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## Japan: A Nuclear State?

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### Abstract

Japan is often seen as pacifist and as a defender of nuclear disarmament. This article, though, sustains that Japan is basing its security on extended nuclear deterrence, and on the possibility of acquiring nuclear weapons. In the first part of the article, the role of extended deterrence in the relationship with the U.S. is analyzed, and in the second, the history of the Japanese nuclear option since the end of the Second World War is reassessed.

**Keywords:** Japan; nuclear weapons; nuclear allergy; extended deterrence; nuclear umbrella.

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### Introduction

In an unstable scenario as that of Asia, the present decade (2010s) has contributed with some elements that have left it even more complex and insecure. With President Obama, the United States, which has been the guarantor of a relative strategic regional stability since the beginning of the century, signaled its interest in assuming a more hegemonic regional position, with the proposals to return to Asia and with the leadership of the Trans-Pacific Partnership (TPP), seeking to isolate or contain China. President Trump, on the other hand, has promoted a radical strategic reshuffling by assuming the “America First” strategy, by withdrawing from the TPP, by questioning the bilateral agreement and military exercises with South Korea, and by initiating a trade war with China. With these steps, worries have spread in Japan regarding the possibility that the U.S. might abandon the Japan-U.S. Alliance and discontinue the extended deterrence, on which its national security has been based.

Secondly, Asia, as one of the most militarized global regions<sup>1</sup>, with the highest military budgets, troop contingencies, an abundance of military equipment, and large number of nuclear states, distinguishes itself by the absence of regional security mechanisms, as for instance, a NATO. The rapid modernization of the Chinese armed forces (Gady 2017a, 212) and the North Korean aggressiveness can be highlighted in this respect. The launching of missiles, including the intercontinental Hwasong-15, and the test of a hydrogen bomb has made it clear that North Korea already is a nuclear power, with the capacity to reach Guam, to devastate Seoul and Tokyo and, - in the absence of other options - use its nuclear capabilities as an instrument of bargaining or persuasion, or if necessary, go to war.

Thirdly, Japan is advancing in its process of normalization, which implies possessing armed forces as a legitimate foreign policy instrument, with right to act in collective self-defense operations as a way to contribute to the maintenance of regional and international security. In practice, Japan has already been “normalized,” even though its armed forces euphemistically are referred to as “self-defense forces.”

Nevertheless, such an officialization raises a series of questions: what will the reaction from neighboring countries be? Will the bilateral alliance with the U.S. be discontinued? To this can be added the doubt of whether Japan, in spite of its anti-nuclear position, will prefer a nuclear option, especially in the case that it no longer would enjoy the protection of the U.S. nuclear umbrella. In any circumstance, the empirical base for these questions relates to the recognition of the chronic Japanese vulnerability (Kelly 2015).

In July 2018, the Japanese government approved the revision of the new Basic Energy Plan, thus signaling its interest in expanding its investments in renewable energy (solar and wind), but still affirming that nuclear energy would continue to hold an important place within its energy matrix. Still, the Ministerial Cabinet for the first time stated its intention to reduce its plutonium stock, apparently as a response to U.S.’ pressures related to the early renewal of the U.S.-Japan Agreement of the Peaceful Use of Nuclear Energy (Associated Press 2018).

It has been assessed that in 2030, nuclear energy will represent 20-22% of total energy consumption, renewables 22-24%, and that the rest will be based on fossil fuels (gas and coal). Considering that in 2017 fossil fuels represented 83% of electricity consumption, renewables 15%, and nuclear energy just 2%<sup>2</sup>, it becomes difficult to imagine where this increase in nuclear energy would come from (Bungate 2018). It may thus be questioned whether the strong Japanese interest in plutonium relates to electricity, nuclear technology harnessing, or the possibility of developing nuclear weapons.

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<sup>1</sup> “According to the International Institute of Strategic Studies’ *Military Balance 2017*, the three largest defense budgets in the world (the United States, China, and Russia) are by countries with significant military assets in the region. Six Asia-Pacific powers were under the top ten global military spenders in 2016. The world’s seven largest militaries including China, the United States, India, North Korea, Russia, Pakistan, and South Korea are all (at least partly) found in Asia. Furthermore, out of the seven six are nuclear powers” (Gady 2017b).

<sup>2</sup> “Just before the 2011 earthquake, nearly 30% of electric power in Japan was generated by nuclear plants” (Nagao 2018). And, “as a result, the share of nuclear power fell from 28.6% in 2010 to nil in 2014” (Bungate 2018).

The prospect of Japan possessing nuclear weapons is an extremely sensitive and controversial issue. Nonetheless, it cannot be denied that since the Soviet nuclear tests in 1949, the issue has spurred Japanese preoccupations about how to avoid new attacks on its territory. Hence, upon the Chinese nuclear tests in 1964, the questions relating to the U.S. nuclear umbrella and whether Japan should possess nuclear weapons have been on the Japanese agenda.

Kamiya (2002) strongly denies the possibility of nuclearization due to strong Japanese popular resistance, while Mochizuki (2007) defends the reinforcement of the Japan-US Alliance along with the improvement of defensive capabilities, including missile defenses, as a way to avoid a nuclear option. In practice, Japan adopts an ambivalent or contradictory position. While, on the one hand, it opposes nuclear weapons and defends global nuclear disarmament, on the other, it seeks security under the U.S. nuclear umbrella and recognizes the utility of extended nuclear deterrence (Van de Velde 1988, 19).

