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Air Power Meets Clausewitz: Military Coercion as Limited War*

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This article presents a critical evaluation of the study of military coercion, a field that has gained growing prominence since the end of the Cold War. Its purpose is to analyze what may be the most representative work to come out of this line of research: Bombing to Win: Air Power and Coercion in War, by Robert A. Pape (1996). It will interrogate the underlying premise of the work – one shared by the remainder of the substantial literature in this area – according to which military coercion is fundamentally different from war. This interrogation takes into account the contrast between Pape's approach (1996) and Carl von Clausewitz' theory of war (1993). It concludes by identifying what lies at the heart of military coercion and war, and makes two central assertions for the study of military coercion: 01. that military coercion is essentially war and, as such, is a wholly political phenomenon, with results entirely subordinate to politics; and 02. that the occurrences which Pape defines as successful military coercion are nothing more than manifestations of limited war – limited war being one of the two possible forms that war can take.
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This article is a contribution to the field of Strategic Studies, the scientific discipline that studies the employment of force, as an act or a potential act, for political ends. The purpose of the work is a critical appreciation of the concept of 'military coercion' (see BYMAN et al., 1999; JOHNSON et al., 2002; PAPE, 1996), that contributes to a line of research whose prominence has seen considerable growth in security studies and international relations since the end of the Cold War. Students of military coercion define it as "the use of threatened force, including the limited use of actual force to back up the threat, to induce an adversary to behave differently than it otherwise would" (BYMAN and WAXMAN, 2000, p. 09). Notwithstanding certain variations, this definition proposed by Byman and Waxman (2000) expresses substantially how students of the subject define military coercion: the use of the threat of physical harm to alter the behavior of an adversary. On this basis, studies are developed that aim to comprehend the dynamics involved in military coercion and identity the variables that affect its outcome, in such a way as to identify and prescribe courses of action for the production of optimal results (PAPE, 1996).

This article evaluates the merits of the literature on military coercion, with a particular focus on what may be the broadest and most representative work in this line of research: 'Bombing to Win: Air Power and Coercion in War', by Robert A. Pape, published in 1996. In 'Bombing to Win', Pape (1996) engages in a theoretical discussion of the dynamics involved in military coercion and proposes his own theory on how they work, before moving on to test empirically his hypotheses using cases from air campaigns during the course of the 20th century. Pape (1996) concludes that he has provided empirical backup for his proposed theory on military coercion, which he therefore describes as suitable for informing defense policies and concrete force postures.

The treatment given by Pape (1996) and the majority of military coercion theoreticians to the theme, however, depends on a basic premise for its legitimacy and logical cohesion, namely, that 'military coercion is essentially different from the conduct of wars'. Pape (1996) presents military coercion as a distinct entity within the phenomenon of war, separate from the act of war, and even as a less costly alternative to war. For Pape (1996), a successful act of military coercion is one capable of extracting a desired concession from an adversary who possesses

the means to resist. The achievement of an objective at the expense of a completely prostrate and defenseless adversary should be seen as a failure of coercion, even though it may be a victory in war (PAPE, 1996, p. 15). As shall be seen, this premise not only permeates Pape's work (1996) and those of other exponents of the study of military coercion, but is also accepted as a given by Pape's critics (1996).

The research problem of interest here may, therefore, be formulated as follows: 'to what extent is the act of coercion by force logically distinct from the act of war?' If this logical distinction is sustained, then it makes sense to come up with bespoke theories – just as Pape (1996) does – to address a particular class of phenomena. If it is not sustained, the elements and relations that comprise war as a phenomenon are essential for the comprehension of military coercion processes.

