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CONTENTS

EDITORIAL

Tássio Franchi

v

ARTICLES

- The Taiwan Conflict: a strategic and operational analysis** 373

Walter da Costa Ferreira, Augusto Wagner Menezes Teixeira Júnior

- The use of scenarios for the consolidation of a defense policy** 27

Eduardo Xavier Ferreira Glaser Migon, Marco Aurélio Vasques Silva

- The ASTROS system as a deterrence and presence tool** 43

Ângelo Oliveira Alves

- Time of homeland altruism in favor of naval defense** 61

Laís Raysa Lopes Ferreira

- The United States and China: the dispute of the Twenty-First Century.
Is it just power?** 77

Guilherme Otávio Godinho de Carvalho

- The logistics at the Battle of Tannenberg: the high price of incompetence** 95

Rodrigo Tavares Ferreira

- Imperial Japanese Army in the interwars period: operational concept,
war plans and the japanese state strategic goals** 117

Paulo Gilberto Fagundes Visentini, Bruno Magno

- The strategic culture of Brazil applied to Haiti as a case study:
a brief interpretation** 135

Carlos Alberto Leite, Alexandra Sarmento Mitre



Goals for a defense studies journal in the coming years.

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As researchers we spend weeks, sometimes months researching different topics and writing the result of our findings. Graduate students, mostly, took months or years to achieve the results expected by their advisors and approved by examiners. After which they seek to rewrite chapters adjusting them to submissions in journals and academic conferences. The fact is that, as authors, our immediate concern is to know in which stage a particular journal is, to decide if we are going to submit a manuscript or not.

As editor-in-chief of the Meira Mattos Collection, I have been following the discussions around the Qualis Capes classification for some years¹ more actively. We have already gone through, and sometimes come back to, the discussion of the extinction of Qualis and the adoption of only the international impact indices. In Qualis Capes itself we have the classifications 2010-2012, 2013-2016 and the most recent 2017-2020.

Qualis Dais		
2013-2016	2017-2020	2021-2024
A1	A1	A1
A2	A2	A2**
B1	A3	A3**
B2	A4*	A4
B3	B1	B1
B4	B2	B2
B5	B3	B3
C	B4	B4

* Appeal submitted asking for reconsideration of the CMM classification.

** Future goals of CMM.

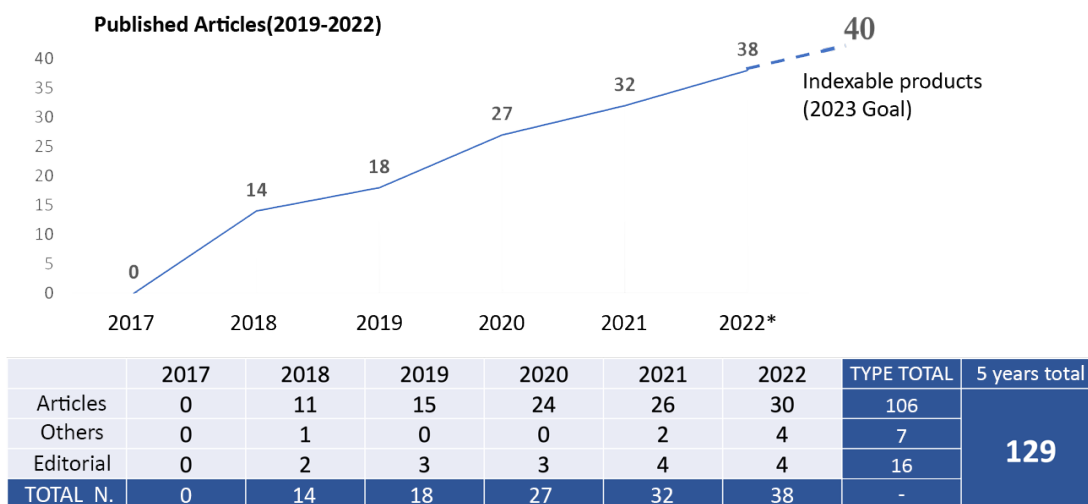
¹ For international readers, or those unfamiliar with the subject, Qualis is an index created by the Coordination for the Improvement of Higher Education Personnel (CAPES), an agency subordinate to the Ministry of Education. It classifies scientific journals into dais ranging A1, a2, A3, A4, B1, B2.....C. Usually magazines on higher dais receive more articles and even access to financial incentives.

The work of the committee responsible for evaluating the publications and assigning the new dais was a gigantic task, which resulted in the current classification of journals that can be checked online on the Sucupira Platform (government website), where you can find various information about Graduate Studies in Brazil. An innovation in this new Qualis was the adoption of a single Qualis. Previously, each capes evaluation area evaluated the journals separately and assigned them grades according to its criteria. Thus the same journal could be A1 in Political Science and B2 in geography or history. In the current stratification each journal receives only one classification. The criteria that each committee used in the evaluation of the journals is public and available on the CAPES website. The area of Political Science, Relations and Defense, where the Meira Mattos Collection is inserted, used international bibliometric indices such as *Impact Factor* and the *H5 index of Scholar Google*.

CMM received the A4 classification, previously it was B2. What seems like a good development actually wasn't. We have maintained the same position after years of efforts to improve the journal (see Table 1). We sent an appeal to CAPES presenting arguments and showing CMM production indicators. Until the closing of this edition we have not yet had access to the result of the appeal. No matter what, we are not discouraged. We are focusing both on climbing the Qualis dais, but mainly on achieving international indexations such as *Web of Science*.

During the pandemic, we evaluated the results of the plans and goals set for the CMM in 2018. We present and comment on some of them.

CMM appears as an independent academic publication in 2011, along with The Postgraduate Program in Military Sciences of the Meira Mattos Institute. It suffered setbacks in 2016 and 2017 when it lost the editorial flow resumed in 2018, with important reformulations and an academic and professional vision (RAMOS; FRANCHI, 2020; 2020b). Gradually, the number of publications was expanded year by year, reaching four editions and thirty articles in 2022. The goal for the coming years is to continue expanding the portfolio of articles and other indexable products by international databases.



But it was not only quantitatively that CMM advanced. We established a professional editorial flow, reworked standards, revamped the layout, invited new professors to the editorial board, achieved international indexing, sought resources through projects, and started publishing the Journal in three languages, being the only fully trilingual CP&RI (Political Sciences and International Relations) journal currently.

Number of articles published in other languages (English=EN, Spanish=ES)										
2018		2019		2020		2021		2022		total
EN	ES	EN	ES	EN	ES	EN	ES	EN	ES	
5	5	15	15	24	24	26	26	30	30	186

Supported by the professors of The Post-graduate Program, we expanded the active collection of articles by national and international authors. This has ensured improvements in endogeneity and internationalization rates. In recent years alone, we have published 29 articles by foreign authors or those affiliated with foreign institutions. This means approximately 20% of CMM publications.



Argentina	South Korea	India (3 articles)	South Africa
Bangladesh	Spain (2 articles)	Mexico	United Arab Emirates
Belgium	USA (2 articles)	Nigeria (5 articles)	29 international articles
Bolivia	Guatemala (2 articles)	Pakistan	
Colombia	Guyana	Portugal (4 articles)	

The mission of CMM is to publish quality articles in the area of Political Science, International Relations and Defence (Area 39 CAPE) and in the Military Sciences. The goal is to be one of the reference journals for the discussion of defense issues in Brazil and South America. Therefore, in the coming years CMM will continue to improve its classification in Qualis Capes. At the same time, we will seek to be indexed in international databases such as *Web of Science* and *Scopus*, in order to increase the visibility of the journal and internationalize it.

We suggest readers to research the editions, get in touch with the diversity of authors and themes that have been published in CMM in recent years... and we thank you in advance for your audience!

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The Taiwan Conflict: a strategic and operational analysis

El conflicto de Taiwán: un análisis estratégico y operativo

Abstract: The present article intends to present a strategic and operational analysis of the Taiwan conflict. Currently, the dispute in question is at the stage of a political-strategic crisis. Beyond the China-Taiwan dyad, the complexity of the crisis is stressed by incorporating in its dynamics two rival great nuclear powers: The United States of America and China. In order to assess the possibility of an armed conflict in the Western Pacific region, characterized by a hypothetical invasion of Taiwan or even as a result of the limited use of violence by China, the paper discusses the main strategic and operational aspects implicated in the dispute and the diversified instruments of national power employed by the involved actors, particularly their military apparatus. In conclusion, the article draws inferences about the likely Chinese strategic posture in the face of Taiwanese resistance, strengthened by the political-military support of Washington and its allies.


Keywords: Political-strategic crisis; coercion; military strategy; Taiwan; case study methodology.

Resumen: Este artículo tiene el objetivo de presentar un análisis estratégico y operativo del conflicto de Taiwán. Actualmente, el litigio en cuestión se encuentra en etapa de crisis político-estratégica. Además de la dupla China-Taiwán, la complejidad de la crisis se acentúa al incorporar a su dinámica a dos grandes potencias nucleares rivales: Estados Unidos de América y China. Con el fin de evaluar la posibilidad de que estalle un conflicto armado en la región del Pacífico Occidental, caracterizado por una hipotética invasión de Taiwán o incluso como resultado del limitado uso de la violencia por parte de China, el artículo analiza los principales aspectos estratégicos y operativos involucrados en la disputa, y los diversos instrumentos de poder nacional empleados por los actores involucrados, en particular su aparato militar. En conclusión, el artículo hace inferencias sobre la probable postura estratégica china frente a la resistencia taiwanesa, fortalecida por el apoyo político-militar de Washington y sus aliados.

Palabras clave: Palabras clave: Crisis político-estratégica; coerción; estrategia militar; Taiwán; metodología de estudio de caso.

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1. INTRODUCTION

This article focuses on the Taiwan conflict in the context of the Chinese-American competition in the Western Pacific. At the end of 2021, research institutes witnessed a substantial increase in China's coercive activities over Taiwan. Chinese coercive measures developed through provocative military actions, in addition to the coercive use of other instruments of national power, such as economic pressure and psychological warfare. In the period in question, the People's Liberation Army (PLA) intensified its air raids, carried out by fighter aircraft and bombers, in the Air Defense Identification Zone¹ (ADIZ,) of Taiwan, as well as undertook naval maneuvers and amphibious assault exercises in the vicinity of the disputed area. According to the International Institute for Strategic Studies (IISS, 2022, p. 6):

From January to November 2021, the PLA conducted 230 sorties in the Taiwan Air Defense Identification Zone. More than 800 aircraft were employed, including fighters, bombers, and special mission aircraft, particularly KQ-200 anti-submarine warfare aircraft [...].

In August 2022, the visit to Taiwan of Nancy Pelosi, Speaker of the United States House of Representatives, aggravated the state of tension of the aforementioned litigation. Beijing has responded through political-diplomatic protest actions and military maneuvers around the main Taiwanese island, which have included the launch of ballistic missiles in maritime areas. It is thus found that Beijing escalates the political-strategic crisis with the purpose of coercively subjecting the Taipei government to its national interests, specifically "Chinese reunification". Also, ostensibly states that it does not rule out the direct use of military force to reincorporate Taiwan into its territory, considered a breakaway rebel province. It can clearly be seen the resolution of the strategic posture despite the various actions of extended deterrence² adopted by the United States. Despite the signs of force from Beijing, there have been no territorial violations or other acts of aggression defined in international norms (UNITED NATIONS, 1974).

The analysis undertaken aims to scrutinize the aforementioned crisis through the development of a strategic-operational scenario. For this purpose, the study of applied military strategy (FERREIRA; TEIXEIRA JÚNIOR, 2021) was used in combination with the scenario construction methodology (BUARQUE, 2003). From this theoretical-methodological framework, the article proposes to examine the circumstances and conditions of a hypothetical armed conflict in the Taiwanese geopolitical environment, with spillover risk to the Western Pacific. In the light of the strategic theory mobilized here (BEAUFRE, 1998;

¹ "Airspace, of defined dimensions, within which prompt identification, location and control of aircraft" (BRASIL, 2015, p. 288). This area does not correspond to the national airspace.

² Extended deterrence consists of discouraging armed aggression against allies or partners (MAZARR, 2018).

BIDDLE, 2004; EASTON, 2017; GRAY, 1999; MAZARR, 2018; SCHELLING, 1966),³ the article seeks to assess the plausibility of the occurrence, in the short term (2022-2027), of a Chinese amphibious assault against Taiwan. The time frame of 2027 is particularly relevant, given that it is the centenary of the founding of the PLA. Reinforcing this thesis, the 5th Plenum of the 19th Central Committee of the Chinese Communist Party stated that the pace of modernization of the military apparatus should be accelerated, with the goal being 2027 (IISS, 2021).

The article makes use of the deterrence theory⁴ (MAZARR, 2018; SCHELLING, 1966) and, for a finer understanding of China's strategic situation, it draws on authors such as Fravel (2019) and his research on Chinese strategic evolution. Easton's (2017) study was instrumental in a more accurate examination of the Taiwanese perspective. For strategic and operational analysis, we combine Beaufre's (1998) theory of strategy with the typology of basic strategic methods at the national and military levels. The text adopts the qualitative approach, essentially following a case study methodology. The observations of the authors and inferences are based on the prevalence of rationality in the strategic calculation undertaken by the states considered. To elucidate the strategic calculation, physiographic, political, economic, psychosocial and military variables were used.

The article is organized as follows: after the introduction, the strategic analysis will seek to identify the goals, ways and means of the main contenders; in sequence, addressing operational issues of the conflict on screen, the work discusses scenarios which illustrate the options of the major powers involved, including a possible Chinese invasion of the Taiwanese islands. By analyzing the multiple facets of the strategic environment, we seek to identify the likely posture of Beijing in the face of Taipei's opposition, resulting from the analysis of the costs, risks and benefits involved.

2. STRATEGIC ANALYSIS

Given the inescapable character of geography in strategic issues (GRAY, 1999), it is initially necessary to present the conflict region. The main island of Taiwan is observed in a position close to the Chinese coast, at a distance of approximately 180 km. Some of its islands, such as Kinmen and Matsu, are only 10 to 20 km from the Chinese coastline. Surrounding Taiwan is Japan's strategic island, Okinawa, 600km to the Northeast, site of a major US naval and other air base in the Western Pacific. The Philippines, an ally of the United States, is 400 km away to the south and the island of Guam (USA) 2,700 km away to the southeast, home to the naval base of the Seventh Fleet and U.S. strategic bombers. A little further north, Japan and South Korea, traditional allies and sites of several military bases of the United States, particularly in

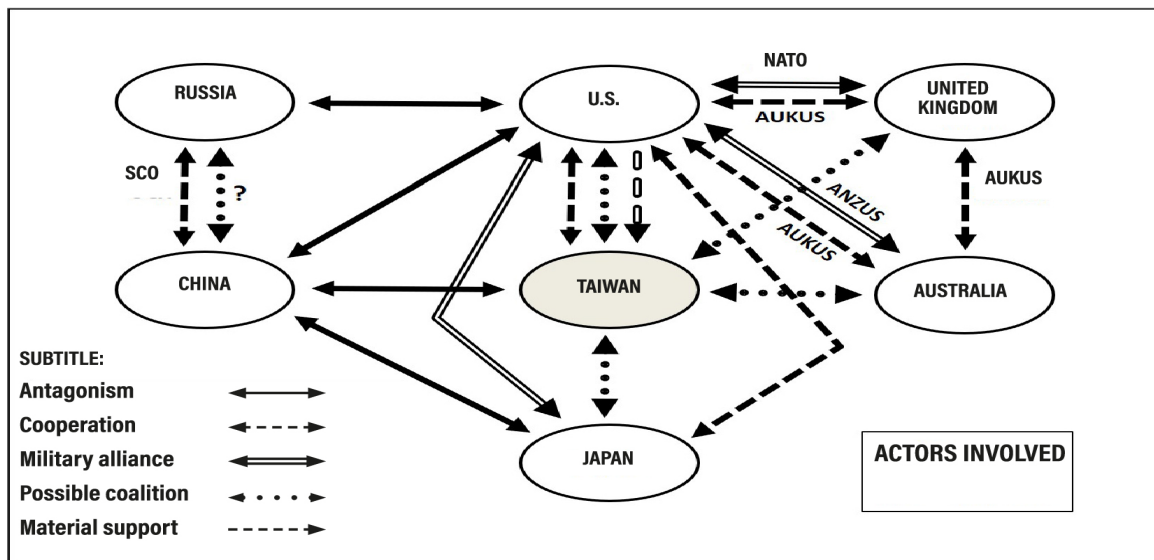
³ Strategy, from a holistic perspective, is the bridge that connects the resources of power (available means) to political purpose (desired ends). In other words, the resources must be adequate and sufficient to achieve the objectives through the selected methods (ECHEVARRIA II, 2017).

⁴ A modality of strategic coercion (SCHELLING, 1966), deterrence consists of the use of threats to discourage a rival actor from undertaking an act undesirable to the interests of the coercing state, with the purpose of maintaining the current political-strategic situation (FREEDMAN; RAGHAVAN, 2013). It is associated with the ability to repel (deterrence by denial) or retaliate (deterrence by punishment), with nuclear or conventional force, eventual hostile actions against the State (RÜHLE, 2015).

Yokosuka and Sasebo. It is verified that the geographical location of Taiwan directly impacts China's national security, since its relative positioning allows the control of maritime traffic on the Chinese east coast, as well as represents a gateway to the Western Pacific, enhancing the power projection of Beijing.

With the intention of explaining the different interactions between the actors involved in the litigation, it is necessary to expose a diagram of relationships. In particular, Taiwan is noted as the epicenter of the controversy, in direct antagonism to China's reunification interests. In parallel to the China-Taiwan duality, the United States, Beijing's geopolitical rivals, promote close political-military cooperation with the Taiwanese (HSIEH, 2020) and can lead a coalition of countries in defense of the island, constituted, in addition to the Americans, by the United Kingdom, Australia and Japan, without taking into account the range of possibilities for participation by nations that have disputes with China. Thus, the strategic articulation between the United States, India, Japan and Australia, known as *Quad*, with the purpose of fostering political-military cooperation between these countries, clearly aimed at containing Chinese expansion in the Indo-Pacific region (IISS, 2022). In addition, Washington and London articulated a military cooperation agreement with Australia, referred to as AUKUS, endorsing, among other terms, the transfer of nuclear propulsion technology to the Australian Navy's attack submarines, a naval vector of great relevance in a strategy of containment of China by denying the use of the sea (IISS, 2022).

Figure 1 – Diagram of relations in the Taiwan conflict⁵



Source: The authors based on Carpenter(2021), Easton (2017), Fravel(2008), Greer(2018), Grossman & Mayers (2019), Heginbotham *et al.* (2015), Mearsheimer (2005, 2013) and IISS (2021, 2022).

⁵ The relationship diagram is part of the military strategic planning methodology (FERREIRA; TEIXEIRA JÚNIOR, 2021), however, as a simplified model of reality, it does not portray all the actors that may eventually be involved in the conflict, such as India. The expression "possible coalition" reflects the common security interests of the connected actors in relation to the conflict on screen.

However, the Washington stance of strategic ambiguity over the Taiwan conflict needs to be considered. U.S. endorses commitment to island defense efforts,⁶ through military assistance and the provision of military materiel, but do not attest to direct military intervention in the event of belligerence. The U.S. supports a peaceful negotiated settlement, but rejects Taipei's unilateral declaration of independence. On the other hand, it is unwise to disregard the Russians. China and Russia are members of the Shanghai Cooperation Organization and enjoy a strong military-political partnership at present, despite their latent historical antagonisms.

Since the beginning of the Twenty-First Century, based on consistent Chinese economic growth, there has been an ambitious program of expansion, reforms and modernization of the people's Liberation Army, the Beijing armed forces (IISS, 2021). Today, China has full mastery of almost all military technologies used in contemporary multidimensional combat, taking the forefront in some research sectors, notably in the area of anti-ship ballistic missiles and hypersonic glider vehicles (IISS, 2022).

Despite the Taipei investments in its armed forces, the military imbalance in favor of the Chinese is notable, in both quantitative and qualitative terms. The ground forces of the PLA outnumber their Taiwanese counterparts by ten times. The Chinese superiority in war material, whether tanks, fighter aircraft, submarines or other equipment, is almost similar. In technological terms, it emphasizes the remarkable Beijing progress in hypersonic weapons, fifth-generation fighters, airfield ships, anti-ship missiles, anti-aircraft defenses, satellites and other military systems. In this context, the PLA's Rocket Force stands out, equipped with about 2,000 ballistic and cruise missiles, of varying ranges, and the Strategic Support Force, which incorporates electronic, cybernetic and psychological warfare units, being also responsible for Chinese space operations (UNITED STATES, 2021a).

However, it is necessary to emphasize the great influence of subjective aspects on the relative combat power, such as the effectiveness of doctrine, military leadership, troop motivation, as well as the level of professionalism and training of the Armed Forces, *inter alia*. Not always numerical and technological advantage ensure victory (BIDDLE, 2004). In addition, it should be noted that, in the previous comparison of the antagonistic forces, the military forces of an eventual coalition of countries, led by the United States, are not related. In this case, the Chinese advantage would be minimized or even nullified⁷.

From the perspective of Taiwan's military apparatus, it is possible to affirm that its armed forces, despite the numerical and technological prevalence of Beijing, are very well prepared for defensive combat against amphibious landings, as well as for urban combat. Its military bases are deployed mostly on the western coast of the island, facing the Taiwan Strait, with an emphasis on coastal defense supported by Moderna fighters, fast attack vessels and artillery batteries equipped with anti-ship missiles. Its main naval bases are located to the south and North, in Kaohsiung and Keelung, respectively. Taipei, recognizing the military

6 U.S. support is based on the law known as Taiwan Relations Act (TRA), approved in 1979 (EASTON, 2017).

7 For a more accurate perception of the balance of forces in the conflict, consult the comparison of Chinese and U.S. military capabilities in the Western Pacific developed by Heginbotham et al.. (2015).

disparity in favor of Beijing, has made heavy investments in asymmetric warfare systems such as portable anti-aircraft and anti-tank missiles, naval mines, submarines and remotely piloted aircraft. In order to mitigate the effects of a Chinese missile attack, the Taiwanese promoted the fortification of their military bases and command centers, as well as built shelters embedded in the mountains of the eastern coast to protect their fighter aircraft (EASTON, 2017). In order to optimize combat performance, Taipei currently conducts a process of transition from compulsory conscription to voluntary and professional military service. In addition, it is necessary to consider the large Taiwanese capacity to mobilize human resources, which can reach up to one and a half million soldiers.

Based on previous considerations, the crisis maneuver⁸ of the Chinese government, in the search for a peaceful resolution of the dispute, employs a combination of strategic actions, highlighting the use of direct negotiations, political-economic coercion, psychological and cyber operations, as well as naval maneuvers, amphibious exercises and air raids on the Taiwanese ADIZ areas (EASTON, 2017). Chinese strategic thinking emphasizes the concepts of unrestricted war and conflict in the gray zone,⁹ applicable to an indirect strategic conception, which admits, however, the direct application of military force on a limited basis. The Chinese government's behavior of escalating the crisis seeks to modify the *status quo* and achieve its political goal – reunify the country – at the same time, it seeks to control coercive confrontation to avoid a multidimensional armed clash against the United States and its allies, with unpredictable results.

On the other hand, the U.S. political-diplomatic action is notorious in order to consolidate military alliances with friendly countries in the Indo-Pacific to enhance its deterrent strategy against the Chinese. The implementation of the U.S. strategy can be exemplified by combined training operations to promote interoperability of multinational forces, as well as the transfer of sensitive armaments and critical technologies to regional partners. Therefore, it is plausible to characterize the U.S. posture by extended deterrence (nuclear and conventional), advanced presence, power projection and geostrategic containment in depth.

As a complement to the foregoing, it is noted that the military bases of the United States and its allies are arranged in two lines (island chains), which provide strategic depth to the containment device. The basis of this strategic conception lies in the fact that, being a nation dependent on maritime trade to sustain its economic growth, China is at a geographical disadvantage compared to the aforementioned island chains, which restrict its free access to the Western Pacific.

8 “Crisis management process that has as its basic purpose to achieve an advantageous peace, preventing it from evolving into armed conflict. It comprises a set of actions triggered to strain, stabilize or escalate in relation to the crisis situation” (BRASIL, 2015, p.161).

9 Unrestricted warfare is based on political, legal, economic, financial, psychological, cyber, terrorist and other actions as complementary alternatives to direct military confrontation (LIANG; XIANGSUI, 1999). In turn, conflict in the gray zone means a coercive confrontation, in a situation of political-strategic crisis, through diverse instruments of national power, including limited violent actions, at a level below the armed conflict or of the war (MAZARR, 2015).

Figure 2 – China Containment Strategy (Island Chains)



Source: United States (2010, p. 23).

Despite the absence of Chinese-American territorial disputes, the United States has repeatedly carried out naval operations entitled *Freedom of Navigation* in the South China Sea and the Taiwan Strait, to enforce the precepts of the United Nations Convention on the Law of the Sea (UNCLOS), challenging Chinese maritime claims deemed excessive¹⁰. As occurred in 2020, in 2021 transits were conducted in the Taiwan Strait at an average rate of one monthly occurrence (IISS, 2022).

Taipei, in turn, acts in the field of foreign policy to withdraw Beijing's freedom of action within the framework of the international community, conducts information operations¹¹ to enhance national resistance and to gain support from world public opinion, as well as evidence of its military capabilities, through successive military exercises in order to deter the Chinese. However, it is estimated that the success of its external maneuver is limited. Taiwan does not benefit from the political recognition of the international community, with the exception of a few countries such as Honduras, Paraguay and Palau, *inter alia*, as well as not being a member of the United Nations since 1971, when it was replaced by the People's Republic of China.

¹⁰ They contradict what is contained in UNCLOS, in particular the rights of navigation and the limits of jurisdictional waters.

¹¹ According to Brasil (2015, p.198), they are "coordinated actions that contribute to the achievement of political and military objectives. Executed for the purpose of influencing an actual or potential opponent by diminishing their combativeness, internal and external cohesion, and decision-making ability. [...]". It is possible to affirm that information operations consist of the synergistic performance of capacities related to the flow of information, in order to provide knowledge and situational awareness to the command, inform and influence groups and individuals, perform non-kinetic interdiction actions, as well as affect the decision-making process of opponents, while neutralizing the effects of adverse actions in the informational dimension.

The success of China's crisis maneuver, backed by compellence,¹² is conditional on the military capabilities of the PLA and Beijing's credibility. It is well known that China currently has Naval restrictions to consummate an amphibious invasion of the Taiwanese islands. Nevertheless, it is fully capable of carrying out interdiction and blockade operations against Taiwan. On the other hand, the Chinese political leadership does not lack the appetite to use violent means, especially in terms of the interests at stake. The coercive message, largely made explicit by diplomatic communication and official statements, is systematically toned down by shows of force and provocative military actions. It remains for Beijing to shoulder the costs of punishment in the face of Taipei's reluctance.

To identify Beijing's strategic options, the two basic strategic methods used at the national and military levels will essentially be considered – direct action and indirect action – noting that the method of indirect approximation is not contemplated in this reflection¹³ and the nuclear method, these intrinsic to military strategy. As premises of analysis, the involvement of the United States and its allies in possible belligerence, in a limited way and without invasions of mainland China, as well as the prevalence of the nuclear interdict, even in tactical character, are considered plausible (HAMMES, 2012; KREPINEVICH, 2010).

First, the indirect action method will be discussed. According to the opinion of the authors and many international analysts, the aforementioned strategic method, in the national and military spheres, configures the priority option for the Chinese and most likely to occur (FRAVEL, 2008). This assertion is based on the reduced freedom of action (BEAUFRE, 1998) enjoyed by Beijing towards external public opinion and the international community, as well as the insufficiency of military forces in the face of the Taiwanese opposition strengthened by a presumed coalition led by the United States. However, the relevance of the political objective established by the Chinese leadership bases the use of armed violence, on a limited basis, on the hypothesis of failure of its purely coercive actions.

In the field of national strategy, in alignment with the aforementioned method, the use of the successive actions model is visualized, which implies the combination of indirect pressure, direct threat and military actions limited in strength¹⁴. In this case, the Chinese promote, preliminarily, demonstrations of military force materialized by amphibious assault exercises and naval maneuvers in the Western Pacific, actions merely supporting the political-diplomatic pressures, economic-financial coercion and psychological warfare undertaken by Beijing. In a second phase, currently underway, the indirect use of military power assumes a leading role through provocative military actions, with the purpose of escalating the crisis.

12 A modality of strategic coercion, compellence constitutes an active threat to use force, coercing the opponent to change behavior contrary to the interests of the coercive State (SCHELLING, 1966).

13 The lack of operational requirements, such as surprise and passability, contradicts the indirect approach.

14 The strategic models cited in this work are direct threat, indirect pressure, successive actions, violent conflict and prolonged conflict (BEAUFRE, 1998).

In the final step, China would admit the direct use of its military apparatus through limited aggressive actions, such as interdiction operations associated or not with the establishment of a maritime and air exclusion zone around Taiwan. Analysts such as Carpenter (2021) also warn of the possibility of a limited offensive on the islands of Kinmen and Matsu, near the Chinese coast, for bargaining purposes at the negotiating table, a typical situation of *fait accompli*.

The combination, sequential or cumulative (WYLIE, 1967), of the strategies of interdiction, blockade and (limited) offensive,¹⁵ as well as the dosage of the applied force, make operational art noticeable. Therefore, there are numerous strategic arrangements that can be employed based on the above method. As stated in the annual report to Congress, addressed to security issues involving the People's Republic of China, the United States Department of Defense reports the following:

PLA writings describe a joint blockade campaign in which the PRC would employ kinetic blockades of maritime and air traffic, including a cut-off of Taiwan's vital imports, to force Taiwan's capitulation. Large-scale missile attacks and possible capture of islands *offshore* the joint blockade, in an attempt to achieve a quick surrender of Taiwan, while at the same time air and naval forces would be positioned to carry out weeks or months of blockade operations if necessary (UNITED STATES, 2021a, p. 116).

On the other hand, the method of direct action peremptorily implies the invasion of Taiwan, in order to neutralize its armed forces and conquer its territory through the strategy of the offensive, unleashed on a large scale in the multiple domains of combat. According to Easton (2017), the geostrategic importance of Taiwan, the Chinese military culture, as well as the obstinate resistance of Taipei to Chinese compellence, constitute the main arguments for the intensive use of violence, despite the associated costs and risks.

In this context, the Chinese strategic modeling would include, in a crisis situation, the direct threat through the coercive use of military power in a protagonist character, reinforced by other instruments of national power, as previously exposed. The failure of the crisis maneuver would lead to the model of violent conflict, embodied by various military actions linked to the strategies of offensive (invasion), blockade, interdiction and pacification, such as: air and missile attacks, cyber attacks, establishment of exclusion zone, amphibious assault operations, offensive ground operations and operations against irregular forces, *inter alia*.

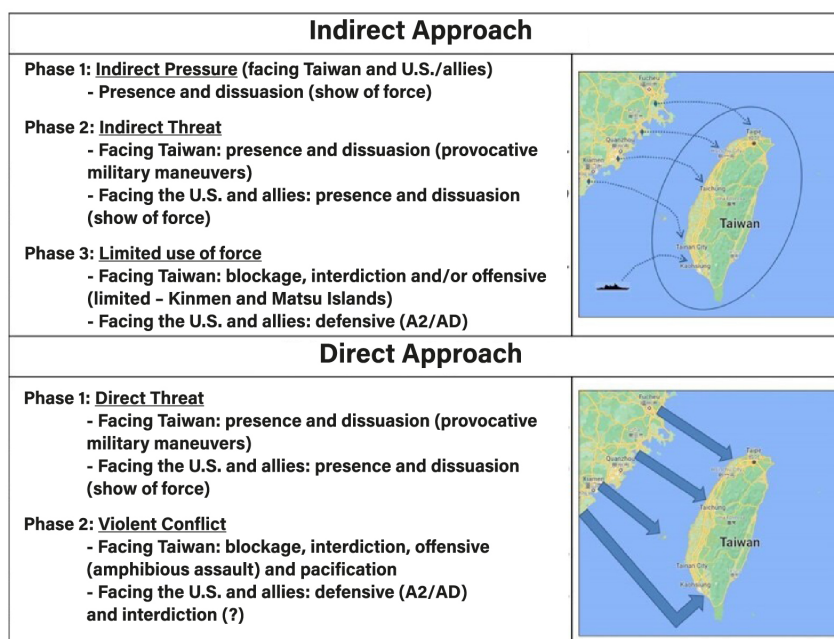
15 The strategy of interdiction aims to degrade military capabilities and strategic assets of the opponent, through attacks and raids. The strategy of the blockade consists in disrupting the flow of people and goods at the ports, airports and border crossings of the rival party. The strategy of the offensive is characterized by armed actions in order to neutralize enemy resistance, conquer capital accidents and establish territorial control in an area of interest.

In addition to the previous methods, Beijing would adopt a defensive posture against the coalition of Taiwan's allied countries, backed by a strong anti-access and area denial (A2/AD) system.¹⁶ (TANGREDI, 2013). The Chinese attitude of active defense could be combined with the strategy of interdiction, aimed at the degradation of strategic assets of its opponents in the conflict region. However, such interdiction operations against the territory of allied countries of the United States could justify the retaliation of its rivals against targets located in mainland China.

In any case, regardless of the method selected by the Chinese leadership, it does not seem that the resolution of the dispute on the screen will take place without some level of violence. As Mearsheimer (2005, 2013) asserts, Taipei will not allow itself to be coerced and Beijing will not give up on reintegrating Taiwan into its territory (CHINA, 2022). Given the configuration of the geopolitical chessboard and the balance of material capabilities of the countries involved (HEGINBOTHAM *et al.*, 2015), the strategic impasse is likely to be broken by force of arms at some future time. Confirming the previous assertions, the statement of President Xi Jinping is cited (*apud* GREER, 2018, n. p.), on the occasion of the 19th Congress of the Chinese Communist Party:

We have firm will, full confidence and sufficient capability to defeat any form of Taiwan independence secession plot. We will never allow any person, any organization or any political party to split any part of the Chinese territory from China, at any time or in any form.

Figure 3 – China's Strategic Maneuver



Source: the authors (2022).

16 Joint active defense system, integrated by sensors, weapons and vectors, with the purpose of preventing or hindering the access of enemy forces to their advanced bases in the theater of operations (anti-access), as well as removing the freedom of action of these forces within said area, preventing them from projecting power (area denial) (UNITED States, 2017).

Exploring China's strategic options, it will be discussed the strategic posture of Taiwan and its allies, particularly the United States in coalition with countries such as Japan. Indeed, because of the insufficiency of Taiwanese military resources to decisively neutralize Beijing's military and economic might, only the method of indirect action will be examined. In this context, the Taiwanese government wishes to maintain the territorial *status quo* and its political-economic autonomy, adopting a behavior of stabilization of the geopolitical crisis (EASTON, 2017; MEARSHEIMER, 2013). At present, observing a model of indirect pressure supported predominantly in broad psychological campaign and foreign policy actions, Taipei intends to strengthen ties of cooperation and partnerships with friendly nations, as well as to make explicit the resolution of its people to preserve their self-determination and individual freedoms. In addition, in the military sphere, it develops the strategies of presence and deterrence, through the deployment of contingents of the armed forces on all its islands, regular military maneuvers with fireworks and periodic exercises of mobilization of reservists, in order to demonstrate military capabilities and permanent operational readiness.

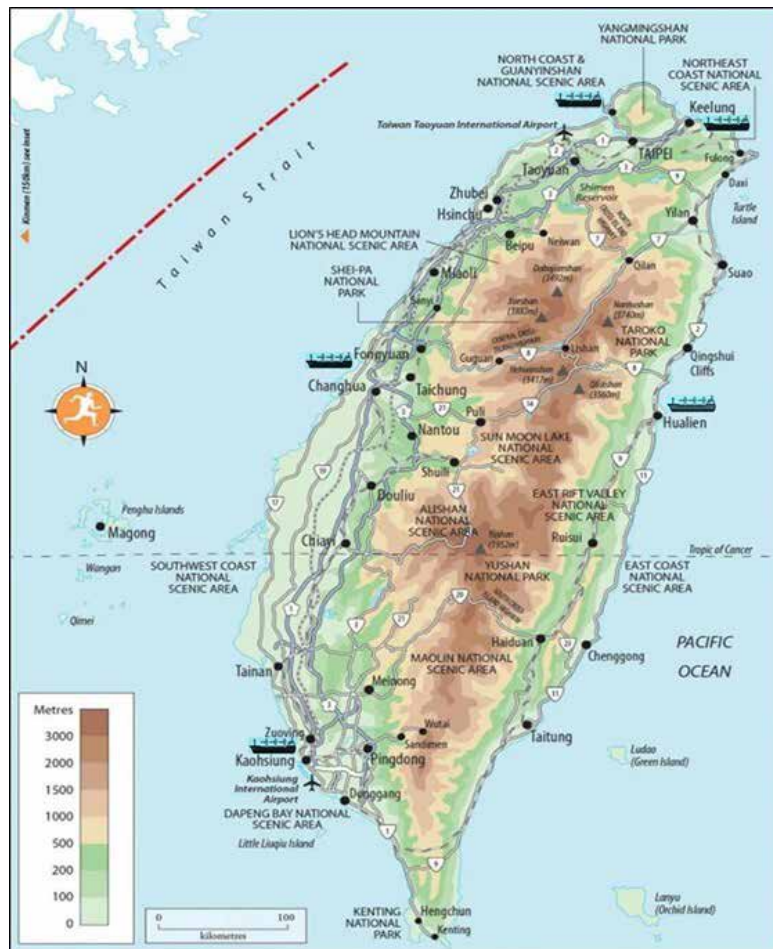
However, in retaliation for acts of aggression due to the failure of deterrent actions, the Taiwanese will adopt a defensive attitude, possibly combined with the interdiction of Beijing's strategic assets, particularly its port infrastructure, in order to disorganize the strategic concentration of invading forces, make the amphibious landing unfeasible, erode rival offensive capabilities and raise the costs of the Chinese enterprise, impacting the rational calculation of the use of violence. In the eventual occurrence of successful amphibious operations and the conquest of Taiwanese territory by the Chinese war apparatus, a change in the strategic conduct of the dispute, on the part of Taipei, to the model of prolonged conflict, based on actions of resistance to the invading forces, is certainly expected. In this case, it is permissible to assume that native insurgent movements will promote irregular warfare in the mountains and large urban centers of Taiwan, causing marked physical and psychological wear and tear on the Chinese occupation troops.