Various analysts have highlighted that Japan retains sufficient technological knowledge to develop nuclear weapons, but that it would only make use of this option in case that it would be forced to uphold its security (Oros 2017; Roehrig 2017). In this regard, Schoff (2009) highlights that the question is not “whether” Japan will develop nuclear capabilities, but rather “why?”. For Hughes (2007a), the question neither relates to “if” but rather “when?”. Furthermore, for Samuels and Schoff (2013), the key questions relate to how Japan perceives its options, how its calculus might change, and what this might mean for the region and for the Japan-U.S. Alliance. Consequently, part of the equation has to do with the population’s position and the Japanese government. Concerning the Japanese vulnerability, a central risk relates to the possibility of being abandoned by the U.S. and the loss of confidence in the U.S. interest in defending it.

The objective of this article is to demonstrate that Japan, even though it presents itself as pacifist, anti-nuclear, and as a defender of nuclear disarmament, maintains an option focused on mastering nuclear technology. As this is a dual technology, it can be used both for pacific purposes (energy) as well as military objectives (armament). Does this nuclear option indicate that Japan will remilitarize? Would a hypothetical nuclear acquisition be grounded in internal or external factors? Is there really a “nuclear allergy” in Japan?

The first part of this reflection aims towards reaching an understanding of the contradictory Japanese position, which on one hand opposes nuclear weapons, and on the other, claims the right to be under the U.S. nuclear umbrella. It also treats the importance which Japan ascribes to the perspective of extended deterrence. The second part concentrates on the analysis of the Japanese process of nuclear development, and on the strategy to legitimize this both internally and externally.

## **The nuclear duality: opposition to weapons and emphasis on extended deterrence**

There is consensus within the literature about a profound Japanese aversion in relation to all kinds of nuclear material, deriving from the attacks with nuclear bombs on Hiroshima and

Nagasaki, and from the contamination of Japanese fishermen from the U.S. nuclear test on the Bikini Islands in the South Pacific (1954) or from the incidents in Fukushima in 2011<sup>3</sup>. If this aversion can be identified within the Japanese population, apparently, this is not the case within the state. Even despite the strong opposition of the population against nuclear weapons, “Japanese leaders have been far less “allergic” and have periodically examined the possibility of acquiring nuclear weapons” (Roehrig 2017, 123).

Since the end of the 1950s, Japan has made clear that it will maintain the right to develop its nuclear arsenal. “This strategy - ‘lying between nuclear pursuit and nuclear rollback’ - is the essence of ‘the most salient example of nuclear hedging’ among global powers” (Samuels and Schoff 2013, 234).

The Chinese decision to develop nuclear capacities, officially announced in 1955, and the Sino-Soviet nuclear cooperation (1955-1959) exacerbated the Japanese preoccupations, not least considering that the potential Chinese threat was more preoccupying than the Soviet menace (Shihmin 1997, 686). Because of the Chinese nuclear tests in 1964, Japan and India sought inclusion under the extended deterrence of the U.S.. Considering the possession of such weapon capacities by Japan to be more worrisome than by India, the U.S. responded positively to the Japanese demand, but not to that of India. The possibility of developing nuclear weapons “has thus given Japan an implicit nuclear deterrence and has strengthened its relations with the United States” (Nagao 2018).

The declaration made by Prime Minister Kishi Nobosuke in 1957, that the Constitution would not implicitly prohibit the possession of nuclear weapons, would become institutionalized as the official Constitutional interpretation. Behind this position was the logic that nuclear weapons also had a defensive nature and, “simply represent a difference in the quality rather than kind of weapons, and are thus in keeping with ‘individual self-defence’,” which the Constitution permits (Hook 1996, 79), as well as the belief that they “make war less likely, because nuclear weapons encourage both defense and deterrence” (Sagan and Waltz 2002). Yet, nuclear weapons do not automatically dissuade a potential challenger (Lupovici 2010, 714).

This interpretation was based on the questioning of how to guarantee security without weapons in an unstable environment. Due to the pressures of Kishi, the Japan-U.S. Security Treaty was revisited in 1960 and thereupon introduced the obligation on behalf of the U.S. to defend Japan, yet without any direct mentioning of the extended deterrence or the nuclear umbrella. It should be noted that the Japanese anti-nuclear movement did not directly relate to the politics of nuclear deterrence in its demands for banning nuclear weapons. In internal competition, the Japanese Socialist Party and the Japanese Communist Party sought to align the anti-nuclear cause with their own political agendas to strengthen the popular opposition to the government’s defense

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<sup>3</sup> At the present moment, for example, one of the main challenges to reactivate or construct new nuclear energy reactors is exactly to surpass the resistance within local communities. Considering that the Japanese society is largely against nuclear weapons due to its pacifist identity, Topaloff (2017) highlights that this might change very quickly due to the growing North Korean threat.

policy and alignment with the U.S.. Thereby, the term of nuclear deterrence was not part of the Japanese vocabulary until the beginning of the 1960s (Kurosaki 2018, 116).

Katzenstein and Okawara (1993, 167) defend that “the government’s non-nuclear policy since the late 1950s had been a matter of policy discretion rather than a constitutional requirement.” This thesis is corroborated by Shihmim (1997, 687) who emphasizes that nuclear development is not a constitutional issue, but rather a political question depending on the divergent positions between nationalists and anti-nuclear pacifists. Vogel (1992, 69-70) further adds that the choice primarily is political and not determined by the lack of technological capacity. The reason that Japan has not yet developed nuclear weapons derives much more from the credibility of the deterrence extended by the U.S. and its geostrategic position in Asia, than from the “idealistic pronouncements of Japan’s commitment to remaining nuclear weapons-free” (Van de Velde 1988, 20).

Departing from the Japanese rhetoric against nuclear weapons, from the “Three Non-Nuclear Principles” (do not produce, do not do not possess, and do not allow the presence of nuclear weapons on your soil), and from the fact of having enjoyed the U.S. nuclear umbrella for more than 60 years, Ota (2018) uses the term of a “conceptual policy twist” to characterize the Japanese security policy in relation to nuclear weapons. In contrast to many other analysts who characterize the Japanese policy as ambivalent and contradictory (Van de Velde 1988; Corben 2017), Ota also sees this as ambivalent, but coherent.