My intension in this work is to interrogate Pape's approach (1996), and to draw a conclusion on the essential 'identity' of military coercion vis-à-vis the conduct of wars. I shall demonstrate that it is erroneous to draw a distinction between military coercion and war. I arrive at this conclusion from a detailed appreciation of Pape's theory (1996) as contrasted with Carl von Clausewitz' theory of war (CLAUSEWITZ, 1993). From this contrast, there emerge two general conclusions: 01. that military coercion is in essence war and, as such, is an entirely political phenomenon, with results completely subordinated to politics; and 02. that the occurrence that Pape (1996) considers to constitute successful military coercion is nothing more than a manifestation of 'limited war', itself being one of the two forms that real wars may take.

The following section deals with Pape and his angular contribution to the study of military coercion. I discuss 'Bombing to Win' on its own terms, drawing out its principal elements and results. I close with a brief review of the state of the literature that examines and criticizes the work. The next section partially reconstructs Clausewitz' theory (1993) for the purposes of this article. I am particularly interested in the understanding of what essentially constitutes war, as well as what forms it can assume in reality. I close with some general considerations and present the results of the confrontation between Pape and Clausewitz and their implications for the study of military coercion.

The object: military coercion

The conception of the use of force as a bargaining chip and the breakdown of this conception into two types, corresponding to concretely distinct situations in the relationship between the use of force and the type of desired influence on the behavior of an adversary, are usually attributed to Thomas Schelling (SCHELLING, 1960; 1966). Schelling's distinction (1960,1966) comes about due to the existence of situations in which the desired outcome is the avoidance of a certain type of behavior on the part of an adversary, and other situations in which the goal is to force the adversary to desist from a certain position or course of action on which it has already embarked. Schelling (1966) calls the first process 'deterrence' and the second 'compellence'. For Schelling (1966), both types – deterrence and compellence – constitute forms of the coercive use of force.

The difference comes about, according to Schelling (1966), primarily in terms of when and by whom the initiative should be taken. Deterrence has undetermined validity and implies that the initiative lies with one's opponent, whose behavior one seeks to influence. Thus, "[i]f you cross the line we shoot in self-defense, or the mines explode" (SCHELLING, 1966, p. 72). Compellence implies initiating an action that is conditioned on a specific behavior that it is hoped will be produced in the opponent. Time ceases to be undetermined and a deadline is put in place for the opponent to change its behavior.

The extensive literature produced since the 1990s deals exclusively with the dynamics, possibilities, and limits of the most active and positive coercive uses of force, in such a way as to render the terms coercion and compellence interchangeable. It is in this strict sense that military coercion is broadly understood today and addressed in this article. In the process of rebirth of the study of military coercion, no-one has had a greater influence on the creation and direction of debate than North American political scientist Robert Pape, for which reason his contributions will henceforth be analyzed in detail as exemplars of the arguments that I intend to confront.

After the publication of some articles dedicated to the theory and practice of military coercion[1] (PAPE, 1990, 1992, 1993), in 1996, Pape published 'Bombing to Win': 'Air Power and Coercion in War'[2], a complete and systematized version of his arguments, backed up with an extensive and meticulously constructed empirical base. For the purposes of his study, Pape defines coercion as "efforts to change the behavior of a state by manipulating costs and benefits" (PAPE, 1996, p. 04). The purpose of such coercion is to alter an opponent's posture, forcing it to change its behavior, instead of discouraging it from undertaking an action not yet begun.

While setting out his definition of military coercion, Pape (1996) proposes a distinction that is essential, for his conception, between 'military coercion' and 'victory in war'. Mention must be made of the seminal contribution made by Schelling (1966). Schelling used the term 'diplomacy of violence' to describe the use of the ability to cause harm as a bargaining tool to influence behaviors and produce favorable results (SCHELLING, 1966, pp. 01-34). For Schelling (1966), diplomacy of violence has become the keystone in political relationships in the thermonuclear era, with weapons that produce results through the threat of their use rather than through their actual employment (FREEDMAN, 1981; TRACHTENBERG, 1989). Schelling (1966) described the merely 'acquisitive' employment of the means of war as 'brute force'. The difference between brute force and coercion, insofar as the author is concerned, is made clear in the following passage:

> There is a difference between taking what you want and making someone give it to you, between fending off assault and making someone afraid to assault you, between holding what people are trying to take and making them afraid to take it, between losing what someone can forcibly take and giving it up to avoid risk or damage (SCHELLING, 1966, p. 02).