Antagonizing the Chinese strategy, the Americans and their allies, allegedly, will opt for the strategic method of indirect action, since it will try to limit the scope of the conflict, prevent its escalation to a nuclear confrontation and, at the same time, impose unbearable costs on Beijing. Since the beginning of the crisis, the United States and its partners have sought to strengthen Taiwanese deterrence, establishing advanced presence and conducting recurring shows of force in the conflict region. However, in the event of a deterrent failure, the U.S.-led coalition would carry out military operations intrinsic to the strategies of blockade, interdiction and defense, in order to ensure free navigation in the Western Pacific, degrade Chinese national power and military forces, as well as guarantee the territorial integrity of allied countries, preserving, as much as possible, the limited character of belligerence. The authors assess that, throughout the conflict, diplomatic communication will be fundamental for the clear demarcation of "red lines", in order to mitigate the risk of a nuclear confrontation between the United States and China.

3. OPERATIONAL ANALYSIS

In continuation of the strategic analysis, it is necessary to characterize, preliminarily, the operational environment of the conflict. In terms of demography and area, Taiwan has 23.5 million inhabitants and an approximate area of 36,000 km². Focusing on the Taiwanese orography, it is possible to identify, from North to South, a mountain range distributed in the central-eastern portion of the territory and qualified by dense vegetation and peaks between 3,000 and 4,000 meters in altitude, which makes the eastern coast quite steep and promotes a demographic concentration in the plain of the western coast. This physiographic configuration greatly restricts the conduct of major air-ground operations, as well as making amphibious assaults on the eastern coast unfeasible. According to Easton (2017, p.145), “Taiwan’s 770-mile coastline is notably unsuitable for amphibious operations. Approximately 75 percent of the island is covered by mountains and the rest is mostly terrain too urbanized or inhospitable”.

Figure 4 – Map of Taiwan

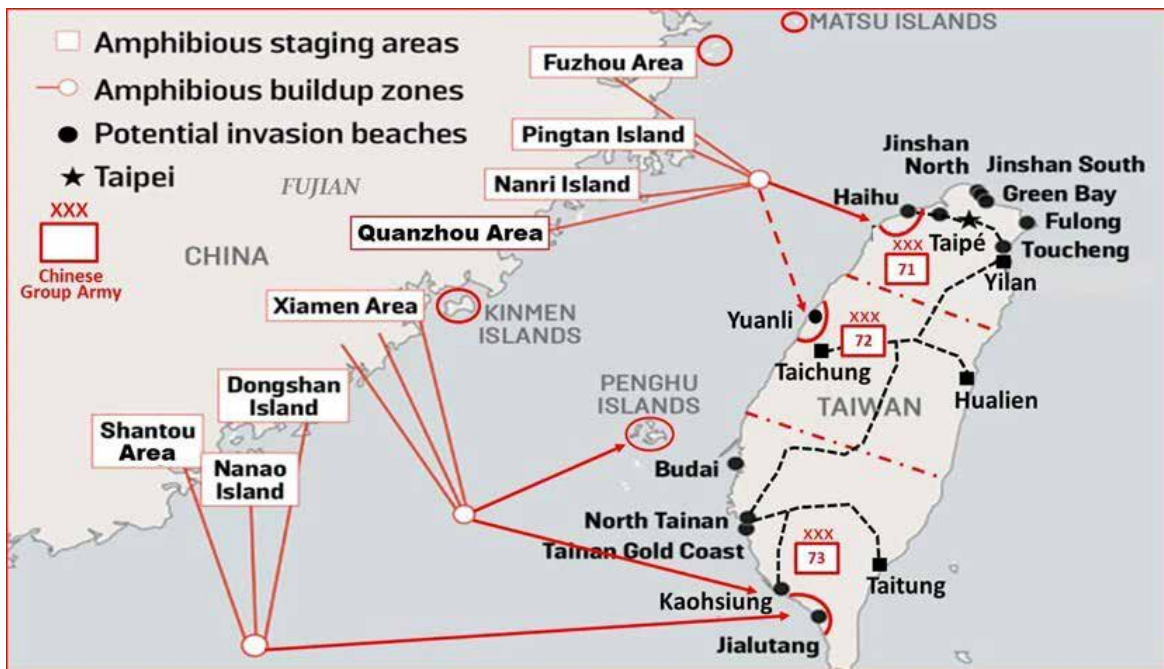


Source: Maps Taiwan (2022).

Taking into account a scenario of limited war, the Chinese operational strategy associated with the hypothesis of armed conflict, resulting from the attempted invasion of the islands of Taiwan, will be detailed, as it is the most complex strategic option. In addition, the military opposition of the United States and its allies to the Chinese offensive will be assumed. Under this scenario, the Eastern Theater Command would conduct military operations from Fujian province, in all areas of the battlefield¹⁷, to reduce Taiwan's economic power and neutralize its armed forces, for the purpose of conquering and pacifying its islands. Moreover, it would maintain China's territorial integrity in its area of responsibility and degrade the military power of the opposing coalition, neutralizing, if necessary, its support bases around Taiwan.

Given the importance of landings for the Chinese victory, we will analyze the development of the campaign according to the Chinese doctrine of amphibious assault (UNITED STATES, 2021b), as well as the operational concept of anti-access and area denial (TANGREDI, 2013). In order to better understand the strategic interaction in question, the analysis considered the operational strategy of the United States and its allies. Based on the on-screen scenario, the military campaign of the PLA Eastern Theater Command was didactically preconceived in seven operational phases, namely: concentration of forces, missile interdiction, air and naval operations, amphibious operations, ground operations, pacification and demobilization. Because they are the product of conjecture, the aforementioned phases can effectively be unified or subdivided, according to the operational planning of the Chinese General Staff that comes to fruition.

Figure 5 – Example of Taiwan Invasion Scheme



Source: Adapted from Greer (2018).

17 Generally speaking, five battle space domains are considered: land, sea, air, space, and cyber. Some strategists admit the existence of the informational domain, which covers psychological, cybernetic and electronic warfare actions (GOURÉ, 2019).

During the initial phase of concentration of forces for the invasion, military units from all branches of the PLA would be mobilized and moved to concentration sites in Fujian, Zhejiang, and Guangdong provinces, especially around the port cities of Fuzhou, Quanzhou, Xiamen, and Shantou. In parallel, special operations troops would be infiltrated into the Taiwanese islands, with the purpose of recognizing critical infrastructures, military installations, landing sites and the defensive device of Taipei. In this phase, the identification and selection of targets, whether installations or enemy forces, by diverse means of intelligence, play a central role in the conduct of kinetic and non-kinetic fires in later phases.

To be sure, a grouping of forces of this magnitude would not go unnoticed by Taiwan's intelligence system, which is based on undercover agents, surveillance radars, electronic warfare and early warning aircraft, as well as intelligence provided by the allies. Even if a military cover-up were attempted, such as a false dressage exercise, strategic surprise would be unlikely to be obtained by the Chinese. In turn, the concentration of a large assault force on the Fujian Coast would create a tempting opportunity for a preemptive attack by Taiwan, carried out by its ground attack missiles, which can be launched from air and ground platforms, for the destruction of fixed targets on the Chinese coast. According to Easton (2017, p. 91), Chinese military literature describes the pre-invasion situation as follows:

The enemy scrutinizes and monitors our coastal areas, which makes plans for the movements of army amphibious landing troops and their assembly difficult to hide. The enemy on the island has reconnaissance capabilities and electronic warfare capabilities that are constantly improving. Their long-distance, high fidelity, overlapping reconnaissance methods turn dark nights into bright days.

In the missile interdiction phase, ballistic and cruise missiles of the PLA Rocket Force would be launched, as well as non-kinetic actions by the Strategic Support Force, portrayed by cyber attacks and electronic attack measures. The purpose of such attacks would be to neutralize air and naval bases, disable command centers, block surveillance radars and disorganize the Taiwanese defensive system, as well as degrade strategic assets such as political-administrative centers, port and airport infrastructures, power plants, oil refineries, steel plants, scientific-technological poles and other high-value targets (CSIS, 2020). In addition, the Strategic Support Force would perform space operations in order to neutralize adversary satellites. The potential destruction caused by this interdiction operation would be overwhelming. However, it must be considered that the Taiwanese have been, for decades, in continuous preparation to resist a possible invasion, "hardening" their military facilities with underground shelters and depots, concrete-lined hangars, a tunnel system and bases embedded in mountains, *inter alia*. Taipei assumes a good survival rate of its protected military resources in the face of an eventual Chinese attack.

Following the operations, taking advantage of the disorganization caused by the previous attack, the Chinese Air Force would seek to obtain air superiority, a necessary requirement for control of the maritime area in the Taiwan Strait and for carrying out the operations of aero strategic interdiction against the surviving targets of the previous phase. A no-fly and no-sea zone would most likely be established around Taiwan, enforced by a naval blockade and combat air patrols. The Chinese navy could additionally, with its fighters embarked on aircraft carriers and warships equipped with ground attack missiles, hit targets of interest of the Eastern Theater. In addition, special operations forces, previously infiltrated in the Taiwanese islands, would carry out direct commando-type actions against targets resistant to aerial and missile bombardment, of great relevance to the operational maneuver, including the beheading missions of civil and military authorities. In contrast, the aerial opposition of the Americans and allies would make Chinese air superiority questionable to say the least.

Once the necessary conditions were created, amphibious assault operations against Taiwan would be launched. At this stage of the campaign, international analysts consider some sequential variations in the assault on the Taiwanese islands. The traditional operational maneuver successively comprises amphibious landings in three stages: initially on the islands of Kinmen and Matsu, then on the Penghu Islands, and finally on the main island of Taiwan. According to Wood and Ferguson (2001, p. 56),

The People's Liberation Army could realize a number of important advantages, should it invade Taiwan, by conducting the operation in three phases: seizing Quemoy (Kinmen) and other islands close to the mainland, capturing the Penghu Islands, and assaulting Taiwan's west coast. By attacking these objectives in succession, the Chinese could amass great numerical superiority against each one in turn and render the next object less defensible.

However, Easton (2017) points out the possibility of a simultaneous assault on the islands of Kinmen, Matsu and Penghu. Otherwise, it is plausible to consider the concomitant conquest of the Penghu Islands and Taiwan, or even a synchronous assault of all Taiwanese islands, in order to provide tactical surprise and speed to amphibious operations. In any case, it is almost unanimous the need to expel, at the very beginning of the amphibious operation, the islands of Kinmen and Matsu, since this action would neutralize the advanced defenses of Taiwan, providing security for boarding, crossing and logistical flow. In reinforcement of this thesis, Easton (2017, P. 115) points out that: "according to PLA studies, preliminary and rapid operations to neutralize Taiwan's outer islands are imperative due to local geography".

Amphibious assault operations require actions of military dissimulation, with the purpose of eluding the adversary and nullifying its ability to react, as well as strong fire, air and naval support, to neutralize resistances on the enemy coast. In this case, there is a limitation of favorable landing sites on the Taiwanese coast, making it very difficult to obtain the surprise. In fact, Taiwanese military studies identify only 14 beaches conducive to amphibious assault (EASTON, 2017). However, by associating them with other environmental conditions, such as the desirable proximity of a port¹⁸ and the existence of an operational attractiveness,¹⁹ this number becomes quite small. Thus, the specialized literature prioritizes two areas on the West Coast, considered more favorable to landing: the Northwest, near Taoyuan and the capital Taipei; and the Southwest, near the important port and industrial center of Kaohsiung (EASTON, 2017). However, in order to diversify the landing sites and facilitate concealment, a beach area in the Central-West region of the island, north of the Port of Taichung, of limited amplitude should be considered. Despite the physical restriction, this area meets the basic imperatives for amphibious assault, being a good alternative for the Chinese.

In parallel, consideration should be given to the long periods under hydrological and meteorological conditions unfavourable to amphibious operations in the Taiwan Strait, particularly between the months of November and March. In the period from May to September, typhoons and tropical storms are common. In fact, only the months of April and October are favorable for crossing the Strait and amphibious landing (EASTON, 2017). In view of the foregoing, it is clear how challenging it will be for Beijing to overcome the spatial and temporal limitations imposed by geography, although such restrictions are not hindering.

As a basic requirement, control of the airspace overlying the area of the amphibious objective must be achieved by means of air forces and/or ground-based air means. Taiwan's proximity to the Chinese coast provides both possibilities, considering the existence of PLA Air Force bases in the Eastern Theater, in addition to Beijing's two Navy aircraft carriers. Additionally, prior to the start of actions on land, it is necessary to control the maritime area adjacent to the landing area, which includes, in addition to airspace, the sea surface and the underlying liquid mass. For this purpose, naval surface forces are used, supported or not by submarines. To be sure, Taiwan's armed forces, reinforced by coalition means, will challenge Chinese control of the airspace and sea area considered, through fighter aircraft, submarines, fast attack ships, defensive mining, anti-aircraft systems and coastal anti-ship missile batteries.

18 The main ports are located in Keelung and Taipei to the North, Kaohsiung to the southwest, Taichung to the Midwest, and Hualien to the east-central.

19 Aspects of the operating environment, whether physical or human, that may motivate the execution of operations in this area (BRASIL, 2014a).

The amphibious forces of the PLA, whether Marines or army troops (UNITED STATES, 2021b), would have the mission to conquer and maintain beachheads,²⁰ in order to ensure the landing of ground forces for the continuation of military operations inside the island. In contrast to the assault, the Taiwanese have long fortified the few places available for amphibious landings. As part of this effort, they built concrete pillboxes and underground facilities for anti-ship missile launchers, artillery pieces, ammunition depots, and command centers. In addition, they planned the rapid launch of naval and land mines, steel hedgehogs and wire obstacles on the considered beaches. Given the complexity of the amphibious assault, compounded by the remarkable Taiwanese defensive effort, it is considered that this will be the most critical moment of the entire Chinese campaign.

After the consolidation of the beachheads, the Chinese army units would neutralize the remaining defenders and seek the conquest of Taiwanese territory. At first, the PLA Ground Forces would be forced to fight in the large urban centers of the Western strip of the island, and later they would have to operate in mountainous terrain, along the few existing axes, to control the central-eastern portion of Taiwan. At the end of the territorial conquest, the PLA forces would probably still be forced into a protracted struggle against insurgent movements, organized to resist the invaders. At this point in the campaign, Chinese special operations units would play a leading role in counterinsurgency actions (ABODO, 2021). It should be noted that the mountainous terrain, covered by dense vegetation, greatly favors the killing of guerrilla forces. In addition, the large cities of Taiwan constitute regions conducive to the clandestine action of the underground forces of the insurgency. In principle, the motivation stemming from nationalist sentiment and the support of the Taiwanese population will be the elementary ingredients for a long-lasting irregular combat and many casualties, testing Beijing's political determination.

Throughout all phases of the Chinese campaign, the anti-access and area denial system would be key to ensuring the territorial and patrimonial integrity of mainland China, preventing coalition interference during the invasion, as well as neutralizing allied military support for Taiwan. To achieve this intent, the Chinese system unfolds in layers, each incorporating, *inter alia*, naval means (submarines and warships), aircraft (fighters and bombers) and land platforms, capable of launching ground attack, anti-ship and anti-aircraft missiles, against fixed and mobile targets, in transit or situated in the Western Pacific. In addition, it has space resources (satellites for various purposes), surveillance radars, reconnaissance and attack drones, cyber assets and electronic warfare vectors.

20 "Selected land area of the enemy coastline that contains the objectives of the Amphibious Task Force and The Landing Force and that, when conquered and maintained, ensures the continuous landing of troops and material, providing room for maneuver for operations on land" (BRASIL, 2014B, p. A-5).

Considering the region of the conflict, it is legitimate to assume that the advanced U.S. bases located in Guam, Yokosuka, Okinawa and Sasebo, among others, would constitute primary targets of the Chinese ground attack systems. The Sasebo and Okinawa bases lie within the coverage range of the Chinese short-range ballistic missiles DF-15 (900 km) and DF-16 (1,000 km). Yokosuka, in turn, is within range of CJ-10 ground-attack cruise missiles (1,500 km) and DF-17 medium-range ballistic missiles (2,000 km)²¹. The Guam base, on the other hand, can only be hit by DF-26 intermediate-range ballistic missiles (4,000 km) (CSIS, 2020).

Beijing's war apparatus, in the sense of approaching U.S. forces, can engage its naval task forces beyond the second island chain – first layer of A2 / AD – notably with longer-range military systems, such as the DF-26 intermediate-range ballistic missiles (4,000 km), in its anti-ship version. In addition, nuclear attack submarines (*Type 091* and *093*) and the H-6K strategic bombers (combat radius of 3,500 km), both armed with anti-ship cruise missiles. In a second layer, between the two island chains, the Chinese can employ all the preceding systems, reinforced by DF-21D medium-range anti-ship ballistic missiles (1,500 km) and JH-7 strike fighters (combat radius of 1,650 km) equipped with anti-ship cruise missiles.

In the third and final layer, between the Chinese coast and the first island chain, Beijing mainly uses shorter-range systems, such as: conventional submarines; naval mines; anti-ship cruise missiles YJ-12 (400 km), YJ-18 (540 km) and YJ-62 (400 km), launched from coastal batteries and warships; embedded and ground-based Anti-Aircraft Systems HQ-9 (300 km) and HQ-22 (170 km); as well as multirole fighter jets (J-10, J-11, J-15, J-16 and J-20). It is worth noting that China has military equipment of Russian origin,²² as anti-aircraft systems and fighter aircraft, *inter alia*. In short, it can be deduced that the PLA's A2/AD system can be considered one of Beijing's centers of gravity.

Concluding the analysis of the Chinese campaign, it is necessary to consider the enormous logistical effort necessary to sustain military operations on Taiwanese soil, to be implemented basically by naval and air means, crossing the Taiwan Strait, under strong opposition from the military apparatus of the coalition led by the Americans. Perhaps this was one of the many justifications for the creation of the PLA Joint Logistics Support Force. On the other hand, the marked relevance of information operations to victory, from any perspective, cannot be overlooked. Psychological, cyber and electronic warfare operations constitute vital instruments for any military enterprise.

21 Missiles equipped with hypersonic glider vehicles (HGV).

22 China, in addition to its indigenous missiles, employs the S-400 anti-aircraft system, of Russian origin, with a range of 400 km.

Contrary to Beijing's goals, The Washington-led coalition would carry out military operations inherent in the blockade, interdiction, and defensive strategies. According to this reasoning, the coalition's operational strategy could combine, in time and space, sequentially or cumulatively, maritime interdiction operations, denial of the use of the sea, aero strategic interdiction, naval bombardment, ground defensive operations, aerospace and coastal defense, as well as escorting the sea traffic of allied countries. Reinforcing this thinking, Grossman and Meyers (2019, P. 106) synthesize U.S. military options: "in response to this shift in the military balance, the debate over U.S. military strategy towards China has solidified around three strategies: attacks on the mainland, blockade away, or maritime denial".

Hammes (2012), examining the geographical features of China's strategic environment, recommended the application of a remote blockade – maritime interdiction operations – at the strategic bottlenecks of China's maritime communications lines, notably in The Straits of Malacca, Sunda, Lombok and other links to the Indian, Atlantic and Arctic oceans. In these specific locations, outside the second chain of islands, maritime area control would be exercised. In this way, the threat posed by the powerful A2/AD Chinese system is avoided, especially within the first island chain, but it becomes possible to suffocate the Chinese economy and therefore impact its war effort. Considering that it is unlikely to control maritime areas within the first and second island chains, it would seek to deny the use of the sea in these regions, which would be performed by attack submarines against military and merchant vessels, offensive mining of enemy ports, as well as air attacks and anti-ship fires from coastal batteries, from regional bases. Surely, this strategy strikes at another important center of Beijing's gravity: its maritime trade.

By another approach, coalition forces could resort to aero strategic interdiction and naval bombardment, employing aircraft-and submarine-launched ground-attack missiles, to neutralize China's military targets and strategic assets, most notably its A2/AD system, its port infrastructure, and its energy industry. Such interdiction actions would increase the costs of belligerence and pressure on the Chinese leadership, accelerating the political settlement of the dispute or at least the achievement of a ceasefire agreement. The destruction of targets in mainland China will depend on the political limitations imposed on military power, which can be established in order to preserve, as far as possible, the nuclear interdict and the limited character of the dispute. Hammes (2012, p. 4) advises against attacking targets on the Chinese mainland and states: "the United States must accept that China's nuclear arsenal imposes restrictions on the manner in which American forces can attack Chinese assets". Under restrictive conditions, cyber attacks constitute a valuable alternative tool for interdicting enemy assets dependent on digital systems.

In addition to the above, it is necessary to establish defensive measures in the territories of the allied countries, which should include: aerospace defense; coastal defense; anti-aircraft defense; physical and cyber security of critical infrastructures; as well as operations against amphibious landing. From this perspective, the coalition needs to consider landing ground troops on the island of Taiwan to reinforce its defense actions, provided if there is an opportunity. In addition, it is necessary to provide security to the maritime traffic of the allied countries, through the escort of their merchant convoys, ensuring access to the ports of their corresponding eastern coasts.

4. CONCLUSION

It is possible to infer that the current political-strategic crisis in the Taiwan Strait, involving China and the United States, as well as other actors implicated in the controversy, tends to be stabilized, at least at the present time, as already occurred in the crises of 1954, 1958 and 1995/1996. According to the rational calculation of costs, risks and benefits, it can be deduced that, in theory, Beijing will seek to achieve its political objectives, materialized by Chinese reunification, through the method of indirect action, with emphasis on political-diplomatic, psychological and economic coercive strategic actions, associated with limited military actions, in the form of threats or even in restrictive and/or offensive character. Of course, relevant events on the regional or global stage, domestic pressures and other factors can alter the strategic environment, propelling the Chinese government to use intensive violence to reintegrate Taiwan. In this context, a possible unilateral declaration of independence by Taipei, the deployment of alien military forces and the installation of nuclear weapons on Taiwanese territory are cited.

The Chinese strategic posture is basically justified by the absence of freedom of action with the international community and world public opinion, combined with the insufficiency of military capabilities²³ to conquer the Taiwanese islands and further neutralize the opposing coalition. The U.S. military apparatus alone represents considerable opposition to the Chinese offensive intent. Moreover, there is no urgency in the current geopolitical scenario that requires short-term solutions. However, should Chinese compellence fail, the possible use of military actions limited in force by the strategies of blockade and interdiction must be considered in the light of the importance of Beijing's political objectives and the magnitude of the interests at stake, concerning the sovereignty, territorial integrity and national security of the People's Republic of China.

23 Currently, Beijing does not yet have the necessary naval resources to invade Taiwan, as there is a shortage of amphibious assault ships in the Chinese navy. Between 2025 and 2027, China may have full material capabilities for such an attempt. From 2019, China has produced powerful amphibious assault ships Type-075, which add substantial capabilities to those provided by landing ships Type-071 (IISS, 2022).

It can be deduced that there is a low probability of an invasion of Taiwan by Chinese amphibious and airborne troops. This assertion stems from geopolitical circumstances unfavorable to the use of violence, strategic factors that counteract direct action and operational complicators that hinder the development of military operations in Taiwanese territory. Added to the aforementioned aspects is the high risk of nuclear escalation in the course of the armed conflict, of calamitous consequences for both contending parties and for all nations of the world.

Finally, we highlight the enormous challenges of a large-scale amphibious operation, explained in the preceding sections, such as: restriction of areas suitable for landing, either by sea or air; limited time windows under favorable hydrological and meteorological conditions; mountainous orography of the island of Taiwan; population concentration on the West Coast; logistical support hindered by the maritime obstacle; air and naval contestation of a possible coalition led by the United States; probable resistance combat undertaken by the Taiwanese, *inter alia*.

It is lawful to conclude that China will continue to coerce the Taiwanese with the purpose of forcing them to accept reunification, preferably through a peaceful solution. Nevertheless, the use of violence, on a limited or large scale, cannot be ruled out, as explicitly attested by official documents from the Chinese state (CHINA, 2022). Despite the notable costs and risks of a Chinese invasion of Taiwan as an extreme resource, the phenomenon of war is, after all, a game of probabilities permanently shrouded in uncertainty. Moreover, strategy is a matter of choice, not always subordinated to the prevalence of rationality.

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The use of scenarios for the consolidation of a defense policy


El uso de escenarios para la consolidación de una política de defensa


Abstract: This is a reflection that proposes the relevance of the applicability of prospective scenarios for the improvement of the analysis process for the construction of the Military Force. With a qualitative bias, a deductive perspective was adopted, based on bibliographic research, treated with the support of content analysis. Since war is a concrete social phenomenon, which is expressed on the battlefield, the perspective that Military Sciences approach Applied Social Sciences is corroborated. Therefore, it is suggested that the application of prospective scenarios, resulting from a multidisciplinary analysis, provides elements of reflection that analytically contribute to a more solid study of the Military Force and, therefore, an improvement of the necessary military capabilities to achieve the Objectives. Nationals of a Nation. In this context, the need to devise a coherent methodology for conducting the analyzes and observations collected is highlighted, to avoid the bias and individualism of the conclusions, as well as reporting the gain in the quality of the analyzes with the increase of the scenarios prospects as a substantive factor in the analysis process of the Military Force, essentially, in the definition of the ideal military capabilities.

Keywords: Military Sciences; defense management; prospective scenarios; military capabilities; content analysis

Resumen: Es una reflexión que propone la pertinencia de la aplicabilidad de escenarios prospectivos para el perfeccionamiento del proceso de análisis y construcción de la Fuerza Militar. Con sesgo cualitativo, se adoptó una perspectiva deductiva, basada en la investigación bibliográfica, tratada con el apoyo del análisis de contenido. Siendo la guerra un fenómeno social concreto, que se expresa en el campo de batalla, se corrobora la perspectiva de que las Ciencias Militares están próximas a las Ciencias Sociales Aplicadas. Por lo tanto, se sugiere que la aplicación de escenarios prospectivos, resultantes de un análisis multidisciplinario, proporcione elementos de reflexión que contribuyan analíticamente a un estudio más sólido de la Fuerza Militar y, por consecuencia, a una mejora de las capacidades militares necesarias para el logro de los Objetivos Nacionales de una Nación. En este contexto, se destaca la necesidad de diseñar una metodología coherente para la realización de los análisis y observaciones recolectadas, a fin de evitar la parcialidad e eç individualismo de las conclusiones, así como reporta la ganancia en la calidad de los análisis con el aumento de los escenarios prospectivos como sustantivo en el proceso de análisis de la Fuerza Militar, fundamentalmente, en la definición de las capacidades militares ideales.

Palabras clave: Ciencias Militares; gestión de la defensa; escenarios prospectivos; capacidades militares; análisis de contenido..

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1 INTRODUCTION

Scenarios are increasingly used as a tool to test and improve organizational performance, in addition to adding content to the organizational decision-making processes of public or private institutions, in dynamic environments.

In the field of Security & Defense, scenarios are used for the planning of military forces, however, differing from time to time. For example, the post-Cold War planning scenarios were different from the scenarios used during the Cold War, mainly due to the greater availability of computer simulation resources and other analysis tools (LARSON, 2019).

In addition, the post-Cold War approach to the use of scenarios for the planning of military forces began with a certain planned and alternative force structure, moving on to a test, in order to achieve success, with a low to moderate level of risk. Next, the ability of the military force to meet the requirements of various combinations of simultaneous or overlapping scenarios was assessed. Finally, a military force that met these requirements and scenarios, with low to moderate risk, was considered a robust force (LARSON, 2019).

To this end, according to the United States Department of Defense (UNITED STATES, 2001), scenarios concretize the representation, planning of a hypothetical situation or state, the result of a combination of operations that can be conducted. However, these plans are guided by strategic concepts, assisting in the planning effort of the military forces to be applied, providing a framework to relate these forces to strategic ends.

In addition, these plans, or can also be considered a strategic analysis, involve the decoding of defense policy and strategy in military purposes, forms and means. However, such decoding process should not be confused with detailed operational planning related to operations plans or conceptual plans developed by commanders of military forces, or even with crisis response planning, despite having an operational orientation (UNITED STATES, 2011).

In order to support robust analysis, during the Obama administration (2009-2017), the scenarios were grouped into one or more groups, called Integrated Security Constructs (ISCs). Each ISCs, with a specific goal, represented a hypothetical state, combining different types of operations that could be conducted (UNITED STATES, 2010). This innovation in planning enabled tools to specify alternative hypothetical states, each composed of a combination of simultaneous and overlapping scenarios. In this way, this new planning configuration provided the construction of a military force, that met the requirements of different ISCs and, consequently, generating a more robust force (LARSON, 2019).

Nevertheless, considering that the prospective scenarios are a solid tool, but not unique, that helps in the planning of defense and security policies, this paper seeks to highlight

the relevance of using the prospective scenarios to strengthen the construction of policies and capabilities involving Security & Defense. In this way, the present text approaches, in a new way, the daily vision of analyzing the use of prospective scenarios and how these scenarios corroborate for the construction of robust public policies in the area of Security & Defense.

Moreover, it is not a main objective to describe the methods and forms of scenario construction, as well as to deepen the process of making the scenarios, but to give views to the important role of prospective scenarios as a resource that assists and subsidizes the decision-making process, in the area of Security and Defense, as in the area of scientific knowledge.

2 METHODOLOGICAL FRAMEWORK

Usually, Contemporary Culture influences Science, and this Science groups a range of empirical and pragmatic knowledge from applied research, building the importance of epistemology. Therefore, the philosophical conceptualization, in which the ideas are worked on, is of an essential peculiarity, highlighting the philosophical assumptions of the method used, in addition to guiding the construction of clear solutions to the problems found, appropriate to the reality of scientific research (TESSER, 1994).

In addition, the verification of theoretical and empirical trends within the literary work adds a set of beneficial effects, such as encouraging debate about the relative merits of new trends, contributing to an increase in the understanding of epistemological positions, the methodologies used and the communicability of the allegations and knowledge presented. However, these debates intensify awareness and reflection, providing a better methodological experience to the academic community.

The epistemological basis asserts a point of view through which the writer visualizes and reasons the environment around him. Consequently, it can be said that epistemology consists of the careful study of the hypotheses and results of the numerous sciences, thus becoming a theory of knowledge and greatly influencing the future choice of designs and research methods that will be adopted (TESSER, 1994). Therefore, individuals are able to achieve certain proposed goals only by logical reasoning and by experiences. In view of this and due to the dynamics and complexity of the themes presented, a theory linked with diversities is needed, which is directly connected with The Complexity Theory, inserted at the end of the twentieth century in academia (CILLIERS; RICHARDSON, 2001).

It is also observed that the simple reading of epistemic concepts does not provide a clear understanding between the different scientific areas, be they Social Sciences (BYRNE, 1997), Political Sciences (CAIRNEY, 2012), Military Sciences (LARSEN-FREEMAN; CAMERON, 2008), etc. In this way, Complexity Theory provides the discontinuous integration of concepts, as well as amplifies and expands understanding, offering other possibili-

ties based on space and time. Therefore, Complexity Theory makes possible the connection between knowledge about the conceptual evolution of War, the importance of individual experience for scientific studies and the Military Sciences. With the exploration, classification and interpretation of epistemic concepts, the limits are recognized and the understanding of complexity and problems is obtained, enabling a perspective of the smaller parts and the understanding of these parts provides the perception of the whole.

Methodologically, the work is structured through a qualitative research, seeking the identification of the main epistemic concepts, which enables the recognition of different points of view, in addition to characterizing, in this way, a systematic review of the research. The disparate concepts researched contributed to an intense and solid discussion, and consequently, the construction of new appreciations, not quantifying the circumstances. The collection of concepts contributes to the clarification of the developed thinking, architecting a universe of meanings, and not being limited to variables (MINAYO, 2001).

The set of philosophical concepts will be worked with the support of the concept of “content analysis” (BARDIN, 1977). From this conceptual set, the typology, taxonomy and associated indicators will be condensed (FRANCHI; MIGON; VILLARREAL, 2017), agglutinating the stages of pre-analysis, exploration and interpretation of epistemic concepts, and generating the appropriate circumstances for processing and proving the conclusions within a social context, in addition to providing a more robust verification of the selected articles and books.

This text is characterized by a bibliographic review of theoretical references already analyzed, investigating and opposing the issues visualized. The association of different perspectives to the central themes of the text allows the understanding and visualization of the conceptual evolution of prospective scenarios, the applicability of these scenarios in the area of Security & Defense and the positive aspects, motivating the inter-structuring of networks and alliances (PARIS, 2004). The text begins with a detailed plan, independent of the methodology, however, it is built on a dense theory, legitimizing the consolidated study (DEACON, 2011).

The structured and interconnected investigation between the pillars of the conceptual base corroborates for a homogeneity in the verification process, always seeking to oppose one concept to the other, building new perspectives, without ending the discussion, giving a better transparency to the process. In this context, it is observed the existence of numerous studies on the construction process and the applicability of prospective scenarios, without, however, delving into the bias of the contributions of this application to the area of Security & Defense, particularly with regard to Defense Management. Thus, this philosophical work seeks to expose a revisit to the concept of the prospective scenario, the applicability of prospective scenarios and their collaborations for the area of Security & Defense.

Data collection was intensified by the selection and analytical reading of the sources. After this process, the observations were consolidated, contrasting the relevant points. The research was carried out in the databases listed in Table 1, in the period from January 15 to April 18, 2022. Supported by the database, the literary review includes a scope of articles

and journals that deal conceptually with War, Military Sciences, prospective scenarios and the relationship of prospective scenarios with the area of Security & Defense and Military Sciences, in which the language used for research on international sites was essentially the English language, due to the restricted collection of publications in the Portuguese language.

Table 1 - Details of literature terms mapping

Database	Search strings
Google academic Scientific Electronic Library SciELO Science Direct CAPES SAGE journals Routledge Fundação Getúlio Vargas RAND Corporation	War Violence Experience Art Of War Military Sciences Clausewitz

Source: The authors (2022).

The research considered the works from the book *Scenarios and strategic management*, by Michel Godet, from 1987, in chronological order, however, not aiming to carry out a complete historical survey on the epistemology of scenarios, aiming to maintain, essentially, the focus on the knowledge obtained from the use of prospective scenarios in the area of Security & Defense. The criteria of language (Portuguese/English/French/Spanish), types of documents (article/review) and area of knowledge (Applied Social Sciences) were also adopted for the selection of the material. We identified 28 sources for consultation, including articles and books, thus enabling us to base the research, demonstrating vast production, mainly in English. This text relies heavily on research and the works of other writers.

The debate and study of the use of prospective scenarios in the area of Security & Defense is an old phenomenon, with an intense and practically inexhaustible debate, as it has been configured a theme of growing prominence in the national and international academic community. Still, such debate is not the objective of this article to work on those definitions.

3 APPLICABILITY OF PROSPECTIVE SCENARIOS

The apprehension with what can happen is an organic need of human beings, which leads the man himself to the fascination in dominating it, in order to ensure its continuity (GEUS, 2002). Based on this idea, a way to approach and manage the uncertainties of assumptions about the future or even a way to speculate on uncertain relationships and the dynamics of change, begins with the possibility to examine the consequences of an action

or a set of actions within possible and hypothetical contexts. This examination or verification process aims to focus attention on causal processes and decision points, enabling an organization to make more solid decisions. Thus, these approach tools are identified as scenarios (KAHN; WIENER, 1967; KLEINER, 1996; SHEARER *et al.*, 2006). In a business environment, the scenarios have as their primary function the mitigation of uncertainties, as well as providing a tool that supports the definition of strategies.

Still in relation to scenario definition, it can be stated that scenarios consolidate a group of description of a future conjuncture, as well as the possibilities that lead a current condition to a future condition. Moreover, the scenarios do not determine a future reality, but rather a representation, guiding current actions directed towards a possible and desirable future (GODET, 1987). In addition, Schwartz, Leyden and Hyatt (2000) reinforce the conception that scenarios provide an ordering of perception about future alternative projections, providing an aid in identifying aspects of possible changes in the present environment.

However, Shearer (2009) corroborates that the scenarios are fictitious reports that draw a process of change over time, describing the cases, actions and consequences that are related in an eventual way, that is, understood as predictive judgments, which portray what can happen and not situations that will happen or even that are likely to happen. To this end, the scenarios organize the observations within defined structures¹, providing a means of relating and understanding isolated occurrences in a single arrangement, comparing meanings, and facilitating discussion of planning options.