The expression of a “conceptual policy twist” illustrates the existence of a profound divide between the Japanese elites and general public. The elites tend towards adopting a nuclear position in accordance with the established nuclear structures, such as the Japan-U.S. Security Treaty and the Japan-U.S. Nuclear Cooperation Agreement, while the Japanese public tends to embrace a sort of ambivalent posture, relating to its past experiences with nuclear weapons, as in the attacks on Hiroshima and Nagasaki (Ota 2018, 195).

The “secret nuclear agreements with the U.S.,” the Nipo-American development cooperation around the programme for the “peaceful” use of nuclear energy, and the role of Japan in the promotion of nuclear disarmament can be viewed as expressions of this sort of ambivalence and coherence. The opposition to the U.S.’ adoption of the principle of “no first use” and the lack of support for the UN resolution that bans nuclear weapons, stand as more recent examples of this posture.

The “secret nuclear agreements” permitted the transport of nuclear weapons in U.S. navy vessels on Japanese territory, which took place in 1960 and 1969, and which were not informed to the population or the Diet, while the official position of the U.S. always was that of “neither confirming, nor denying” the presence of nuclear weapons (Roehrig 2017). In the first agreement, Japan accepted the U.S.’ interpretation that the prohibition of the introduction of nuclear weapons did not include the transport by marine vessels. The other agreement, though, was part of the negotiations to return Okinawa to Japan, and mandated the withdrawal of U.S.

weapons, but permitted the reallocation in case of emergency (Wampler 2009; Masayuki 2011; Roehrig 2017; Ota 2018).

When the secret agreements were made public in 2009, it was surprising that popular reactions were relatively calm. Satoh (2014) attributes this to the fact that the U.S. has not been positioning nuclear weapons in Japan since 1991, and mainly also to the circumstance that the Japanese population was more conscious of the importance of extended deterrence, and the potential threats related to the North Korean nuclear development. In any case, the secret nuclear agreements derive from the proliferation of the feeling of insecurity in Japan, and from the pressure of the U.S. to commit to defend Japan, not only from conventional aggression, but also from nuclear attacks. Thereby, while Japan pragmatically held the door open for the nuclear option and sought to develop nuclear capacities, it turned towards the existing legal and institutional protections, multilateral regimes, and the extended nuclear deterrence (Hughes 2007a, 68).

The central pillar of the Japanese nuclear policy is its dependence on extended nuclear deterrence by the U.S., with recognition of its role both in terms of regional security, and the maintenance of the Japan-U.S. Alliance as a way to augment its deterrence credibility. The Japanese nuclear policy is still complemented by the strategy of latent deterrence, or rather, “the maintenance of the ability to develop quickly a nuclear deterrent” (Hoey 2016, 485).

Even though mainly for pacific purposes, as it is a dual technology, Japan allocated considerable resources to master the complete nuclear cycle, which would make it possible to affirm that “Japan has the technology to make a nuclear weapon fairly quickly” (Oros 2017, 40). Nonetheless, the prohibitively high economic, political, and diplomatic costs have dissuaded the production of nuclear weapons, but are still “leaving the door open for this path should there be drastic changes in the security environment or deterioration of the U.S. extended deterrence commitment” (Roehrig 2017, 97). Therefore, it can be presumed that in principle, Japan has not, and will not, pursue real access to nuclear weapons, unless the U.S.’ commitment to keep the country under its nuclear umbrella ceases to exist.

The academic literature on Japan’s possibility to maintain an independent deterrence capacity presents two general lines of thought. One emphasizes the inevitability, or strong probability, that Japan will combine its economic and military power. The other defends that the “nuclear allergy” would impede the nuclear option. In this vein, there is an academic perspective that condemns the Japanese “nuclear duality,” referring to the defense of an anti-nuclear position in combination with the confidence in the extended deterrence (Hoey 2016, 486). In this sense, within the Japanese political perception, deterrence is interpreted as an instrument to guarantee and amplify security, while maintaining ties to the U.S., but also as a justification for possessing nuclear weapons in the case that the military alliance is discontinued.

The theory of extended deterrence<sup>4</sup> comprises of a defender’s action to protect allies from an attack. It presupposes that eventually, if costs surpass gains, the challenger will very likely be

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<sup>4</sup> The literature highlights two main sources of dissuasion; deterrence by denial and deterrence by punishment. The first seeks to prevent

dissuaded. In this respect, the extended deterrence refers to the ample commitment of a state to defend an ally and involves a multiplicity of means that might include nuclear weapons. Yet, the nuclear umbrella is only one possible characteristic of a relation of extended deterrence, as these two are interchangeable (Roehrig 2017, 14-17).

Based on Schelling's definition of deterrence as "a threat ... intended to keep an adversary from doing something," Wilson (2008, 435) questions its efficiency and classifies it as being a form of speculation; "nuclear deterrence postulates novel behavior that might happen in unexplored circumstances that could arise sometime in the unforeseeable future. It is (almost) pure speculation." His reasoning is based on the affirmation that the U.S.' nuclear capacity did not dissuade neither North Korea, nor Vietnam from going to war and equally did not dissuade Iraq or Afghanistan. Wilson (2007; 2008) questions the implications of Hiroshima and Nagasaki, highlighting that the Japanese surrender did not result from nuclear attacks, but rather from the fear of a Soviet invasion, after that country had declared war.

