the United Kingdom, China, Russia, United States) in July 2015.⁷² The JCPOA articulated that the sanctions imposed on Iran would be lifted in exchange for Iran dismantling key aspects of its nuclear program. These include: modifying the heavy water plant in Arak, warehousing most of its centrifuges, transferring its enriched uranium and heavy water to other countries, modifying the underground uranium enrichment facility at Fordo, answering IAEA's questions on unresolved possible military dimensions of the program, and allowing more inspections of suspected facilities.⁷³ The decision to engage in the JCPOA thus reflected a pragmatic strand within Iran's strategic culture—balancing resistance to Western coercion with survival-oriented economic relief. Hence, Rouhani's government leveraged the heterarchic system to build an elite consensus for engagement, resulting in the JCPOA. But even this diplomatic breakthrough reflected enduring strategic-culture logics. Iran agreed to constraints without relinquishing its asserted "right to enrichment," preserving the symbolic linkage between nuclear capability and sovereignty.⁷⁴ Thus, 2002–2015 illustrates how Iran's nuclear behaviour emerged from the interplay of strategic-cultural imperatives and heterarchic bargaining among fragmented elite actors.

Contemporary Developments (2015-2025)

In contemporary times, the prominent elite has been both the supreme leader and the presidents who assumed office, i.e., Ebrahim Raisi (2021-2024) and Masoud

⁷² Golkar, "Configuration of Political Elites

⁷³ Mohammad Kazemzadeh, "Foreign Policy Decision Making in Iran and the Nuclear Program," *Comparative Strategy* 36, 3 (2017): pp. 198–214.

⁷⁴ Chubin, *Iran's Nuclear Ambitions*.

Pezeshkian (2024-present). The former was a hardliner conservative, while the latter is a moderate reformist.

President Ebrahim Raisi's rise to the presidency in 2021 marked the consolidation of hardline factions closely tied to the IRGC and conservative clerical networks. His administration consistently framed the nuclear program less as a bargaining chip for diplomacy and more as an assertion of Iran's sovereignty and dignity in the face of Western coercion.⁷⁵ Parliament, dominated by conservatives, echoed this defiant line with proposals ranging from expelling IAEA inspectors to reconsidering Iran's membership in the NPT. For Raisi and his allies, the discourse of resistance was both a reflection of strategic culture deep-rooted in memories of foreign domination, war, and sanctions—and a political tool for reinforcing legitimacy at home.⁷⁶ Yet even in this hardline atmosphere, Iran's heterarchical system was visible, while the IRGC and ideological conservatives pushed maximalist claims, technocrats within the AEOL, such as its head Mohammad Eslami, stressed nuclear progress in medicine, agriculture, and energy, tempering the more confrontational language with references to scientific necessity. The interplay of these voices produced a discourse that was both militant and technocratic, unified by the strategic culture of resistance but fragmented in emphasis, depending on which faction spoke loudest.

On the contrary, the election of Masoud Pezeshkian as president in 2024 introduced a more pragmatic, though not fundamentally conciliatory, tone. A physician by background and linked to technocratic and moderate currents, Pezeshkian sought to emphasize the peaceful and developmental aspects of the nuclear program while still rejecting conditions from the West, which he labelled as humiliating.⁷⁷ His rhetoric echoed Iran's long-standing strategic culture: nuclear technology was portrayed as a right of a sovereign nation, a marker of national pride, and a safeguard against dependency. Unlike Raisi, however, Pezeshkian's discourse was less infused with IRGC militarism and more with themes of modernization, dignity, and balanced engagement. Still, the heterarchic structure of decision-making meant he could not fully control the narrative;

⁷⁵ S. H. Rizvi, "Negotiating the Restoration of the Iran Nuclear Deal," *Middle East Policy* 31, 3 (2024): pp. 69–81.

⁷⁶ Shahram Akbarzadeh and Hamidreza Azizi, *Iran in the Middle East: Building Bridges or Expanding Influence?* (Doha: Middle East Council on Global Affairs, 2024).

⁷⁷ B. A. Dolatabadi, "The June 2025 Israeli War: Iran's Assessment and Regional Consequences," *Middle East Policy* 32, 3 (2025): pp.16–35.

hardliners in the Majlis and the security establishment continued to issue defiant warnings that Iran could revise its nuclear doctrine if threatened, while the AEOI pursued an ambitious 20-year plan for industrial nuclear expansion. This reflects the ambivalence of Iran's nuclear discourse, i.e., a combination of defiance and cooperation consistent with Iran's political system; a strategic culture that valorizes independence and resistance, expressed through a heterarchy where presidents, clerics, technocrats, and the IRGC compete to shape the nuclear discourse in ways that reinforce both national pride and factional legitimacy.