Therefore, the prospective scenarios are not associated with the definition or determination of what will occur, nor does it consist of a prediction or projection defined by qualification and quantification (GODET, 1993). Schwartz, Leyden and Hyatt (2000) point out that one should seek facts and perceptions that challenge the presuppositions already established, however, without getting lost in the profusion of qualitative and quantitative information, avoiding such a situation through the use of filters for selection.

Scenarios inspire the decisions or actions that lead to success, reducing risk, thus enabling the decision maker to act in advance. Within this context, prospective scenarios arise as a way of standardizing the group's way of acting and thinking, stimulating, in addition, the increase of creativity, the consolidation of communication and the building of a situational awareness (MARCIAL; COSTA, 2001).

Shearer (2009) highlights the relevance of the distinction between scenario and alternative future, since these terms are sometimes used interchangeably within the academic literature. With that, an alternative future basically amounts to a possible state. However, a prospective scenario is already defined as a means to achieve that possible state. Each scenario can serve as milestones by which decision makers can track emergence and progress along a path, which guides to a specific future. However, the alternative future aims to quantify the

¹ To deepen the organization of the structures that make up the scenarios, it is suggested to read the article by Shearer (2009), which appears in the list of references.

consequences associated with a particular path, enabling decision makers to take stock, and can also serve as an instrument to compare the consequences of different paths of change.

Steinitz (1990) reports that to carry out a planning based on prospective scenarios, it is initially necessary to describe the initial state, in content, space and time, identifying the main characteristics of the object of interest for the study. After the definition of the parts or environment, it has to be established how the functional and structural relationships between these parts are. Another crucial point for the analysis is the verification of the functioning of the current environment, thus characterizing the baseline of the study, in principle, the current conditions. From more to more, it must be verified how the environment can be changed, therefore, by what actions, where and when, seeking to demonstrate the complexity of the change. Depending on the needs of a particular study, changes may include those brought by exogenous forces², such as social, economic and political pressures, or even, by endogenous actions, such as the implementation of plans, investments or regulations. The conditions of future change commonly considered include the implementation of plans and a future without surprises.

In addition to everything, another point consists in identifying the predictions that changes can cause in relation to the initial assessments of the baseline. Finally, it is observed how the landscape should be changed and how alternative scenarios can affect the environment. In possession of these observations, decision-makers will be prepared to choose how the environment can be changed or how to prepare for predictions that are beyond their control (STEINITZ, 1990). Marcial and Costa (2001) state that the time horizon of the scenarios consists of a time lapse that depends on the dynamics and evolution of the techniques used, and can vary, on average, ten years. Therefore, it is suggested that this temporal coverage does not have a time horizon shorter than five years, emphasizing that such a factor may reflect on the decisions to be made (PORTER, 1992).

In this context, it should be noted that the structure of planning analysis based on prospective scenarios is guided by decisions, and not by data or information. Therefore, the acquired knowledge should support the decision-making process and this process should not be structured around the available data (SHEARER, 2009). In addition, Marcial and Costa (2001) reinforce the idea that the prospective attitude of the scenario leads to a long view, paying attention to a long-term analysis, with amplitude, seeking the intersection with other information. The conception of in-depth research for the construction of relevant factors and trends is strengthened.

2 The influence of endogenous and exogenous forces is a factor that should not be neglected during the process of analyzing the scenarios, even intervening in the preparation of plans and the definition of future actions, in order to avoid surprises. To deepen on the relations of endogenous and exogenous forces, it is suggested the complementary reading of the article of Steinitz (1990), which appears in the list of references.

4 PROSPECTIVE SCENARIOS AND A VIEW ON APPLICABILITY IN THE AREA OF SECURITY AND DEFENSE

In the area of Security and Defense, it is observed that the prospective scenarios support and help to review the related policies, particularly regarding the desired requirements of a military force. Contextualizing this statement, the U.S. Department of Defense (UNITED STATES, 1993) reports that, during a review of the study on the structure of the military forces of the George H. W. Bush administration, five critical issues were listed to structure a military force, among them, the need to define the interests of the nation; potential threats; the definition of the strategy for confronting such potential threats, with the delimitation of the size and type of military force to be faced; visualization of the future military doctrinal base; and, finally, the level of risk that the United States of America would take for not being able to simultaneously protect all national security interests. In addition to this study, Larson, Orletsky and Leuschner (2001) suggested adding to this list of critical issues, the budgetary question³ made available to the defense for the achievement of the planned objectives or goals.

At the same time, the U.S. Department of Defense defines scenarios as a report of an ongoing or future action, in particular, with strategic objectives, including information about threats, contexts, military-political background of friendly and enemy forces, assumptions, restrictions, limitations and other points of interest desired for planning. However, the scenarios represent a tangible challenge, and may not portray the most probable facts, in the same way that it mirrors a situation in which the evolution from one state to another can be explained in different ways, depending on the point of view of each one and the emphasis given to different influences (UNITED STATES, 2011).

However, in the area of security & Defense, one can still observe the use of scenario-based planning in various subjects, such as the study sponsored by the U.S. Department of Defense that involves observations about the relationships between military operations, at the National Army Training Center, based in the United States. *Fort Irwin*⁴, and environmental management needs, throughout the 1980s and 1990s as new training initiatives were planned. Much of the debate centered on the protection of the desert tortoise, listed as a threatened species by the Fish and Wildlife Service in April 1990, with efforts focused on drafting a conservation plan for the region (CHAPMAN, 1997).

Another example in this context was the study developed around the *Fort Huachuca*⁵, which has been in operation since 1877, in the region defined by the Upper San Pedro Basin,

3 The budget issue is an intensely debated factor today, given the relevance for continuity in the execution of any project, especially in the area of Security & Defense. The authors Larson, Orletsky and Leuschner (2001) deepen the knowledge and debate of the subject in the article "Defense planning in a decade of change", which appears in the list of references.

4 Fort Irwin is located in the state of California - San Bernardino County (CHAPMAN, 1997).

5 Fort Huachuca is located in the state of Arizona - Cochise County (BAHRE; MCPHERSON, 1995; KEPNER; EDMONDS & WATTS, 2002).

for the inclusion of *habitat* grassland that has become less common in the region due to fire suppression. In addition, it was found that the concerns involve the study, the *habitat* maintenance of the nesting site and fodder for the long-nosed migratory bat, listed as an endangered species in 1988 (BAHRE; MCPHERSON, 1995; KEPNER; EDMONDS & WATTS, 2002). Such studies demonstrate the diversity of the use of scenarios for the area of Security & Defense.

On the other hand, due to the uncertainty that surrounds international affairs, given the complexity and volatility, the United States of America recognized that the security environment has not become benign, causing the U.S. government to plan its armed forces not only to face possible threats, on the contrary, the need was made in the face of the unpredictability of the world to seek a planning of military capabilities aimed at a potentially more threatening future. In view of this, at the time, international security uncertainties and instability in the former Soviet Union and Eastern Europe could lead not only to regional wars, but to a remilitarization of Russian Foreign Policy (UNITED States, 1993)⁶.

Therefore, the U.S. Department of Defense chose to reformulate the process of evaluating military forces, thus seeking the requirements not only in terms of immediate threats, but also using a capabilities-based approach to planning, in addition to maintaining that these forces could perform military tasks ranging from the spectrum of combat missions to those not specifically related to combat, such as advanced presence, counter-terrorism, humanitarian assistance, among others. (UNITED STATES, 1993).

Consequently, the prospective scenarios were adapted in *Quadrennial Defense Reviews (QDR)* - to better present an increasingly rich portfolio of details, describing the threats and challenges, which required a development of capabilities. However, the challenges to improve the construction process of prospective scenarios are numerous, and therefore, seek to consider a greater variety and combination of mission types to evaluate the next construction of the planning. In the case of the United States of America, based on the *Quadrennial Defense Reviews (QDR) 2001*, it sought to outline as requirements the elimination of weapons of mass destruction and other missions to combat these weapons of mass destruction (UNITED STATES, 2001).

According to the Department of Defense (UNITED States, 2012), despite the complexity of the construction of prospective scenarios that contribute to the planning of military force, the result of this type of planning should have as its primary objective the guarantee of the defense of the homeland. Moreover, this planning is premised on deterring aggression and coercion in four key regions, as well as conducting two major campaigns of various kinds, such as operations to eliminate weapons of mass destruction in order to seek decisive results leading to victory, and supporting the smaller-scale contingency operations underway.

6 To understand the evolution of strategic thinking in the planning of military forces and capabilities in the U.S. Department of Defense, as well as the evolution of the evaluation process of future defense requirements and the main defense policy options for the structuring of military forces, it is suggested the complementary reading of "Force structure: issues involving the Base Force" (UNITED STATE, 1993).

Nevertheless, the ability to analyze prospective scenarios is a relevant factor within the process of reviewing the capabilities of military forces (LARSON, 2018). To this end, the Department of Defense is charged with reviewing analytical capabilities, as well as assessing the range of missions that are of contemporary interest; identifying deficiencies and gaps that prevent equally reliable assessments of unconventional missions. In addition, one should seek to identify doctrinal, organizational, training, material, leadership and educational changes, personnel and facilities that allow, in the future, an improvement of analytical competence, in order to add a better approach to the capabilities necessary to achieve the objectives set.

In this context, it is also stressed the need to review, refine and develop the risk structure analysis process and develop the necessary bases to assess with greater fidelity the level of risk associated with the different levels of force, planned capabilities and resources made available (UNITED States, 2001).

According to Larson (2019), within the reality of the U.S. Department of Defense, in order to seek a military force planning appropriate to the objectives set, particularly defense of the homeland, it is important to develop five categories of defense plans that are interconnected and overlap, although distinct, Concept Formulation Plan, Requirements Plans, Capability Plans, Mobilization Plans and Crisis Plans.

The Concept Formulation Plan seeks to outline the goals, missions, objectives and guidelines of national security policy. The Requirements Plans describe the resources that must be allocated, in addition to establishing strategic concepts and the form of composition of the military forces, according to the thinking of Military Commanders, given the orientations and objectives of the nation, commitments, policies and threat assessments, based on the prospective scenarios. Capability Plans describe how to do and what to do with existing resources, based on available military and civilian capabilities. Mobilization Plans establish a link between Requirements Plans and Capability Plans in time of war or national emergency, as well as building the necessary steps to organize and allocate the necessary resources. Finally, Crisis Plans seek to draw attention to perceptions of national interests and to set the friendly forces of the capabilities and limitations of opposing forces (COLLINS; SEVERNS; GLAKAS, 2019).

Larson (2018) reinforces that the improvement of the capabilities of the Department of Defense analysis process in assessing the structure of the military force, requirements and risk assessments intensifies a better transparency of the arguments of the Department of Defense, allowing a clear understanding by decision-makers and society, demonstrating clear and solid planning, as well as greater transparency to the process, since they are based on clear analytical arguments, facilitating the allocation of budgetary resources for the development of the desired capabilities.

5 CONCLUSION

This theoretical essay aims to bring to light some reflections on what are the prospective scenarios and how these scenarios can be used in the area of Security & Defense, providing a revisit on the relevance of the use of scenarios for the planning of military force, as well as its value in the decision-making process. Therefore, it began with a deepening of the theme, as for clarification on the concept of scenario, with the debate of epistemological aspects, allowing a better understanding of the use and possible information to be obtained, as well as decision support. Due to the very nature of the object of study, an interdisciplinary vision was sought, pointing out some intersections with other areas of knowledge.

The idea of strengthening the use of prospective scenarios requires a broad deepening in the philosophical field, and empirically, leading to a theorization of the various possible ways to visualize the concept of scenarios and how this information can be represented, as well as the various interpretations that can support the understanding of the theme.

However, a significant point regarding scenario definition, in addition to the possibility of scenarios consolidating a description of a future conjuncture or an ordering of perception about future alternative projections, is that scenarios do not define a future reality, but a representation, guiding actions towards a possible and desirable future.

The systematization of the analysis process is a tool that stands out through the description of the initial state, based on content, space and time, through the observation of the environment, with the survey of significant points of change. In addition, it is verified the exogenous and endogenous forces that can favor or hinder any changes and, finally, the verification of the objective that wants to be achieved. In this context, an idea that is strengthened is the ability to manage and organize this process, through a systematization of ideas and procedures, favoring the quality and reliability of information to the decision maker to direct decisions with the implementation of plans and, therefore, the consolidation of the objectives set in a future without surprises.

Moreover, this systematization of analysis consolidates the idea that a prospective attitude of the scenario directs to a visualization of a long-term situation, with amplitude and intersection with other information, enabling the construction of an investigation of solid factors and trends. Thus, such visualization contributes to a robust current planning and, consequently, a confrontation of future obstacles in better physical and financial conditions, with a predictability in the necessary actions.

Based on this theoretical bias, a significant and positive transformation is visualized in the way of observing and analyzing the planning process of the military forces, particularly in terms of the necessary capabilities to face the phenomenon of war, enabling a readjustment of forces and a better response to society. This change of perspective provides a course correction and a restructuring of available capabilities, under a new perspective of requirements analysis and threat approach, building a more comprehensive awareness.

In the area of Security & Defense, due to the uncertainties resulting from the complexity and volatility of international affairs, a significant collaboration of the scenarios was the breaking of paradigms regarding threat-based planning in favor of capacity-based planning, causing the military forces to seek planning not only to face probable threats.

It is also observed that the prospective scenarios support the definition of the nation's interests, as well as the definition of the strategy for confronting potential threats and a visualization of the future military doctrinal base, taking into account budgetary issues, reflecting on the current *status quo* and the design of a new doctrinal basis, as well as the military capabilities that best respond to the needs of the nation, essentially, of society.

Within the role of relevance of prospective scenarios for the Security & Defense area, it is assumed that the use of prospective scenarios aims not only at future planning and support to the decision-making process, but also the idea of predictability, particularly regarding the financial budget, mitigating risks and reducing inaccuracies in times of economic recession or even budget cuts. In this perspective, predictability ensures continuity in the process of research, development and acquisition of new capabilities, shortening any obstacles or setbacks that may arise.

The increment of the process of reviewing the capabilities of the military forces is another collaboration that deserves attention in terms of prospective scenarios. The scenarios allow the evaluation of the missions of interest, as well as the deficiencies and gaps existing in the doctrinal, organizational, training, material, leadership and education base, personnel and facilities, ensuring a better approximation of the war capabilities that lead to the achievement of the objectives set.

In addition, according to the U.S. Department of Defense, the fact of the existence of evidently identifiable threats does not express an obligation in the planning of the armed forces to face these threats, on the contrary, however, the unpredictability of events reinforces the line of thought that military force should be planned based on military capabilities, further reinforcing a capabilities-based approach to formulating military forces. In this way, the military force would become a force capable of shaping the international security environment, mitigating risks and ensuring that threats do not consolidate.

Therefore, with examples that go through simpler situations, such as the management of preservation areas, substantial decision support, predictability support, there is consistent evidence that prospective scenarios not only enable greater awareness of contingencies, but also alter expectations and perception about possible future events.

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The ASTROS system as a deterrence and presence tool

El sistema ASTROS como herramienta de disuasión y presencia

Abstract: The purpose of this article is to analyze if the ASTROS system can be used as a tool for strategic deterrence. The article draws on research from a thorough literature review focused on the Artillery Saturation Rocket System (ASTROS), strategic aspects of the Brazilian National Defense Strategy (NDS), the Land (Terrestrial) Military Strategy, and foreign nation's use of similar artillery pieces. Additionally, a key aspect of this study is the analysis of the Anti-Access Area Denial (A2/AD) strategy. This study finds that the ASTROS system can serve as a component of A2/AD, concluding on its ability to collaborate with strategic deterrent. Finally, the work explores how land forces can effectively contribute in the construction of the land military capabilities by virtue of what was established in the to the NDS.

Keywords: ASTROS system; extrarational deterrence and presence; anti-access and area denial.

Resumen: En este artículo nos proponemos analizar si el sistema ASTROS puede ser una herramienta para la estrategia de presencia y disuasión extrarregional. La investigación se desarrolló a través de una revisión bibliográfica y documental, a la luz de la literatura que aborda el Sistema de Cohetes de Artillería para Saturación de Área, centrándose en la estrategia de disuasión preconizada en la Estrategia Nacional de Defensa (END) y en la presencia señalada en la Estrategia Militar Terrestre y en cómo se lo utiliza en otras naciones, particularmente con el uso de la estrategia Anti-acceso y Negación de Área (A2/AD). El estudio tiene como objetivo presentar las posibilidades de empleo del sistema ASTROS como una herramienta A2/AD, concluyendo sobre su capacidad para colaborar con la estrategia de disuasión extrarregional y presencia. Finalmente, el trabajo es relevante para contribuir con la Fuerza Terrestre en la construcción de capacidades militares terrestres por lo establecido en la END.

Palabras clave: sistema ASTROS; disuasión extrarregional y presencia; anti-acceso y negación de área.

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1 INTRODUCTION

The current National Defense Strategy 2020 (NDS) addressed that it is essential that Brazil dedicates continuous attention to its defense, given the systematic condition of instability of relationships between countries and the emergence of new threats on the international scene, presenting the strategies and strategic actions to achieve the National Defense objectives (NDO) of the National Defense Policy (NDP).

The NDS says that «deterrence should be the first strategic posture to be considered for the defense of national interests in that region» (BRASIL, 2020c, p.33) and established this posture through the Defense Strategy (DS) as DS 2, “strengthening deterrence capacity”, aiming to improve and consolidate the factors that give the country conditions to discourage any hostile action against its sovereignty, interests, longings and aspirations. Two of its strategic defense actions (AED) are:

AED-8 provide the country with modern Armed Forces, well equipped, trained and in a state of permanent readiness, capable of discouraging threats and aggression.

AED-9 demonstrate the ability to counteract the concentration of hostile forces in the vicinity of borders, the limits of Brazilian jurisdictional waters and national air-space (BRASIL, 2020c, P.63).

The Terrestrial Force adopts the Army planning system (SIPLEx), which is structured in six chapters to define how the Army is organized and prepared to be employed in order to fulfill its mission, aligned with the Strategic Defense Planning System (SISPED) and having as a conceptual basis the analyzes of the current legal diplomas, with a strand called The Strategic Defense Planning **Strategic Design**, which established as the foundations of its strategy: **Deterrence** and **Presence**.

Deterrence

In the global context, Brazil is not the strongest State, nor the weakest. Thus, it must be shown to the possible aggressors, that the response will be so violent and effective, that their victory will be very unlikely and, even in this case, their losses would be priceless.

Deterrence is the first combat, avoiding crises and allowing Brazilian society to resist pressures from any actor.

Presence

It is characterized under two fundamental aspects:

- first, directed to the military expression, in which the military presence, in the national territory, aims to fulfill the constitutional destination, being made effective by the careful articulation of military organizations in the territory and the ability to quickly deploy troops to any region of the country, characterizing strategic mobility. (grifo nosso)
- in the second aspect, directed to psychosocial and political expressions, it is based on the development of the defense mentality and the integration of military expression into society. The strategies of deterrence and presence are mutually linked, that is, the success of one contributes to the success of the other (BRASIL, 2019d, p.8).

The Land Military Policy/2019 (PMT/2019), held at SIPLEx, presents goal number 1. “CONTRIBUTE TO EXTRAREGIONAL DETERRANCE”, saying it will be obtained with the qualification and preparation of material and human resources, endowing them with mobility and elasticity with the capacity to discourage any military aggression, thus maintaining alignment with the defense documents (NDP and NDS).

To achieve objective No. 1 of PMT/2019, the Brazilian Army (EB) has built strategies and strategic actions, aligned for the development of Military Land Capabilities (CMT) and the EB adopts the generation of forces through Capability-Based Planning (CBP), which will be achieved by the Strategic Programs of the Army (PrgEE).

Silva (2020) explains that the CBP was adopted in 2013 by the EB, as a methodology to guide the generation of forces to face uncertain threats, as it aims to raise future capabilities, adding seven determining factors, interrelated and inseparable: Doctrine, Organization (and/or processes), Training, Material, Education, Personnel and Infrastructure - forming the acronym DOAMEPI, which are the so – called operational capabilities (OC).

It should be noted that a group of OC with functional links brought together, to develop and enhance the capabilities of a force to fulfill a certain task within an established mission, constitute a Ground Military Capability (CMT).

It should be noted that, also in 2013, the Army General Staff (EME) selected the capabilities to be developed for the Ground Force. Among them is the Ground Military Capability of Superiority in Confrontation and Fire Support OC.

Superiority in Confrontation, which according to the catalog of capabilities EB20-C-07.001 (BRASIL, 2015c), is defined as being able to fulfill the assigned missions, using the available means to impose their will on the enemy, defeating him.

OC Fire Support is defined as being “capable of supporting the operations of friendly forces with powerful, deep and precise fires, seeking the destruction, neutralization or suppression of objectives and enemy forces” (BRASIL, 2015b, p.10).

The Missile and Rocket Artillery System (ASTROS) represents, very well, the OC Fire Support and directly contributes to CMT superiority in the confrontation, being developed and operationalized by the ASTROS 2020 Strategic Program.

The present work is a bibliographic and documentary research that intends to address the ASTROS system as a tool of extraregional deterrence and presence, passing through the strategy of anti-access and area denial, being divided into a theoretical debate on anti-access deterrence and area denial (A2/AD); the ASTROS system; the ASTROS system as a means of extraregional deterrence and; final considerations.

2 THEORETICAL DEBATE ON ANTI-ACCESS DETERRENCE AND AREA DENIAL (A2/AD)

The concept of the anti-access and area denial strategy (A2/AD) was developed by American analysts from the 1990s, after the first Gulf War (1990-1991), presenting a revolution in Military Affairs and emerging the concept of “A2/AD” in 2003, in the *Center for Strategic and Budgetary Assessments, Meeting the Anti-Access and Area-Denial Challenge*.

If anti-access (A2) strategies are aimed at preventing the entry of US forces into a theater of operations, then Area Denial (AD) operations are aimed at preventing their freedom of action in the narrowest boundaries of the area under the direct control of an enemy. Thus, AD operations include actions by an adversary in the air, on land, and under the sea to contest and prevent joint US operations within its defended battle-space (KREPINEVICH; WATTS; WORK, 2003, p. ii).

This strategy arose to reduce the military capabilities of the opponent (troops, combat platforms and means of transport) in the air, on land or on water, dissuading from entering a certain region, for fear of losing their means.

The North American handbook *Joint Operations-JP 3-0*, 2017, presents in its concepts the term long range linked to A2 and short range with AD, which can direct the tools to be used in the execution of these tasks:

Anti-access. Action, activity, or ability, usually to **long range**, designed to prevent the advancing enemy force from entering an area of operation. Also called A2. (Approved for inclusion in the DOD Dictionary.)

Denial of the area. Action, activity, or capability, usually short-range, designed to limit the freedom of action of an enemy force within an operational area. Also called AD.

A2 capabilities, usually long-range, prevent or inhibit an advancing force from entering an operational area (OA). If a force is able to overcome an enemy's A2 capabilities, additional AD capabilities can limit a force's freedom of action within an OA.

The Field Manual Anti-Aircraft Artillery Group, EB70 MC 10.365, also introduces the doctrinal concepts of anti-access and area denial (A2/AD):

Anti-access (anti-access - A2) the action aimed at slowing the deployment of enemy forces in a theater, reducing freedom of maneuver, or causing forces to operate at greater distances from the site of the conflict. Anti-access (A2) affects movement to a theater.

Area denial (AD) is the action aimed at preventing operations in areas where an adversary cannot have access. The intention is to create an area in which the enemy cannot operate without extreme risk. Area denial affects maneuvers within a theater (BRASIL, 2021a, p.14-1).

The concepts presented in these manuals on A2/AD reveal that the A2 aims to prevent or delay the entry of an enemy force into the theater of operations, reaching the enemy means from as far as possible, and that AD seeks to reduce the freedom of action and maneuverability of the opposing force after entering the area of operations, that is, the means developed for this purpose must have these basic requirements.

According to Ferreira (2011, p. 62), these are examples of anti-access capabilities:

[...] **missiles ballistic** and **cruise ship**, launched from the air, from **surface** or submarines; long-range surveillance and reconnaissance systems; nuclear submarines; and cyber and space attack systems. Area denial capabilities are: integrated naval, air and ground forces; anti-aircraft defense systems; **anti-ship** missiles of **medium and short range**, launched from the air, sea or land; diesel submarines; smart munitions; electronic warfare systems; and attack boats (emphasis added).

The Dictionary of security and defense, organized by Héctor Luis Saint-Pierre and Marina Gisela Vitelli, corroborates Ferreira's idea that ballistic missiles can be used as anti-access means, as well as in area denial (A2 / AD):

Anti-access capabilities include those that **prevent the access of the opponent** to the theater of operations, consisting basically of **ballistic missiles** anti-ship, anti-satellite weapons (Asat), nuclear or air-independent propulsion (AIP) submarines, long range anti-ship missile, and naval mines. Area denial capabilities, in turn, aim to **deny freedom of action within the theater of operations**, and consist of anti-ship cruise missiles, smart mines, surface-to-air missiles (SAMs), Joint Direct Attack Munition (JDAM), **theater ballistic missiles** and **coastal artillery**. Due to the fact that these capabilities have very similar tactical systems, eventually interchangeable, the concept of A2/AD was created to reference them together (SAINT-PIERRE; VITELLI, 2018, p.362, emphasis added).

In this way, the missile system is an important tool to contribute to A2/AD, meeting the proposed requirements and in the different spaces of the battlefield.

From 1980, Mearsheimer (1983) presented the concept of conventional deterrence and Teixeira Júnior (2020) links the deterrent posture, the conventional modality, by the denial method, through a system/capacity of anti-access and area denial (A2/AD), within a multi-domain environment.

The Dictionary of security and defense links the term deterrence to A2 / AD, for fear of losing expensive means of combat:

[...] deterrence refers to the use of means that are less costly but potentially protect countries from possible hostilities. In this case, it is worth highlighting the adoption of A2 / AD, an acronym that means *antiaccess*, AA or A2 and *area-denial*, AD. This concept comprises a set of asymmetric military means, cheaper and preferred by ascending powers, which would potentially be used to confront the projection capacity of US forces, the A2/AD is an asymmetric response, since, instead of using capabilities similar to those of the attacker (the aircraft carrier, for example), less expensive means are used to avoid defeat, instead of guaranteeing an absolute victory. The countries that currently invest the most in these technologies are China, Iran and Russia (SAINT-PIERRE; VITELLI, 2018, p.362, emphasis added).

Collaborating with the above concept, Mitchell (2015) presents that one way to deter an enemy is to make it difficult for them to achieve their goal (deterrence by denial), generating fear and damage to the attacking military, but also, fear of the costs that will be inflicted during aggression. To function, the defender needs to have sufficient lethal capacity to demonstrate that victory will be impossible or difficult to obtain.

According to Joshi (2019), countries such as Russia, India and China have been using the A2/AD strategy to deter potential enemies or threats to try to harm their interests, through conventional forces, particularly with missile or rocket forces.

Other important concepts are those of operations and the multi-domain task force:

Multi-domain operations (MDO): operations conducted across multiple domains and contested spaces to overcome an adversary's (or enemy's) strengths by presenting them with several operational and/or tactical dilemmas through the combined application of calibrated force posture; employment of multi-domain formations; and convergence of capabilities across domains, environments, and functions in time and spaces to achieve operational and tactical objectives.

Multi-Domain Task Force (MDTF): new Army formation able to execute multi-domain operations, designed to deliver long-range precision joint strike as well as integrate air and missile defense, electronic warfare, space, cyber, and information operations in both competition and conflict to provide the Joint Force and coalition with new capabilities to enable the defeat of adversaries' anti-access and area denial strategies. (UNITED States, 2021, p.32, emphasis added).

With the concept of multi-domain, the strategy of A2/AD was expanded, which began to operate in all fields: space, cyber, land, air and sea. In this way, seeking to deny the enemy access over areas of interest, from as far as possible, acting by layers of concentric circles.

For Teixeira Júnior (2020), only with the development of structures, doctrines and operational concepts will A2/AD capabilities be achieved, and it is necessary to obtain defense products that allow producing a multi-domain layered defense system.

Taulois (2016) argues that the A2/AD strategy is a layered defense, in which the outermost ones use cybernetic and space systems, acting in the air, land and sea dimensions, hindering coordination, command and control of operations. In the innermost layers, weapons systems of the available naval, air and land means, particularly missiles, are applied.

General Rocha Paiva (2014) presented in the text *Dissuasão Extrarregional, assim é só Discurso* (Extraregional Deterrence, that's just a Speech) that, for Brazil, the areas that are likely to use this strategy are: the oil basins of the Southeast and South, the northeastern salient and Roraima, in addition to the mouth of the Amazon River that are regions that can suffer influence or access from extraregional powers. However, for such a strategic system to be effective, it is necessary to have a cohesive defense set consisting of functional monitoring; ready forces; cyber and electronic warfare capabilities; anti-aircraft defense; long-range air, ground and sea missile systems; and manned or unmanned strategic mobility platforms.

Figure 1– Possible means of A2 / AD Brazil



Source: adapted from Google Earth (2022).

Gen Rocha Paiva (2016) wrote on EBlog, *A Defesa Precisa de Integração Estratégica* (Defense needs Strategic Integration), that Brazil should develop a Joint Anti-Access and Area Denial Defense System (SCDANA):

The SCDANA, properly speaking, would frame Cybersecurity subsystems; Territorial, Maritime and Aerospace Monitoring and Control, integrated and with Brazilian satellite; Anti-aircraft Defense; **Missiles** Long-range, ballistic and **cruise ship, launched from land-based mobile platforms**, naval and air Forces; and Joint Defense and Power Projection Forces, with a high level of readiness, as well as others to be completed by mobilization. The **subsystems with greater deterrent effect** would be those of Cyber Security, Anti-aircraft Defense and Strategic Missiles (ROCHA PAIVA, 2016, n. p., emphasis added).

Evidence shows that the A2/AD strategy is being used by emerging powers with lower-cost weapons and ammunition to deter forces with more powerful weapons and equipment. At first, a combined long-range system is used, seeking not to allow the enemy access to the theater of operations (TO), from as far as possible, in the most diverse spectra of the battlefield: space, cyber, command and control, air and sea. On a second stage, acting to deny area, within the TO, limiting the freedom of action of the opponent, with integrated weapons systems by land, air and sea: anti-ship, anti-aircraft, strategic, ballistic and cruise missiles; precision guided munitions; surface ships, small vessels and submarines, in this way, restricting enemy actions.

3 THE ASTROS SYSTEM

The development of ASTROS (*Artillery Saturation Rocket System*) was started in 1981, by the company AVIBRAS, with rockets of different calibers and different types of heads, being exported to several countries and used in combat successfully in the Persian Gulf region (AVIBRAS, 2021a).

From 1990, the ASTROS II system was incorporated into the Brazilian Army and, in 1991, another batch of the material, already proven in combat, was produced and exported (AVIBRAS, 2021a).

According to the Manual Experimental Artilharia De Campanha de Longo Alcance (Experimental Manual of Long Range Artillery Campaign, BRASIL, 2017B, p.1-2), ASTROS is composed of launch vehicles of the system and use the SS-30, SS-40, SS-60 and SS-80 area saturation rockets, also using the TS-09 70 training rocket, 70 mm, for training garrisons through live simulation, being composed of MK3M (modernized) and MK6 vehicles, all capable of launching SS-40G guided rockets and the Tactical Missile (MTC-300).

The vehicles are all of the same type, the basic vehicle (VBA/T2B - TRATA chassis) of military characteristics, armored, 6X6, payload of 10 t, capable of running on any terrain, with integrated tracking system, of different versions: Universal Multiple Rocket Launchers vehicle (LMU) – line of fire; Mobile Weather Station vehicle (MET) – meteorology; Battalion level Command vehicle (VCC) and Battery level Command vehicle (PCC) – Communications and direction; Ammunition Resupply vehicle (RMD) and Field repair/workshop vehicle – logistics; Radar Fire Control vehicle (UCF) – Direction and Coordination and Tracking vehicle (STREV) – monitoring the trajectory of rockets and missiles.

Figure 2 – ASTROS System



Source: AVIBRAS (2021B).

The ASTROS system is part of Field Artillery, as prescribed in manual EB70-MC-10.224 (BRASIL, 2019a, P. 2-2), “Field Artillery, according to its nature, is classified as motorized, armored, mechanized, paratrooper, AirMobile, Jungle, Mountain and **Missiles and Rockets**»(BRASIL, 2019a, p.2-2, emphasis added).

The Artillery Manual: Fires, EB20-MC-10.206 (BRASIL, 2015b, P.2-14) states that Field Artillery is a system composed of subsystems: Line Of Fire; Observation; Target Search; Topography; Meteorology; Communications; Logistics; and Direction and Coordination. It operates in a systemic way, comprising a set of people, processes and means that integrate the function of fighting Fires. Thus, the ASTROS system is also organized in this way.

Currently, the ASTROS system has the ability to launch rockets and missiles, being developed and manufactured by the Brazilian company AVIBRAS since the 1980s, possessing characteristics of multi caliber, high mobility, to launch rockets at long distances, thus, conceived as a strategic weapons system with great deterrence power.

The ASTROS 2020 strategic project aimed to provide the ground force with means capable of providing long-range and high-precision fire support, resulting in several sub-projects, such as the guided rocket and the tactical missile (TM).

The SS-40G guided rocket is being developed based on conventional rockets, which rely on fire calculation for ballistic trajectory. This ammunition receives the coordinates of the target and uses actuation systems with lateral jets in the propulsion phase and mobile aerodynamic surfaces, in the configuration called “canard”, which in the diving phase to the target, contribute to the reduction of the Circular Error Probability (CEP), decreasing the area hit and increasing saturation in the area effectively hit by a burst.

The MTC-300 missile is an ammunition with the purpose of being launched from the LMU platform, with the possibility of carrying 200 kg of conventional warhead at a distance of up to 300 km with accuracy in CEP less than or equal to 30 m, producing minimal collateral damage and being able to hit strategic targets, giving the ground force a greater capacity for extraregional deterrence.

The transformation of the project into a program increased the possibilities of work development, ensuring continuity and constancy of the flow of resources.

PrgEE ASTROS 2020 now has in its scope a fort (Fort Santa Barbara, which brings together several military artillery organizations), an artillery command (C Art Ex), an administration and support Base (B Adm Ap), two missile and rocket groups (6th GMF and 16th GMF), an instruction center, a logistics center, a target search battery, with the development of SS-40G and MTC-300 guided rockets, among other projects.

The GMF maintains the capacity to carry out area saturation, employing both normal rockets and guided rockets, being equipped with 18 (eighteen) LMU each, collaborating with the conventional deterrent capacity.

According to manual EB70-MC-10.224 (BRASIL, 2019Aa p. 2-2, 2-3), missile and rocket field artillery can perform the following tasks:

2.4.11 MISSILE AND ROCKET FIELD ARTILLERY

2.4.11.1 The Missile and Rocket Field Artillery consists of the Missile and Rocket Groups, equipped with missile and rocket launchers, with the mission of conducting fire against tactical targets and targets of interest of the operational and strategic levels.

2.4.11.2 Specific Tasks

2.4.11.2.1 Missile and Rocket Field Artillery performs the following tasks:

- a) unleash, in a short time, a considerable mass of fires capable of saturating an area, neutralizing or destroying enemy targets;
- B) get in and out of position quickly;
- C) engage several targets simultaneously, maintaining a good mass of fire on them;
- d) move quickly, even through the countryside;
- e) perform rapid adjustment on unexpected targets;
- F) operate with traditional and/or automated fire direction techniques (exception of tactical missile - TM);
- G) operate with different types of rockets, allowing variations in range and caliber, according to the nature of the target, its location and the desired effect;
- H) use in their ammunition military cargo of general or special use and combine them with different types of fuze;
- I) engage strategic targets in the early stages of the conflict; and operational and tactical targets in the course of the maneuver; and
- j) be transported in three modes: air, water and land, thanks to its dimensions and weight.

In addition to the above tasks, the material can collaborate with the interdiction of an area on the battlefield. According to manual MD35-G-01, «interdiction» has the following definitions:

INTERDICTION - 1. Act or effect of hinder or prevent, by any means, the enemy's use of an area or in order to deprive them of the ability to provide the supplies and reinforcements to support their own forces. See INTERDICTION TASK. 2. Denomination of shots fired at an area or point to prevent its use by the enemy. 3. An administrative act by which the competent authority prohibits the use of an aerodrome, in whole or in part, for landings and take-offs, temporarily or permanently, in civil aviation. 4. See INTERDICTION OPERATION. (Brazil, 2015a, p. 150).

INTERDICTION TASK - Task that has the general purpose of destroying or neutralizing the sources of enemy power, their supplies, forces and support structures (BRASIL, 2015a, p. 265).

INTERDICTION OPERATION - Operation carried out to hinder or prevent the enemy from benefiting: from a certain region, personnel, facilities or materials. The actions carried out in this operation usually include the massive use of aerial and artillery fires, airmobile and air-ground assaults, infiltration of special troops, sabotage, barriers and guerrilla actions (BRASIL, 2015a, p.193).

The definitions of interdiction above show us that this action aims to deny an area or access to regions by the enemy, hindering or preventing the use of an area or route, existing capacity in the ASTROS system.