In his understanding, the theory of deterrence was developed at a moment in which massive retaliation was the dominant concept related to nuclear war. Nonetheless, might retaliation on a smaller scale not also dissuade in the same way? (Wilson 2007, 179). In this respect, Roehrig (2017, 13) agrees with Wilson (2008) in the observation that during the post 9/11 2001 period, "deterrence based only upon the threat of retaliation is less likely to work against leaders of rogue states more willing to take risks, gambling with the lives of their people, and the wealth of their nations."

The theory advocates that for deterrence to be successful, it needs to be credible. This implies that an adversary needs to believe that the state which threatens with retaliation possesses the sufficient military capacities and the determination to uphold its commitment (Waltz 1990, 733). Traditional realism sustains that the observed reluctance in the use of nuclear weapons during the Cold War was a result of successful deterrence (Roehrig 2017, 29). With nuclear weapons, it becomes easier to project stability and peace because, "the problem of the credibility of deterrence, a big worry in a conventional world, disappears in a nuclear one" (Waltz 1990, 734).

Even though significant questions of credibility persist, the continuity of the nuclear umbrella derives from the political and symbolic benefits which it provides, because its existence constitutes a very significant factor in reassuring allies. These benefits can be identified from the fact that the extended deterrence by the U.S. to Japan and South Korea often has been emphasized as very significant, as it is an integral part of the U.S.' foreign policy for East Asia (Roehrig 2017, 193).

Credibility is thereby one of the most important factors in relation to this issue (Fitzpatrick 2016, 166) and it constitutes an important pillar in the Japan-U.S. Alliance for the maintenance of a sense of relative security below the U.S. nuclear umbrella. Japan does nonetheless maintain a preventive strategy of mastering nuclear technology, possessing installations, plutonium stocks,

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action by making the challenger realize that he lacks capacity due to the superior capacities of the defender. The second seeks to persuade the challenger that the price that he will pay will surpass any possible gains (Lupovici 2016, 5)

and production capacity in an immediate emergency situation, when this confidence might have become exhausted. In this respect, two issues are of utmost importance. The first relates to the confirmation of the commitment to use nuclear weapons to defend Japan, and the second, to having its own nuclear program (Samuels and Schoff 2013, 236-237).

Upon the disaster at the nuclear plant in Fukushima, the Minister of Defense at the time, Ishiba Shigeru, declared “I don’t think Japan needs to possess nuclear weapons, but it’s important to maintain our commercial reactors because it would allow us to produce a nuclear warhead in a short amount of time. It’s a tacit nuclear deterrent.” (Roehrig 2017, 196). To this should be added the importance of prestige, and the understanding that in order to be a regional power, it becomes absolutely vital to possess nuclear capacities. When the Non-Proliferation Treaty (NPT) was approved in 1968, Japanese conservatives understood that these dispositions would have implications both for Japan’s power status, but also in terms of commercial and technological advantages. Thus, Japan would be excluded from the “nuclear club” and relegated to the status of a second-rank power. The perception that the West had changed its view on China after 1964 was of great concern to Japan (Pyle 2007, 250-253).

During all of the post-war period, there was a constant worry about a possible nuclear attack, and whether the U.S. in fact would make use of its deterrence capacity to defend Japan. Although there was no doubt about the U.S.’ self-defense capacity, there has been much uncertainty with regards to the question of whether the U.S. would apply its nuclear weapons in defense of Japan in a situation of extended deterrence (Roehrig 2017, 2). As Kissinger highlights, “great powers don’t commit suicide for their allies” (Colby 2018, 30).

These questions have without any doubt gained further attention in the present century with the increasingly lax control of the nuclear proliferation, both in relation to states as well as non-state actors, not least with regards to the existence of a nuclear black market (Wan 2017, 69), and the high concentration of nuclear states in Asia. On the other hand, U.S. complaints about high military costs and demands directed towards South Korea and Japan for higher military spending have incentivized the acquisition of nuclear weapons (Schoff 2009; Woonink 2017; Roehrig 2017; Tannenwald 2018).

This question of credibility is extremely urgent, considering that the power-balance in North East Asia is changing, as North Korea has become a nuclear state with launching technology and capacities, and with China modernizing its conventional military capacities and raising its investments. The rising dependencies, the clear vulnerabilities, and the increase in nuclear states in the region has thereby forced Japan to expand its conventional military capacities, and to develop nuclear capabilities to defend its interests (Waltz 2000, 33).

As the dissuasive logic is abstract and deductive, as well as the shortcomings which have been attributed to it (Waltz 1990, 736), the feeling of distrust is amplified as the U.S. is unilaterally imposing changes to trade agreements (North American Free Trade Agreement, TPP, U.S.-Korea Free Trade Agreement), and military treaties (NATO), and furthermore is relatively far from encountering a solution to the conflict in Syria and the Ukraine. On the other hand, Japan did



receive the 2018 U.S. Nuclear Posture Review (NPR) positively, as the country was kept within the U.S. nuclear umbrella, and because the U.S. committed itself to offer an extended nuclear deterrence, including the “deployment of nuclear cruise missiles” (“Japan’s dependence on nuclear umbrella highlighted as it hails new US policy.” 2018). The NPR inaugurated an unprecedented approach through the employment of nuclear weapons in response to “significant non-nuclear strategic attacks” against the U.S. and its allies (O’Neil 2018; Abe 2018, 146).

The Japanese position, refusing to sign the Treaty on the Prohibition of Nuclear Weapons and the resumption of the opposition to the U.S.’ adoption of the No First Use policy on behalf of the Abe government in 2012, clearly indicates that Japan still adheres strongly to the principle of nuclear deterrence, be this either guaranteed by the U.S., or independently upheld through development of autonomous nuclear capacities (Abe 2018; Hurst 2018; “Abe should keep pledge to lead on elimination of nuclear weapons.” 2018).