For Pape (1996), the objective of fighting a war is to leave the enemy without the means of resistance, thus forcing it to accept passively the demands of the victorious party. It is in the terrain of brute force, in the terms of Schelling (1966), in which decisions are made by the results of a clash of forces. To coerce means to convince an adversary that it is better to consent than to suffer the

[1]For the author's discussion on the conditions and the limits of economic coercion, see Pape (1997a).
[2]Hereinafter, BTW.

potential consequences of resistance. It is, in an echo of Schelling (1966), a bargaining process. In Pape's words, "coercion seeks to change the behavior of states that still retain the capacity for organized military resistance" (PAPE, 1996, p. 13). This essential demarcation has been present in Pape's argument since his first publication on the subject, in 1990, as can be seen in the text: "Unlike ordinary military action, which seeks to rout opposing forces on the battlefield and then impose political demands on a defenseless victim, coercion seeks to change the behavior of the victim without decisive military victory (PAPE, 1990, pp. 106-107).

It so happens that the proposed distinction between coercion and conducting war has significant implications from the theoretical and methodological points of view. Theoretically, coercion and war are essentially distinct things, each with its own logic. Undertaking war implies using means of force with the goal of completely obliterating any possibility of opposition from an opponent. It signifies, in other words, leaving an opponent with no choice other than to accept the demands imposed on it. Affecting the opponent's 'calculus', by presenting a binary choice between suffering and doing what is demanded of it as a way of extracting a concession – this belongs well and truly to the field of coercion[3].

Methodologically, the distinction between coercion and war conditions perceptions of what constitutes coercive success or failure. The parameters of coercive success are relatively straightforward: if an opponent is confronted with the possibility of choosing between resisting and then giving in, or simply giving in, and if its calculations have been influenced by the actual or potential use of force, then military coercion can be said to have worked. In other words, that the potential risk of future consequences was sufficient to produce the desired result. On the other hand, the conception of coercive failure, in Pape's terms (1996), allows for a range of scenarios. If an opponent, even while under pressure and being threatened militarily, does not give in to the demands imposed on it, the result is an unequivocal coercive failure. However, the granting of demands made of a defeated and prostrate

[3]Pape (1996) recognizes that the distinction between coercion and waging war can be difficult, considering the possibilities of overlapping intentions and instruments. Nonetheless, Pape (1996) believes that cases of pure coercion do exist, such as when the use of force is merely threatened, as do cases of waging war, such as in the case of operations that depend on absolute surprise.

opponent equally characterizes a coercive failure; the conclusion in such cases is that bargaining has been given up in favor of brute force. Thus,

> Coercion fails when the coercer stops its coercive military actions prior to concessions by the target, when the coercer's attacks continue but do not produce compliance by the target, or when the coercer imposes its demands only after complete defeat of the target. The last is crucial: if a coercive attempt is made but the war ends only when one side is decisively defeated, then coercion has failed, even if the coercer wins the war (PAPE, 1996, p. 15).

The parameters of coercive success or failure would be trivial were it not for the fact that, according to Pape (1996), the conditioning factors themselves are the object of analytical controversy and potential scientific treatment. In other words, the current debate concerns empirical contrasting and testing of the models or 'theories of military coercion'. These approaches presuppose different relations of causality between the object and/or the method of military coercion and its productive propensity vis-à-vis significant political changes. In effect, the purpose of Pape's work is "to present a theory that explains the success and failure of military coercion and to test it against the outcomes of all the strategic air offensives employed in international disputes during the twentieth century" (PAPE, 1996, p. 09).