A counterpoint to the system is that Brazil is a signatory to the *Missile Technology Control Regime* - MTCR, since 1995. This agreement aims to prevent proliferation, limit the production and sale of complete rocket systems (including ballistic missiles, space launch vehicles and sounding rockets) and unmanned aerial vehicle systems (including cruise missile systems, targeting and reconnaissance drones) with capabilities exceeding 300 km/500 kg, range/payload limit; production facilities for such systems and; the main subsystems, including rocket stages, re-entry vehicles, rocket engines, guidance systems and warhead mechanisms (MISSILE TECHNOLOGY CONTROL REGIME, 2021).

Despite being associated with MTCR, Brazil has developed the technology and knowledge to manufacture missiles and rockets with a range of three hundred kilometers, being able to develop munitions that reach greater distances, a capacity that could be used in case of need. In this way, holding technical knowledge and production capacity also contributes to deterrence.

However, this system is aligned with the deterrence and presence strategy, which according to the strategy manual, EB20-MF-03.106 are:

Deterrence: it is characterized by the maintenance of military **force** sufficiently **powerful** and **ready for immediate employment**, capable of **discouraging** any **military aggression**.

Presence: it is characterized by the military presence, in the national territory and its extensions, with the purpose of fulfilling the constitutional destination and subsidiary attributions. It is made effective not only by the careful articulation of military organizations in the territory, but also predominantly by the **ability to quickly travel to any region of the country**, when necessary (BRASIL, 2020b, p. 4-5, emphasis added).

The ASTROS system is extremely versatile, characterized by flexibility, adaptability, modularity, elasticity and sustainability (FAMES), as well as prompt response and lethality. The basic assumptions to meet these requirements are the strategic and tactical mobilities, foundations for the rapid concentration or dispersion of shots, thus contributing to the strategy of deterrence and presence of the Brazilian Army.

4 THE ASTROS SYSTEM AS A MEANS OF EXTRAREGIONAL DETERRENCE

The NDS, 2020, recommends that «The strategic conception of the country's defense, in time of peace or crisis, is based on the deterrence capacity to inhibit possible threats [...]» (BRASIL, 2020c, P.33) and also states that, «Deterrence capacity, which consists not only in the availability and readiness of adequate military means, but also in the training of its personnel, is a tool of diplomacy» (BRASIL, 2020c, p. 37).

The term deterrence is defined, in the manuals Glossary of Terms and Expressions for use in the Army (EB20-MF-03.109) and Ground Military Doctrine (EB20-MF-10.102), as:

DETERRENCE - Strategic attitude that, through means of any kind, including military, aims to discourage or divert opponents, real or potential, from possible or presumed war purposes (BRASIL, 2018d, p. 92).

DETERRENCE - It is characterized by the maintenance of military forces sufficiently powerful and ready for immediate employment, capable of discouraging any military aggression (BRASIL, 2019b, p. 5-2).

DETERRENCE STRATEGY- Strategy that is characterized by the maintenance of military forces sufficiently powerful and ready for immediate employment, capable of discouraging any military aggression (BRASIL, 2019b, p. 109).

The ASTROS system has availability, readiness and trained personnel to act and prevent the country from being threatened by foreign forces. In addition to being a material tested in conflicts and being purchased by many countries, as a tool of defense and extraregional deterrence. This fact proves its effectiveness and efficiency in modern conflicts.

The Military Land Policy, 2019, preaches the intention to contribute to extraregional deterrence, for this it must:

Have military organizations with high readiness, mobility (strategic and tactical), lethality and protection (individual and collective), sufficient to discourage or divert threats, real or potential, in any expression of power, inhibit the concentration of hostile forces near the land border, contribute to deterrence in the jurisdictional waters and airspace of the country (BRASIL, 2019g, p. 6).

In this context, the EB established its strategic design, which created the Strategic Employment Forces (F Emp Estrt). Such Forces have combat power to act in situations of crisis or armed conflict, creating strategic imbalance, through deterrence, being able to act in any part of the national territory and in other areas of Brazilian strategic interest. They must have, organize or receive modules (modularity and elasticity), to be able to execute large strategic displacements.

The 6th GMF is, as a whole, one of the specialized modules that integrates the F Emp Estrt, as fire support, adding combat power to the maneuvering elements. In addition, the Strategic Conception (BRASIL, 2019d, p. 17) says that, “all MO of EB contribute to the strategy of presence and/or deterrence”.

Strategic Actuation Force - Ground forces with combat power to enable, in situations of crisis/armed conflict, strategic imbalance through deterrence, offensive and force projection (inserted in power projection). They are able to act in any part of the national territory and in other areas of strategic interest of the Brazilian State (BRASIL, 2018d, p. 122).

It should also be noted that in the conflict in Ukraine, two Mechanized Infantry Battalions were neutralized by Russian rocket artillery in the first two minutes of combat. Fact that shows the combat and deterrent power of rocket artillery and its role in combat at the tactical and area denial level.

The ASTROS, a material of national manufacture, has technical capabilities to saturate the area, fire different types of rockets, quickly enter and leave position, strategic displacement throughout the national territory, to be transported by any modal, including with the support of the Brazilian Navy and the Brazilian Air Force. With the tactical missile and guided rocket in the final stages of development, further enhancing its capabilities, the ground force believes that ASTROS is an important deterrent and presence mean, collaborating with its strategic design.

With the development of these new capabilities of the system, the material can act from as far as possible, reaching targets at the strategic level, in order to hinder the movement and positioning of its troops, collaborate with strategic protection and produce a psychological effect on the adversary, dissuading from carrying out any action against the country, assessing the risk of such an attempt.

This situation contributes to the implementation of the A2/AD strategy, being able to act, as far as possible, with its missiles, jointly with cyber, marine and air means, being employed to hinder the approach of enemy forces, by air, sea and land. As well, in a second phase, to deny or interdict area within the TO, with their rockets. It should be noted that, for the A2/AD strategy to work, there is a need to integrate and form a system with capabilities that complement each other to prevent or deny the opponent from entering the Theater of Operations, a Joint System of Anti-Access Defense and Area Denial (SCDANA), which would further enhance the capacity of this material.

It is also worth mentioning the constant research and innovation of this material and ammunition, which are in the state of the art and which are also obtained by the other Brazilian Armed Forces, such as the Long-Range Cruise Missile (MICLA-BR) for the Brazilian Air Force, the National Anti-Ship Missile (MANSUP) and ASTROS battery for the Brazilian Navy. There is a real feasibility of MANSUP being able to be launched from a ground platform, by the LMU of the ASTROS system, which is a multi-caliber launch platform, being adaptable to various types of ammunition. The constant research, technological evolution and innovation in this area, in itself, is already a deterrent tool.

The material is designed to carry out interdiction or area denial operations, with its rockets, this type of operation is carried out to hinder or prevent the enemy from benefiting from a certain region, facilities or materials, making it evaluate well the cost-benefit of any hostile action.

Teixeira Júnior (2020, p. 15, emphasis added) says that:

The ASTROS system - Artillery Rocket System for Area Saturation - is a fundamental capability for a future Brazilian conception of anti-access and area denial. With a highly mobile platform, ASTROS has the capacity for saturation fires and the use of guided rockets (BRASIL, 2018). With the recent development of tactical cruise missiles (AV-MTC) of 300 kilometers range (barrier & HUGHES, 2019), the ASTROS system could be a **cornerstone of a Brazilian A2/AD operational concept**.

The system can be present throughout the national territory and with the MTC in the final phase of development, a fact that will further expand its scope and its ability to intervene, preventing access or denying area. Thus, it is an important means of extraregional deterrence and anti-access and area denial, also allowing the development of the study of missiles and the development of new projects in this area.

5 FINAL CONSIDERATIONS

The ASTROS 2020 program is aligned with the AED-8 and AED-9 of the NDS, and provides the Armed Forces with modern means, in a state of permanent readiness, capable of discouraging threats and aggression, in addition to the ability to counter the concentration of opposing forces in the vicinity of land borders and the limits of Brazilian jurisdictional waters.

The Armed Forces, particularly the Brazilian Army and the Brazilian Navy, have 07 (seven) ASTROS batteries, which represents 42 (forty-two) launching pieces, enabling a large volume of fire, guaranteeing combat power and presenting this material with real capacity to inflict damage to possible hostile means.

The development and use of the tactical cruise missile will make it possible to contribute to the action of anti-access, acting on strategic targets from as far away as possible, with the aim of preventing and deterring the enemy from approaching and concentrating its means in the Theater of Operations.

The Brazilian missile and rocket system, ASTROS, represents an effective means of applying the strategy and concept of A2/AD, being the basis for integrating a future Joint Anti-Access and Area Denial Defense System and its continuous development and innovation process is extremely important for the future of the Brazilian deterrence and defense strategy.

Finally, it is concluded that the ASTROS system is a deterrent and presence tool, since it has strategic mobility, multi-caliber capability, the possibility of acting at the three levels of conducting operations: strategic, operational and tactical; with the possibility of reducing the enemy's combat capability, rattling their morale, making them evaluate the risk and reducing their offensive potential.

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Time of homeland altruism in favor of naval defense*

Tiempo de patrio altruismo a favor de la defensa naval

Abstract: For better or worse, all the nations of the world will be forced to respond to the effects of exponential scientific-technological changes in the near future, according to Romano (2018). In this perspective of scientific innovations and by prospecting for unusual threats to the expression of National Power, investments in defense become necessary for the improvement of naval power, aiming to keep up with global trends. According to Deger and Sen (1995), the existing literature on the causes and effects of military spending in developing countries is controversial, without definitive answers. Through the analysis of studies related to Defense Economics, the present work demonstrates the importance of political-economic-social decisions, of an altruistic nature and of an organic-nationalist character, in an attempt to balance public expenses, regarding to the trade-off “butter *versus* gun”, in relation to Defense (Naval). The benefit is, in any case, positive for the nation, as altruistic culture is intrinsic to a strong, conscious people committed to future generations.

Keywords: Brazilian naval defense; new technological era; science and technology; defense economy.

Resumen: Para bien o para mal, todas las naciones del mundo se verán obligadas a responder a los efectos de cambios científico-tecnológicos exponenciales en un futuro próximo, según Romano (2018). En esta perspectiva de innovaciones científicas, y en la prospección de amenazas inusuales a la expresión del Poder Nacional, se hacen necesarias inversiones en Defensa para la mejora de la fuerza naval, con el objetivo de acompañar las tendencias mundiales. Según Deger y Sen (1995), la literatura existente sobre las causas y efectos del gasto militar en los países en desarrollo es controvertida, sin respuestas definitivas. Mediante el análisis de estudios relacionados con la Economía de la Defensa, el presente trabajo demuestra la importancia de las decisiones político-económico-sociales, de carácter altruista y de carácter orgánico-nacionalista, en un intento de equilibrar los gastos públicos, en cuanto al *trade-off* “mantequilla *versus* cañón”, en relación a Defensa (Naval). El beneficio es, en todo caso, positivo para la nación, pues la cultura altruista es intrínseca a un pueblo fuerte, consciente y comprometido con las generaciones futuras.

Palabras clave: defensa naval brasileña; nueva era tecnológica; ciencia y tecnología; economía de defensa.

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1 INTRODUCTION

According to Romano (2018), the rapid pace of advancement of science and its practical applications (with technology becoming the most dynamic, powerful and transformative instrument in human hands) will determine the future of a nation – as viability or sentence; depending on the clear understanding about exponential technologies and the determination for action in favor of the social (for the common benefit). The challenge for developing countries is accentuated at a time configured as a transition to a new era, in which inappropriate political actions that do not safeguard national interests may lead to a critical and polarized economic and social state.

Also, the moment is specific in relation to Naval Defense, which is National, since there is a need to improve the force in the face of transformative technological changes (which can be revolutionary)¹, for the maintenance of state sovereignty by strengthening its Naval Power. Thus, the use of resources in defense becomes necessary.

According to Santos (2018), a barrier to the policy and management of Science, Technology and Innovation (STI) in the defense area is that governments present budgetary constraints and face other many primary agendas.

The relationship between defense spending *versus* economic development in a state, since non-traditional security issues are being faced by countries (in an era of globalization), Franco (2000) points out that a decision-making structure that enables greater investment in defense can be systematically thought out.

In fact, there are a number of future threats and contingencies, known and unknown, to be met by the armed forces, according to Hartley (2011)².

And, especially for the case of developing countries, in addition to facing threats, which is a matter of necessity; according to Franco (2000), the use of resources in defense would not be at all unproductive, since it makes possible the construction of infrastructure in a state and investment in human capital.

Adams and Leatherman (2011) portray as a myth the deduction that investment in national defense is related to an increase in national security.

However, if the full level of security is not a guarantee, at least, there must be public-conscious support for the national theme, the commitment of the state, and satisfaction for the fulfillment of duty regarding the fundamental objectives of the National Defense Policy, in relation to proper preparation for war or against unusual threats. Especially in a near future perspective, in which science and technology are applied to the maritime and naval sector.

1 Expert opinion on a “revolution in military affairs” (RMA) is highlighted in Baylis, Wirtz, and Gray (2018, p. 144) – in development since the Gulf War (1991). The period is characterized by the aggregation of disruptive technology (robotics and artificial intelligence) to activities previously performed by humans (BAYLIS; WIRTZ; GRAY, 2018; FERREIRA, 2021; FERREIRA, 2022a, 2022b).

2 “Defence spending also resembles an insurance policy designed to meet a range of known and unknown future threats and contingencies” (HARTLEY, 2011, p.11).

Franco (2000) makes it clear that to ensure that the contribution to security will certainly outweigh the increased cost, the final decision criterion about defense spending must recognize national objectives, alternative ways to achieve them, a model or set of decision-making rules to standardize them, and cost information.

Warning the natives about the preparation for the future (not too distant) of Brazil, this work aims to demonstrate the importance of sound decisions being made regarding the *trade-off* “butter *versus* gun” concerning investments in Defense (Naval).

In the first section, a perspective on the transition to a coming era, particularly in relation to the scientific-technological advance that will definitely reach the civilian environment (modifying previously established paradigms), will be addressed; in the second, a perspective of future use of technology (due to its dual use) for the naval military scope will be presented, in a follow-up of trends. Questions about decision-making concerning the trade off “butter *versus* gun” will be analyzed in the third section. Due to the global moment of transition to a new exponentially advanced scientific-technological era (in which naval improvement is a worldwide trend) and according to threatening challenges and already accessible technology, altruistic political-economic-social decisions (in the organic-nationalist sense) are relevant and positive.

2 PERSPECTIVE ON THE FUTURE “OF THINGS”

According to Romano (2018), the future will be very different from today (and uncertain) – something between utopian and dystopian extremes – as humanity would be reaching an inflection point and entering a new era, much more transformative, in which physical capacities, and also human cognitive ones, can be overcome, in an accelerated way, by “intelligent” machines.

Currents of thought about the future can be classified between emotional optimists, emotional pessimists, rational optimists and rational pessimists, according to Romano (2018) – to optimists, the new technological age will provide a period full of opportunities, progress and abundance; in which all the historical afflictions of humanity will eventually be resolved (from hunger to war) and, for pessimists, it will be fraught with danger and conflict. As a matter of course, Romano (2018) points to a major transition, already underway (highly risky, unpredictable and long), which provides enormous challenges to states.

For much of the twentieth century, as cited in Romano (2018), technological change has played a positive role in improving social welfare (raising the standard of living), especially of marginalized sectors of the population; particularly, by increasing labor productivity. However, this effect has faded in recent decades, and this lethargy has led to an increasing concentration of income and wealth among an international elite (who now have more in common with each other than with their own fellow citizens). New technologies can radically exacerbate these trends in all countries, especially developing ones, if they are not directed to include, or protect, their own manual and professional workforce in productive efforts.

For Romano (2018), in the Twenty – First Century, innovation will no longer be aimed at generating jobs of a repetitive and predictable nature - some experts think that this reality will be more benign if all emphasis is placed on increasing productivity; however, this horizon is not the same for all countries: developed countries are much more likely to achieve the necessary adjustments, while the socio-economic impact can be sudden and dramatic when these changes reach developing countries.

Romano (2018) identifies some technological trends of this new era, inextricably related, resulting from the combination and greater recombination of new ideas and existing technologies: a) hyperconnectivity; b) intelligent digitization; c) self-learning machines; d) intelligent robotics; e) IoT (*Internet of Things*); F) autonomous vehicles; g) *blockchain*; h) total system design; i) virtual and augmented reality; j) universal translation; k) renewable energy; l) sustainable systems; m) nanotube electronics; n) advanced nanotechnology; o) genomics and synthetic life; p) neurotechnology; q) brain-computer interface; r) Individualized medicine; s) radical resource productivity; t) green chemistry; u) industrial ecology; and, v) progress of general artificial intelligence. Products and services resulting from these trends will follow the cycles of inflated expectations for technology, appearing on the market faster and faster.

In countries with not very inclusive and not very innovative economies, according to Romano (2018), new waves of technological change exacerbate the degree of socioeconomic polarization (a determining factor in how the effects of technological change will materialize in a major transition), since high polarization can inhibit positive consequences and amplify negative ones (such as job displacement, extreme inequality, stagnant wages, and technological deflation); and then, the consequences are, predictably, disastrous for their societies, bringing more injustices and social and political instability.

In fact, technological progress will be imposed on developing countries from the outside in, and they will have to adopt and adapt it in order to minimize its negative effects and take advantage of its enormous potential, focusing immediately on understanding the problem and searching for solutions - “if developing countries fail to take advantage of the latest wave of change and opportunity, they will probably be crushed by it” (ROMANO, 2018, p. 16) - the best thing to do is to respond in a timely manner to rapid changes, preparing society proactively, and undertaking the most ambitious training effort in the industrial and manufacturing sector, as well as in public and private administration, with the state specifically supporting companies, so that there is a rapid retraining and re-qualification of their workers (especially regions and more vulnerable sectors).

According to Romano (2018), each state will have to face the great transition according to its circumstances, with the general objective of sponsoring and adapting technologies to reverse, or at least delay, its negative effects: a) redefining its nature, objectives and practices, to face the imminent challenges; b) diffusing ubiquitous access to new technologies (through financing and investment in infrastructure across the range of creative companies, to induce inclusive technological applications that create jobs and use the part of the wealth

that can be generated to take care of displacements and keep the market vibrant); and c) identifying new strategies (with the inclusion of new ways to support education, private initiative and innovative layers of society), as the pace and capacity for technological innovation achieved will define the nature of the economy and, therefore, wealth and social structure.

3 SEA POWER AND THE NAVAL POWER OF THE FUTURE

A powerful maritime nation possesses the expertise on the technical, scientific, industrial, commercial-economic and military aspects of maritime activity, from the way maritime security is idealized by the state; and its military fleet will arise in a natural way, according to Mahan (1965).

According to the *Global Marine Technology Trends By 2030* (LLOYDS REGISTER; QINETIQ; UNIVERSITY of SOUTHAMPTON, 2015), the world is in the midst of a global technological revolution and advances in informatics and information technology, biotechnology, nanotechnology and materials technology are occurring at a rapid pace, with the potential to bring about radical changes in all dimensions of life. Despite the challenges, technological transformations can contribute with opportunities for the future. By analyzing socio-economic, political, environmental, scientific and technological trends (within the global environment), the document made use of the interdisciplinary horizon scanning methodology, management tool (raw material for the development of strategic thinking, innovation and risk and problem management) – which does not point to absolute certainties (but rather, to comfort with uncertainty, ambiguity and complexity); and allows to answer the question of how the future will be different, identifying the bases for investments, opportunities and potential threats implied by these trends, situations and events: future challenges that will be faced by the maritime and naval sector.

By demonstrating that marine dominance will depend on interactions between people, economies and Natural Resources, the *Global Marine Technology Trends 2030* (LLOYDS REGISTER; QINETIQ; UNIVERSITY OF SOUTHAMPTON, 2015) presents three possible scenarios by degrees of global political cooperation (closely linked to social trends, sustainable resource exploitation, jobs, wealth, peace and war), namely: *Status Quo*, *Global Commons* and *Competing Nations*. In the first scenario (*Status Quo*), which is the current, the main interest of the people is focused on social development (especially, standard of living and jobs), with the government striving to satisfy the needs of the people from short-term solutions. In the second scenario (*Global Commons*), primary interests shift to concern for resource limitation and environmental degradation – the desire for a more sustainable world will be developed, with fairness in the distribution of wealth (organizations will act to forge international agreements for the common good). In the third scenario (*Competing Nations*), the state will act primarily in its own national interest, with little effort made on agreements between governments for sustainable development and international standards.

The fact is that in all scenarios, the shipbuilding industry will grow and play positive and expansion roles, according to the *Global Marine Technology Trends 2030* (LLOYDS REGISTER; QINETIQ; UNIVERSITY of SOUTHAMPTON, 2015), as the use of technologies will increase the Navy's ability to project military power, which directly depends on obtaining wide access to battle-space (including the cyberspace), and the ability to coerce, deter and intervene in their combat role to protect national interests (fundamental skills for the case of naval conflict, for example).

Similarly, for the case of humanitarian operations, naval capability can make a significant contribution, by providing humanitarian aid and disaster relief in times of crisis – an important international strategic role (thus, the naval function involves working with international partners and civilian authorities to provide evacuations and repatriations, life-saving aid, and infrastructure restoration), as cited in *Global Marine Technology Trends 2030* (LLOYDS REGISTER; QINETIQ; UNIVERSITY OF SOUTHAMPTON, 2015).

Naval projection capability is also relevant to maritime security, necessary for the protection of a nation's citizens, territory, and commerce against terrorists, criminals, pirates, state-sponsored insurgents, and unlawful restrictions on freedom of navigation. *Global Marine Technology Trends 2030* (LLOYDS REGISTER; QINETIQ; UNIVERSITY OF SOUTHAMPTON, 2015) – the naval role is to support the identification of national security threats and prevent wrongdoing, both independently and with international partners.

According to the *Global Marine Trends 2030* (LLOYD'S REGISTER; QINETIQ; UNIVERSITY OF STRATHCLYDE, 2013), the understanding about the possible futures and how to shape them, contributes to the understanding of the relationship between victory in battles and the defense budget, because precise thinking about the expected operations will have a substantial impact on the cost employed in the naval platforms that will be used, in view of their useful life (a little more than 25 years) - thus, it is observed the importance of thinking about operational concepts for 2030 and beyond.

Overall, defense spending has increased:

Global military spending is estimated to have been \$ 1.917 billion in 2019, the highest level since 1988. The total was 3.6% higher in real terms than in 2018 and 7.2% higher than in 2010. Brazilian military expenditures fell slightly in 2019, by 0.5 percent, after two consecutive years of growth (SIPRI, 2020, p. 1).

There will always be hope that increasing levels of education and knowledge sharing will increase peace and decrease conflict, but navies are deployed where (and when) that perspective fails. Based on the potential for future conflict, in the event that humanity does not develop in cooperation, such failures may occur in places of maritime interests (zones of tension), according to the document *Global Marine Trends 2030* (LLOYD'S REGISTER; QINETIQ; UNIVERSITY OF STRATHCLYDE, 2013) (Figures 1 and 2 – - with respect to the South Atlantic, this space was highlighted for the scenario case *Competing Nations* (Figure 2); which broadens the perception of the strategic importance of the Brazilian coast.

Figure 1 – Tension zones – *Global Commons*Figure 2 – Tension zones – *Competing Nations*

Source: Lloyd's Register, Qinetiq and University of Strathclyde (2013, p.108).

As for the recent evolution of ships and naval systems, their development has been more significant in information technology (IT), to the detriment of personnel or mechanical platforms and systems. And, the adoption of naval technology from mechanical systems to electromechanics and electronics of the twentieth century will continue, according to the *Global Marine Trends 2030* (LLOYD'S REGISTER; QINETIQ; UNIVERSITY OF STRATHCLYDE, 2013). In this way, navies will be increasingly complex and integrated by military information networks, with their own potential for repair and autonomy; and the need to put personnel out of harm's way, especially for the technology-focused naval modality of warfare, is growing.

According to the *Global Marine Trends 2030* (LLOYD'S REGISTER; QINETIQ; UNIVERSITY OF STRATHCLYDE, 2013), the rise in naval capacity suggests that there will be growth opportunities for the naval sector. The main factors of naval power (naval platforms, weapons and manpower) will be maintained for 2030, with armament capacity growing, while the number of platforms and personnel will be renewed, rather than expanded. As for the weapons to be developed for the naval platforms, they will be significantly more powerful, as remote operation will have increased, directed energy weapons will have matured, and the cyberspace will be the new battlefield. The size and speed of these platforms will depend on technological advances and the availability of resources. The operation and control of autonomous marine systems will be a key issue.

O *Global Marine Technology Trends 2030* (Lloyd's REGISTER; QINETIQ; UNIVERSITY OF SOUTHAMPTON, 2015) cites that the role of the warship in 2030 will begin to change with the use of autonomous systems and remotely piloted systems, providing greater range with less risk, as well as greater mission flexibility. Autonomous systems will operate above (at the waterline) and below the sea surface, implementing innovative concepts in the conduct of naval operations, offering the potential to radically change the nature of maritime security. Artificial intelligence (AI) and machine learning techniques will be greatly explored, as supporting technology and enabling such systems. However,

[...] autonomous systems will also be widely available, for general use by any consumer; providing low-cost technologies that can be exploited by smaller nations, terrorist organizations, and non-state actors, many of which will not comply with legal and ethical constraints (LLOYD'S REGISTER; QINETIQ; UNIVERSITY OF SOUTHAMPTON, 2015, p. 102).

4 “BUTTER AND GUNS”: ONE (OTHER) DECISION

According to Smith (1999), by means of a military force, the sovereign has the duty to protect society from violence and the invasion of other independent societies, since the natural habits of the people make them totally incapable of defending themselves, unless the State takes up new measures for public defense. Hence it is only by means of a standing army that the civilization of any country can be perpetuated, or even preserved for a considerable time, enjoying a degree of order and internal peace by its influence.

However, the defense of a society becomes more and more expensive as it advances in civilization, according to Smith (1999), because the art of war, a very intricate and complicated science (although noble), also gradually grows in the progress of improvement. The revolution in the art of war makes it much more difficult and consequently much more expensive to defend a society; however, the great expense of war superiority gives an evident advantage to the nation that can afford this expense.

Defense spending can be defined as “the cost of maintaining personnel, equipment and facilities, both in times of peace and in conflict, with the objective of ensuring an adequate level of deterrence and security” (FONFRÍA, 2013, p. 178); it can generate positive or negative effects on the economic growth of a country, according to Almeida (2001); there is no definitive consensus on the relationship between defense spending and the development of the nation, on the contrary, different possibilities stand out, different possible relationships, in which each case must be treated individually.

Deger and Sen (1995) address the complex issues that arise about the theme of military spending on defense, in relation to economic growth, security and governance of developing countries – by central and fundamental aspects of the interrelation between defense and development, which are difficult to formally model and quantify (some econometric analyses suffer from the lack of a firm theoretical model).

Regarding the economic sciences, Santos (2018) mentions the need to significantly reassess the theoretical and methodological bases of defense economics for a better understanding of the area, due to its particularity and nature, eminently interdisciplinary.

Because it is a public good, the existing predisposition to pay for national defense is difficult to estimate, according to Franco (2000); hence, the acquisition of weapons and the defense budget ends up being a decision-making process, involving a complicated set of issues, and which must balance the military need for confidentiality with the objective of making government decisions justifiable for a wider public. On the subject, Santos (2018) quotes the trade-off between investment in the defense area and in the social area.

One of the most easily applicable economic concepts to defense analysis, trade-off concerns the very limitation of choice in the face of scarcity, according to Almeida (2001); also traditionally known as the “butter *versus* gun” dilemma. According to this point of view, the nation should allocate its resources in order to produce civilian or military goods according to its need and, at the same time, ensure that the production of both goods occurs with

the use of available resources in the most efficient way possible, under penalty of incurring an unforgivable waste of national potential. It turns out that the notion of trade-off operates a sensitive change in the very concept of cost in decision making, which is no longer evaluated in purely financial terms to incorporate the idea that the cost of producing something corresponds to the option of not producing something else that is also necessary.

But, for the current moment experienced in Brazil, giving up any production whatsoever (butter or gun) should definitely not be an option. At a certain level of political-managerial commitment, joint pro-social work, public awareness and altruistic nationalism-organic, a possible intercession would be ideal. It is important that Brazilian political, economic and social decisions be sound and serious, focused on education, development of the nation and anti-corruption.

Regarding the economic consideration of defense issues, it is necessary to understand its uniqueness and its essential characteristic of public good, according to Almeida (2001); and this notion must be explained to society, directly or through its representatives, in order to undo the citizen-soldier divorce, framing the analysis of defense budgets according to a coherent logic and appropriate to its peculiarities, in particular, the difficulty of measuring results.

Faced with the scarcity of resources to meet infinite demands, the idea of doing “more with less” acquires capital importance, according to Almeida (2010), bringing together notions of effectiveness and efficiency, linked to the concept of transparency and *performance* of public management.

A cost-effectiveness analysis can be used, according to Franco (2000), selecting a method that minimizes the potential costs of defense spending and maximizes profits, for example, considering improvements in the efficiency of defense resources, so that more defense can be produced with less money, or, in times of defense cuts, maintaining the same level of Defense and applying surplus resources to other national objectives - a proposal that implies having a more creative thinking in relation to the combination of resources.

Ambros (2017) also addresses the main discussions that permeate the relationship between defense and development (whether military spending generates economic growth and technological development in society as a whole), and cites that, although it is not possible to confirm the positive or negative relationship between economic growth and military spending, the technology involved in the processes of defense-related companies can contribute to the development of a country.

According to Almeida (2001), the economy does offer the opportunity to study the theme (as an analytical tool for national defense issues) from an integrative perspective (between the civil and military sectors) in relation to national policy; and this integration can generate a mutual reinforcement of the two fields of knowledge, with significant benefits for both.

As defense is a typical activity of the state, non-delegable to the private sector, defense policy constitutes public policy because its execution is only possible with the intervention of the state force, as highlighted in Almeida (2010) – and yet, from the political point of view, national defense should constitute a state policy and not a government policy.

Thus, there must be a political arrangement underlying the national defense structure, which, by bringing together military and civilians, political parties and society, allows it to be conducted above simple rivalries, enabling active participation in the definition of priorities, allocation of resources and preparation of the budget.

Furtado (1962) argues that the development of the Brazilian economy has reached a degree of progressive differentiation that allows the country to achieve self-determination in the economic plan, being able to make the most fundamental decisions concerning it. With implicit responsibilities in this enormous decision-making power, there is a need for an increase in the conscious action of public power, with the state properly equipped to exercise its functions as the main instrument of development.

Economic analysis limits itself only to coldly exposing reality, which in practice is much more challenging, and therefore points to the need for action, according to Furtado (1962). A guiding philosophy of action would be necessary for the subject of development to be approached with absolute frankness, in order to be able to identify the strategic factors that act in the social process, for the implementation of a conscious policy of social reconstruction. Full awareness of the objectives of national political action in relation to the destiny of the people and their culture would be a duty, which leads to a positive and optimistic attitude, with respect to the self-determination of the community.

Also in Almeida (2001), the country should be led to think economically about its defense, with the purpose of better managing its possibilities and making the most of its potential; that is, it needs to guide the analysis of its defense issues from the recurring and limiting relationship between infinite needs and scarce resources. It is an opportunity to lend adequate theoretical basis to an integrated analysis of the planning and execution of the defense budget, from a decision-making process, especially with regard to the need to define strategies, the use of appropriate means and purposes appropriate to the available means and the general interest of the nation.

Therefore, to understand the nature of military spending in developing countries, it is necessary to go beyond the domain of economics, for Deger and Sen (1995); in particular, tools of political economy are appropriate to the theme, since the issues of military spending and heated discussions about security, legitimacy and governance are linked to *ethos* social, cultural and political rights of the country in question.

5 FINAL REMARKS

According to Romano (2018), in the face of accelerated technological change, the very concept of life is changing for the majority of the world's population and, in the near future, for all of humanity. Adapting to new circumstances is complicated; but doing so in a rapidly changing world is really challenging – one can hardly conceive of an accelerated and exponential adaptation about the environment. In addition, organizations, institutions and markets are even slower, as they move in a linear and clumsy way, without realizing that the moment of transition experienced is particular, because it affects economic and social

aspects due to disruptive innovations that represent a technological leap, as highlighted in Longo (2007).

Longo (2007) mentions that the importance of Science and Technology (S&T) is strategic in a state, and the intervention of governments in its development is increasing in countries that perceive it; in addition, the “growing cost of research and the complex physical infrastructure and social environment for it to flourish” (LONGO, 2007, p. 10) should be considered. Hence the importance of directing the government, in the formulation of policies and strategies, to articulate and coordinate activities in order to meet the demands, current and future, relevant to the nation.

Defense budget decisions may seem off course if the nation is unlikely to be involved in wars or threatened in a short period of time, according to Adams and Leatherman (2011).

However, defense investment should not be limited to momentary circumstances. On the contrary, it must be continuous and, mainly, prospective; according to world trends (which accompany the frantic technological rhythm), for the fulfillment of the objectives of the Brazilian National Defense Policy.

Moreover, the possibility of new and frightening forms of threats exists, according to Sandler and Hartley (2007); since the post-Cold War world has not become a place of peace, but remains dangerous (regional conflicts, transnational terrorist networks, rogue states and weapons of mass destruction – chemical, biological, radiological and nuclear, are examples).

With the intense commercial exchanges between states and the accessible technological advance, the threatening situation begins to assume global dimensions (especially if the world order is not maintained). Sandler and Hartley (2007) identify this new era due to globalization, which involves new technologies, new business practices, and improved international flows. These ever-increasing flows mean that armaments and armies would be less equipped to keep out unwanted invaders; posing a set of challenges to collective security, which confronts governments with expensive and elusive countermeasures. There are also challenges in developing effective collective action responses and in confronting costly nuclear proliferation.

Such threats therefore represent a direct challenge to the legitimacy of governments, according to Deger and Sen (1995); a purely economic analysis of said subject tends to be partial and will be able to capture only a part of the complexities involved.

Thus, “nations must reconfigure their defenses to face new contingencies” (SANDLER; HARTLEY, 2007, p. 612).

Moreira (2011) explains a new Brazilian reality, to stimulate discussion about defense from a lower external dependence in terms of military equipment (so that the country is a partner in the production and development of the technologies involved, leveraging native capabilities), generated by the issuance of high-level political guidelines for the sector – the National Defense Policy and the National Defense Strategy (both updated in 2020), in which the Brazilian government specifies its understanding of the theme, part of the national agenda, aiming to induce the technological leap directed at new Brazilian international insertion (MOREIRA, 2011).

Preparing and maintaining an effective defense system for a country like Brazil is not trivial, according to Moreira (2011), and with the advances in science and its technological applications (which has one of its most sophisticated expressions in the arms industry), the material bases that make up the means of state force have gained enormous weight in the defense equation, because investments in combat systems and platforms are of high value, and also long-term (which provides a generational dimension to the enterprise).

Hartley (2011) portrays the idea of public-social sacrifice in favor of defense (opportunity costs), on the part of the government, national defense ministries and the armed forces, to ensure the formulation of an efficient defense policy by decision makers.

For Brazil, homeland defense is inseparable from the country's development and takes into account its socioeconomic situation (among other fundamental objectives) (BRASIL, 2020). And the improvement of Naval Defense is relevant in prospective scenarios, as it concerns the expression of national power (BRASIL, 2020).

Therefore, in a time like the current one, the challenges imposed by transformational technological change (ongoing) must reach the way of thinking of Naval Defense.

The Naval Military Doctrine (BRASIL, 2017) describes that the implementation of innovative projects and the incentive to the construction of naval means in national shipyards contribute to the strengthening of the Brazilian shipbuilding infrastructure and the increase in the supply of jobs in the sector. And, technological absorption, enables the elevation of technological level in areas of naval interest, with the possibility of technological hauling to civil society (by dual application); as well as, the adaptation or development of new technologies, with the nationalization of defense products, and the strengthening of the Industrial Defense Base.

Due to the scientific-technological heritage and the successive advances of the maritime and naval industry, the relevance of navies will only tend to grow in the Twenty-First Century, along with the importance of the oceans and international trade in the globalized world, according to Moreira (2018).

Also, the challenge in favor of the country's development has a dimension never imagined before, given the prospective configuration of advancement in STI. Hence, the Brazilian population needs to be aware of the delicate situation, to position themselves correctly regarding political-representative choices, as well as morally and culturally awakened to the intrinsic intellectual improvement, which will be mandatory in the near future.

Moreira (2011) highlights the need for a balance between policies, strategies, institutions, budgets, human and material resources, with the concerted and continued action of various sectors of the state and society (academia, industry, entrepreneurship, among others), being an "inalienable duty of each generation to decide what resources the next will have to defend itself from contingencies that may befall it" (MOREIRA, 2011, p. 129).

As a human pro-social behavior, which can govern the relationship of generations with commitment to tomorrow, experimental evidence indicates that altruism is a powerful and unique force (FEHR; FISCHBACHER, 2003).