The perception that Japan’s relationship to nuclear weapons is complex, is widespread within the literature. As it is the only country that has been subjected to the use of nuclear weapons, it presents a unequivocally clear position in defense of a nuclear-free world. Nuclear disarmament is thus a clear priority within its national security policy, and it has been very active within international forums in the defense of non-proliferation and the eradication of nuclear weapons.

On the other hand, pressed by the U.S.-Soviet dispute during the Cold War, it sought extended dissuasion provided by the U.S. to defend itself from the threats of nuclear weapons. Furthermore, in the Post-Cold War, with the new threats from the North Korean nuclearization and the amplification of the Chinese capacities, it maintained the extended nuclear dissuasion as a fundamental security strategy (Tatsumi 2018). This complexity, or duality, is likewise present within the general antimilitarist perception in Japan, which apparently never was a completely “pacifist security identity,” as it maintained a role for an army in the post-war and led Japan to join a military alliance (Oros 2017, 56).

Yet, some recent developments such as i) the global resumption of large investments in nuclear arsenals, especially in Russia, China, India and Pakistan, apart from North Korea; ii) the U.S. policy of “no first use;” or iii) Trump’s suggestion that Japan and South Korea should possess their own nuclear weapons (Tannenwald 2018) “have posed a set of serious questions on how Japan should continue to balance between its aspiration for nuclear disarmament and its need for an effective nuclear deterrent for its own security” (Tatsumi 2018, 12).

Due to the complexity of the dilemma between disarmament and extended dissuasion, Tatsumi and Kennedy (2018, 80) highlight that “to create a nuclear weapons-free world in the future, Japan must vigorously seek solutions with the international community, but to remain secure from threats in East Asia, Japan must maintain some form of deterrence.” This reflection permits us to raise the hypothesis that in the absence of extended dissuasion on behalf of the U.S., an alternative form of dissuasion could be the independent possession of nuclear weapons, without renouncing the ambition to defend a nuclear-free world.

## The Japanese nuclear development

Japan has a long history of research on nuclear technology, dating back to the War of the Pacific (Fitzpatrick 2016, 162; Kristof 1995). As the viability of developing a nuclear weapon was confirmed (Kristof 1995), the first project (Ni-Go) was initiated in 1941, with the installment of a laboratory close to Tokyo on orders from the Japanese Imperial Army. In 1942-43, the Imperial Japanese Navy also initiated another project (F-Go) in Kyoto (*Japanese atomic bomb project* 2016; “Nuclear weapons program.” 2012). A common problem for both of these projects was the lack of financial resources and especially the difficulty of acquiring uranium ore. While the U.S.’ research took place in cooperation with the U.K., Japan’s scarce resources and efforts were divided between the Navy and the Army, and it was not able to expand cooperation to include Germany. In 1945, a German ship was captured as it tried to bring 560 kilos of uranium oxide to a Japanese project (Kristof 1995; *Japanese atomic bomb project* 2016; “Nuclear weapons program.” 2012).

Although Japan did not possess sufficient knowledge or resources to complete the construction of a nuclear bomb, the expertise of the Japanese scientists<sup>5</sup>, and the fact that it as one of the only countries apart from the U.S. possessed at least five nuclear particle accelerators, should not be overlooked (Henshall 2004, 221).

With the occupation by the U.S. armed forces, the nuclear programme was discontinued by orders from General MacArthur in 1946, who mandated the total deactivation of nuclear research and the destruction of nuclear particle accelerators (Kurosaki 2018, 106). With the beginning of the Cold War and the Korean War, in spite of the article 9 of the Japanese constitution, - a clause of renunciation of war which had been imposed by MacArthur, - the U.S. began to press systematically for the Japanese rearmament, as it began to realize the country’s weakness, as well as the need to halt Soviet and Chinese advances (Pyle 2007; Cha 2009/2010; Choong 2015). Simultaneously, the U.S. authorized the Japanese weapon production and returned its military installations, thereby creating conditions for the revitalization of the Japanese economy and advancement of dual technology (Drifte 1986; Coulmy 1991).

Upon visiting the U.S.’ nuclear energy plants in 1953, Nakasone declared the “indispensability of nuclear power to Japan’s rise from its fourth-class nation status.” In response to the critics, and in line with Eisenhower’s posture, a distinction was made which implied the “separation between atoms for peace, and atoms for destruction” (Kinefuchi 2015, 451). Japan did not cede to the U.S. pressures to participate in the Korean and the Vietnam wars, pointing to the explicit prohibition in the Article 9 of the country’s constitution. But this pacifism did not halt Kishi Nobosuke from declaring in 1957 that the constitution did not veto the possession of nuclear weapons (Choong 2015, 179; Yoshihara and Holmes 2009). Although Sato introduced the Three

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<sup>5</sup> Even though they were conscious of the viability of producing a nuclear weapon, Japanese scientists were convinced that no country would be able to develop such capabilities before the end of the War, and were thereby shocked when they discovered the US’ advances upon the attack on Hiroshima and Nagasaki (Kurosaki 2018, 105; Grunow 2003, 155).

Non-Nuclear Principles, successive prime ministers have maintained Kishi's interpretation of the constitutional allowance for the possession of nuclear weapons.

Underlining that the speculations about Japanese nuclear intentions are by no means of a recent date, Kase (2001, 55) highlights that in 1957, a report from the U.S. Department of State mentioned the possibility of Japan developing its own nuclear weapons under conservative governments. The definition of the Japanese nuclear policy advanced consistently with the approval of the Atomic Energy Basic Act for peaceful means in 1955, clearly demonstrating the Japanese intent to master the different stages of nuclear energy (Roehrig 2017, 40). And, in order to confirm its restricted use for peaceful means, Japan adhered to the International Energy Atomic Agency (IAEA) in 1957.