Pape (1996) starts out from an essentially rational conception[4] of the dynamics of coercion, synthesized in the equation below.

$$R = B\,p(B) - C\,p(C),$$

Where: R = value of resistance; B = potential benefits from resistance; $p(B)$ = probability of attaining benefits by continued resistance; C = potential costs of resistance; $p(C)$ = probability of suffering costs. (PAPE, 1996, p. 16)

Naturally, R is positive where the product of the benefits by its probability is greater than the product of the costs expected by its probability. Successful coercion – or no more resistance – can be expected when $R < 0$. The function of

[4]For a discussion that takes the utilitarian and rational choice models as the basis for analysis of political relationships, see Byman, Waxman and Larson (1999) and Huth (1999). For criticism of the utility of these models, see Lebow and Stein (1989), Watts (1997) and Walt (1999).

coercion is to modify the original cost-benefit ratio, through influence on one or more of the four variables on the right side of the equation. For Pape (1996), however, the four variables are not equally susceptible to influence. The benefits (B), to begin with, are not easily modified. The value of control over a territory and its population, to cite one of the commonest elements in international disputes, is rarely susceptible to change, except in the event of dramatic actions such as the devastation of such a territory by a nuclear attack.

What remains as a potential target of a coercive action, then, is the probability of the benefits being obtained (p[B]) and the expected costs multiplied by their probability (C p[C]). Courses of action aimed at influencing variables are presented as 'coercion strategies' Pape (1996) uses the term *punishment* to refer to military actions aimed at increasing the costs of resistance (C), the term 'risk' to refer to those whose objective is the probability that the costs will be suffered (p[C]), and the term 'denial' to refer to military actions aimed at decreasing the probability that the benefits will be obtained (p[B]).

The focus 'par excellence' insofar as punishment is concerned, according to Pape, is the society of the target state, which may be affected directly or indirectly: "Punishment campaigns seek to raise the societal costs of continued resistance to levels that overwhelm the target state's territorial interests, causing it to concede to the coercer's demands"(PAPE, 1996, p. 18).

No relationship is necessary between the targets of the attack and the object of the dispute. The important thing is to strike against something that the adversary holds in high esteem and whose loss or deterioration would be less acceptable than the concession being demanded. The integrity of the population and its means of subsistence is regarded as the good most valuable to a State, which makes it a natural target for the manipulation of its cost-benefit calculus.

Punitive campaigns are associated with attacks on residential and economic areas across a concentrated time scale to maximize shock, and the involvement of a mixture of explosive and incendiary bombs, with a large proportion of the latter. The goal is to cause destruction, the value of which lies not in the destruction itself or its impact on the material correlation of forces (DINIZ, 2004), but rather on the terror and suffering caused. The important thing is not the obliteration of specific targets, but the degree of devastation caused by the action, in order that that the ensuing

'psychological impact' may be maximized. Where economic and infrastructure objectives are targeted, these should be related to the basic needs of the population, such as energy supply and food distribution[5].

Risk actions – that seek to affect p(C) – function, according to Pape (1996), as attenuated forms of punishment. Costs are not imposed with all available energy, but in a gradual way that suggests that more is to come if matters do not progress as desired: "the key is to inflict civilian costs at a gradually increasing rate rather than destroy the entire target set in one fell swoop" (PAPE, 1996, p. 19). Instead of an unrestricted punitive attack on civilians, the word that sums up the application of risk is 'gradualism'. Actions are developed along a growing scale of intensity, in such a way that this may be appreciated by an adversary, to induce it to make calculations in terms of what it 'may still avoid'.