The application of such a tool points to the awareness of all nationals, as well as to the seriousness of decisive political actions, dissociated from corruption, related to national western culture, aimed at the common good (including using STI for this purpose) - in an attempt to guarantee the dignified “*butter and gun*” for the Brazilian nation, at such a critical moment; since, in the near future, the exponential technological growth will be demanding a new reality “of things”, in which this classic dichotomy may be more pragmatically (or relatively) associated like this: butter will be more “*olive oil*” and the gun a “*laser gun*”, for example.

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The United States and China: the dispute of the Twenty-First Century. Is it just power?

Estados Unidos y China: la disputa del siglo XXI. ¿Es solo poder?

Abstract: The hegemonic dispute between the US and China, a key contemporary event, leads us to reflect on the future of the global order. Traditional resources of power (political, economic and military), inexorably, will be present. In this context, specific variables will influence the process, with emphasis on leadership in the scientific-technological segment, the balance of military power, alliance policies and the central ideational factors that characterize the different worldviews. As the aforementioned dispute gains momentum, the accurate reading of events of a cyclical nature and their connections with outstanding structural issues in international relations grows in importance. The resulting analyzes will support the inevitable reordering of national strategies. This article aims to unveil the aforementioned variables, relating them in cause and effect to the dominant Western-centric strategic thinking. The conclusion seeks to portray some challenges related to the eventual construction of a new global order.

Keywords: hegemonic dispute; global order; national strategy.

Resumen: La disputa hegemónica entre EE. UU. y China, un evento contemporáneo clave, nos lleva a reflexionar sobre el futuro del orden global. Los recursos tradicionales de poder (político, económico y militar), inexorablemente, estarán presentes. En este contexto, variables específicas influirán en el proceso, con énfasis en el liderazgo del segmento científico-tecnológico, el equilibrio del poder militar, las políticas de alianzas y en los factores ideacionales centrales que caracterizan las distintas cosmovisiones. A medida que la disputa antes mencionada gana impulso, crece en importancia la lectura precisa de los acontecimientos de carácter coyuntural y sus conexiones con relevantes cuestiones estructurales de las relaciones internacionales. Los análisis resultantes apoyarán el inevitable reordenamiento de las estrategias nacionales. Este artículo pretende develar las variables antes mencionadas, relacionándolas en causa y efecto con el dominante pensamiento estratégico occidentalocéntrico. La conclusión busca retratar algunos desafíos relacionados con la eventual construcción de un nuevo orden global.

Palabras clave: disputa hegemónica; orden mundial; estrategia nacional.

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1 INTRODUCTION

The liberal international order inherited from World War II (WW II), ratified in part in the post-Cold War period, has been put to the test. For some years now, to varying degrees, a process of shifting power from the West to the East has been suggested. The allegation of the occurrence of an alleged hegemonic transition (now underway) from the United States of America (USA) to China, accompanied by the emergence of other poles of power – essentially regional – frames the idea (CARVALHO, 2022, p. 94). Such a framework can be characterized by the emergence of a multipolar international order, where two powers seek the hegemonic condition and other states (or blocs) try to play relevant roles in the process of shaping a new global order.

Traditional theories of International Relations (IR) have long identified the importance of transition periods between hegemonies, emphasizing the relevance of revisionist actors and dynamics involved in the dispute, as well as the possible erosive impacts on the stability of the international system. The *mainstream* of the analysts, including the Americans, consider China the only geopolitical rival really capable of threatening the US position at the top of the global order. From this perspective, strategists have worked to advise the agents involved in the highest-level decision-making processes in their countries, seeking the best solutions to the myriad of instigating issues that are now evident.

Allison (2020) argues that the withering rise of China causes a seismic shift in the global balance of power. From the repertoire of challenges to US hegemony, ranging from a robust economic rise to growing empowerment in the military field, China presents something new to its main rival: competitive advantage in prominent niches of the scientific-technological field. Since the beginning of the twentieth century, the United States has led all technological revolutions, presenting itself as the inducer of the transformation processes linked to them. Currently, by positioning itself as a competitor that dominates part of relevant segments in the technological sphere, China demonstrates a willingness to fight hard for leadership in the sector. Among the segments directly impacted, the defense segment stands out.

Drawing on significant economic potential, China spends some of its vast domestic savings in various parts of the world. Investments in infrastructure that enable access to natural resources and/or favor the establishment of strategic logistics corridors, associated with the granting of financial loans under very “special” conditions, are part of the country’s list of options. From this framework emerges an intricate network of nations that make up the repertoire of Chinese foreign policy, part of it focused on the economic and financial engagement of nations and corporations. Blackwill and Harris (2016), in exploring the concept of *geo-economics*¹, defend the idea of Chinese protagonism in this segment, “considering China as the best available lens to understand how geo-economic tools operate in practice” (BLACKWILL; HARRIS, 2016, p. 93).

¹ The use of economic instruments to promote and defend national interests and produce favorable geopolitical outcomes, considering the effects of other nations’ economic actions on a country’s geopolitical objectives (BLACKWILL; HARRIS, 2016, p. 20).

Unlike other powers, China does not enjoy consolidated security guarantees. The low institutionalization of the defense architecture in its strategic environment leads the country to seek maximum autonomy from its military power. Heavy investments in obtaining capabilities for the People's Liberation Army (PLA) outsource one of the central components of China's grand strategy, indicating the intention of the country's policymakers to establish a military structure that ensures its economic and strategic interests. Such a situation could lead us to infer increased friction with other global actors.

In this context, in the game of great powers, the expansion of areas of influence and the recomposition of partnerships and strategic alliances tend to characterize contemporary geopolitical and geostrategic dynamics. From the set of incident variables, it is indisputable that hard power will continue to occupy a prominent place. To the material foundations (military and economic) linked to it, it is associated a growing diplomatic assertiveness, oriented towards the defense of national interests and the communication of immaterial values. Different perspectives, worldviews and self-perceptions lead us to reflect on how and to what degree the aforementioned variables will be considered in the fluid dynamics of international politics (CARVALHO, 2022).

Successive theoretical debates that frame the field of IR study are anchored in philosophical and epistemological reflections, influenced by different ways of seeing the world. Focal and monochrome lenses have been replaced by others that allow a broader and more plural reading of international phenomena, generating new strategies for capturing and interpreting reality. The classical representation of a world marked by competition and the imposition of force is increasingly being replaced by that of a global order characterized by complementarities and interdependencies.

In the wake of the so-called "upheavals", the emergence of "subaltern" and "periphery" actors reinforce a discourse that challenges the predominance of hard power, sharing less competitive and more inclusive conceptions. A possible synthesis that translates the essence of this movement in the field of IR would be something as "the current world cries out for different things". However, the acceleration and deepening of a possible process of hegemonic transition, along the lines of the classic geopolitical disputes, seem to challenge the aforementioned analytical proposals.

Thus, by adding complexity to the international competition now installed, the combination of material and ideational factors allows us to formulate the following question: **are the traditional Western-centric concepts, references and perspectives, especially those that over-emphasize the centrality of power distribution in the international system, sufficient to understand the emergence of the Chinese-American competition for global hegemony? Anyway, is it just power?**

In trying to answer the question and stimulate some reflections, this article discusses the capabilities of China and the US to transform their power resources into real power, highlighting the relevance of scientific-technological and military variables in the process.

It highlights the meaning and weight of ideas in the competition, such as the (communicated) translation of values, interpretations of the world and self-perceptions. Conceptually, it explores some limitations of the so-called Western-centric vision, with the intention of shedding light on some characteristics of the current process of transformation of the world order. To this end, the work is divided into three sections, in addition to this introduction and a conclusion.

The first section addresses the competition in the field of Science and Technology (S&T) and its proximity to defense issues, especially regarding the achievement of military capabilities that aggregate technologies capable of impacting the distribution of global power. In the second section, considerations are drawn about the value and weight of “worldviews” in the composition of the matrix of variables that permeates the game of the great powers. The third section reflects on the effectiveness and resilience of the traditional West-centric view in understanding contemporary dynamics, superficially addressing how the process of defining the international agenda interacts with the likely emergence of a multipolar system. In conclusion, it is argued that the Chinese-American dispute ranges from issues related to the distribution of power to ideational factors related to their worldviews.

2 THE COMPETITION IN THE FIELD OF S&T AND ITS INTERACTION WITH THE DEFENSE SEGMENT

Not so long ago - 30 years or less - China figured timidly in any *ranking* that depicted levels of education, science and innovation. Currently, after vigorous investments in the qualification of human resources, referenced in a solid strategy, the country occupies a prominent place as a developer and supplier of cutting-edge technologies. When analyzing their results in the International Program for Student Assessment (PISA)², whose score is higher than the average of the countries of the Organization for cooperation and Development (OECD)³, the origin of the advances obtained is clearly identified.

In China, the growing investment in education translates into positive reflections for various segments of the economy. The share of global value added in high-tech products grows continuously, with emphasis on segments such as computing, semiconductors, pharmaceuticals and communication equipments. The progressive number of patents⁴ and the amount invested in research and development (R&D) corroborate the increase in the valuation of its role as a country with a high native capacity for technological innovation, despite still being considered an incubator of cyber piracy and corporate espionage⁵.

2 On the subject, consult the link available at: <https://exame.com/mundo/pisa-mostra-que-a-china-e-o-pais-a-ser-copiado-em-educacao/>. Accessed: 12 Dec. 2022.

3 On the subject, consult the link available at: <https://www.oecd.org/pisa/PISA%202018%20Insights%20and%20Interpretations%20FINAL%20PDF.pdf> accessed: 12 Dec. 2022.

4 On the subject, consult the link available at: https://www.wipo.int/pressroom/en/articles/2021/article_0002.html. Accessed: 12 Dec. 2022.

5 On the subject, consult the link available at: <https://mittechreview.com.br/como-a-china-se-tornou-uma-gigante-de-espionagem-cibernetica-sem-igual-e-duradoura/>. Accessed: 12 Dec. 2022.

The latest Five-Year Plan of the Communist Party of China - CPC (2021-2025)⁶ lists seven strategic areas considered essential to “national security and overall development”: artificial intelligence (AI), quantum computing, integrated circuits, genetics and biotechnology research, neuroscience, and the aerospace sector. According to the document, the country intends to create national laboratories and strengthen academic programs to develop and support some of the aforementioned technologies. In addition, vaccines, deep sea exploration and voice recognition are also present in the list of goals. For the first time, the CPC devoted a chapter exclusively to technology, announcing its intention to raise R&D spending by more than 7% per year, representing, in absolute terms, 2.4% of GDP.

The context of a “technology war” is putting pressure on Beijing to “de-Americanize” technology supply chains. The strategy aims to replace US inputs with domestic technology or from alternative suppliers in Southeast Asia and Europe. Improving domestic innovation and protecting technology chains are priorities in the CPC’s 14th Five-Year Plan. In this context, a bifurcation of production chains between China and the US is likely to occur in areas such as telecommunications, infrastructure, data storage, armaments and submarine data cables.

China leads the production of rare earths, while the US dominates that of semiconductors and software necessary for chips manufacture. The semiconductor dispute is a prime example of how the value chain between the two countries is unraveling (or at least weakening). US punishes Chinese firms and wants to boost local production⁷. China stocks up chips and analyzes own means of manufacturing.

The next generations of mobile telephony represent a paradigm shift of our era, enabling the use of devices and applications that only acquire functionality by franchising a large data traffic. From the set of disruptive technologies that will depend on said condition, AI emerges in importance. By adding cognition to robots and weaponry, which applications are promising to leverage military capabilities at all levels and domains, AI has the potential to alter the traditional and well-known characteristics of conflicts, delegating to their holders fundamental strategic advantages. In this sense, China’s current leadership in the fifth generation segment of mobile telephony (5G) tends to allow it to obtain benefits more immediately.

As for the availability of military power, the asymmetry is significant. The US maintains its military spending at high levels, which has ensured it world leadership for decades. According to the Stockholm International Peace Research Institute (SIPRI, 2021)⁸, US military expenditures reached \$ 778 billion in 2020, which represented a 4.4% increase from the previous year and 39% of total global military expenditures. It was the third consecutive year of growth, after seven continuous declines. A significant portion of this increase

6 On the subject, consult the link available at: https://cset.georgetown.edu/wp-content/uploads/t0237_5th_Plenum_Proposal_EN-1.pdf. Accessed: 12 Dec. 2022.

7 In October 2022, the US government issued a tough measure restricting Chinese companies’ access to chips technology, which increased the commercial and technological competition between the two countries.

8 On the subject, consult the link available at: <https://www.sipri.org/databases/milex>. Accessed: 12 Dec. 2022.

is attributed to increased investments in R&D, as well as the progress of several long-term projects related to the modernization of the nuclear arsenal and the entire US defense sector.

In 2020, China remained in the vice-leadership of global military spending (\$252 billion). From the superficial analysis of the disbursed profile, a significant portion was destined to obtain military equipment with high added technological value (aircraft, satellites, own inertial navigation system, missiles, cybernetic interferers, etc.), some of them of national origin. Together, the US and China account for 2/3 of the world's military spending.

The occurrence of tests linked to the development of hypersonic missiles by China has aroused the attention of the international community. The dominance of capabilities linked to a fractional orbital bombardment system (FOBS), although not unprecedented, brings the Asian country to a differentiated position in the list of effective threats to the United States. An eventual success in overcoming US missile defenses could lead to an expensive, undesirable and dangerous arms race⁹.

The International press recently released images attributed to the construction of silos for intercontinental ballistic missiles, in the desert of Gansu province, in northwest China, alerting international security experts to the subject¹⁰. It is estimated that the PLA has at its disposal about 200 nuclear warheads in a condition to be operated, which has generated speculation in the Pentagon about a possible change in Chinese nuclear strategy, a concern externalized in the *Annual Report to Congress-Military and Security Developments Involving the People's Republic of China*¹¹. Although a clear nuclear asymmetry favorable to the United States persists, the incorporation of new capabilities raises the degree of availability and readiness of the Chinese armed forces, impacting the balance of power.

Also connected to the aerospace dimension and with high added technological value, the satellite segment has acquired increasing relevance in the spectrum of competition between the great powers. The intention of the use of space for non-peaceful purposes is accompanied by outstanding investments in the development of technologies aimed at anti-satellite weapons. The US, China and Russia are locked in a relatively quiet dispute, fraught with intense debate and an exchange of accusations, which has required sophisticated diplomatic articulation. The Treaty on Prevention of the Placement of Weapons in outer Space (PPWT)¹², which Beijing and Moscow submitted to the UN, is an example of a concertation instrument now under evaluation.

9 On the subject, consult the link available at: <https://foreignpolicy.com/2021/10/18/hypersonic-china-missile-nuclear-fobs/>. Accessed: 12 Dec. 2022.

10 On the subject, consult the links available at: <https://www.economist.com/china/2021/07/31/china-is-rapidly-building-new-nuclear-missile-silos> and <https://foreignpolicy.com/2021/06/30/china-nuclear-weapons-silos-arms-control/>. Accessed: 12 Dec. 2022.

11 On the subject, consult the link available at: <https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF>. Accessed: 12 Dec. 2022.

12 On the subject, consult the link available at: <https://www.nti.org/learn/treaties-and-regimes/proposed-prevention-arms-race-space-paros-treaty/>. Accessed: 12 Dec. 2022.

From the foregoing, it is possible to infer that, despite the covid-19 pandemic and the reduction of part of its economic activity, China has been able to sustain the production of its high-tech industry, signaling persistence for global technology leadership. Such a stance is directly related to its geopolitical ambitions as a rising power and drives the dispute with the US. As instruments capable of aggregating power resources, the development and mastery of disruptive technologies, increasingly associated with sophisticated military equipment, are progressively intensifying connections with national strategies. In this competitive environment, the management of the technological race in favor of national objectives and interests assumes centrality, adding complexity to geostrategic and geopolitical disputes.

3 THE ROLE AND WEIGHT OF IDEAS

Based on the theoretical formulation of classical realism, Morgenthau (2003) attributed significant relevance to the structural condition of the international system, highlighting the search for the maximization of state power in the face of an anarchic structure, resulting from the endless defense of national interests. In arguing for the existence of limitations on the exercise of power in the international system, Morgenthau presents the balance of power¹³ as the most important measure of restraint and embarrassment.

Walt (2021, n.p.) lists a set of conditions that minimize the likelihood of China and the United States going to war, pointing out that, in addition to geographical factors (size, population and location), the two countries have nuclear weapons, which limits the ability of either to embarrass or compel the other to impose their wills. Neither country is likely to convert the other to its preferred political ideology. “Like it or not, the two powers will have to coexist for a long time.” It seems appropriate, therefore, to recall the synthesis of the context of strategic disputes and indirect conflicts that characterized the Cold War: “impossible peace, unlikely war” (ARON, 1948).

In a speech to the US Congress in April 2021, President Joe Biden, while outlining some of his government goals, recognized that his country faces a new era of competition, needing to readjust strategies to improve its game. In defending democracy, Biden stressed that the US has the obligation and duty to remain as a political role model to the world, which therefore impels it to oppose autocracies - “[...] we have to prove that democracy works” (UNITED States, 2021, n. p.).

The defense of the fundamental values that identify the US as a nation originates in the founding of the country, when the structural basis of its socio-political organizations was established. Unlike their neighbors, the northern inhabitants of the “new world” enjoyed relative freedom and political autonomy – unusual at the time - making it up to them to decide on the main internal issues. Such a framework amalgamated the development of an autonomous mentality of governance, an incipient sign of the representative value of freedom for those pioneers.

¹³ The aspiration for power on the part of various nations, in which each of them tries to maintain or alter the status quo, necessarily leads to a configuration called balance of power, as well as to policies that are intended to preserve this balance (MORGENTHAU, 2003, p. 321).

Moïsi (2009) describes that US history (as well as Israel's) was built on "messianic hope and belief in an America as a land of redemption, liberation, and a new beginning." The republic, founded as idealistic, vibrant and modest, in less than two centuries expanded to the status of an empire. Optimism, individualism, flexibility, the cult of excellence and the conviction to be unique were the key ingredients of success. "The United States, from its genesis as a nation, has seen itself as a project in the making, not as a memory or tradition to be protected or outdated." (MOÏSI, 2009, p. 109).

The idea of "Manifest Destiny" is confused with that of the existence of a tradition of North American foreign policy¹⁴, its core being explained in a 2012 speech, defeated (by Obama) candidate Mitt Romney said, "God didn't create this country to be a nation of followers. The US is not destined to be just one of several global powers in balance. America must lead the world or others will." Schlesinger (1992) links such a conviction to "providentialism"¹⁵, which would have helped propel the country (from an ideational point of view) to promote freedom and democracy around the world, as well as imprinted some of the main contours to what is known as North American exceptionalism.

However, throughout recent history, by resorting to the use of force to achieve political objectives, linking them to the idea of a "missionary destiny", the US ended up contributing to conform the image of an imperialist power before part of the international system. During the Cold War, when the universalization of US values was intertwined with the strategy of containment (territorial and ideational) of communism, the amplification of interventionism as a strategy to defend US interests contributed to the aforementioned assertiveness. However, one can infer the occurrence of a "strategic mirroring" between the US and the former Union of Soviet Socialist Republics (USSR) in that period, each seeking to expand and consolidate areas of influence. Attraction and coercion fueled debates about the role of each model in formulating grand strategies during the Cold War.

In the rise and fall of the Great Powers (1989), Paul Kennedy argued that the total sum of US interests and its global obligations would extrapolate the country's capabilities to defend them simultaneously. Since the end of WW II, it would be the first time that the largest global power would face the debate that embraces an uncomfortable paradigm: the possibility of the power transfer process to be established. With the end of the Cold War and in the wake of the events resulting from the September 11, 2001 attack, the world has seen a change in strategic posture on the part of the United States and its main allies. The emergence of the war on terror and the conflicts linked to it ended up creating conditions for a China, until then "contained and apparently satisfied", to take advantage of the opportunities that were unfolding. The country decided to show the world that the Middle Kingdom was determined to resume its place in the international system. And in its own way.

14 Mead (2006) proposed categorizing US foreign policy into four "schools": Hamiltonian, Jeffersonian, Jacksonian, and Wilsonian.

15 "Providentialism" is understood as a condition linked to the strong influence of religion on North American Society, referring to the idea that the United States is a nation chosen by God to be the reference and example for all humanity. It underpins belief in the "messianic mission" and the role of "God's chosen nation".

Xi Jinping's vision for China, translated as "the Chinese Dream," seeks to capture the nation's desire to be rich, powerful and respected. Like the US, the idea of a Chinese exceptionalism, associated with Confucian philosophy, is internalized in the world's oldest civilization. In the early 1970s, when preparing to advise Nixon on the rapprochement with the Asian nation, Henry Kissinger had already assimilated that China's international relations were the external expression of its principles of internal social and political order. In Kissinger's interpretation, the communist country considered the international system highly hierarchical and not egalitarian. Thus, the understanding of the dynamics that govern the international order would be a derivation of the Confucian expression "know your place".

After long Chinese domination in Asia, the first half of the nineteenth century marks the beginning of the period known as "century of humiliation". Military defeats, economic colonization, and occupation by foreign powers imprinted deep resentments on Chinese civilization. To the younger generations, a teaching is massively passed on: "never forget; never again." In 1949, under Mao, the victory of the communists in the civil war rescued the expropriated sovereignty. Even though the country got rid of foreign imperialist domination, the price charged by the new regime was very high. Only after the death of Mao (1976), with the rise of Deng Xiaoping, a new transformation began, with developments to the present day.

China, a power dissatisfied with the current international order, wants to be placed in a different condition than it is today. Since 2010, the Asian country has become the second largest economy in the world, which could overtake the North American one by the end of the 2020s. Ambitious projects, such as "*Belt and Road Initiative*", enhance its international projection and enable its grand strategy, instrumentalized by an assertive foreign policy, centered on the expression of economic power and secured by a strong military power.

At the same time, in order to achieve its political goals, the Chinese state uses, with relative success, the resources of *soft power*. While the West's leadership in this field is real, efforts have been made to enhance it. Cultural elements (cultural diplomacy), humanitarian ("mask diplomacy") and associated with economic cooperation are some examples. Alternating relationships with the potential to generate economic dependence (investments) and financial commitments (loans that characterize "financial traps"), the Chinese Grand Strategy is being made viable. By increasing its ability to mark presence in various parts of the world, as well as its power to influence state and non-state segments, Xi Jinping's vision of "making China great again" – combining prosperity and power – is becoming established.

According to Walt (2021), China believes that a proper world order is essentially westphalian. The country emphasizes territorial sovereignty, non-interference, and privileges the needs of the collective (such as economic security) over the rights or freedoms of the individual. Finally, China craves an international system that provides security for its CCP's autocratic model. The US, in contrast, has long promoted a world order based on so-called

liberal values, the ideational foundations of which are centered on the appreciation of certain inalienable rights, embodied in respect for Human Rights and fundamental freedoms for all. Although they seek to strengthen their narratives, both powers are not entirely faithful to the content of their speeches.

Referring to the strengthening of the PLA's military power, Xi Jinping summarizes the process as follows: "fighting and winning wars." "In order to realize the Great Rebirth of the Chinese nation, we must ensure harmony between a prosperous country and a strong military." Allison (2020) points out that the strength of words – and the idea contained therein – is particularly important to China as it seeks to recover from the humiliation suffered at the hands of foreign powers. Even if the speech is presented in this way, it apparently does not mean that China wants to fight (for now). However, anchored in long-term goals, the message has the right address.

Gray (2016), seeking to analyze how ideas and practices interact in the operationalization of *high politics*, presents strategic culture as "the essential unit for all strategic experience." Even emphasizing the inadequacy of considering all strategic behavior subject to cultural influence, Colin Gray warns that the dimensions of strategy are expressed in behavior (of people and institutions) anchored in culture¹⁶. "The strategy has many dimensions, and one of them is cultural."

The constructivist current of IR, when analyzing foreign policy through its main axis – diplomacy –, seeks to make it clear that the political construction of the narrative and its operationalization are components of the strategic culture of the state actor to which it is linked. Thus, it considers strategic culture as an essential analytical tool in the areas of political decision-making, security and defense, geopolitics, geostrategy, strategic intelligence and organizational culture.

Although the United States and China manifest conflicting political and economic interests on a large scale, the values embedded in the discourses of both nations show traces of convergence. The idea of exceptionalism is a characteristic common to both peoples, as is the belief that both act with honesty of purpose and fidelity to their "manifest destinies". Such qualities (or characteristics) end up typifying and qualifying the identity cultures of China and the United States, reflecting in the shaping of their foreign policies.

In this perspective, the analyses directed to the vigorous emergence of China as a possible postulant to the *status quo* the US supports should not be reduced to traditional (and important) geopolitical issues. The weight of the ideational factors is substantive, gathering potential to influence the mitigation or aggravation of the imponderable debates that will follow each other throughout the unstable process of transfer of power now appreciated.

16 Culture or cultures comprise the persistent, socially transmitted ideas, attitudes, traditions, habits of mind, and preferred methods of operation that are more or less specific to a particular, geographically based security community that has a unique historical experience (GRAY, 2016, p. 176).

4 WESTERN-CENTRISM AND THE INTERNATIONAL AGENDA

Hobson (2012) argues that the main concepts developed by many of the most relevant IR scholars to explain global affairs – both from a historical and conjunctural or predictive perspective – are deeply centered on the Western model of thought. Based on references that make more sense from the perspective of a “Western civilization”, provincial analyses would be produced disregarding a more universalist and, consequently, more inclusive vision, causing damage to the value judgment of international phenomena.

There would thus be a normative division between a “Western universalism” and a “non-Western particularism” on the one hand, and “Western modernity” and “non-Western tradition” on the other. As a result of this distortion, the establishment of a global agenda is usually seen as something possible only for the West. This Western privilege ends up not recognizing – or despising – non-Western agency, which only acquires any relevance when it poses a fundamental threat to the West. Thus, it is assumed that, from the perspective of “Western civilization”, a future non-Western global order would be “chaotic, disorienting and dangerous” (STUENKEL, 2018).

Obviously, when considering the aforementioned argument, the object now appreciated in this work is affected, deserving pertinent reflection. Stuenkel (2018) ponders that the widely accepted model of “Western diffusionism” is based on the premise that history is a Western-led process, which would weaken the non-Western share of contributions to reflective formulations of the international environment. By neglecting important events that occurred outside the European context – especially from a more prior historical perspective –, relevant events related to more than four thousand years of Chinese history are minimized, which can cause possible distortions and constructions of biased narratives.

Mearsheimer (2015) argues that the relative decline of the West will make the world more unstable and dangerous, with the potential for the outbreak of war, a prospect that the realist author classifies as “depressing”. Other analysts infer, against the same backdrop, that the resulting structural fragility will significantly reduce the ability of states to cooperate effectively. A new norm would increasingly be the “absence of norms”. Such approaches are anchored, simultaneously, in the centrality of the role of the West and in the discredit attributed to multipolarity, conditions that would weaken the power of global consultation as the absence of *hegemon* would increase the instability of the international system.

On the other hand, a brief historical digression would point out difficulties for the defenders of the aforementioned perspectives in explaining the various moments of instability experienced under the US-led liberal order, including the occurrence of wars and other violent conflicts. Kissinger (2014) argues that, in the process of building the

world order in the post WW II, North American exceptionalism and idealism were essential. However, in the context of debates that arouse suspicion about an irrefutable North American legitimacy¹⁷ in the conduct of the process, it is observed, recurrently, the inference of the practice of coercion in the course of various events. By not disregarding the use of all available resources of power to give proper form and meaning to the international order, Washington has embodied the supremacy of its own “*way of life*” and, as a consequence, it was selective enough to underestimate the relevance of other possibilities of agencies, of cultures and of thoughts.

The democratic tide that emerged after the Soviet collapse (1991), which encompassed different parts of the world, led to the false understanding that “there would be an end to history”, materialized by the victory of Western liberal democracy over the autocratic model spread by the extinct USSR. More recently, the Arab Spring rekindled similar sentiment, soon cooled by the imposition of the complex reality experienced in the countries that participated in the movement (only Tunisia carried out the ideas defended there). Levitsky and Ziblatt (2018) describe, argumentatively, the recent emergence of a crisis of the North American political system, inserted in the context of an eventual process of worldwide democratic decline. In this context, one can see the emergence of doubts about the prevalence (or not) of a political model capable of framing the process of redistribution of power.

The US (and the West in general) values ideational factors as the great drivers of the “global conversion” process. Anchored in the vision of liberal democratic culture, they discursively minimize the role of military power in the creation and maintenance of the current global order. Although the argument is seductive, it does not find, in its entirety, support in conjunctural and historical reality. The emergence of autocrat and/or populist governments has contributed to debasing the thesis that so-called “Western values” will perennially be strong enough to shape the international order. The thesis of the emergence of a “bipolar multipolarity”, with China (a communist dictatorship) as the power willing to challenge world hegemony with the US, corroborates in questioning the perennial strength of the West-centric model.

In the context of the contemporary phenomenon that we proposed to appreciate, it is possible to identify some points with potential to shape coping/accommodation strategies. The occurrence of a sense of image rescue, whether based on revisionism (China) or attrition (USA), impels Washington and Beijing to strategically reposition themselves on the various global boards. In pursuit of its objectives, strategies based on *hard power* will inevitably compete with concerted and accommodative postures, which will require sophisticated political and diplomatic articulations. The dispute over areas of influence, so remarkable in the period of the Cold War, tends to intensify, requiring skill in the management of the resources of *soft / smart power*. Hard power and ideas will foster competition, in a world watching the exacerbation of nationalism – ample fodder for the fostering of competition.

¹⁷ Legitimacy, in international politics, means the recognized authority to govern in the international hierarchy. Such a concept presupposes the existence of an “international society” (CLARK, 2003). David Lake elaborated the theory of relational authority, conceptualizing legitimacy in IR (LAKE, 2009).

From another perspective, economic interdependence, a fundamental variable to interpret the real scope of movements directed to cause effects of constraint, coercion or punishment, will continue to play a regulatory role in the balance of power. However, it will not reach the depth and scope theorized by Keohane and Nye (1977). Although less warmonger than the Maoist Era (1949-1976), the contemporary profile of Chinese foreign policy, inaugurated by Deng Xiaoping (1978-1992)¹⁸, has undergone harsh adjustments, acquiring active and confrontational biases. The rise of Xi Jinping (2012) and the recent reorganization of the CCP¹⁹ seem to contextualize the current period of change. Military reform, cybersecurity, finance and foreign policy are some of the core areas covered by the ongoing process. On the other hand, the Biden administration does not seem to be very willing to reverse some measures taken by its predecessor and that signaled the deepening of the competition with the Asian power, demonstrating that “the pivot to Asia” is the support column of the contemporary US grand strategy.

In this context, it is appropriate to return to the debate on the definition of international agenda, a topic traditionally associated with the established powers. Supported by the effectiveness of their power resources, large nations project particular influence (and control) over international organizations, which elevates them to the condition of privileged agents in the process of formulating agendas. Political leadership, international credibility and relevant intellectual capital, among other factors, make up, from the perspective of the Western powers, the necessary assumptions to enable states to the role of shapers of the “great global debate”.

However, although the broad condition of global asymmetry may constrain the participation of emerging nations in the process of formulating the international agenda, it is fair to infer that it is not impenetrable. Among the aforementioned factors, it appears that international credibility is an accessible assumption, especially for those states committed to the so-called “global public goods”. However, credibility must be linked to other related conditions, such as reputation (relative to legitimacy arising from good results in dealing with similar domestic agendas) and recognized diplomatic capacity (relative to good foreign policy tradition).

The covid-19 pandemic, climate change, demographic issues, migration, defense of human rights, weapons of mass destruction, among other issues on the contemporary international agenda, demand actions coated with consultation and rapprochement. In this perspective, the global attraction capacity assumes relevance, degrading (even partially) the direct action potential of the economic and military powers. In the race for prominence in debates involving major global issues, both the United States and China have increasingly relied on resources from *smart power*.

18 Peaceful ascension, passive and non-confrontational in nature, based on the effective transformation of its resources from economic power into real power. The opening-up and profound reforms promoted in the period underpinned China’s robust economic development, transforming the country and ushering in a new era in global geopolitics. Deng Xiaoping’s famous phrase “it doesn’t matter what color the cat is, as long as it hunts the mouse” sums up the political pragmatism of the post-Mao era. (CARRIÇO, 2013)

19 On the subject, consult the link available at: <https://www.lowyinstitute.org/publications/after-xi>. Accessed: 12 Dec. 2022.

Clark (2003) argues that in transitions of power, an essential issue at stake is the maintenance or acquisition of prestige. Prestige determines who gives the orders and directs the international system, the nature of this order and how it will be exercised – by coercive means or by legitimate authority. In adapting its strategies to deal with the emergence of Beijing, the United States (and the West) will be forced to revise and rethink some concepts linked to the vision of an essentially West-centric world. The recurrent habit of interpreting singularly specific processes according to highly generalized models leads to the repetition of strategic errors, at a repeatedly higher cost.

5 CONCLUSION

Starting from a more comprehensive framework that is capable of framing some of the main uncertainties that characterize the emerging hegemonic competition, it is legitimate to consider that the Chinese-American dispute ranges from traditional issues related to the distribution of power (geopolitical, geo-economic and geostrategic) to ideational factors related to their worldviews.

The contours of multipolarity that the international system has been acquiring, with the possible prevalence (even if temporal) of asymmetric bipolarity, will require the readjustment of the national strategies of states attentive to the phenomenon. The competition for the conformation of areas of influence (or something similar) will be marked by sophisticated diplomacy and the use of traditional resources of power. Attraction, persuasion and deterrence will be words increasingly present in the vocabulary of strategists and decision makers, vigilantes who will be at the global chessboard.

Major initiatives are expected from the major powers. However, for diligent emerging States, the ability to recognize opportunities will become the great differential. For these nations, soon, the greatest challenge to be overcome will be to identify, strategically, the most advantageous way to reposition themselves in the face of inexorable systemic movements. Raising (or not) the profile of international action, enhancing resources of economic and military power, boosting commercial insertion, positioning itself in the face of major global debates, among others, will be variables present in the contemporary strategic formulations of states.

From the diffusion of debates about what is relevant to be studied/analyzed by the IR field, different views emerge. From the confrontation between the alleged “myopias” of traditional looks with the new reading lenses of a changing world, it is inferred that it was not only the world that changed, but also the perspective over this world. In this article, when evaluating the current competition between the US and China in the context of the subfield of international security, it is possible to conclude that the phenomenon should not be observed exclusively from the perspective of the distribution of power.

When analyzing, summarily, the variable “dispute for the leadership of the scientific-technological domain”, it is inferred inexorable spillovers to the security segment, exploring some probable uncertainties adhering to the game of the great powers. It sought to highlight the centrality of S&T in changing the world balance of power, indicating a likely and gradual reduction in the asymmetry of military power between the US and China, driven by the evolution of disruptive technologies and the acquisition of new capabilities.

It is argued that there is a growing relevance of the influence of ideational factors in the construction of foreign policy rhetoric, both in the US and in China, reflecting in the process of competition for Hegemony. It is argued that material factors, intrinsically associated with the accumulation of power resources, will not be sufficient to move the pieces of the board alone, which will lend complexity to the probable conformation of a new international order. The crisis of the world will carry with it the crisis of the theorization of the world.

Notwithstanding the national peculiarities characteristic of complex societies, an interpretation of the Chinese phenomenon according to a Western stylization is absolutely incomplete. By maintaining the resilience of Western-centric thinking in order to base strategies aimed at the current (and future) moment of hegemonic competition, it is very likely that referential limitations do not offer, effectively, sufficient elasticity and breadth for the construction of appropriate strategic options.

Despite the fact that the race for the accumulation of hard power is the traditional dictum that regulates the pace of competition in the international arena, efforts to find accommodation and reduce conflict will be imperiously necessary. At a time of reorganization of the traditional global alliance frameworks, indispensable for the achievement of the diffuse political objectives of the great powers (and with reflections for the entire international system), it is important that diplomatic intelligence and negotiation capacity prevail, political tools that cool an undesirable escalation in the dispute for world hegemony. And it's not just power that will move the pieces in the great power game.

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The logistics at the Battle of Tannenberg: the high price of incompetence


La Logística en la Batalla de Tannenberg: el alto precio de la incompetencia

Abstract: The term Logistics is very broad, covering activities such as acquisition products, transport, distribution and sustainment by the user. Logistics began to be studied scientifically, in the mid-nineteenth and early twentieth centuries, by authors such as Clausewitz and Jomini. The present work has the general objective of analyzing the logistical support to the German na Russian armies, and how they influenced the outcome of the Battle of Tannenberg, which took place during the Great War. The methodology used was process tracing, supported by na extensive bibliographic research. As a result, the inefficiency of Russian army logistics was found to have a major contribution to Germany's final victory at Tannenberg. In addition, they had implications for Logistics with new concepts, such as the Supply Chain, and its division into strategic, operational and tactical levels.

Keywords: logistics; Army; Tannenberg.

Resumen: El término Logística es muy amplio, abarcando actividades como la obtención de productos, transporte, la distribución y el uso final por parte del usuario. La Logística comenzó a ser estudiada científicamente a mediados del siglo XIX y principios del siglo XX, por autores como Clausewitz y Jomini. El presente trabajo tiene como objetivo general analizar el apoyo logístico a los ejércitos, alemán y ruso, y cómo estos influyeron en el desenlace de la Batalla de Tannenberg, ocurrida durante la Primera Guerra Mundial. La metodología utilizada fue el *process tracing* (rastreo de procesos), sustentada en una amplia investigación bibliográfica. Como resultado, resultó que la ineficiencia de la logística del ejército ruso contribuyó en gran medida a la victoria final de Alemania en Tannenberg. Además, tuvo implicaciones para la Logística con nuevos conceptos, como el *Supply Chain* (Cadena de Suministro), y su división en niveles estratégico, operativo y táctico.