The Japanese interests gained a higher degree of legitimacy with the signature of the U.S.-Japan Nuclear Research Agreement (Agreement 123) with focus on civil nuclear energy cooperation, in 1955. This nuclear cooperation is still in effect today, and has been renewed in 1958, 1968, 1973 and in 1988, thus securing the supply of uranium and enriched uranium by the U.S., and importantly, permitting the reprocessing of plutonium. Upon the expected revision of the accord in 2018, it was automatically renewed in January 2018, apparently with the objective of avoiding questionings in the respective legislative cases ("United States: Agreements for cooperation concerning the civil uses of atomic energy, with India and certain other countries." 1963, 897-98; Sekiguchi 2018; Wan 2017, 73; Yoshida 2018). Through the Chinese perspective, the automatic renewal of the Agreement 123 indicated that Washington is adopting a more tolerant posture with regards to the Japanese possession of nuclear weapons, as "possessing the nuclear materials will undoubtedly add risks to the already unsteady security situation in Northeast Asia," (Hong and Mengqi 2018).

A month after the introduction of the Three Non-Nuclear Principles, Sato, - conscious about the inefficiency of guaranteeing national security and as a possible constraint in relation to the continuation of pacific nuclear development, - presented the four pillars for national security, denominating these as the "Four Nuclear Policies." Apart from the continuation of the Three Non-Nuclear Principles, these included the dependency in relation to the nuclear umbrella; the support for the global nuclear disarmament; and the promotion of the pacific use of nuclear energy. In reality, these pillars would constitute the long-term basis for the Japanese nuclear policies (Masayuki 2011, 102).

It was the first time that Japan would officially recognize the significance of the U.S. nuclear umbrella in relation to its own national security (Schoff 2009, 27; Roehrig 2017, 44). Two months after the announcement of the Four Nuclear Policies, the Liberal Democratic Party (LDP) reorganized them by "putting the peaceful use of nuclear energy as the first priority, disarmament as the second, and dependence on the U.S. nuclear umbrella as the third" (Kase 2001, 60). Sato's movements in relation to the four pillars of the LDP, prioritizing nuclear energy, clearly indicated an interest and a preoccupation that the Japanese nuclear development could be constrained by the NPT.

Events in 1960 became fundamental for the advancement of nuclear development and the obtainment of U.S. approval. They strongly influenced this apparent Japanese contradiction of, on the one hand, adopting and maintaining principles which did not permit the presence of nuclear weapons on Japanese territory, and on the other hand, not only highlighted the constitutionality, but also advanced technologies for uranium enrichment and reprocessing of plutonium with nuclear energy in mind.

These factors were; i) the fact that the U.S.-Japan Security Treaty, revisited in 1960, did not refer to the issue of the extended deterrence or the nuclear umbrella; ii) the growing feeling of threat and insecurity in Japan upon the Chinese nuclear tests (nuclear in 1964, missiles in 1966, and a hydrogen bomb in 1967); iii) the imposition of the NPT in 1968 and, iv) the negotiations to return Okinawa to Japanese sovereignty.

With the growing feeling of vulnerability due to the transformation of China into a nuclear state, as well as the military escalations of the U.S. in the Vietnam War, Sato intensified pressures for the U.S. to assume a more assertive and public position in terms of emitting a strategic guarantee of extended deterrence, or that Japan would stay below the U.S. nuclear umbrella, even affirming that if not, Japan would be forced to develop its own nuclear weapons. Lyndon Johnson verbally committed himself to act in defense of Japan in the case of a nuclear threat (Kase 2001; Kishi 2018). Sato's argument that the possession of nuclear weapons by China obliged Japan to obtain some of its own was decisive in ensuring Johnson's commitment (Pyle 2007, 251).

A study from Sato's cabinet criticized the Japanese Socialist Party's "disarmed neutrality" and considered the proposal for a nuclear weapons free zone "unrealistic and marked by empty slogans" and accepted the presence in Japan of defenders of the possession of nuclear weapons, as China now had acquired such capabilities. It nonetheless emphasized the financial non-viability of the acquisition and possession of nuclear weapons. It thus proposed a division of responsibilities, with the U.S. including Japan in the nuclear deterrence, and Japan augmenting its conventional capabilities with self-defense in mind (Kishi 2018).

In spite of the clear Japanese opposition to nuclear weapons, the growing threats hindered reflections about the convenience of possessing nuclear weapons. It was exactly at this moment in 1968 that the NPT was launched, demanding the adherence of other countries. In this respect, it becomes interesting to observe Kase (2001, 56) who states that the main objects of the Treaty were Germany and Japan, who, due to their financial and technological capacities would be likely candidates for nuclear development.

Japan's great doubt was related to whether the NPT would create obstacles for the ongoing civil nuclear energy programme, and for the possibility to develop nuclear weapons in the future, without the extended deterrence. In line with values related to prestige and autonomy in order to reach its national objectives, the renouncement of nuclear knowhow, "would relegate Japan to a second-class position relative to other world powers" (Roehrig 2017, 47). The Japanese reactions to the NPT were much more determined by the potential impact on the country's civil nuclear programme, than by military security considerations. For some, the NPT presented itself as an

adapted version of “George Kennan’s strategy to exercise ‘veto power’ over Japanese diplomacy through control of energy supply” (Welfield 1988, 349).

With this correlation between nuclear power and prestige, Kishi Nobusuke’s reasoning that the possession of nuclear weapons would not be unconstitutional, and the emphasis on the development and maintenance of a nuclear programme, had as its basic premise that “nuclear weapons were absolutely necessary if Japan were to have influence in world affairs” (Samuels and Schoff 2013, 237). Nevertheless, Japan signed the NPT in February 1970, two months after Germany, but it only ratified the treaty in 1976, after the U.S. had approved its programme for handling and reprocessing of nuclear fuel (Fitzpatrick 2016, 162; Samuels and Schoff 2013, 234; Hoey 2016).