Conclusion

The trajectory of Iran's nuclear program from 1957 to 2025 demonstrates that its endurance is best explained through the interplay of strategic culture and heterarchic governance. The Heterarchic Strategic Culture (HSC) framework shows that Iran's strategic behaviour is embedded in Shi'i political theology, narratives of historical injustice, and a long-standing ethos of resistance to domination. These ideas do not operate as abstract principles; they structure how elites understand threat, sovereignty, and technological capability. Nuclear technology, in this context, has acquired meaning far beyond material utility; it symbolizes dignity, modernity, and the moral obligation to protect the Islamic community. Through elite socialization, these cultural narratives are continuously reproduced across clerical, military, and technocratic networks, shaping how competing actors interpret their responsibilities and imagine Iran's place in the world. At the same time, Iran's political order distributes authority across overlapping loci; the Supreme Leader, the presidency, the IRGC, Parliament, and technocratic institutions create a heterarchic environment in which no single actor can unilaterally determine nuclear policy. Instead, nuclear choices emerge from negotiation, reinterpretation, and contestation among actors who share broad cultural commitments but differ in how those commitments should be enacted. This combination of shared ideational foundations and institutional polycentrism has produced a pattern of nuclear continuity that persists despite leadership turnover, policy reversals, foreign pressure, and even direct military attacks.

The HSC framework offers a hybrid explanation that bridges existing divides between culturalist and rationalist approaches to Iranian strategy. It suggests that Iran's

nuclear resilience is not an act of irrational defiance, but a culturally meaningful pursuit of ontological security within a non-unitary political system. This insight carries broader policy implications: external coercion or narrowly transactional diplomacy is unlikely to reshape Iran's nuclear trajectory unless it addresses the deeper cultural narratives and heterarchic decision processes that continually regenerate it. The HSC framework thus provides both a conceptual and empirical lens for understanding why Iran's nuclear program has proven so adaptive and why it is likely to remain a central pillar of the Islamic Republic's strategic identity.

Conclusively, this study demonstrates that nuclear decision-making in complex political systems cannot be fully understood without accounting for both the cultural meanings attached to strategic choices and the institutional configurations through which those choices are negotiated. The HSC framework thus offers a transferable analytical lens for examining other cases where ideology, identity, and dispersed authority intersect in shaping security policy.

References

- Allison, Graham T. *Essence of Decision: Explaining the Cuban Missile Crisis*. Boston: Little, Brown and Company, 1971.
- Ansari, Ali. *The Politics of Nationalism in Modern Iran*. Cambridge: Cambridge University Press, 2012.
- Akbarzadeh, Shahram, and Hamidreza Azizi. *Iran in the Middle East: Building Bridges or Expanding Influence?* Doha: Middle East Council on Global Affairs, 2024.
- Bahgat, Gawdat. "Nuclear Proliferation: The Islamic Republic of Iran." *Iranian Studies* 39, 3 (2006): pp. 307–327.
- Barzegar, Kayhan. "Iran's Nuclear Program: A Study in Elite Consensus and National Pride." *Middle East Policy* 16, 2 (2009): pp. 47–63.
- Behravesht, Maysam. "State Revisionism and Ontological (In)Security in International Politics: The Complicated Case of Iran and Its Nuclear Behavior." *Journal of International Relations and Development* 21, 4 (2018): pp. 836–857.
- Bennett, Andrew, and Jeffrey T. Checkel. *Process Tracing: From Metaphor to Analytical Tool*. Cambridge: Cambridge University Press, 2015.
- Bhagat, G. "Khomeini: Leader of Islamic Revolution in Iran." *Indian Journal of Political Science* 48, 1 (1987): pp. 31–41.
- Blanton, Richard, and Lane Fargher. *Collective Action in the Formation of Pre-modern States*. New York: Springer, 2008.
- Bowen, Wyn Q., and Joanna Brewer. "Iran's Nuclear Challenge: Nine Years and Counting." *International Affairs* 87, 5 (2011): pp. 923–943.
- Chubin, Shahram. *Iran's Nuclear Ambitions*. Washington, DC: Carnegie Endowment, 2006.
- Chughtai, Alia. "Visualizing 12 Days of the Israel-Iran Conflict." *Al Jazeera*, 26 June 2025.