Palabras clave: logística; Ejército; Tannenberg.

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1 1 INTRODUCTION

The present work is a study on how the logistical support provided to armies in a battle can directly influence their success or defeat. The case studied was the Battle of Tannenberg, which took place in World War I (WW I) (1914-1918), involving the armies of the German and Russian empires.

Military logistics can be understood as an activity that enables the war effort of the armed forces, with the forecasting and provision of supplies and with the movement of necessary personnel and material on the battlefield (BRASIL, 2015A; SANTOS; OLIVEIRA, 2017).

The foundation of modern military logistics, based on technical and scientific studies, was initiated during the Napoleonic campaigns in the nineteenth century. Before the battles were fought by the French army, Napoleon Bonaparte ordered his commanders to make calculations of the necessary provisions, to establish bases from the reserves of supplies, and to extract resources from the occupied territories. In this way, the genius Corsican found that the greatest effectiveness of his army was linked to the availability of resources and means for his soldiers, leaving “in hand” the food, weapons, ammunition and uniforms necessary for combat (CREVELD, 2000; DEL RE, 1955).

The first author to document the importance of logistics for an army was the German Carl von Clausewitz. In his work *Vom Krieg*, he related a series of principles, rules, concepts, norms and teachings that constituted the doctrinal foundation of modern war. The author noted the responsibility of the government in the logistics of the armies with the construction of warehouses, the acquisition of food and the mobilization of means of transport for the armies, placing logistics as a national responsibility (DEL RE, 1955; VON CLAUSEWITZ, 1883).

In the same vein, Baron Antoine-Henri Jomini, in his work *Precis de l'art de la guerre*, argued that logistics encompassed all or almost all of the field of military activities in support of combat, such as the organization of marches and camps (DEL RE, 1955; JOMINI; MENDELL; CRAIGHILL, 2007).

Both authors in their works sought to demonstrate that the success or failure of armies came to depend on logistics, the efficiency of mobilizing national resources, and command-and-control over troop movement. In this sense, the Piedmont military campaigns (1859) and the Franco-Prussian War (1870-1871) demonstrated that the rapid availability of the belligerent countries' resources to their armies had the power to directly impact the outcome of military campaigns. The direct consequence of this was that logistics began to be seen in the strategic sense (CREVELD, 2000; DEL RE, 1955; KISSINGER, 2012; SONDHAUS, 2013).

In the year 1914, on the western front of the war, the German army was at the gates of Paris, pressing the French army to mount a desperate defense of its capital. To relieve this pressure, France cornered Russia, its ally, to open an eastern front against Germany, which would force the German state to fight on two fronts. This attitude can be seen in the words

of the French Ambassador to Russia, Maurice Paléologue, in an audience with Tsar Nicholas II: “I beg Your Majesty to order your armies to begin an immediate offensive; otherwise, the French army risks being crushed” (TUCHMAN, 1998, p. 238). Finally, the Russian Empire gave in to the French onslaughts and advanced with its armies on the German territory of East Prussia (MASSIE, 2014; TUCHMAN, 1998).

The invasion of the territory considered the “cradle of the Germanic race” (DURSCHMIED, 2003, p. 220) led to the reaction of the German Empire against the Russian that culminated in the Battle of Tannenberg, which took place in the period of August 25 and 29, 1914, having as contenders the first and second Russian armies and the eighth German Army (MASSIE, 2014; TUCHMAN, 1998).

The result of this skirmish was a fragrant Russian defeat that sealed “the fate of Tsarist Russia as a war power” (DURSCHMIED, 2003, p. 232). In the same vein as this statement, General Guchkov, the Russian Minister of War, declared that after the Battle of Tannenberg he had “come to the firm conviction that the war was lost” (TUCHMAN, 1998, p. 357). Corroborating this assertion, it is noted that one of the indirect consequences of this Russian defeat occurred three years later, in 1917, with the signing of the Brest-Litovsk peace treaty, where Germany demanded from Russia “the annexation of the entire Baltic area, a slice of Belarus, a de facto protectorate over independent Ukraine and a huge indemnity” (KISSINGER, 2012, p. 233). Certifying the exhibits of the facts presented, German General Max Hoffmann described the victory at Tannenberg as “one of the great victories in history” (TUCHMAN, 1998, p. 355).

Based on the reflections presented the research problem arose: how did the logistical support of the German and Russian armies influence the outcome of the Battle of Tannenberg?

To answer this question, the general objective of this article is to analyze the logistical support provided to the German Eighth Army (8th Army) and the Northwest group of the Russian army, and how these influenced the outcome of the Battle of Tannenberg. For this purpose, the following specific objectives were listed:

1. Understanding the maneuvers of the armies at the Battle of Tannenberg;
2. Explain the logistics doctrine common to the main European armies in World War I;
3. Display physical characteristics of East Prussia and its influence on the logistical support of the German and Russian armies;
4. Present the logistical support of the 8th Army; and
5. Present the logistical support of the Northwest group of the Russian Army.

According to these objectives, it is perceived that the relevance of this work is in the lack of more in-depth historical studies on the importance of logistics for armies in their military campaigns.

The research methodology used was the *process tracing*, often used for security case studies, as well as for the explanation of a historical fact. *Process tracing* seeks to identify, understand, and chain together the critical events and their causes, demonstrating the factors that influenced or increased the likelihood for the outcome of the Battle of Tannenberg. The sources of evidence for the research were books, scientific articles and manuals (GODOY, 2006; MAHONEY, 2015; YIN, 2001).

2 MANEUVERS OF THE ARMIES AT THE BATTLE OF TANNENBERG

To understand what went right or wrong in the logistics of the German and Russian armies, and their weight in the outcome of the Battle of Tannenberg, it is imperative to know the compositions of the forces, their missions, the planned strategies, the maneuvers that were carried out and, finally, to evaluate the result. That said, this campaign was divided into three phases: The Russian offensive, the reorganization of the German army and the German counteroffensive.

The 8th Army was commanded by General Maximilian von Prittwitz, and its mission was the defense of East Prussia, it was composed of the I Corps (General Von François), XVII Corps (General Mackensen), XX Corps (General Scholtz), I Reserve Corps (General von Below), III Reserve Division (Von Morgen), I Cavalry Division and the Landwehr Division, had a total effective of approximately 135 thousand men. His soldiers were trained, disciplined and had solid knowledge of the terrain. In addition, the 8th Army had the possibility of receiving reinforcement from the German second and Third Army and the 8th Cavalry Division (DURSCHMIED, 2003; KEEGAN, 2003; MASSIE, 2014; SONDHAUS, 2013; TUCHMAN, 1998).

On the border with Germany, the Northwest group of the Russian army, commanded by General Yakov Jilinsky, who mobilized the 1st Army (General Pavel Rennenkampf) and 2nd Army (General Alexander Samsonov), with a total of 98 infantry divisions and 37 cavalry divisions, reinforced by 29 divisions, which made an effective with about 400,000 men. Due to a hasty mobilization the Russian army was poorly trained and poorly prepared, and to make matters worse, had no adequate knowledge of the terrain (DURSCHMIED, 2003; KEEGAN, 2003; MASSIE, 2014; SONDHAUS, 2013; TUCHMAN, 1998).

With the evidence presented, it can be seen that the numerical difference between the Germans and the Russians was enormous. For the offensive, the Russians detached 480 battalions against 130 Germans (HASTINGS, 2014; SONDHAUS, 2013; TUCHMAN, 1998).

2.1 The Russian offensive

The Northwest group of the Russian army had the mission of invading East Prussia with its 1st and 2nd Armies. The Russians had the knowledge of the fragile German defense, and decided to attack the positions of the 8th Army with their armies simultaneously, performing a pincer movement. The plan was for Rennenkampf's army to launch the attack and draw the bulk of the German forces to itself. After two days of fighting, with the Germans fully engaged in fighting with the 1st Army, Samsonov's 2nd Army would bypass them from the south of the Masurian lakes, surround them from the rear and deliver the decisive blow. This way, the Russian army hoped to destroy the German defense and open the door for a deeper invasion of German territory in the direction of Berlin (KEEGAN, 2003; MASSIE, 2014; SONDHAAUS, 2013; TUCHMAN, 1998).

Thus, as planned, in August 12, a Cavalry Division of the Russian 1st Army, at the head of the main advance, invaded Prussia, taking the city of Marggrabowa, eight kilometers from the Russian border. General Rennenkampf, upon receiving reports of this attack, deduced that the Germans did not plan a strong defense to the East. Accordingly, the commander of the 1st Army on August 17 ordered the advance ahead of schedule into enemy territory, disregarding its incomplete supply service. This offensive was interrupted by the Tominen Forest, having to the south the natural barrier of the Masurian lakes (TUCHMAN, 1998).

In southern Prussia, Samsonov could not keep up with the advance of the 1st Army, due to the poor condition of the sandy roads. To make matters worse, the Russian high command could not coordinate the actions of its two armies, as it did not have an established communication line due to the lack of wires (TUCHMAN, 1998).

Despite the numerical disadvantage, General von Prittwitz had difficulty maintaining the 8th Army defensive positions, according to orders issued by the high command of the German Army. Trying to exploit the surprise, the 8th Army attacked the Russian 1st Army, culminating in the Battle of Stallupönen. The Germans managed to inflict five thousand casualties on the Russians and capture three thousand prisoners, losing 1,200 men. After this clash, the Germans retreat to the city of Gumbinnen (MASSIE, 2014; SONDHAAUS, 2013; TUCHMAN, 1998).

Two days later, on August 19, Rennenkampf's Army restarted its advance towards Gumbinnen. At this point, the 1st Army, which was less than 25 kilometers from the Russian border, began to resent the irregularity in the distribution of supplies, that did not reach its units (DURSCHMIED, 2003; TUCHMAN, 1998).

On August 20, in the Battle of Gumbinnen, the Russians took advantage of their numerical superiority and, with a good use of their artillery, managed to partially defeat the Germans, opening the way to the city of Königsberg. With this setback, General Von Prittwitz panicked, and gave orders for the 8th Army to retreat to the Vistula River, ceding East Prussia to the Russians (MASSIE, 2014; SONDHAAUS, 2013; TUCHMAN, 1998).

After the battles of Stallupönen and Gumbinnen, the Russians believed that the Germans were on a desperate escape. That said, the Russian High Command insisted that General Samsonov continue the offensive “to meet the enemy retreating in front of General Rennenkampf and cut off their retreat to the Vistula” (TUCHMAN, 1998, p.341). Samsonov did not have at his disposal railway lines that would allow the rapid displacement of his troops, which moved along sandy roads, as well as the general had information that the enemy was not retreating, but reorganizing. Another fact was that Rennenkampf could not pursue his enemy to obtain a definitive victory, because his supply lines functioned precariously (TUCHMAN, 1998).

Faced with the setbacks, the High Command of the German Army decided to replace the commander of the 8th Army in the region, removing General von Prittwitz and summoning from retirement, General Paul von Hindenburg, who appointed as his Chief of Staff General Erich Ludendorff. These two generals and the Colonel Max Hoffmann, Deputy Chief of Staff of the 8th Army, caused a change in the course of the fight in East Prussia (SONDHAUS, 2013; TUCHMAN, 1998).

2.2 The reorganization of the German army

Colonel Hoffmann knew that retreat was not the best course to take. He had a plan to stop the Russian advance. Hoffmann’s plan was to leave, to the north, a detachment of the 8th Army as a covering force to observe and distract the Russian 1st Army and, taking advantage of the excellent German railway network, transfer two Army Corps from **Hindenburg** to the south to meet Samsonov’s vulnerable Army, dealing him the fatal blow. This way, the Germans could throw all their strength, at a time, against each Russian army (HASTINGS, 2014; TUCHMAN, 1998).

In order for this plan to be carried out, the Germans carried out reconnaissance missions, including using a Fokker aircraft, occurring for the first time in wartime operations. With this, the German Command discovered that Rennenkampf’s Army stopped to rest and re-equip, and that there was a huge gap between the Russian armies, due to the Masurian lakes. In addition, the Germans intercepted two Russian radio messages, which revealed that the orders issued to Rennenkampf would not threaten a small force of the 8th Army, to the north, and that Samsonov should pursue the Germans, who the Russian High Command believed were defeated (DURSCHMIED, 2003; TUCHMAN, 1998).

Moreover, the luck factor contributed to the bold plan. Hoffmann had a personal knowledge of a private quarrel between Rennenkampf and Samsonov, which occurred during Russo-Japanese War (1904-1905). Thus, he inferred that Rennenkampf would not be in a hurry to help Samsonov (TUCHMAN, 1998).

Hindenburg supported Hoffman’s plan, and on August 24, the Eighth Army made the decision to throw almost all of its soldiers against Samsonov, leaving only two cavalry divisions to face Rennenkampf. On August 25, the Germans completed the transport of their troops to the South. Now Samsonov’s army would face an army similar in size and superior

2.3 The German counteroffensive at Tannenberg

On August 26, the Russians entered Rastenburg, located in Central Prussia. On August 27, fighting resumed next to the Masurian lakes near the villages of Frögenau and Tannenberg. The German Eighth Army attacked the Russian Second Army, managing to outflank its right wing, which led to a disorderly retreat of the enemies. On the extreme Russian left, heavy bombardment from German artillery fell on their positions, causing them to abandon their posts, fracturing Samsonov's Army. The pincer maneuver initially planned by the Russian army was undone with the defeat of the Second Army (GILBERT, 2017; TUCHMAN, 1998).

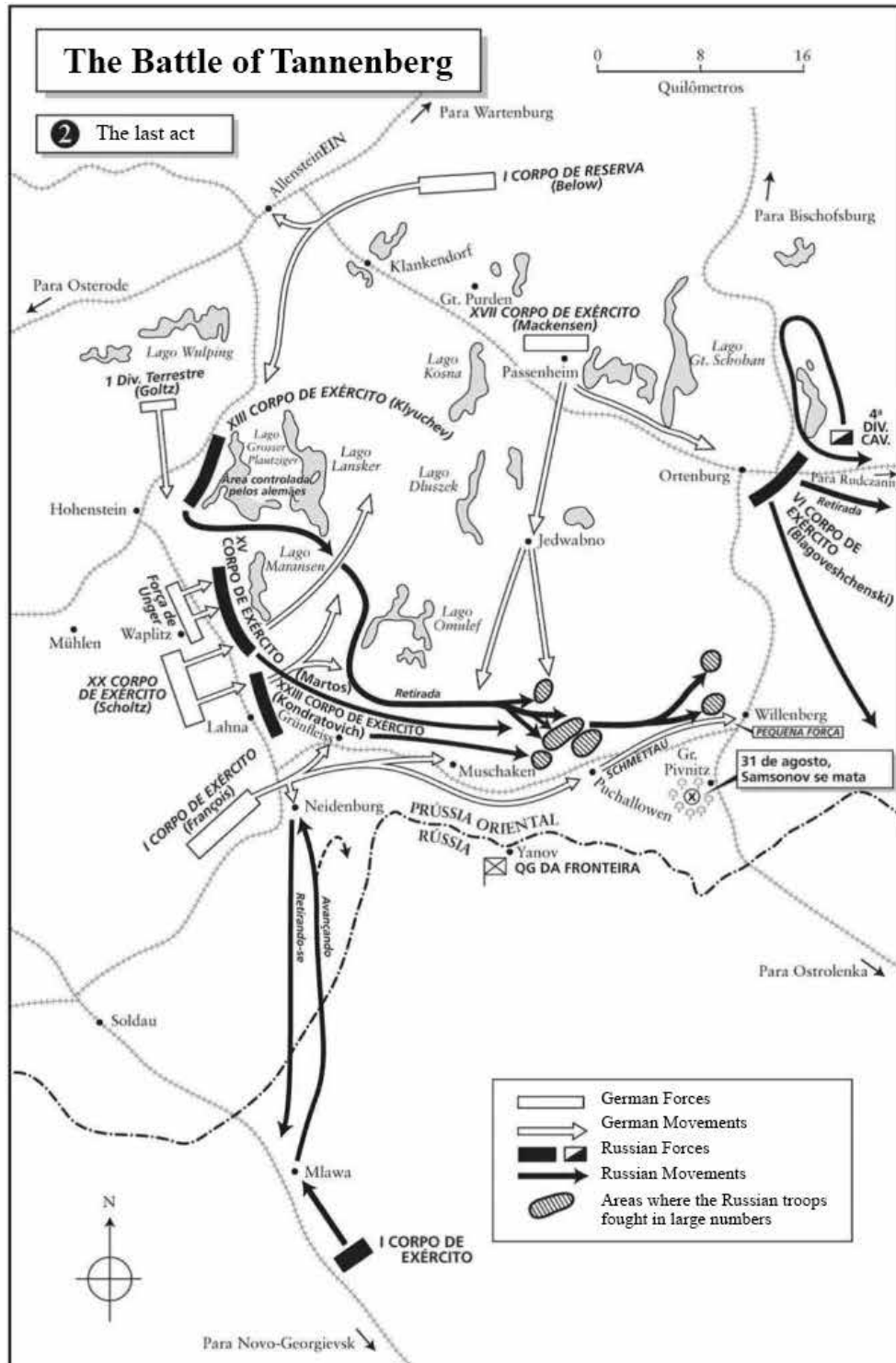
On August 29, Hindenburg's forces surrounded Samsonov's Army from three sides, and the Russian troops, exhausted, did their best. On the same day, general Samsonov committed suicide, for fear of confronting the Tsar. On August 30, the 2nd army disintegrated and capitulated (HEBERLEIN, 2021; MASSIE, 2014; SONDHAAUS, 2013).

The toll of the defeat at Tannenberg to Russia was dire: 92,000 to 95,000 of its soldiers were imprisoned; between 300 and 500 artillery pieces were captured, out of a total of 600 guns that belonged to the 2nd Army; and thousands of horses were captured. To transport all captured prisoners, animals and materials, the Germans used more than 60 trains. It is estimated that more than 30,000 Russian soldiers were among the dead and missing. On the other hand, the Germans suffered between 12 and 20 thousand casualties, out of a total of 135 thousand that were employed in the action (GILBERT, 2017; HASTINGS, 2014; MASSIE, 2014; SONDHAAUS, 2013; TUCHMAN, 1998).

After this resounding victory over the 2nd Army, the Germans turned to the north with the aim of defeating the army of the General Rennenkampf, and expel them definitively from East Prussia. The German 8th Army, now reinforced by troops from the Western Front, attacked and defeated the Russians in an offensive, which lasted from September 4 to 14, being known as the First Battle of the Masurian Lakes (HEBERLEIN, 2021; MASSIE, 2014; SONDHAAUS, 2013; TUCHMAN, 1998).

In short, the consequences of the defeat at Tannenberg were: "the Russian Second Army had ceased to exist, General Samsonov was dead, and of his five Corps Commanders, two were captured and three dismissed for incompetence" (TUCHMAN, 1998, p. 356). In addition, the blame for the defeat "fell on General Jilinsky, who was replaced, and on Rennenkampf, who was discharged from the army" (MASSIE, 2014, p.309).

Figure 2 – The German counteroffensive at Tannenberg



Source: Hastings (2014, p. 261).

3 THE LOGISTICS DOCTRINE COMMON TO THE MAIN EUROPEAN ARMIES IN WORLD WAR I

From the middle of the nineteenth century to the beginning of the twentieth century, European countries had a huge technological development and a gigantic production of material channeling these resources to armies in combat zones. For this purpose, military logistics was divided into three distinct levels: the strategic, the operational and the tactical. In an incipient way, the armies established a *Supply Chain* that interconnected these levels, maintaining a continuous flow of provisions (BALLOU, 2006; BOWERSOX; CLOSS, 2011; DEL RE, 1955; GOLDONI, 2012; SILVA; MUSETTI, 2003).

The strategic level was focused on the national effort in the war, where countries mobilized their personal and material resources, developed their infrastructures and obtained the necessary supplies for their armies, with: the acquisition of defense equipment produced by national industry, the establishment of trade agreements between allied countries with the importation of articles that were not produced and/or lived at the expense of dominated territories with confiscation of raw materials and industrialized products (DEL RE, 1955; SILVA; MUSETTI, 2003).

At the operational level, it was the logistical support for military campaigns. Here, the armies established their bases, located far from the combat zone, where main supply stocks, field hospitals, workshops and mobilized personnel were concentrated. In these places, the distribution of supplies and adequate support to the Army Corps were organized and planned (DEL RE, 1955; KING; BIGGS; CRINER, 2001).

At the tactical level, logistical support was provided directly to the units of the armies that were in combat, with the distribution of various materials, with the arrival of personnel to replenish the units and with the evacuations of the wounded (DEL RE, 1955; KRESS, 2002).

This division by levels, in military logistics, affirmed the principle of continuous replenishment of supplies that was adopted by European armies, incipiently, since the Napoleonic wars and was perfected in the Franco-Prussian War (1870-1871), being the object of study in the *Fort Leavenworth* by the United States Army (FERREIRA; BARROS, 2020; JOMINI; MENDELL; CRAIGHILL, 2007; KING; BIGGS, 2001).

In this principle, the armies received in their bases the supplies, coming from the strategic level. Subsequently, the supplies were moved to a warehouse-station located in an intermediate zone. Finally, the provisions were transported to the Replenishment Station, reaching the front line. However, in order for the continuous replenishment of supplies to work correctly, it was necessary to move logistics facilities to areas closer to the combat zones, whenever the armies advanced their positions (DEL RE, 1955; JOMINI; MENDELL; CRAIGHILL, 2007; KING; BIGGS, 2001).

It was very complex to maintain the flow of supply between the rear and the *front*, for this it was necessary to possess an efficient transport system. To this end, the armies studied the conditions of the terrain in the area of operations, the distances that would be traveled, the quantities of personnel and material that would be transported, the means of transport available and, finally, prepared the convoys that would distribute the food, ammunition, armaments, ambulances, animals, luggage, equipment, uniforms, beef cattle, medicines and ammunition necessary for the troops in combat (CREVELD, 2000; DEL RE, 1955; JOMINI; MENDELL; CRAIGHILL 2007; KING; BIGGS; CRINER, 2001).

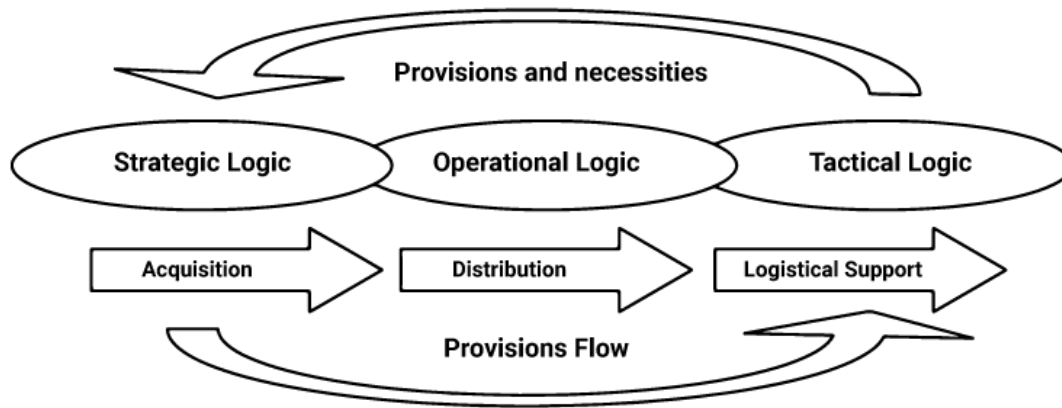
About the modes of transport, since the Franco-Prussian War (1870-1871), the railway had become the most important means of transport for the armies, due to its speed, for having a large load capacity and for covering great distances in Europe, which had a railway network of approximately 322,000 kilometers. Despite these advantages presented, the train had strict itineraries and operating limits, not ensuring that the necessary personnel and supplies reached all locations. Therefore, in order to complete the transport to the front line, it was essential to board supplies and personnel in carts. In this way, the carts – with its low speed, limited carrying capacity and dependent on horses and mules for its displacement – became the most used means of Transport for logistical support. Subsequently, trucks and automobiles were incorporated into army convoys, which increased the demands for gasoline, oils and lubricants (CREVELD, 2000; DEL RE, 1955; KEEGAN, 2003; KING; BIGGS; CRINER, 2001; MACMILLIAN, 2013).

The trains were assembled on an intermodal system, that is, juxtaposing more than one mode of transport, using railways, wagons and motor vehicles to bring all the necessary personnel and supplies to the front line (DEL RE, 1955; KING; BIGGS; CRINER, 2001).

In WW I, the strength of the armies was enormous and, in order to maintain their combat power, the prevailing logistic doctrine provided that the most important supplies were food, for men and animals, and ammunition, especially artillery ammunition. With this, the armies had a minimal reserve of these supplies, but their emergency provisions were not scientifically calculated. Consequently, in the event of an interruption in the supply flow, the units would have to withstand until they were supplied again, which could take many days. Anticipating this problem, commanders, when possible, overloaded their means of transport with food, to the detriment of their unit's ammunition allocations (CREVELD, 2000; DEL RE, 1955; MURRAY, 1997).

Figure 3 shows the logistic doctrine in force in the armies of Europe, during the WW I:

Figure 3 – The logistics doctrine of the European armies in WW I



Source: based on Del Re (1955); Jomini, Mendell, Craighill (2007); Silva and Musetti (2003); United States, (2000).

For the perfect functioning of military logistics, connecting its three levels shown in Figure 3, its planning and preparation should comply with the conditions mentioned below:

Table 1 – Constraints on logistics

Constraints	Comments
Determination of needs	Minimum forecast of materials, services and human resources
Availability of resources	Leveraging local resources for army employment
Determination of restrictive factors	Survey and study whether the road network is compatible with means of transport
Availability of critical items	Forecasting an emergency reserve of critical items
Connection with supported elements	Ensure logistical support with supplies from the upper level for the supported elements
Continuity of support	Ensure support to the front line until the end of the operation
Aspect closed support	Shortest distance, measured by transport systems, to the front line

Source: prepared based on Brasil (2019); Del Re (1955); Jomini, Mendell and Craighill (2007); King, Biggs and Criner (2001).

4 THE PHYSICAL CHARACTERISTICS OF EAST PRUSSIA AND ITS INFLUENCE ON THE LOGISTICAL SUPPORT OF THE GERMAN AND RUSSIAN ARMIES

The physical aspects of a region with its main cities, its terrain, soil, vegetation, hydrography and its infrastructure, reflects in the movement of troops, in communication between the armies and in the organization of logistical support (BRASIL, 2017, 2019). Therefore, it becomes relevant to know the physical characteristics of East Prussia.

East Prussia was a territory located in the far east of the German Empire on the border with Russia, about 300 km long, 150 km deep and washed to the north by the Baltic Sea. Currently, this region is divided between Lithuania, Poland and Russia (BERGALLI, 1940; KIFFER, 2011).

Major German cities in the region were located to the North, such as Königsberg, which had fortifications of the German army, Gumbinnen, Marienburg and Insterburg, 60 km from the Russian border. In this region, there were farms that produced cereals and dairy products. However, the South was deserted and abandoned, inhabited by a few miserable peasants (KIFFER, 2011; TUCHMAN, 1998).

The predominant relief in the region was composed of large flat spaces with sandy and clayey soil. The South was dusty and mosquito-infested, making it hostile and with few resources to feed men and animals. In the North, there were swamps and dense forests, such as the Tomingen Forest. In this region there is a gorge, about 48 kilometers wide, near the town of Insterburg. The terrain was a restrictive factor for the movement of troops (DURSCHMIED, 2003; KIFFER, 2011; TUCHMAN, 1998).

The local hydrography has numerous watercourses, the most relevant of which are the Vistula rivers and the Angerapp, and numerous lakes, especially the Masurian lakes, near the border with Russia, which formed a 75 km wide barrier between North and South Prussia (BERGALLI, 1940; DURSCHMIED, 2003; KIFFER, 2011; KEEGAN, 2003).

The systems of railway branches in the German countryside were excellent, they “crossed out” the entire area and connected major cities. Thus, the Germans could move their troops quickly throughout the territory, which gave them great mobility to meet the enemy’s advance in any area (DURSCHMIED, 2003; KIFFER, 2011; KEEGAN, 2003; TUCHMAN, 1998).

In Russia, there were not enough railway lines connecting its main regions to Prussia, and the gauges of its railways “had been deliberately built with a larger gauge than the German ones” (TUCHMAN, 1998, p. 68), as a preventive protection against an alleged German offensive on Russian territory. In addition, its gigantic territory made it difficult to establish communication lines, and consequently, the coordination of the movements of any troops (DURSCHMIED, 2003; MASSIE, 2014; KEEGAN, 2003; KIFFER, 2011; TUCHMAN, 1998).

The roads, north of Prussia, were long and rectilinear, but as they approached the Russian border they narrowed, allowing only cart traffic. In the South, the roads were sandy, insufficient and could not withstand heavy traffic, becoming an obstacle to the traffic of men and animals (DURSCHMIED, 2003 KIFFER, 2011; TUCHMAN, 1998).

It is partially concluded that the physical characteristics of East Prussia facilitated defensive operations, influencing the logistical support to combat units, as shown in Table 2 below:

Table 2 – Physical Characteristics and their influence on logistical support

Physical characteristics	Influence on logistical support	
	German army	Russian army
City	Königsberg Insterburg had the possibility for logistical support to dispose of critical items for the army.	There were no major Russian cities nearby. There was no facility for logistical support disposing of critical items for the army.
Terrain	Restrictive factor to the movement of logistics units.	Restrictive factor to the movement of logistics units.
Hydrography	Restrictive factor to the movement of logistics units.	Restrictive factor to the movement of logistics units.
Railway	Compatible railway - ease to connect logistics units with combatant units.	Incompatible railway – restrictive factor to the movement of logistics units. The Russian gauge was wider.
Highway	Compatible road - ease to link logistics units with combatant units.	Incompatible road - restrictive factor to the movement of logistics units.

Source: prepared on the basis of Brasil, (2019); (2003); Kiffer, (2011); Keegan (2003); and Tuchman (1998).

5 THE LOGISTICAL SUPPORT OF THE GERMAN 8TH ARMY

The logistical support of the 8th Army was mounted on a transport system that had at its disposal the existing railway branches in East Prussia, which together with the carts, established the regular flow of supplies leaving Königsberg, its main garrison, for the troops at Gumbinnen, Marienburg and Tannenberg, obeying the doctrinal principle of continuous replenishment (DEL RE, 1955; DURSCHMIED, 2003; KING; BIGGS; CRINER, 2001; SONDHAAUS, 2013; TUCHMAN, 1998).

Therefore, the 8th Army soldiers moved by trains with all their equipment, armaments, ammunition and horses, as well as the reinforcement troops from the Western Front, constituting a decisive factor in stopping the advance of the Russians and for their defeat (DURSCHMIED, 2003; SONDHAAUS, 2013; TUCHMAN, 1998).

For the food of their troops, each German regiment had its field kitchen, consisting of kitchen wagons pulled by four horses. This device allowed the preparation of food, even with the army on the move (TUCHMAN, 1998). In addition, each soldier had a reserve ration, containing ground coffee, a flask of whiskey, two cans of meat, two cans of vegetables, and two packets of stale bread, “a type of unleavened bread” (TUCHMAN, 1998, p. 199).

In 1914, Germany already stood out worldwide as a major producer of armaments, ammunition and chemicals, thanks to companies such as Krupp, Skoda, Bayer and BASF. This year, the German army had in its stock more than 8,000 pieces of heavy artillery, in 1870, its stock was 1,585 pieces. In addition, each German infantryman was provided with 2,000 to 3,000 rounds of ammunition per rifle (Blaine, 2010; CREVELD, 2000; GOLDONI, 2012; KEEGAN, 2003; LE COUTEUR; BURRESON, 2006; TUCHMAN, 1998).

In summary, it can be seen that the 8th Army had an efficient transport system that effectively linked their base to various regions of Prussia, allowing the rapid movement of troops and provisions, and their soldiers had availability of critical items such as food, armaments and ammunition.

6 THE LOGISTICAL SUPPORT IN THE NORTH-WEST GROUP OF THE RUSSIAN ARMY

The main Russian base was located in the city of Baranovichi distant around 420 kilometers of Innerburg, and about 510 kilometers from Königsberg, that is, the Russian 1st and 2nd armies had a very extensive supply line and, with its lines of communications not established, it was difficult to coordinate their logistical support (DURSCHMIED, 2003; MASSIE, 2014; MACMILLIAN, 2013; KIFFER, 2011; KEEGAN, 2003; TUCHMAN, 1998).

The armies had a very limited transport system, mainly, due to the difference in the size of the gauge of the Russian and German Railways. As a result, the Russians were unable to use their wagons, restricting the distribution of supplies and the movement of troops. To use the German Railways, the Russians had to change the size of the gauge or capture the German trains. Thus, the two cavalry corps of General Rennenkampf who, in addition to

their reconnaissance mission, had orders to prevent the withdrawal of German railway wagons (DURSCHMIED, 2003; KEEGAN, 2003; MACMILLIAN, 2013; TUCHMAN, 1998).

With the lack of trains, the transport of supplies of the Russian army began to depend heavily on its wagons, which was a hindrance, due to its low speed and small carrying capacity. Another problem for this type of transport were the totally unsuitable sandy roads for the heavy traffic of more than 400,000 men, with their equipment, added to the fleeing German population. Soon, the roads turned into quagmires (KIFFER, 2011; KEEGAN, 2003; MASSIE, 2014; TUCHMAN, 1998). As reported by a commander of an artillery unit of Samsonov's Army:

This wretched sand, it is hell for men and for cannons. The horses are already out of strength and my men have to push the artillery pieces with their arms. Every hundred meters something breaks. We should be happy if we can do twenty kilometers a day (DURSCHMIED, 2003, p. 220).

Consequently, when the armies received the orders to advance into hostile territory and moved away from their bases, their distribution columns of provisions collapsed, transgressing the principle of continuous replenishment of supplies. In this way, the lack of provisions began to be felt by the army just 25 kilometers from the Russian border. From August 17 to 19, supply levels dropped desperately, everything was insufficient, food for men and horses, ammunition, rifles, boots and medicines (DURSCHMIED, 2003; MACMILLIAN, 2013; TUCHMAN, 1998).

The soldiers consumed a huge amount of food, mainly bread and tea. As the rations did not arrive, the feeding of the Russians became miserable. In some units, soldiers went up to 72 hours without any food. The hungry and exhausted men did not advance in the direction of the enemy, they spent a good part of their time searching for food, killing the cattle and chickens they found (DURSCHMIED, 2003; TUCHMAN, 1998). In a short time, "the elite cavalry of the Cossacks was nothing more than a band of looters and arsonists" (DURSCHMIED, 2003, p. 219).

The reserves of rifles, machine guns, heavy weaponry and Army ammunition was insufficient, due to an incipient war industry. Thus, the Russian infantry began the campaign with 850 rounds per gun, less than half as many as the Germans had with their 2,000 to 3,000 rounds. With a few days of fighting, the shells began to run out and the solution found by the Russian High Command was to share its little ammunition of one Corps with another (Blaine, 2010; GOLDONI, 2012; MASSIE, 2014; TUCHMAN, 1998).

Russian troops did not have enough boots, causing soldiers to walk slowly and with their feet wrapped in rags, and to compound the problem, there were no bandages for the wounded (DURSCHMIED, 2003; TUCHMAN, 1998).

The deficiency of logistics in the Russian army can be depicted in the words of Colonel Sergei Michailovich Glagolev:

Look at these starving peasants, most of them have never handled a rifle. It's impossible to call this an army. The Germans move their units by train, their troops, rested, can be quickly mobilized no matter where. We drag on without boots and our soldiers are tired before the battle begins (DURSCHMIED, 2003, p. 217).

Briefly, it can be noted that the Northwest group of the Russian army had no operational link between its base and its troops, its means of transport were limited and its soldiers did not have access to critical supplies such as food, armaments, ammunition and uniforms.

7 CONCLUSION

In WW I, military logistics was concerned with supplying men with food, animals, equipment and ammunition, and transporting everything necessary for the fulfillment of the army's mission.

In summary, in the Battle of Tannenberg, it was verified that factors such as the command of the troops, communication, the mobilized effective, the physical characteristics of East Prussia and the availability of critical items interfered in the logistical support and, consequently, in the outcome of the operations conducted by both armies, according to Table 3:

Table 3 – Factors affecting army maneuvers and logistical support

Factors	Implications for logistical support	
	The regularity of the German war machine	The faults in the Russian army
Command	United for the defence of Prussia.	Disunited by personal issues.
Communication	Established, including with the use of a reconnaissance aircraft.	There was no established line of communication. The Russian High Command did not have accurate information about the enemy and could not coordinate actions of the two armies.
Mobilized effective	Small effective. Trained, disciplined troops with knowledge of the terrain.	Numerical superiority of the Russian force. Troop poorly trained, poorly prepared and without knowledge of the terrain.
Physical characteristics of East Prussia	Ease of defensive operations.	Very extensive front line. Difficulty for offensive operation.
Availability of means and critical items	Compatible railway and highway – possibility to quickly move around the territory.	Incompatible rail and highway – restrictive factor to the movement of logistics units.