With the U.S.’ proclamation of the discontinuation of its supply of enriched uranium from 1982, Japan opted for the development of an autonomous enrichment capacity, and managed to successfully extract plutonium oxide from bars of enriched uranium in 1983 (Welfield 1988, 349-51). The fact that the Three Non-Nuclear Principles prohibit the presence of nuclear weapons in the country became a hindering for the process of returning Okinawa to Japan, as the U.S. claimed that its presence was indispensable for regional security, not only for Japan, but also for South Korea and Taiwan. Confronted with popular and legislative pressures, the solution materialized in form of a secret accord between Sato and Nixon in 1969, which permitted the repositioning of secret weapons on Okinawa, in parallel to the legal process which returned the island to Japanese sovereignty (Kulacki 2018, 3-4; Roehrig 2017, 49; Komine 2014, 97).

Independently of how this “secret accord” can be characterized, as the issues related to security and nuclear power in Japan are complex, contradictory, or paradoxical, the country can nonetheless be deemed to be highly pragmatic. It contributed to the return of Okinawa, and to the plutonium reprocessing programme. It also still constitutes a fundamental landmark for the continuation of the bilateral nuclear cooperation between the U.S. and Japan.

Even though he classified the reprocessing of plutonium as unnecessary or economically futile, Carter approved the Japanese reprocessing in the nuclear plant of Tokai (Yoshida 2018, 4), with experimental operations that were initiated in 1977 and which entered full force from 1981 (“Tokai reprocessing plant to shut.” 2014). Deactivated upon the incidents in Fukushima in 2011, it will be substituted by the installations in Rokkasho.

Through the Agreement 123, Japan has become the only non-nuclear state which retains installations, technology, and permission both for the enrichment of uranium and for the reprocessing of plutonium (Park 2012, 24; Fitzpatrick 2016, 162; Yoshida 2018). Nevertheless, the plutonium stocks, their consumption, and the advanced nuclear technology of Japan raises a series of questions (Sekiguchi 2018). At first, this relates to the stocks, consumption capacity, and its purpose. The most recent estimates indicate that Japan retains approximately 47 tons of plutonium (Burr 2017; Sikeguchi 2018). Yet, since the Fukushima accident, and especially with the expansion of security measures, most of the nuclear plants are deactivated, as Japan practically does not consume any plutonium (Acton 2017). With only two plants in operation, consumption stands below two tons per year (Sikeguchi 2018).

Secondly, the new nuclear plant (Rokkasho Nuclear Fuel Reprocessing Facility)<sup>6</sup> is configured to reprocess 8 tons of plutonium per year, independently of the already elevated stocks and the low annual consumption. Even with the new delays of the initiation of operations in Rokkasho, what would be the motivations for expansion of production of these stocks? To expand the production of electricity? To become an international supplier, or use for the development of nuclear weapons?

Finally, instead of continuing to use installations in the U.K. or France as previously, the decision to begin the reprocessing of plutonium in the installation in Rokkasho raised suspicions that Tokyo was preparing itself “to become nuclear.” The fact that the Japanese Atomic Energy Agency has not informed about the possession of 640 kg of plutonium in its voluntary declaration to the IAEA in 2014 “has added to the speculations that the country is actually planning something murky for the near future” (Topaloff 2017). According to Schoff (2009, 2) the credibility of the U.S.-Japan Alliance and of the extended deterrence is critical for the feeling of security in Japan, and also merges with another important factor, related to “the absence of a serious and consistent existential threat to Japan.”

Yet, with the growing deterioration of the East Asian security architecture, with North Korea becoming nuclear, China expanding its capacities, and the U.S. appearing to be in a process of distancing from its allies, could a real and persistent threat become evident? Although the reprocessing of plutonium is very present in the discussions about the Agreement 123, the question of energy security and the efficient use of scarce resources also gains a significant weight. The need for Japan to acquire a civil nuclear industry should therefore, and is indeed, being discussed, “but it is difficult to see how Japan without any nuclear energy<sup>7</sup> can meet its climate change and energy security goals” (Yoshida 2018, 6).

Even though the reprocessing of plutonium is not necessarily the same as the processing of nuclear fuel for military purposes, it should be noted that “the Japanese government also felt that it made sense to retain at least a latent capability to exercise the nuclear option” (Mochizuki 2007, 311). In 1969, a document from the Ministry of Foreign Relations in Japan declared that “for the time being Japan’s policy is not to have nuclear weapons, but we will always retain the economic and technical potential to manufacture nuclear weapons” (Oguma 2012).

In a pragmatic spirit, the Japanese political authorities never definitively renounced the nuclear option, considering the possibility of a failure in the North American nuclear umbrella. On the contrary, it discreetly maintained all technological possibilities open (Shimin 1997, 707). Even though the recent strategic changes in the East Asia have pressed Japan “to enlarge its conventional forces and to add nuclear ones to protect its interests” (Waltz 2000, 34), it is impossible to affirm

<sup>6</sup> New delays, announced in October 2017, postponed the initiation of operations from the second part of the fiscal year 2018, to the first half of 2021.

<sup>7</sup> Nuclear energy was extremely important for the development of the Japanese economy, being responsible for the generation of 30% of electrical energy in Japan until the tsunami of 2011, and significantly reduced the cost of protecting its principle maritime trade routes. Yet, in spite of negative official statements, many countries believe that Japan has the capacity to develop nuclear weapons quickly due to its nuclear industry (Nagao 2018)

that Japan will adopt a nuclear option. Yet, “it may have weakened the taboo in Japan to discuss publicly the nuclear weapons option” (Mochizuki 2007, 322) and reinforced the Japanese perception that “nuclear weapons are, after all, the ultimate trump card: if you can convince your enemy that you have a way to play the card and are actually prepared to go through with it, nothing is more powerful” (Colby 2018, 29).