- Cirincione, Joseph, Jon B. Wolfsthal, and Miriam Rajkumar. *Deadly Arsenals: Nuclear, Biological, and Chemical Threats*. 2nd ed. Washington, DC: Carnegie Endowment, 2005.
- Clarke, Michael. "Iran's Nuclear Program and the Politics of National Identity." *Australian Journal of International Affairs* 67, 3 (2013): pp. 307–324.
- Crumley, Carole L. "Heterarchy and the Analysis of Complex Societies." *Archaeological Papers of the American Anthropological Association* 6, 1 (1995): pp. 1–5.
- Crumley, Carole L. "Communication, Holism, and the Evolution of Sociopolitical Complexity." In *From Leaders to Rulers*, edited by J. Haas, New York: Springer, 2001. pp. 19–46.
- Dehghani, Morteza, Jeremy Ginges, Rumen Iliev, Saurabh Sachdeva, and Douglas Medin. "Emerging Sacred Values: Iran's Nuclear Program." *Judgment and Decision Making* 4, no. 7 (2009): pp. 930–933.
- Dehghani, Morteza, Rumen Iliev, Saurabh Sachdeva, and Douglas Medin. "Sacred Values and Conflict over Iran's Nuclear Program." *Judgment and Decision Making* 5, 7 (2010): pp. 540–546.
- Dekker, Erik, and Pavel Kuchar. "Heterarchy." In *Encyclopedia of Law and Economics*, eds. Alain Marciano and Giovanni Ramello. New York: Springer, 2021.
- Dolatabadi, B. A. "The June 2025 Israeli War: Iran's Assessment and Regional Consequences." *Middle East Policy* 32, 3 (2025): pp. 16–35.
- Embalo, Bruno. "Civil-Military Relations and Political Order in Guinea-Bissau." *Journal of Modern African Studies* 50, 2 (2012): pp. 253–281.
- Ehteshami, Anoushiravan, and Mahjoob Zweiri. *Iran and the Rise of Its Neoconservatives*. London: I. B. Tauris, 2007.
- Eslami, Mohammad. "Revolutionary Narratives and Nuclear Defiance." *Middle East Critique* 30, 4 (2021): pp. 413–428.
- Fair, C. Christine, Karl Kaltenthaler, and William J. Miller. "Iranians and the Bomb: Public Opinion and Nuclear Weapons." *Political Science Quarterly* 127, 4 (2012): pp. 613–643.

- Fitzpatrick, Mark. *The Iranian Nuclear Crisis: Avoiding Worst-Case Outcomes*. London: Routledge, 2006.
- Ganji, Akbar. "Who Is Ali Khamenei? The Worldview of Iran's Supreme Leader." *Foreign Affairs* 92, 5 (2013): pp. 24–48.
- Golkar, Saeid. "Configuration of Political Elites in Post-Revolutionary Iran." *Brown Journal of World Affairs* 23, 1 (2016): pp. 281–292.
- Gray, Colin. *Modern Strategy*. Oxford: Oxford University Press, 1999.
- Halberstam, Daniel. "Constitutional Heterarchy." In *Ruling the World?*, edited by Jeffrey Dunoff and Joel Trachtman. Cambridge: Cambridge University Press, 2009.
- Halperin, Morton H., and Priscilla A. Clapp. *Bureaucratic Politics and Foreign Policy*. 2nd ed. Washington, DC: Brookings Institution Press, 2006.
- Hermann, Margaret G. "How Decision Units Shape Foreign Policy." *International Studies Review* 3, 2 (2001): 47–81.
- Hibbs, Mark. "Iran's Procurement Network for Centrifuges." *Nuclear Fuel* 28, 26 (2003).
- Hudson, Valerie M. *Foreign Policy Analysis: Classic and Contemporary Theory*. 2nd ed. Lanham: Rowman & Littlefield, 2014.
- Herzog, Sivan. "Iranian Public Opinion on the Nuclear Program." *The Nonproliferation Review* 22, 2 (2015): 163–180.
- Johnston, Alastair Iain. *Cultural Realism*. Princeton: Princeton University Press, 1995.
- Jaffery, Tayyaba, and Muhammad S. Pervez. "Conceptualising a Heterarchical Regional Security Complex." *The International Spectator* 59, 4 (2023): pp. 78–94.
- , "The Hub and Spokes Plus Model." *Pacific Affairs* 98, 3 (2025): pp. 533–556.
- Kerr, Paul K. *Iran's Nuclear Program: Status*. Washington, DC: Congressional Research Service, 2012.
- Kemp, R. Scott. "The Iranian Nuclear Program." In *Handbook of Iran's Economy*, edited by R. E. Looney, pp. 477–492. London: Routledge, 2014.

- Kinnvall, Catarina. "Globalization and Religious Nationalism." *Political Psychology* 25, 5 (2004): pp. 741–767.
- Kartchner, M. K. "Religion and Strategic Culture." In *Routledge Handbook of Strategic Culture*. London: Routledge, 2024.
- Loft, Philip. "Iran: Impacts of June 2025 Israel and US Strikes and Outlook." UK Parliament, 22 July 2025.
- Maloney, Suzanne. *Iran's Political Economy since the Revolution*. Cambridge: Cambridge University Press, 2002.
- Milani, Abbas. *The Shah*. New York: Palgrave Macmillan, 2011.
- Moshirzadeh, Homeira. "Discursive Foundations of Iran's Nuclear Policy." *Security Dialogue* 38, 4 (2007): pp. 521–543.