Source: prepared on the basis of Brasil (2019); Durschmied (2002); Keegan (2003); Kiffer (2011) and Tuchman (1998).

According to the arguments put forward, it can be concluded that Hoffmann's plan, which culminated in the counteroffensive of the 8th Army, was possible only thanks to effective logistical support, because: the German army was able to perfectly connect the strategic level of logistics with the operational and tactical, creating a continuous flow of supplies, where the German war industry produced sufficient armaments and ammunition to soldiers; the doctrine of continuous replenishment was obeyed, due to the assertive functioning of the intermodal transport system, bringing the necessary troops and provisions to the front line; and the soldiers had enough ammunition and food, preserving the combat power of the army.

On the other hand, the offensive of the armies of Rennenkampf and Samsonov was unsuccessful due to inefficient logistical support, because: the main base of the North-Western group of the Russian army was very far from the front line, between 400 and 500 kilometers; the transport system was very limited, the Russians could not use their trains and depended on carts, which restricted the distribution of provisions and troops movement, with that the distribution columns of supplies collapsed; a continuous flow of supplies was not established, transgressing the principle of continuous replenishment; the Russian war industry did not produce the rifles, the machine guns, the heavy weapons and ammunition in sufficient quantities; the soldiers, who were hungry and exhausted, had no desire to fight the enemy, spending a good part of their time in search of food.

In addition, the incompetence of the Northwest group of the Russian Army in organizing its logistics cost the army of the Empire a very high price: 92,000 to 95,000 soldiers imprisoned, 300 to 500 artillery pieces captured, incalculable wounded and dead, General Samsonov was dead, General Rennenkampf was dismissed and General Jilinsky was replaced from the command of the Northwest Group. The most serious of all this was that the Russian Second Army ceased to exist, ending the reputation of Tsarist Russia as a war power.

Through the literature review, it was possible to prove the division of logistics into three distinct levels, strategic, operational and tactical. In addition, the importance of establishing the *Supply Chain* interconnecting these three levels, to maintain the continuous flow of supplies to the armies. These lessons learned in World War I had profound reflections in the field of military logistics, enduring to the present day, *a posteriori*, its concepts were gradually absorbed into business logistics.

Finally, it can be stated that adequate logistical support to the combat troops of the German army and sufferable logistical support to the Russian front line contributed decisively to the great German victory at the Battle of Tannenberg.

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Imperial Japanese Army in the interwars period: operational concept, war plans and the Japanese state strategic goals


Ejército Imperial Japonés en el período de entreguerras: concepto operativo, planes de guerra y los objetivos estratégicos del estado japonés

Abstract: This article consists of an initial and exploratory research on the doctrinal formulation of the Imperial Army of Japan and its consequent concept and operational planning in the interwar period. The concept developed in this period, and eventually applied in World War II in Asia, was called *Sokkusen Sokketsu* ("Fast Combat, Fast Decision"). The article uses a historical-explanatory methodology. Its objective is to demonstrate that the doctrine's independent formulation resulted in a detachment between the objectives of the Japanese State and the objectives listed in the war. For this, the article initially discusses the relationship between doctrine and Grand Strategy and, later, seeks to relate the Japanese doctrinal formulation to its international, security, and historical context. Thus, it is argued that the doctrinal and operational assessment cannot exist detached from the historical, economic, and social context in which the country finds itself. That is, the doctrinal effectiveness must be considered from the strategic objectives of a State.

Keywords: Japan; operational concept; China; Second World War; Second Sino-Japanese War.

Resumen: Este artículo consiste en una investigación inicial y exploratoria sobre la formulación doctrinal del Ejército Imperial de Japón y su consecuente concepción y planificación operativa en el período de entreguerras. El concepto desarrollado en este período, y finalmente aplicado en la Segunda Guerra Mundial en Asia, se llamó *Sokkusen Sokketsu* ("Combate rápido, decisión rápida"). A través de una metodología histórico-explicativa, el objetivo es demostrar que el desarrollo de esta formulación de forma independiente, en el período en cuestión, resultó en un desapego entre los objetivos del Estado japonés y los objetivos enumerados en la guerra. Para ello, el artículo realiza inicialmente un breve debate sobre la relación entre doctrina y Gran Estrategia y, posteriormente, busca relacionar la formulación doctrinal japonesa con su contexto internacional, de seguridad e histórico. Así, se argumenta que el diagnóstico doctrinal y operativo no puede existir desligado del contexto histórico, económico y social en el que se encuentra el país. Es decir, la eficacia doctrinal debe ser considerada desde los objetivos estratégicos de un Estado.

Palabras clave: Japón; concepto operativo; China; Segunda Guerra Mundial; Segunda Guerra Sino-Japonesa.

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1 INTRODUCTION

This article consists of an initial and exploratory research on the formulation of operational concepts of the Imperial Japanese Army. More specifically, an analysis of its formulation in the 1920s and 1930s and its relationship with the Japanese strategic objectives of the period. It is concluded that the doctrine and concepts formulated were detached from the strategic goals of the Japanese state and, as a result, provoked a extended war against China and its subsequent defeat by this country and the other allies in World War II.

To achieve this objective, initially, some theoretical considerations are made about the perspectives and approaches used in the analysis. The following is a brief analysis of the economic, political and international context of Japan in this period. Third, we look at how the Army responded to this context. And finally, an analysis of the operational concept adopted by the Imperial Japanese Army in the period under review is discussed. By way of conclusion, a reflection is made on the impact of this doctrine and operational concepts on the Second Sino-Japanese War and consequently on the Japanese defeat.

At the beginning of the twentieth century, Japan secured its entry into the list of great powers by getting rid of the system of unequal treaties, imposed through gunboat diplomacy in the previous century, defeating Russia, being the first military defeat of a European power by a non-European one, and being part of the victorious coalition in World War I. This way, the country was integrated and participated in the construction of the architecture of the International System of the immediate post-Great War erected by the League of Nations. However, although this new system was marked by an attempt to commit the powers to regimes of governance that sought to avoid further conflagrations, it failed to address their causes. That is, financial, economic and trade regulation mechanisms were not established, maintaining deep inequalities between established and emerging powers, making the maintenance of exclusive zones of influence the only way to overcome protectionist barriers in crisis situations of the system.

The international context described, combined with the internal political instability in China and the dependence of Japan on its zone of influence in the country, has progressively placed both on a collision course. For Japan, the option was imposed by two paths, the first would be a primarily economic leadership in the region for the maintenance of its National Revolution¹ and the second would be the maintenance of zones of influence by force and preparation for a war against the USSR. The economic crisis, institutional deficiencies and the collision between Japanese and Western interests allowed to ascend to the Japanese government, through the usurpation of civilian power, a coalition of Army forces and zaibatsu segments that opted for the second path.

1 National revolution here is understood in a furtadian perspective (in reference to Celso Furtado and his underdevelopment theory), that is, the alteration of state structures through the internalization of the (formerly transnational) decision center for the overcoming of underdevelopment and autonomous international insertion. This internalization of the decision center would take place, in a simplified way, through three initiatives: political centralization, economic industrialization and military modernization, which in the case of Japan corresponded to the agenda of the Meiji Restoration (1868) (MAGNO, 2018, p. 16-18, 35-40).

While China, from the end of the 1920s, resumed its agenda of National Revolution under the leadership of the *Guomindang* (GMD)², which faced a scenario of internal dispute with the Chinese Communist Party (CCP) and with The Warlords for supremacy. This instability was seen by the Japanese Army as the ideal opportunity to consolidate its exclusive zone of influence over China and prepare for a confrontation with the USSR.

However, was the option adopted by the Imperial Japanese Army and later by the Japanese state itself consistent with its strategic objectives or a Grand Strategy? Was the doctrinal formulation of this period consistent with this supposed Strategy? It is maintained that in reality, Japan was going through a period of strategic stalemate or indecision and that for this reason its doctrine did not match the military objectives established in the period.

2 THEORETICAL CONSIDERATIONS

According to the Brazilian Army, the military doctrine consists of: “[...] set of principles, concepts, norms and procedures, arranged in an integrated and harmonious way, based mainly on experience, aimed at establishing lines of thought and guiding actions” (BRASIL, 2019, p. 1-2).

However, the understanding of the concept of military doctrine may differ from country to country. This divergence would be related to technological factors, internal factional disputes, perception of security and threat, competition between civilian and military leaders over budgetary priorities, security and strategic objectives in different countries (CHAPMAN, 2009, p. 1).

Despite these possible conceptual differences, it is common understanding that military doctrine encompasses the totality of a military force, being the guiding principle at all levels of warfare: strategic, operational, and tactical; and the defining factor in the conduct of a state's war. As long as the levels of war have a hierarchy, they are not watertight. They overlap each other and do not have a clear delineation. In an academic assessment, this delimitation varies according to the unit of analysis under review (HARVEY, 2022, p. 83-84).

Given the scope that military doctrine has on all levels of war and the interrelation present between these different levels, it is by common agreement, in the literature of Strategic Studies, International Relations and Military Thought, that the doctrinal formulation of a certain military force is not only related to an internal correlation of forces. The doctrinal formulation is also related to the strategic objectives of the state in the international environment or, even, the maintenance of its security in an anarchic International System (AVANT, 1993, p. 410-411; CHAPMAN, 2009, p. 1). In reality, the focus of the debate around military doctrine is on how this formulation process takes place: what is the relative weight between domestic and international factors? Who has more interference in its formulation, civilians or military?

2 *Guomindang* (GMD) or Kuomintang (KMT) depending on the standard of transliteration adopted, is the Chinese Nationalist Party, responsible for the establishment of the Republic in 1911, during the Xinhai Revolution, under the leadership of Sun Yat-sen, later responsible for the reunification of the Chinese state in 1928 during the Northern Expedition, already under the leadership of Jiang Jieshi (Chiang Kai-shek). In 1949, it would be defeated in the Civil War by the Chinese Communist Party (CCP), transferring the seat of its government to Taiwan.

Or again, what originates, or who is most likely to formulate offensive, defensive, or deterrent doctrines? (AVANT, 1993; KIER, 1995; POSEN, 1984).

Although this article does not intend to answer these questions, they are relevant to the problem stated: it is possible for a military doctrine to give rise to operational concepts that result in plans that diverge from the interests and strategic objectives of the state. It is intended to answer this question with this brief case study and evaluate which path this phenomenon can take.

Since this is an early, exploratory and speculative research, it is not intended to build a definitive theory to explain this phenomenon. But rather, alert to the need to include in the explanatory models on the formulation of doctrine and operational concepts, more comprehensive assessments of the international system and the historical moment in which the state to be analyzed is inserted. This warning is even more necessary when the Western European states or the United States are not being analyzed, since the strategic and doctrinal formulations of the other states are reactive to the performance of these actors of these Western Powers in the International System³.

It is considered that military doctrine constitutes an integral part of the strategic objectives of a state in the International System and its foreign policy, either by disciplining the use of existing resources for military application, or by manifesting intentions to other states (POSEN, 2016, p. 160). In this sense, for Posen (1984, p. 13), military doctrine would consist of a subcomponent of Grand Strategy⁴ of a state and, therefore, a component of the highest state policy. From this reflection we can use the following concept to define doctrine more precisely: “military doctrine is a ‘set of principles of the Army used to guide its actions in support of national objectives’. [...] In Clausewitzian terms, doctrine reflects the operation of the ‘grammar of war’” (JENSEN, 2006, p. 4).

And from this Clausewitzian perspective we return to the relationship between doctrine and politics. Also according to Posen, in the Clausewitzian perspective of war, politics is present in all aspects of the conduct of war, despite the fact that we do not have an exact formula for the implementation of these principles or political objectives in doctrine (POSEN, 2016, p. 167-168). If the Grand Strategy constitutes the highest policy of a state,

3 The state-of-the-art of literature on modern military doctrine is largely the result of case studies (at various historical moments) of four countries: the USA, England, France and Germany. In these original studies, the explanatory models constructed tend to minimize the systemic aspects of the international environment, considering that these countries act autonomously in the International System and, to a large extent, their internal policies and interests have repercussions throughout the international system. Although these theories and explanatory models from these case studies are extremely useful for any research on military doctrine, the application of this instrument automatically and uncritically in case studies of other countries in various historical moments can be biased and anachronistic (BLACK, 2004, p. 66-68).

4 For Posen (1984, p.13), grand strategy consists of a chain of politico-military means and ends, in his words “a theory of the state on how best to ‘cause’ security for itself”. The grand strategy should identify threats to state security and formulate economic and military policy responses.

it is necessary to understand it in order to analyze the formulation, success or failure of a specific military doctrine.

However, it is not maintained that institutionalist approaches such as Avant's (1993) or culturalist approaches such as Kier's (1995), which emphasize internal variables for doctrinal formulation, do not have explanatory capacity. But rather, in the case study in question (and possibly in other studies that do not involve major Western powers) this logic is subordinated to international dynamics and the formulation of the Grand Strategy.

For example, the institutionalist explanatory model of Jensen's incubators (2006) is used to explain new doctrinal formulations in the US Army. Incubators would consist of military subunits free from civil or military bureaucratic hierarchies, free for doctrinal experimentation (JENSEN, 2006, p. 17-18). In his case study, Jansen qualifies incubators in a positive way, since they would be responsible for the capacity for innovation and doctrinal adaptation of the US Army.

However, doctrinal innovations do not exist alien to historical processes, the international system and the Grand Strategy of a state. The case of the Kwantung Army, which will be analyzed throughout the article, resembles that of an incubator, however, with extremely deleterious effects for the Japanese Army and the state as a whole.

This military organization acted for a long time practically in absentia of the Tokyo government, formulated its own conception of foreign policy, doctrine and operations, which at some point subordinated Japanese Foreign Policy and became the official doctrine of the Japanese Army. In the field of Grand Strategy and foreign policy, this formulation resulted in all-out war against China and later against the US. In the doctrine field, it resulted in a formulation based on and valid for the experience in Manchuria, but unable to provide valid answers for a protracted war against China and subsequently with the USA.

The Japanese doctrine gave rise to the operational concept to be analyzed from the *sokkusen soketsu*, "fast combat and fast decision". This concept privileged the offensive above all, in the pursuit of a quick and decisive battle. It was something applicable in Manchuria from the extensive existing railway infrastructure, but impractical in the vastness of China without a proper engine industry. In a historical moment of instability in the international system and of technological transition (from steam to combustion engine), of motorized warfare and of war from the air, Japan inserted itself without a doctrine and operational concepts adequate to its strategic objectives. In part, as will be shown, this was due to a void in the formulation of the Grand Strategy. Thus, there was no basic consensus in Japanese high politics that guided its civil and military institutions and its doctrinal formulation.

3 POLITICAL AND ECONOMIC CONTEXT OF JAPAN IN THE 1920S: TAISHŌ DEMOCRACY

During the 1920s, Japan experienced a period of great economic prosperity. To a large extent, this was in the context of the post-First World War. With European economies devoted to the war effort, the Japanese economy grew rapidly, occupying markets abandoned by Europeans (MIYAZAKI, 2009, p. 29; SHIGEMITSU, 1958, p. 26). This prosperity was accompanied by a moment of cultural effervescence, of greater political participation of the population with social movements and expansion of rights (such as the institution of universal male suffrage). There has been a foreign policy effort to maintain the regional architecture of Conservative Internationalism⁵ and the implementation of a non-intervention policy towards China. This period became known as Taishō democracy and, *roughly speaking*, ran from 1918 to 1927.

Meanwhile, the consecutive impacts of the Great Tokyo earthquake⁶ (1923), from the Showa Financial crisis (1927)⁷ and the Great Depression (1929) undermined the political and economic foundations of Taishō democracy (SHIGEMITSU, 1958, p. 27). Japan has become increasingly dependent on trade and investment in its zones of influence, especially Manchuria, which already in 1910 accounted for 40% of trade with China (MIYAZAKI, 2009, p. 29-30). In the period 1917-1929, 16.7% of Japanese foreign assets were in East Asia, and in the period 1930-1939 this figure jumped to 35.2%. The ratio of Japanese Foreign Investment to GNP rose from 0.91% in 1922 to 3.61% in 1937 (MIYAZAKI, 2009, p. 40, 44). The share of foreign trade in Japanese GNP went from 27% in the period 1917-1926 to 33.7% in the period 1927-1936, and East Asia's share of this trade was around 47.6% in exports and 37.4% in imports (MIYAZAKI, 2009, p. 40, 43, 46, 50-51). In 1945, at the end of the war, 37.5% of Japanese foreign assets were concentrated in Manchuria and northern China (MIYAZAKI, 2009, p. 41).

Even in this scenario of dependence on Manchuria, combined with a strong international crisis, Japan turned to a countercyclical economic policy of fiscal expansion and freezing of military spending, especially in costing. This policy was carried out by Takahashi Korekiyo, one of the leading Japanese economic policymakers of the Taishō period, 11th Prime Minister of Japan (1921-22) and Minister of Finance (1931-36) tasked with leading

5 The Conservative Internationalism category was used by Robert Schulzinger to analyze the content of interwar diplomacy. It can be stated that the diplomatic initiatives of this period were characterized by the predominance of agreements and treaties negotiated on a case-by-case basis between the great powers over international organizations. Anti-communism presented itself as the consensus element of conservative internationalism. The entry of the USSR and the exit of Japan from the League of Nations demonstrated the exhaustion of this model (SCHULZINGER, 2002 apud MARTINS, 2013, p. 185).

6 The Great Tokyo earthquake was responsible for the death of more than 100 thousand people and more than 50 thousand families lost their homes. The destruction caused by the earthquakes was enhanced by a series of fires. The losses ranged from 5.5 to 10 billion yen, and there was a drop in exports, which turned the balance of payments negative.

7 The Showa Financial Crisis was a bank run resulting from the speculative bubble triggered by economic recovery efforts after the Great Tokyo earthquake. As a result, major Japanese banks collapsed and the zaibatsu (family industrial conglomerates that will be covered later) took control of the Japanese banking system.

Japan out of the Great Depression. Takahashi managed to reverse the Japanese recession and return the urban economy to full employment as early as 1935, a decade before the US⁸ (PAINE, 2012, p. 41). His policy was based on the exit from the gold standard, devaluation of the currency to stimulate exports, encourage consumption, investment in public works, civilian control over military spending, cooperation with the West and support for Chinese unification and economic development (PAINE, 2012, p. 41-42). Takahashi represented a policy of leadership for economic power and was favored by the civilian authorities in Tokyo, but provoked great resentment in the military for freezing its budget and for not supporting direct interventions in Chinese territory.

Specifically, Japanese economic policy and its policy toward China were inextricably linked, civilian cabinets sought cooperation with the West and a policy of progressive stabilization of China. In the economic field, they recommended domestic spending at the expense of spending on military costs, to consolidate industry and infrastructure and, thus, invest in a military modernization program (PAINE, 2012, p.15). The concept was similar to that of the Meiji Restoration: to have a strong economy to possess a strong army.

However, Takahashi's politics would gradually be deconstructed, ending the period of Taishō democracy. Among the critical factors that caused its dismantling, the support of a large portion of the conglomerates that made up the *zaibatsu*⁹ system stood out to the coup d'état, the institutional void left after the end of the *genro*¹⁰ and military disobedience in front of civilian cabinets, which aimed at increasing military spending and a military solution for China, culminating in a military rebellion in February 1936 (MAGNO, 2015, p. 42).

8 This achievement later let him be recognized as the John Maynard Keynes of Japan (PAINE, 2012, p. 41).

9 Vertical industrial conglomerates, initially formed by the families of landlords (daimyo). With the advent of the Meiji Restoration, these ancient landowning samurai families assumed their role as captains of industry after surrendering their lands to the new centralized imperial government.

10 "*Genro*" is the name used in Japan for the samurai who promoted the Meiji Restoration. Anglo-Saxon literature translates the expression as "oligarchs". However, among us, the term "oligarch" is usually used to designate the class of landowners, whose power depends on the control of natural resources and labor. In Japan, the closest thing to this is the Daimyos, against whom the *genro* raised, therefore, "oligarch" misinterprets. In addition, "caudillo" in our environment is used to designate leaders whose power emanates from charisma, or prestige, and interference in politics through armed gangs. The designation "caudillo" is closer to "*Genro*", intermediate samurai, endowed with leadership and charisma, skilled in the use of weapons and in the conduct of troops (HALL, 1985, p. 246-247 apud Moreira DA SILVA *et al.*, 2011).

4 THE IMPERIAL JAPANESE ARMY IN THE 1920S AND 1930S

The international environment in the interwar period was marked by the attempt to establish international regimes concerning security, defense, and governance, see the Washington Naval Treaty (1922). However, it failed to regulate economic relations and settle trade disputes. Due to the European reconstruction process and the economic and the late 1920s financial crisis, an environment marked by economic protectionism spread, between 1929 and 1931 Japanese exports fell by half, while the Chinese increased fees for Japanese products and promoted boycotts (PAINE, 2012, p. 20-21). The collapse of the Japanese banking system in the 1927 crisis is also symptomatic, and it is possible that this factor contributed to the rise of the *zaibatsu* as a predominant political group in support of a military solution and its aggressive stance towards seeking direct control of its investments in Chinese territory (MAGNO, 2018, p. 55).

This profile would raise the *zaibatsu* as the main supporter of the expansionist adventure of the Kwantung Army. Between 1914 and 1931, Japan would jump from being the fourth largest foreign investor in China to second place, next to England. Japan accounted for 35.1% of the total stock of foreign investment in China, while England owned 36.7% (MIYAZAKI, 2009, p. 60). The result was increased dependence on *zaibatsu* investments in Manchuria – between 1926 and 1931, Manchuria absorbed 70% of Japanese foreign direct investment – and increased competition with Chinese companies (PAINE, 2012, p. 23). With increased competition between Japanese and Chinese companies, pressure groups linked to the *zaibatsu* began to advocate the adoption of aggressive policies against China and saw, in the expansion of military spending, a means of mitigating the effects of the crisis period. Thus, progressively, the *zaibatsu* came to support warmongering policies promoted by the Japanese armed forces.

The military, especially the army, had been divided into two major factions since the early 1920s, *Kodoha* and *Toseiha*. Both identified with fascist and militaristic views of society, believed that Japan should be led by The Emperor through the armed forces, opposing the parliamentary democratic model then in force. Meanwhile, the *Kodoha* had an ideology more associated with a Japanese ideal past linked to the land and the samurai moral code, *Bushido*, while the *Toseiha* advocated the broad modernization of the Armed Forces and an emphasis on progress and industrialization. Thus, the second faction, dominant mainly in the Kwantung Army, would find support in the *zaibatsu* (PAINE, 2012, p. 40).

Institutional deficiencies also played a role in the rise of the military in the Japanese government. The Meiji Constitution was contradictory as to the responsibilities of constituted forces in the Japanese state, indicating the Emperor as ultimately responsible for decision-making. It was through this space that the *genro* ruled from their direct appointment by The Emperor. After the death of most of the *genro*, governments gradually began to reflect the outcome of elections, becoming de facto a representative democracy. However, although the

cabinets now represented the popular will, the Armed Forces were constitutionally answerable only to the Emperor and not to the elected government. The result was the progressive independence of the Armed Forces, especially the Army stationed in Manchuria, from the decisions made in Tokyo. The main examples of this phenomenon were the attack on Zhang Zuolin in 1928 and the Mukden Incident (the pretext for the occupation of Manchuria) in 1931, which interrupted the attempts of the cabinet in Tokyo to negotiate with the nationalist president Jiang Jieshi (MAGNO, 2018, p. 56).

The military considered Manchuria a major military base, the main front for the inevitable war against the Soviet Union. Regardless of the Japanese invasion of Manchuria or the war against China, the ultimate goal of the Imperial Japanese Army was war against the USSR (PAINE, 2012, p. 47). The army saw an aggressive foreign policy against China as a way to overcome recession and as a mean of containing the territorial and ideological expansion of the USSR. In this way, the Kwantung Army, stationed in Manchuria, progressively implemented a foreign policy of its own, in absentia from the Tokyo cabinet and with the acquiescence of the Imperial General Headquarters.

After the invasion of Manchuria in 1931 and the establishment of the puppet state of Manchukuo in 1933, the military handed over to the civilian government a *fait accompli*, which resulted in Japan's international isolation and consequent withdrawal from the League of Nations. The Kwantung and the Northern China Garrison Armies progressively undertook independent military campaigns, entering into treaties with local warlords, expropriating Chinese property and transferring it to *zaibatsu* and annexing new territories to Manchukuo or creating puppet governments. The civilian government had no means of backing down from the initiatives undertaken by the army on the continent, limiting its foreign and economic policies.

In addition to military activities in China, the series of coup attempts and assassinations by the army set up a transitional period in Japan, known as government by assassination (COOX, 1976, p. 23). Between 1930 and 1935, there were five coup attempts perpetrated by army officers accompanied by attempts and assassinations of ministers and politicians. The perception was that the military's takeover of the government was imminent. The culmination of this dispute was the coup attempt known as the February 26 incident in 1936. On this date, about 1500 military personnel in Tokyo occupied the seat of government and attempted to occupy the Imperial Palace, in addition to attacking the key members of the cabinet and the Privy Council of the Emperor, succeeding in the assassination of two former prime ministers. The military rebellion was only put down after three days and resulted in the dismantling of the *Kodoha*, identified as responsible for the initiative.

Although the rebellion did not achieve its main objective, to kidnap the Emperor and establish a military regime, it paved the way for the unification of the army around *Toseiha* and it ended any prospect of maintaining the dominance of a civilian government over the military. With this, the last *genro* still alive (who was also one of the targets of the revolting military), Saionji Kimochi, advised the Emperor to appoint Prince Konoe Fumimaro to the post of Prime Minister - ending the short-lived representative democratic experience. According to the *genro* he would be the only name capable of creating a consensus government and preventing the military from completely taking over the government (OKA, 1992, p. 45).

The combination of foreign and economic policy of *fait accompli* in China, with the political instability provoked by the coup attempts, assassination and persecution of civilian authorities who opposed an aggressive policy against China, made it impossible to restore civilian authority in the Japanese government. Perhaps the symbol of this event was the very assassination of Minister Takahashi Korekiyo in the coup of 1936, as it was the main civilian leadership in defending a policy based on the principles established still in the Meiji Restoration, of maintaining autonomy through economic development and military modernization.

Konoe took office in June 1937, promising to reconcile civilians and the military and to promote a foreign policy towards Pan-Asian integration. However, a month into his rule, the Kwantung Army provoked the Marco Polo Bridge Incident, the trigger of the Second Sino-Japanese War. This way, Konoe's cabinet was at the mercy of the decisions of the Army, becoming hostage to the politics of *fait accompli* and making the path of war without return.

From this moment it was clear that the Japanese state no longer acted under a consensual Grand Strategy. The civilian government of this period possessed a different perspective on Japanese strategic objectives and on how to pursue them. Progressively, the strategic conception arising from the experiences of the Kwantung Army in Manchuria, would become dominant and the officers of this military organization would assume command of the entire government.

The decision-making power had, in fact, passed to the military of the faction *Toseiha*, who would assume the cabinet in 1941 under general Tojo Hideki. The priority would become full control of northern China in preparation for a war against the USSR. However, due to the strategic impasse, the lack of consensus on a new insertion profile in an International System in transition and the misreading of international politics, the operational plans and doctrine formulated in this period no longer correspond to the new strategic objectives or to their consequences. The operational plans and doctrines formulated reflected the experiments and experiences of the Kwantung Army in Manchuria, not corresponding to a perception of the needs of the Japanese state, nor to its profile of international insertion.

5 STRATEGIC THINKING, OPERATIONAL CONCEPT, WAR PLANS AND STATE OF THE JAPANESE FORCES

During the 1930s, Japan was preparing for war, not against China, but against the USSR. The Japanese goal was the protection of Manchuria, which considered its lifeline to the continent and the world and saw in the USSR and communism the main threat to this lifeline. New military operations in northern China were aimed at securing a strategic rear for Manchuria in an eventual conflagration against the Soviets and preventing their support for the Soviet Union. *Guomindang* (GMD) or the Chinese Communist Party (CCP), which could eventually lead Japan into a war on two fronts. At no time did Japan prepare or intend to start an all-out war against China.

The original mission of Japanese forces stationed in northern China and other territories in that country was to protect investments, property, and the lives of Japanese citizens in these localities. However, from the mid-1930s, the perceived threat to the USSR from Manchukuo increased, while simultaneously increasing Chinese hostility towards the Japanese. Chinese hostilities, in addition to posing a great risk to the Japanese economy, also posed a threat to the modernization program of the Japanese Army. Added to this is the possibility of having a war on two fronts, against the USSR to the North and against China on the western flank, a considerable risk taking into account the lack of strategic depth of the Japanese position. From these contingencies, the Imperial Army redone its operational plans, adding the northern region of China, between the Shandong Peninsula and the Great Wall, as the strategic rear area for confrontation with the USSR (DREA, 2011, p. 107).

In this way, the Japanese Army intended to eliminate the threat of the GMD and ensure the delimitation of this strategic rear in northern China by the means of a preemptive war against China. However, this was not the original planning of the civilian government, this scenario was gradually formed through covert operations of the so-called “field armies” in China, the main one being the Kwantung (Guandong) Army commanded by General Tojo Hideki (who would later command the country during the war). In March 1937, the commanders of China’s armies were summoned to Tokyo to explain their actions, but at the time they demanded from the central government that no more concessions be given to China and that it was necessary to “crush the Nanjing government” in order to continue preparations for a war against the USSR (DREA, 2011, p. 106-107).

Since the 1910s, contingency plans had existed for a war against China to defend Japanese interests in Manchuria. These plans called for the use of 13 divisions to occupy Manchuria, part of northern China and Beijing, with the use of two more divisions to secure the lines of communication between Beijing and the sea (DREA, 2011, p. 108). From the 1931 Manchurian Incident and its subsequent occupation, these plans were detailed for an eventual Sino-Soviet alliance that would jeopardize Japan’s position in northern China and its occupation of Manchukuo. The plans described a two-month campaign that would require 16 divisions, of which 14 would be destined to face the Red Army and two would engage against the nationalists. The objectives were practically the same, to protect Manchuria, occupy strategic points in northern China, including Beijing, and ensure its communication with the sea (DREA, 2011, p. 108). Only in the event of an escalation and a total and open war against China, treated as unlikely, was the reinforcement of ten more divisions planned, but for action still in northern China. Operations in central China would be limited to the occupation and blockade of major cities on the coast and only two divisions would be earmarked for this purpose (DREA, 2011, p. 108).

Despite the existence of these plans, between 1932 and 1936, the priority of the Kwantung Army was preparation for war against the USSR. While the GMD remained weak and divided, operations against China were to be limited, avoiding possible escalation. This perception changed progressively throughout the 1930s. However, the evolution of these plans demonstrated that, until the eve of the war, all Japanese plans prioritized an occupation of only northern China, even in a war on two fronts, there was no provision for an overthrow of

the GMD government or for the conquest of the entire territory. Even the possibility of occupation of Wuhan, in the interior of central China, which was considered in 1935 plans, was ruled out in its 1936 revision due to lack of troops and resources (DREA, 2011, p. 108-109).

The final version of China's war plans maintained these objectives, which were the occupation of northern China and the major coastal cities of central China (Nanjing, Shanghai and Hangzhou). Two scenarios were foreseen in the plans: the first referred to general operations in northern China and established the advance of operations along the main railways, exits from Beijing to the Yellow River, anticipating the occupation of the five provinces of northern China; the second concerned operations against a Sino-Soviet alliance, the main difference of which was the reduction of the occupation area in northern China, due to the redirection of forces for engagement against the Soviets. Although these plans advocated a prolonged occupation, none considered the possibility of a prolonged war of attrition. All focus was given to initial battles, possible responses to the Chinese reaction should be considered "contingent on circumstances" (DREA, 2011, p. 111).

However, all Japanese policy towards China from 1936 considered only solutions of force, although its main objective was to conserve forces to invest in a program of military modernization for confrontation with the USSR and to ensure a strategic rearguard in northern China. This contradictory planning concerns three factors. The first, already referenced, was the complete exclusion of civilian leaders, both elected and bureaucratic, from the process of formulation and political and strategic decision-making after February 1936. The second factor relates to the division between Tokyo HQ, which favored limited action against the Chinese, and the "field commanders" in China, who advocated preemptive war against China. The third factor concerns Japanese intelligence on the Chinese situation.

Although Japan had an efficient signals intelligence in China, had the ability to decode most Chinese communications and was aware of the situation of most Chinese forces, its political intelligence was unable to understand the situation in the country after the unification promoted by the GMD (PEATTIE, 2011, p. 56-57). The Japanese drew on their previous experiences negotiating with warlords in China and prejudices that depicted Chinese leaders as corrupt and inept and reaffirmed the racial superiority and the Japanese state as the leader of Asia. The rise of the GMD was seen as a new feud between warlords and the anti-Japanese sentiment they promoted would result from the influence of the USSR, the CCP and parochial interests. The Japanese failed to understand the new moment of Chinese political and social reality, the promotion of a modernization agenda and the union of the different political forces on an anti-Japanese front, resulting precisely from the initiatives of aggression against China. Within these established scenarios, the Japanese believed that the Chinese would not be able to organize prolonged resistance on a national level and that, as in previous events, it would acquiesce after a quick and decisive military victory.

This quick and decisive victory was the basis of the doctrine of the Imperial Japanese Army. Its main command manuals, the “Principles of Command” (*totsui koriyo*) and the “Principles of Operations” (*senjo koriyo*), considered that the victory was tributary to the *Elan* superior morale and offensive capability¹¹. The Japanese operational concept consisted of fast, high-mobility operations seeking the decisive battle early in the campaign. The only means of achieving the objectives was the offensive, the infantry would be the main weapon of the maneuver and the artillery had the function of supporting its advance. It advocated making surprise attacks, night operations and having the ability to surround the opponent even in the smallest numbers. If its forces found themselves on the defensive, the commander should look for opportunities to deliver an overwhelming counterattack and regain the initiative. This operational concept, which sought the decisive battle at any cost, was termed the principle of “fast combat and fast decision”, or *sokkusen sokketsu* (DREA, 2011, p.112-113; SATOSHI; DREA, 2011, p. 159), and underpinned all Japanese operational planning in China, at least until the Battle of Wuhan in 1938, when it reached its limit.

Despite the heavy emphasis on infantry and the superiority of Japanese soldier morale, this operational concept was only feasible due to a highly trained force, proficiency in combined arms warfare, great superiority of firepower, mobility, and air and naval support, did not consist of a blind bayonet charge as common sense may eventually attempt to reproduce (DREA, 2011, p. 115). This type of operational concept, was tributary to the doctrines of *attaque à l'outrance* and the cult of the offensive that was born in World War I and strongly inspired Japanese doctrine, especially German military thought. The cult of the offensive was the result of a reinterpretation of Clausewitz based on chauvinist nationalism and “scientific” Darwinism. It was an attempt to justify the offensive war of aggression through a scientific veneer of a supposed survival of the fittest, in this case, the nation of higher race and morals (SONDHAUS, 2013, p. 42-43). This formulation survived in the interwar period and served as the basis for the formulations, in Europe, of the war of annihilation and total war, which also had a strong influence on the Japanese doctrinal formulation and, consequently, on its operational concept (DREA, 2011, p. 112). This thought can also be attributed to the great flaw in Japanese human intelligence, since its reports used stereotypes and prejudices to justify its racial superiority and an inevitability of a military victory based on the *sokkusen sokketsu*, attributing characteristics to the Chinese as petty, greedy, corrupt, and treacherous (DREA, 2011, p.131-133).

To execute this operational plan, the Imperial Japanese Army counted, on the eve of the war, with a force of 247 thousand men on active duty, distributed in 17 infantry divisions¹², four tank regiments and 54 air squadrons composed of 549 aircraft. Part of this order of battle was already stationed in China: The China Garrison Army, based in the Japanese concession of Tianjin, which had 2 regiments and an independent mixed brigade and the Kwantung

11 These precepts were so absolute that in the revision of the Principles of Command of 1928, the terms surrender, withdrawal and defense were removed from the manual (DREA, 2011, p. 112).

12 Each Japanese infantry division, in peacetime, consisted of 12,000 men, divided into two brigades of four thousand men, and field artillery, engineering, and a transport battalion regiments. In wartime, each division could reach 25 thousand men (DREA, 2011, p. 118).

Army, stationed in Manchukuo, which had four divisions. Two other divisions were stationed in Korea and two more infantry regiments in Taiwan. In addition, Japan had a reserve of conscripts, ready for employment, of about 742 thousand men in 1937 (DREA, 2011, p. 115-116).

As for logistics and equipment, the Japanese were extremely dependent on railways. Its logistic doctrine considered that Japanese maneuvering units should act within a radius between 190 and 290 km of a railway so that it could be properly supplied (DREA, 2011, p. 122-123). To completely motorize the army, it was estimated that 250 thousand trucks were needed, the Japanese industry in the 1930s was capable of producing only 1000 trucks per year (DREA, 2011, p. 119). Due to this deficiency and terrain conditions in China, outside the railway lines all logistics were done on foot or with animals. A transport regiment, in wartime, had 3,500 men¹³, 300 horses and 2,600 more animals (DREA, 2011, p. 123). There were also shortcomings in the industry for the production of ammunition for artillery and for tanks and armored personnel carriers. Logistical and production problems would overwhelm Japanese capabilities throughout the war, undermining the material and technological superiority they possessed over the Chinese at the start of the war. Against opponents of the same technological level, these deficiencies would result in catastrophic consequences (DREA, 2011, p. 121).