In the technological field, Japan has gone through all of the important stages in order to obtain nuclear military capacity, with only a nuclear test not yet having been conducted. Yet, this does not represent any turnaround, but merely a precautionary principle. As it possesses launchers which permit it to send satellites in orbit, it is thus also clear that Japan retains the means for launching a nuclear device (Paris 2016, 5).

Underlining how only few have noticed that Japan also has become a space power, Grunden (2012, 949) pinpoints that it possesses the technical capacity and furthermore has positioned its national security as a fundamental element in the country’s strategy for spatial development, “The dual-use nature of some space technologies - such as launch vehicles and satellites - allowed Japan to make the rapid adaptation from commercial to military applications.”

With the creation of the National Space Development Agency in 1969, Japan launched its first satellite in 1970, and in the beginning of 1990, it already possessed nuclear technology with potential military uses. “Some analysts think that Japan can be considered as a proto-nuclear power, technologically ready to become a nuclear power if necessary” (Coulmy 1991, 225 *apud* Shimizu-Niquet 1994, 167-168).

With point of departure in the knowledge that North Korea can hit American territory, Kausikan (2018, 34) questions whether the U.S. would sacrifice San Francisco in order to save Tokyo. In the author’s view, Japan has the capacity to quickly develop an independent nuclear dissuasion, preparing itself for this eventuality for a long period of time, “with American acquiescence and perhaps assistance - for decades.” Yet, Yoshihari & Holmes (2009, 75), in spite of recognizing Japan’s strong potential to become nuclear, consider it to be highly unlikely that Tokyo would seek to maintain an independent nuclear arsenal in the near future. Not least considering the absence of intentions, at least in the short term, to break the Japan-U.S. Alliance, as well as the negative reactions in North East Asia. Even if this might be an unlikely situation, and even with the expansion of the North Korean nuclear threat, Japan appears to be conscious that an autonomous nuclear option could exacerbate the North Korean and Chinese security dilemmas, as well as the dilemma related to the U.S. abandonment, which would weaken its security guarantee as a consequence of the destabilizing effects on regional security (Hughes 2007b, 90).

In an innovative approach, it becomes evident that Japan, in spite of the Fukushima disaster, will maintain its nuclear development in accordance with the techno-nationalist ideology which is profoundly rooted in Japanese society. From the Meiji Revolution, its principle of “rich nation, strong army,” the radical and militarist nationalism, and towards the defeat by a technically more advanced enemy, for Japan the development of nuclear energy has been “a prime example of the

high-technology, high-value-added export-oriented industry so important to the continued success of a mature economy such as Japan's" (Kelly 2015, 48).

## Conclusion

The Japanese security architecture is nurtured by a tripe composed by the Japan-U.S. Alliance, the role of the Japanese Self-Defense Forces (JSDF), and by the nuclear protection from its cover by the U.S. nuclear umbrella and its commitment to extended deterrence. On the one hand, the role of the JSDF is at present much more compatible with armed forces than with a self-defense mechanism. With advanced military capacities, it participates in collective self-defense actions, - with or without the U.S. presence, - as a way to contribute to the maintenance of regional and international security (Smith 2016; Paris 2016; Oros 2017; Samuels and Wallace 2018). Confronted with the insecurities related to the Japanese militarization, the maintenance of the Constitution's Article 9 tends to be viewed as a demonstration of Japan's pacifist character, which is reinforced by the continuity of the Japan-U.S. alliance. It should be noted that the Japan-U.S. Security Treaty gradually has been transformed into an alliance that is characterized by a variety of lines of security cooperation directives between these two actors, with relatively symmetrical roles, with the nuclear capacity as the main asymmetry.

As it is strongly dependent upon the U.S. nuclear umbrella and extended deterrence, Japan has become confronted with a dilemma of whether or not to believe in a U.S. response to a real threat. Faced with such doubts, the pragmatic response from the Japanese leadership has been to seek to acquire nuclear technology as well as the plutonium resources that would allow it to develop its own deterrence capacity. Yet, Japan still makes it clear that its position is to reinforce the Japan-U.S. Alliance, and to stay below the U.S. nuclear protection. In this regard, the nuclear option aimed at the acquisition of such weapons will only be chosen if the Alliance and/or the nuclear protection would be discontinued. On the other hand, the U.S. distrust in relation to the Japanese nuclear potential, or the consolidation of a military partnership, has been relatively minimized, with the U.S. assuming a more tolerant - if not outright encouraging - posture.

For Japan there is still a significant issue, which often is not directly addressed, but which in practice relates to a belief that the mastering of nuclear knowledge and the consequent possession of nuclear weaponry confers a differentiated status to a state, thus permitting it to obtain a special locus amongst international powers. In a normal situation, Japan would be conscious of the importance which its cooperation with the U.S. holds in relation to the American interests within the region. In other terms, Japan needs the U.S., in much the same way that the U.S. needs Japan in order to continue its international policy with focus on East Asia. To this can be added the considerations related to the potential financial, economic, political, and diplomatic costs which Japan would have to assume in order to contain reactions, especially from China,



The Korean Peninsula, South East Asia, and even Russia. Even so, with a possible rupture, the response from the Japanese leadership might well be immediate, as the population, - in spite of its pacifism and systematic nuclear opposition, - seems to be conscious of the vulnerabilities and total insecurity in a regional context marked by threat and insecurity.

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