In short, the Japanese, despite their material and technological superiority over the Chinese, had a number of shortcomings that, throughout the war, would prove to be critical. Among them: flawed decision-making, with the overlap between field commanders and Tokyo HQ; vague operational plans that did not match the reality faced in the war; productive and logistical difficulties; and an operational concept inadequate to the type of war the Japanese were about to face.

6 BY WAY OF CONCLUSION: THE SECOND SINO-JAPANESE WAR

In 1937, with the Marco Polo Bridge incident, the Second Sino-Japanese War would begin, which would escalate to World War II. In this conflagration, China built an operational concept that related to its economic and political reality, as well as possessing a clear understanding of the enemy and its strategic objective. The strategic objective of China was the defense of its national revolution process and the concept used was the *chijiuzhan* or the protracted defensive war. The *chijiuzhan* aimed to negate the enemy's economic and technological superiority through the extension of their lines of communication and broad numerical superiority, provoking enemy attrition and blurring on the battlefield. It was sought to obtain a strategic stalemate that would force the retreat of the enemy.

Meanwhile, Japan, recovering from an economic crisis and experiencing a severe institutional crisis, had a vague strategic objective and an operational concept disconnected from political reality. The Japanese strategic goal was the guarantee of a strategic rear for Manchukuo

13 The transport forces were filled by second class officers and reserve soldiers with little or no experience. Because logistics was not directly involved in offensive actions, it ended up receiving unequal treatment and was relegated to the background (DREA, 2011, p. 123).

for a future war against the USSR. The operational concept used was the *sokkusen sokketsu*, which meant “fast war, fast decision”. This concept was based solely and exclusively on offensive warfare and saw its strategic goal achieved only with the destruction of the enemy, denying the possibility of political actions for the resolution of the war. Add to this a flawed decision-making process, with overlap between field commanders and Tokyo HQ, vague operational plans that did not match the reality faced in the war, and productive and logistical difficulties. Moreover, the kind of war Japan faced was largely unheard of. However, the rigidity of its decision-making process and its moment of political crisis prevented it from adopting a more flexible operational planning model that would match the reality on the battlefield.

In this way, throughout the three main stages of the war (Shanghai, Wuhan and Ichi-Go), the Japanese attempt at definition at any cost was observed. The Chinese, in turn, drew Japanese forces deep into the territory, eroded their supply lines, and made use of their numerical superiority until it became untenable for the Japanese to execute major offensive operations.

This way, a strategic stalemate was established, since the Nationalists did not nourish the illusion of a decisive victory against the Japanese on the battlefield, but believed that the greatest possible cost should be imposed on their advance, preventing the enemy from being able to take advantage of the gains of their momentary tactical victory. Despite the Chinese losing Beijing, Shanghai, Wuhan, Xuzhou and their access to the coastline, the Japanese would become unable to sustain further significant offensive operations until 1944, maintaining a stalemate and making it a burden to maintain the occupation of territories¹⁴. And, even with the Japanese victory in operation Ichi-Go, the largest offensive of the entire war, Tokyo would not be able to extract any effective gain from the victory, completely collapsing its war machine, coming to surrender after the atomic bombing and the Soviet offensive on Manchuria on August 15, 1945.

¹⁴ Despite this, the cost of victory for the Nationalists was extremely high, as the eight years of blockade and heavy casualties would result in an extreme economic, administrative, and productive deterioration of the Chinese state. The result was the deterioration of their combat capability, the loss of important territories and extreme popular dissatisfaction. These factors would position the communists to the advantage in the leadership contest of the Chinese national revolution that would follow the end of the war.

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The strategic culture of Brazil applied to Haiti as a case study: a brief interpretation


La cultura estratégica de Brasil aplicada a Haití como estudio de caso: una breve interpretación.


Abstract: Throughout its history, the Republic of Haiti has been the scene of constant institutional instability, it has lived with corruption, acute social problems, epidemics, earthquakes, coups, and an unfavorable situation that has impeded its development, especially from the perspective of human rights. As a result of the instability in the country, in 2004, MINUSTAH was created under Brazilian leadership, in order to pacify the State, whose Brazilian troops stayed in Haiti for thirteen years. In another analytical perspective, but whose objects of study converge to a common point, in 1977, Snyder conceptualizes strategic culture, and from this point of view several authors interpreted and reinterpreted the concept. Based on Snyder and the other theorists who succeeded him, the article aims to identify the set of variables with which the Military Forces mirrored the Brazilian strategic culture in Haiti. The research is descriptive, explanatory, bibliographical and documentary. The conclusions point to the fact that the strategic culture of the military presented the following profile: offensive, defensive, with traces of flexibility, humanity, leadership, among others.

Keywords: strategic culture; Haiti; social situation; operational employment; leadership.

Resumen: A lo largo de su historia, la República de Haití ha sido escenario de una constante inestabilidad institucional, coexistiendo con corrupción, agudos problemas sociales, epidemias, terremotos, golpes de Estado y una situación desfavorable que impidió su desarrollo, especialmente desde la perspectiva de los derechos humanos. Como resultado de la inestabilidad en el país, en 2004, se creó la MINUSTAH bajo el liderazgo brasileño, con el fin de pacificar el Estado, cuyas tropas brasileñas permanecieron en Haití durante trece años. En otra perspectiva analítica, pero cuyos objetos de estudio convergen en un punto común, en 1977, Snyder conceptualiza la cultura estratégica, y desde esta perspectiva varios autores interpretaron y reinterpretaron el concepto. Con base en Snyder y otros teóricos que lo sucedieron, el artículo tiene como objetivo identificar el conjunto de variables con las que las Fuerzas Militares reflejaron la *cultura estratégica brasileña* en Haití. La investigación es descriptiva, explicativa, bibliográfica y documental. Las conclusiones apuntan a que la cultura estratégica de los militares tuvo el siguiente perfil: ofensiva, defensiva, con rasgos de flexibilidad, humanidad, liderazgo, entre otros.

Palabras clave: cultura estratégica; Haití; situación social; empleo operativo; liderazgo.

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1 INTRODUCTION

The Republic of Haiti, hereinafter Haiti, had a phase of insurgency during the presidency of Jean-Bertrand Aristide, which began with his victory in the elections of the year 2001, culminating in his deposition in 2004.

With the aim of restoring order in Haiti, the United Nations, through the United Nations Security Council, created, in 2004, a peacekeeping mission: The United Nations Stabilization Mission in Haiti (MINUSTAH), as a result, military and police troops from several states were sent, with the participation of Brazilian forces whose leadership of the mission were designated to Brazil. After thirteen years, the mission ended in 2017 (SILVA; PAULA, 2017).

The Brazilian participation in Haiti is in line with the edition of the National Defense Strategy (NDS) of 2008, as the singular forces must be able to act, singularly or jointly, in international operations, on an expeditionary basis, of peace operations or humanitarian aid, to follow through commitments assumed by the country. In particular, the Brazilian Army (EB) must also have the capacity to project power to act in the context of these operations under the mandate of multilateral organizations (BRASIL, 2008, *passim*).

The United Nations *Department of Peacekeeping Operations* (DPO) published, in December 2003, The Guide to Multidimensional Peacekeeping Operations¹ (Guide), due to the need for United Nations peacekeeping operations to adapt to new challenges, whose document is basic to those who participate in a multidimensional peacekeeping operation, emphasizing a growing demand for peacekeeping missions in the multidimensional format, in which the following components operate: the military; the police; civil affairs; rule of law; human rights; humanitarian issues; reconstruction of the country, among others (FAGANELLO, 2013), therefore, said Guide was a core element of the tactical – operational multidimensionality of Brazilian forces in the pacification of Haiti.

Two important norms stand out: the Brahimi Report – the first recommendation document - which considered the relevance, in the context of a peacekeeping operation, of the observance of principles of *holly trinity*²: the *consent*, the *impartiality* and the *minimum use of force*. This concerns planning and meticulous implementation of the rules of engagement to protect civilians and personnel involved in the mission and humanitarian assistance.

The second - the Capstone doctrine - complements the Brahimi Report from a human rights perspective in that it highlights the need for mandates to be conceived from the perspective of International Human Rights Law, notably the 1948 Universal Declaration of Human

1 Handbook on United Nations Multidimensional Peacekeeping Operations. Subsequently, in 2015, the MD edited the pacification Operations Manual in which it approved the doctrine of pacification operations in order to guide the activities and use of force elements “in single, joint, combined and/or multinational operations necessary for military cooperation or coordination with civilian agencies, in an interagency environment” (BRASIL, 2015, p.1-2).

2 The expression coined by Alex Bellamy and Paul Williams to designate the three basic principles, interdependent and indispensable to a peacekeeping operation arising from the experience of UNEF I. Cf. Bellamy; Williams (2010) and Uziel (2010).

Rights. In addition, it prioritizes the integration of human rights programs during the mission and the performance of premature human rights peacebuilding activities that aspire to the socio-economic restructuring of the country, thus, by demarcating the multidimensional *core business of peacekeeping operations* of the United Nations, the doctrine internalizes human rights, such as security operations, DDR (Disarmament, Demobilization and reintegration), rule of law, implementation of quick impact projects and humanitarian assistance (FAGANELLO, 2013).

For Brazilian Army General Floriano Peixoto, peacekeeping missions have a fundamental purpose, as they provide regional solidarity to the country that performs it. This role was designated to Brazil in order to restore the political-social structure of Haiti (VIEIRA NETO, 2017), on the other hand, the employment of Brazilian troops provided aggregation of professional and personal experiences, in order to positively impact the image of the Brazilian military apparatus (FONTOURA; UZIEL, 2017).

The article aims to identify the variables of strategic culture - values, beliefs, attitudes, behavior-, in short, the cultural DNA of the Brazilian military in Haiti.

Therefore, this article will focus on the following axes of understanding: basic concepts of strategic culture, political and social antecedents of Haiti, operational employment of Brazilian AF, and finally, the author's final considerations, with the remark that the article begins with the understanding of strategic culture in order to provide a broad view of the concept, conducive to be applied in the light of the participation of the Brazilian federal security forces outside Brazilian territoriality, as well as the understanding that the academic and doctrinal production on Haiti, is the responsibility of the military researchers, experts in military studies, it is very dense and rich, *ipso facto*, unfeasible to exhaust the reflections in the space assigned here, but which will serve as motivation for other research.

2 BASIC CONCEPTS OF STRATEGIC CULTURE

The concept of strategic culture has been internalized by Snyder (1977), in the current of Strategic Studies, in which it represents the total sum of ideas, conditioned emotional responses and common behavior patterns that the members of a *national strategic community* absorb through instruction and share in relation to *nuclear strategy*.

Snyder's theoretical formulation started from the tension between the two nuclear powers of the time in the context of the Cold War: The United States of America (USA) and the former Union of Soviet Socialist Republics (USSR), meanwhile, later, the initial concept that Snyder formulated was extended by other thinkers who focused on the subject.

In this sense, the strategic culture of a state is a product of its history, geography and political culture, and represents the incorporation of attitudes and behavioral patterns of the most influential voices – the political, military and/or public opinion leaders (BOOTH, 1990). In this context, the political culture corresponds to the set of beliefs and feelings, in addition to attitudinal variables, that promote order and meaning to a political process, clarifying the rules and assumptions on which the behavior of its actors is based (ALMOND; VERBA, 1963),

but also result from assumptions that frame their choices about international military behavior, in particular those relating to decisions to go to war, the nature of warfare, i.e. options are adopted *offensive, expansionist* or *defensive*, with a degree of acceptance of wartime deaths (ROSEN, 1995 apud LANTIS; HOWLETT, 2007).

In this theoretical construction, this culture is anchored in behaviors that come from common experiences and narratives that model collective identity and relationships with other peoples, whose behaviors determine the appropriate ends to achieve collimated security objectives (JOHNSTON, 1995 apud SCOBELL, 2004), therefore, the culture of a people is directly linked to its identity – the set of meanings that actors attribute to themselves in relation to others (JOHNSTON, 1995).

Black (2012) ratifies the views of Booth, Almond and Verba, but understands that the set of variables that make up the strategic culture exerts influence on the power policy of a country, in the same way, Gray (2013) ponders that this culture is supported by factors of: *first order* - geography and historical experience – *second order* - the concepts, resources employed and behaviors (customs) – and those of *third order* – the social, political, economic, technological and military impacts.

In this conceptual convergence, a strategic culture is the sum of ideas, conditioned emotional responses, patterns of common behavior, attitudes, beliefs and feelings that the Brazilian Army soldiers showed in Haiti, thanks to their professional training in Brazil acquired in military educational institutions and in the constant daily training.

In addition, it will also be considered the vision of strategic culture from the perspective of Rosen (1995 apud LANTIS; HOWLETT, 2007), that is, the moment in which the material forces positive in Article 142 of the Federal Constitution (Brazil, 1988) adopted a strategic posture offensive and/or defensive, even with a degree of acceptability of deaths during military operations.

3 BRIEF POLITICAL AND SOCIAL BACKGROUND OF HAITI

Haiti was one of the first regions conquered and colonized in the modern Eurocentric culture, living with the genocide and ethnocide of the indigenous populations, and after their extermination, the enslavement of Africans was implemented in the midst of epidemics, malnutrition, massacres and mistreatment, destruction of the environment and the set of social problems arising, including mass deportations (GRUZINSKI, 1999).

In this context of instability, the country received the stabilization efforts of the United Nations in 1993 with a view to structuring the democratic institutions of the state. Thus, the implementation of the mandate of the UNMIH (United Nations Mission in Haiti) aimed at the return of the country to constitutional normality, suspended since the coup in 1991, when there was the military coup that ousted Jean-Baptiste Aristide and lifted Raoul Cédras to power. The UN mission and the pressure of the embargo at the time of the Clinton administration (USA), with the acquiescence of the Organization of American States (OAS), determined that Cédras signed the agreement *Governors Island*, admitting Aristide's return to government (MORREL, 1993).

But, in 2004, President Aristide

fled the country into exile amid mass street protests and an armed rebellion against his increasingly despotic rule. He left behind a *nation ravaged by political wars and environmental crises*, with a treasure practically emptied by *years of corruption and theft* (DEIBERT, 2017, n. p., emphasis added).

As a result of this constant picture of abnormality, for Lucena (2013), Haitian society is hostage to two variables that are inductors of political instability in the country: social segregation and persistent economic dependence on the social structure, a remnant of a colonial heritage, in this sense: “in the sad condition of the poorest country in the New World - the only one to integrate the list of Least Developed Countries (LDCs), according to criteria of United Nations agencies – *Haiti presents dilemmas of immense complexity*” (SEITENFUS, 2008, P.51, emphasis added). As if the poverty situation was not enough, the country became vulnerable to exogenous interests, thanks to its strategic position for trade, suffering from routine exchanges of presidents through military coups and chaotic elections (MENDONÇA, 2017).

Therefore, given this social chaos, MINUSTAH is created by Resolution 1. 542, September 30, 2004 (NACIONES UNIDAS, 2004a), viewing to replace the multinational emergency force, approved by Resolution 1. 549 of June 17, 2004 (NACIONES UNIDAS, 2004b), both of the United Nations Security Council, viewing to ensure stability during the power vacancy in Haiti due to the departure of Jean-Bertrand Aristide.

Resolution 1. 542 aimed to impose peace³, provided that the principles of sovereignty, independence, territorial integrity and unity are respected, in turn, Resolution 1. 549 mentions Liberia and the propagating aspects of violence caused by the presence of mercenaries, proliferation and trafficking of weapons and mineral, vegetable and ‘human’ elements, as well as non-state actors, since it is a converging nuclear element for the transversal and multidisciplinary use of forces.

Ipsa facto, ab ovo, this is the conjuncture that the Brazilian military forces faced in Haiti.

4 OPERATIONAL EMPLOYMENT OF BRAZILIAN AF

Initially, with the establishment of MINUSTAH, General Augusto Heleno Ribeiro Pereira of the Brazilian Army assumed command of the Peacekeeping Forces. The 1st contingent had the effective of 1,200 men and in the Brazilian participation during the 13 years of presence in Haiti 11 (eleven) Brazilian officers – generals commanded the troops. Of these, 4 reached the top of their careers: generals Heleno, Elito, Ramos and Leal Pujol, the last, former commander of the EB (Brazil, 2017).

3 In paragraph 7 of the resolution, the UNSC establishes the mandate to be carried out by the members of MINUSTAH, justifying its decision in the light of Chapter VII of the UN Charter. See Naciones Unidas (2004a, p. 2).

According to Vieira Neto, many experts are dedicated to the study of the phases of the Brazilian experience in Haiti, and according to the different moments of the national reality there is the following escalation:

(i) 2004/2005: setting, initial engagement and reordering of the operational structure and training; (ii) 2005/2007: pacification; (iii) 2007/2009: consolidation of pacification; (iv) 2009/2010: earthquake; and (v) 2010/2017: post-earthquake recovery and return of the country to normality (VIEIRA NETO, 2017, p.16, emphasis added).

The period from 2004 to 2007 was characterized by an intense activity of gangs in Haiti, which threatened the success of the stabilization of Haiti and the UN mission. The strength of these gangs and its interconnections with the political structure, especially in Cité Soleil, have leveraged impacts on the socio-economic structure and routine of the Haitian population, culminating in the employment of hard power by the MINUSTAH troops *vis-à-vis* to armed groups (Brazil, 2017): here the strategic culture *offensive* bias is manifested.

In the particular case of the pacification of Bel Air, Cité Militaire and Cité Soleil, there were the following actions: arrest of gang leaders; seizure of large quantities of weapons, ammunition and drugs; conquest of the confidence of the population; creation of a favorable environment for the activities of humanitarian agencies and NGOs; return *pari passu* of essential public services and business activities and routine life; and the taking office of President Jovenel Moïse on February 7, 2017 (Brazil, 2017).

Therefore, it can be considered that the hard power – or *offensive employment of strategic culture of offensive hue* (ROSEN, 1995 apud LANTIS; HOWLETT, 2007) – was characterized until the 2nd phase (2005 – 2007), when effectively the forces operated, predominantly, under Chapter 7 of the UN, in order to pacify *manu militari* the chaos that reigned in the war region.

Moreover, there is no doubt that

by joining the UNSC package of actions and measures with respect to Haiti in 2004, the Brazilian government legitimizes the use of force in its foreign policy for the solution of a political-institutional crisis in a member country of the United Nations (PINHEIRO, 2015, p.91, emphasis added).

With this look, the hard power is evidenced, a face of the strategic culture conducted in Haiti: that of offensive character.

On the other hand, from the 3rd phase (consolidation of pacification), the strategic culture was revealed, predominantly, in a *defensive composition*, soft power, especially when the intense work of recovering Haitian structures in the face of the earthquake took place.

Particularly, in both cases, for the application of the concept of strategic culture given by Rosen, Lantis and Howlett, in regard to the doctrinal use of Brazilian troops in Haiti, the terms war and conflict are equivalent in that, in one or the other case, there were clashes between the state forces of the Brazilian state and the Haitian gangs. The common dynamic that involved them was the tactical use of weapons of war, which claimed lives, therefore, it can be considered

that effectively the use of the Brazilian clausewitzian military apparatus in that country came to life in light of the ideas of these authors.

Brazil's choice for *peace path of conflict* demarcates the profile of the country through doctrinal thinking converging with the fact that the maintenance of peace, protection of Human Rights and construction of negotiated solutions to common problems are the most effective way to bring states closer and solve problems through multilateral means (SÁ, 2015). National external action, with grocian instrumentality, approaches international norms, especially international law, with democratic principles and *resolution favoring dialogue in order to avoid conflict* (Feat, 2017), therefore, it is visualized the *defensive conformation* of strategic culture.

In addition, national foreign policy is typical of an emerging power, excluding major world decisions, meanwhile, adopts the following strategies: act through multilateral institutions; support the international framework; and maintain "good citizenship" in international relations, *prioritizing cooperation* and aspiring to the weakening of the isolated action of the great powers (KENKEL, 2010), as a corollary, ratifies the *defensive nature* of strategic culture as it prioritizes cooperation and appreciation for multilateralism over confrontation.

Moreover, the Brazilian motivation in the employment of peace operations aims, among other objectives, to "demonstrate *ability to mobilize*" (UZIEL, 2009 apud KENKEL, 2011, p. 29, emphasis added).

Ipsa facto, it is established the clear predominance of the use of Brazilian force in a modeling of a *defensive strategic culture* in proportion as it aspires to the "peaceful resolution of conflicts", converging with Article 4, VI, of the Political Charter (Brazil, 1988), in order to prioritize the "cooperative space", in this regard, it maintains, by similarity, an approximation with item IX of the article itself: "*cooperation among peoples for the advancement of mankind*". In the wake of this exegesis, the *flexibility*, manifested by *mobilization capacity* the employment in an atypical scenario of the Brazilian forces, because, for the first time, in a peacekeeping mission, in charge of the UN, they were employed outside the tradition of Chapter 6.

The decision-making process *interna corporis* in order to integrate the EB with MINUSTAH was supported in the *provision of solidarity* to a country in the Brazilian geopolitical zone of influence and in the increase of Brazil's multilateral participation, especially in the *acceptance by the international community to delegate to the Brazilian military the leadership of the Mission* (NASSER, 2012).

As a result, the use of Brazilian troops revealed the following indicators of strategic culture: solidarity, trustworthiness and respect, because the international community delegated to Brazil the leadership of all the forces of the respective countries that were in Haiti.

Similarly, the crucial factors for the success of the Brazilian Military Force were: *adaptability vis-à-vis* the disaster caused by the earthquake, a *capacity for initiative* of the officers at the head of the actions and the *intense training*, in order to win the respect and admiration of the military troops of other states and the civilians of NGOs (PINHEIRO, 2015).

Thus, traces of the strategic culture are: adaptability, initiative, high degree of professionalism, because of the effective preparation of the Armed Force in the day to day of its constitutional tasks in Brazil, impacting exogenous recognition.

To Braga⁴ (2017), the following missions fell to the Brazilian Force, among others, in the table below, from the perspective of strategic culture:

Table 1 – Missions versus strategic culture (Defensive x Offensive)

MISSIONS	DEFENSIVE	OFFENSIVE
1. Day and night patrols (on foot, motorized and mechanized).	----	X
2. Escorts and security of humanitarian aid convoys.	X	----
3. Protection of authorities.	X	----
4. Security for major events (soccer match between Brazil and Haiti).	X	----
5. Blockades, strong points and control points.	----	X
6. Control, monitoring and protection of popular demonstrations.	X	----
7. Negotiations to avoid conflict between rebel groups.	X	----
8. Humanitarian aid (in the face of fires and floods).	X	----
9. Military operations against armed gangs.	----	X

Source: the authors based in Braga (2017).

In the case of MISSION 1, Braga (2017, p. 39, emphasis added) confirms: “in all cities, patrols were part of the routine of all contingents. *Until April 2005, more than eight thousand patrols had already been carried out* by the MINUSTAH military force”, therefore, the exegesis that was predominantly characterized by the use of *offensive modeling of strategic culture* to the extent that, until April 2005, the troops operated at the beginning of the pacification phase, according to the phasing previously presented by Vieira, in the light of a logic of Chapter 7, therefore, of war, in the military operation of a patrol, especially at night, armed combat is always imminent.

MISSION 5 featured tactical actions of a primarily *offensive* nature, given the imminent possibility of contact via fire exchanges with the gangs in defense of these *tactical points* that define the mission, therefore, the *strategic offensive culture* is punctually identified.

⁴ See Braga (2017, p. 39). The author, at the time, was Rear Admiral (Marine) Carlos Chagas Vianna Braga.

In the specific case of MISSION 9 – *Military operations against armed gangs* –, strategic culture is essentially based on the *offensive character* in the first three years in which Brazil resorted to the use of force in order to ensure the fulfillment of the mission and credibility in its performance (BRAGA, 2017), *although no deaths occurred in combat with the gangs* (MENDONÇA, 2017), a fact that testifies to the high level of professional preparation of Brazilian troops.

The other missions have a *defensive texture* regarding the characterization of its strategic culture, but in any case, given the possibility of enemy fire, of a *defensive context* the troops would immediately move to *offensive dynamics (culture)*.

In particular, paragraph 8 – *Humanitarian aid* (in the face of fires and floods) - is centered on *defensive dynamics* in proportion to the fact that there was no possibility of armed clashes, given the chaotic nature of the population affected by these events, in addition, in BRABAT 1 of the 12th Brazilian contingent, the NGO World Vision and the WFP carried out the largest humanitarian aid operation in Haiti.

Rasquini and D'oliveira (2017) when it comes to *humanitarian aid* (item 8), in an effort to maintain peace, while the victims were rescued from the catastrophes, decisions were changed to the extent that there was a smaller contingent in the capital and the delivery of supplies through the Brazilian Air Force was accounted for, therefore, it is identified in totum a strategic culture settled in *solidarity* and aligned with human rights, so as to nullify the aggressive, offensive character.

Ipso facto, it is inferred that the *solidarity variable* converges to the existence of a specific facet of the *Brazilian strategic culture*, similarly, can be identified with *defensive dynamics of its strategic culture*, given that it implies adopting a solution with less aggressive, offensive potential, which, in a certain sense, integrates the profile of the Brazilian.

In the area of BRABAT 1 were conducted, with the support of the Haitian National Police (PNH) and the United Nations Police (UNPOL), *Operation BOOMERANG*, which consisted of a siege and search and had the participation of the population, pointing out the criminals on the street, reporting them through a hotline, and *Operation LIGHTNING*, with actions of short duration, in order to show the presence of the military in a place where there was a confrontation with the population or between rival gangs (BRASIL, 2010), therefore, the actions are identified with MISSION 9, highlighting, even punctually, the Brazilian *strategic culture offensive character*.

According to General André Luís Novaes Miranda of the EB⁵, at the time was in charge of the operational control over the Army troops of the 3rd contingent of the Haiti Battalion, thus interpreted the participation of the Armed Forces in that country:

It took some time for Brazilian troops to properly understand what it was like to act under the aegis of Chapter VII of the United Nations Charter. Brazil had a relative experience in peace operations, but almost always acting under Chapter VI, with the exception of the army police platoon deployed in Timor - Leste. In these missions, the force was only authorized for self-defense (MIRANDA, 2017, p. 53, emphasis added).

5 Currently, Gen. Novaes is the Eastern Military Commander and one of the newest and most active EB leaders.

In this context, the participation of the Brazilian military apparatus in Haiti produced a paradigm shift to the extent that the custom was to act under the cloak of Chapter VI of the UN Charter⁶, however, for Miranda (2017), the aid comes from Chapter VII⁷ the mandate of MINUSTAH was based on Security Council resolution 1542, which gave the military the task of providing security and stabilization of the country, among other activities, therefore,

[...] the *Haiti Battalion* had no option but to use necessary and proportionate force to clear roads blocked by adverse forces and to act against armed groups that victimized civilians in their area of responsibility. Also had to answer, in a timely manner, to various armed actions carried out against their own forces (111 of them recorded in the daily documents sent to MINUSTAH command in the 3rd contingent alone). This way, each time the bases of these groups were identified, the Battalion troops, usually acting in conjunction with the PNH, organized operations for their dismantling and arrest of bandits, and employed adequate and proportionate force whenever there was resistance to the progression of their groups. With time, this was no longer necessary and these people preferred escape to confrontation (MIRANDA, 2017, p. 53, emphasis added).

In this configuration, it is identified with absolute clarity the *Brazilian strategic culture* with an *offensive* bias, a clausewitzian culture, therefore, under conditions of *making* war when necessary, participating in armed conflict in any degree of aggressiveness, because the very nature of weapons of war implies a degree of lethality. In addition, at first the Brazilian troops under the UN mandate, in the face of “various armed actions carried out against their own forces”, responded to the *enemy fire*, so as not to be intimidated by the extremely hostile conjuncture in that country for the population and for the military forces.

As a corollary, the more forceful character *from the offensive dynamics of strategic culture* the fact that the Brazilian state accepted the conditions imposed by the UN for the participation of military forces abroad under the cloak of Chapter 7 of the Charter of the United Nations and the statute of the International Court of Justice:

Art. 42 *If the Security Council considers that the measures provided for in Art. 41⁸ it may, by means of air, naval or land forces, take such action as it deems necessary to maintain or restore international peace and security. Such action may include demonstrations, blockades and other operations, by air, naval or ground forces of the members of the United Nations* (United Nations, [2009], p. 28, emphasis added).

6 Cf. Charter of the United Nations and the Statute of the International Court of Justice. “Peaceful settlement of disputes” (articles 33 to 38).

7 Id. “Action in Case of Threat to Peace, Breach of Peace and Act of Aggression” (art. 39-51).

8 Article 41 does not involve the use of armed forces (see p. 28).

In this same direction, the success of Brazilian participation had the following diagnosis, which reveals several facets of the strategic culture⁹, as the table below:

Table 2 – Variables *versus* indicators

VARIABLES	INDICATORS
1. Ethno – social identification.	African descent, poverty, everyday hardships, and political manipulation and exploitation.
2. Perception of the same social problems.	Social chaos, favelization, deprivation, pain. Similarity with the same public security problems: groups openly exposing their weapons; impunity for crimes, non-solution of crimes, exposed violence and contempt for human life.
3. Brazilian Soft Power ¹⁰ .	With the support of FIFA, the so-called Game of Peace takes place on August 19, 2004 in the Haitian capital.
4. Operational capability of the troop.	Concern to accomplish their missions with minimal collateral damage.
5. Female participation.	More than 200 women made up the 26 contingents.
6. Employment of the mass.	Employment of personnel always superior to the threat, using as a basic element of employment the subunit. Concentration of large effective members in a small area.
7. Improvisational ability of the Brazilian soldier.	Adaptability to adverse situations.

Source: adapted from Brasil (2017).

Variable *ethnic – social identification* (1), in the light of the indicators listed, between the Haitian population and the Brazilian troops, especially the one that originated in Rio de Janeiro, leveraged the success of military operations, because, substantially, it subtly integrates the *defensive character of strategic culture* to the extent that there are commonalities between the sampling universes – the Internal, the *Other* (Haitian), and the external (Brazilian) -, therefore, with respect to the principle of otherness, in order to seek the solution of conflicts through dialogue.

⁹ The author of the article will give an interpretation of the specific type of culture applied in Haiti in the light of the variables and indicators proposed in the table.

¹⁰ The term was first used by Edmund Mullet in 2012 in a meeting in New York. It has come to be defined by the international community the way in which the soldier acts in critical situations in front of the population. It denotes a striking facet of the personality of the Brazilian soldier: more docile and affable than that of other countries.

Variable *perception of the same social problems* (2), based on the indicators raised, on the other hand, the *offensive modeling* of strategic culture, to the extent that the Brazilian troops were accustomed to the employment of the Guarantee of Law and Order (GLO) in the hills of Rio de Janeiro, therefore, familiar with favelization, armed violence, topography, violent crime, that is, identical conditions found in Haiti, which facilitated military employment in the light of Chapter 7 of the UN.

In these interpretative contours, the Brazilian troops were highly praised, especially by MINUSTAH civilian leaders, due to their efficiency and ease in *communicate with local people* and by the option of *preference for peaceful solutions* based on information obtained through close contact with the population. Based on *culture affinity* and personal experiences among the troops and the Haitian population, the *Brazilian soldiers probably from similar developmental conditions* have a greater capacity to assess potentially dangerous situations in Haiti's favelas than their counterparts from developed countries who do not have such experience (KENKEL, 2010).

Moreover, variables 3 and 4, respectively, the *Brazilian Soft Power* and the *troop operational capability*, based on their respective indicators, give clues to the conclusion of the *defensive bias* of strategic culture, since the 'game of peace', as its name implies, suggests dialogue, peaceful relations, the search for dialogue, in order to disarm bellicose spirits, in addition, similarly, there was a clear and latent manifestation on the part of the military forces trying to avoid collateral damage to civilians in any clashes with local gangs.

Variable 5- *women's participation* - provides the mitigation of more aggressive dynamics in the context of the manifestation of strategic culture, especially in a country suffering, worn down by problems of internal violence, earthquakes and other hardships of a socio-political and cultural nature, therefore, the employment of women indicates a preference for *defensive option* at the expense of more aggressive actions, not least because there were no combatants in the female contingent, that is, women graduated from the Military Academy of Agulhas Negras (AMAN), thus being prepared for war, read: *offensive modeling* of strategic culture.

By another angle, variable 6 – *employment of the mass* - and its indicator - the *employment of personnel always superior to the threat* - suggests the possibility of *offensive dynamics of strategic culture*, as their respective indicator points to a high probability of clash between fractions, either by the use of lethal weapons and hand-to-hand combat, in the face of employment of larger effective members *vis – à – vis* the opposite side.

Finally, variable 7 – *improvisational ability of the Brazilian soldier* - and the respective indicator – *adaptability to adverse situations* - integrates the culture of the Brazilian, which can lead the operational use of the armed force to the two dialectical poles: offensive or defensive, depending on the situation.

Moreover, when asked Mr Wills Mathias Cherubin, a Haitian citizen, 47 years old, UN interpreter with the Brazilian Battalion, the impression he had of the Brazilian soldier, he answered:

When I started working with the Brazilians, I learned what an army is. I had seen, in other years, many other military men do bad things. Now, *I can say that the Brazilian Army is a school that teaches how to help others. I noticed in each Brazilian military, something more, a desire to do more than they can. The population collaborates with the Brazilian contingent because it knows that they are well intentioned* (sic). The people do not expect the military to solve their problems, but they do expect them to help them live with dignity (LESSA, 2007, p. 104, emphasis added).

The speech above exposes a strategic culture of *defensive conformation*, aggregating the following components of national culture: *collaboration, solidarity, otherness, professionalism, trust and respect*.

The participation of each contingent and the experience gained by them were key to the success of the following contingents. By the peculiarity of *imposition of peace*, military participation in MINUSTAH becomes a reference in Brazilian participation in UN missions (LESSA, 2007), that is, read: *offensive modeling of strategic culture*.

After all, although there is another understanding of this type of military employment conducted by the UN in Haiti, Dag Hammarskjöld, former UN Secretary General, considered peacekeeping operations in an imaginary

Chapter VI and a half”, a solution to the adoption of measures aimed at *peaceful solution* the controversies and the *application of coercive measures*, however, is a topic that produces many discussions, so there is still no understanding about the meaning and scope of the term “*peacekeeping operation* (FONTOURA, 1999, p. 70-72, emphasis added).

In this sense, it identifies, *a priori*, that the use of Brazilian forces was in the light of the visions of Rosen, Lantis and Howlett: offensive and defensive options.

5 FINAL CONSIDERATIONS

The participation of the Brazilian state in Haiti, through its Armed Forces, determined, *roughly speaking*, a clipping of its strategic culture, because the use of Forces meets the thinking of Rosen, Lantis and Howlett, given that the state, for the fulfillment of the mission imposed by the UN, decided that the *choice* of use of AF was initially based on a *offensive dynamics* since the situation in Haiti was one of full conflagration between the *gangs* and the population, with the use of weapons of war, therefore, there was a glimpse of fighting between the Brazilian forces and the *gangs* specifically in the first two phases of the mission, from the 3rd phase, peacemaking consolidation, *roughly speaking*, the performance profile was modified, from an offensive style to a defensive option in terms of characterizing the strategic culture, therefore, with the mitigation of fewer military conflicts.

But also the Material Use of Forces represents Booth's thinking, since the elites – political and military – acquiesced to Brazilian participation in the context of Chapter 7 of the UN.

In addition, the following indicators are incorporated into this table: *strategic culture* employed in Haiti: collaboration, solidarity, otherness, flexibility, mobilization capacity, trust and respect in the Brazilian soldier, especially the belief in the leadership of commanders at all levels, in particular the generals, adaptability and initiative capacity of officers, these revealed in the dynamics after the earthquake, intense training, which reveals effective technical preparation and high degree of professionalism, and humanity.

It should be emphasized, moreover, that the participation of the Brazilian forces from the perspective of strategic culture, in the offensive and defensive models, counted on respect for the constitutional principle of the prevalence of human dignity, positive in the main international diplomas, notably in the Universal Declaration of Human Rights, of December 10, 1948, and in the Brazilian Federal Charter of 1988, in particular compliance with Article 4, in which the forces were guided by the following principles, among others: prevalence of human rights; defense of peace; peaceful solution of conflicts; and cooperation among peoples for the progress of humanity, in spite of the fact that, however dialectical it may be, the state acted under the magnifying glass, initially, of Chapter 7 of the UN Security Council, however, when weighing the side effects of the use of troops on the population and the fulfillment of the mission delegated by the United Nations, the Haitians approved the *modus operandi* of the Brazilian Strategic Culture on Haitian soil. The attitudes, values, morals, ethics and sentience – the ability of beings to feel sensations and feelings consciously – of the Brazilian military were reflections of the excellent preparation and employment outside its territoriality.

Tour cout, the manifestation of the strategic culture of the Brazilian military forces contributed to put an end to the physical and inhuman aggressions suffered by the Haitian people, in the face of being, metaphorically, imprisoned in a *iron cage*, therefore, it gave them the option of a “rupture of the locks of this iron cage to go out, to burst outside, to aspire and breathe the sense of freedom that fills us when we assume and concretize the need to “squat” the world in which we live” (HERRERA FLORES, 2009, p.209, emphasis added).

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