Pape (1996) cites Schelling (1960) as the intellectual father of the notion of coercion by risk, due to Schelling's seminal and well-known discussion on the role of 'probabilistic threats' in political bargaining, frequently referenced by the famous phrase "threat that leaves something to chance" (SCHELLING, 1960, p. 187). This is, however, an impropriety on Pape's part (1996). The 'risk manipulation' that Schelling refers to (1966, pp. 92-125) relates to crisis situations, whose courses are unpredictable and represent a danger to all involved, and that may be exploited to bring about the capitulation of an adversary. Such situations constitute a test of nerve, and are won by the party that manages to face off its opponent and maintain its position when faced with an increasing possibility of disaster[6]. A common metaphor is that of a small boat being rocked and taking on a rhythm of its own, 'independent' of the crew that had started rocking the boat to see who would give up first out of fear of drowning. This idea, therefore, has nothing

[5]Giulio Douhet is the air war theorist generally regarded as the father of systematic thought on the potential of aerial punishment. The two central hypotheses permeating his ideas were that: 01. it will not be possible to devise an effective defense against bombers, who are very responsive and will benefit from all the flexibility offered by airspace; and 02. the morale of a population will be easily broken by systematic air strikes, which will thereby force it to demand its government sue for peace. Air raids were to become, for Douhet, the decisive weapon of war and 'strategic bombardments', or indiscriminate air attacks on key enemy urban and economic centers, the indispensable doctrine if any victory is to be achieved in future wars. On the subject of Douhet and his influence, see Warner (1943), Brodie (1955), MacIsaac (1986), Proença Jr. et al. (1999) and Meilinger (2000). For a distinction between so-called strategic air raids and tactical ones, see Knight (1989). For the most recent doctrinal defense of strategic bombing as an efficacious, autonomous and cheap method for achieving significant political changes, see Warden III (1989).

[6]In game theory jargon, it is a game of chicken. See Dixit and Skeath (1999).

to do with the incrementally increasing punishment of civilians, which is by definition controlled.

The association between Schelling's ideas (1966) and the 'strategy of risk' discussed by Pape (1996) seems, however, to be corroborated by the following assertion, in which Schelling describes the requirements of the ideal compellent action:

> The ideal compellent action would be one that, once initiated, causes minimal harm if compliance is forthcoming and great harm if compliance is not forthcoming, is consistent with the time schedule of feasible compliance, is beyond recall once initiated, and cannot be stopped by the party that started it but automatically stops upon compliance, with all this fully understood by the adversary (SCHELLING, 1966, p. 89; emphasis in the original).

Nonetheless, Schelling's intention (1966) was merely theoretical and conceptual. His concern was to establish clear and logical distinctions between different dynamics involved in the use of force as a bargaining tool, not, as in Douhet's case, to elaborate general doctrine or recipes for victory in war. In addition, Schelling's description (1966) was clearly a mental experiment of the abstract and ideal type, conceived to explore a concept and its logical consequences – and therefore irreproducible and irrefutable in reality. Thus, while it is reasonable to conclude that the main ideas of Douhet regarding the effectiveness of strategic bombing were disproved by the experience of the Second World War (MaCISAAC, 1986; PROENÇA JR. et al., 1999), it makes no sense at all to lose faith in Schelling (1966) because of the failure of 'coercion by risk' in the Vietnam War. Douhet and Schelling (1966) were engaged in entirely distinct undertakings.

Denial, in the terms of Pape (1996), presupposes reducing the probability that the benefits can be achieved by means of successful resistance. When p(B) is significantly reduced, the expectation is that resistance will be a useless exercise and will soon be abandoned. This proposition implies a necessary relationship between the targets of an attack and the object of a dispute, or, more accurately, between targets and the 'means' employed by the adversary to hold on to the object under dispute. Instead of imposing additional costs that are greater than the value of the object under dispute, such as in the case of punishment and risk, denial seeks to convince an adversary of its probable failure, thus making the employment of any

additional force or resource an inevitable waste. As a corollary, Pape (1996) identifies the combatant forces themselves, and all that they depend on to be employed in an organized, coordinated and effective manner, as targets for denial:

> Denial strategies target the opponent's military ability to achieve its territorial or other political objectives, thereby compelling concessions in order to avoid futile expenditure of further resources. Unlike countercivilian strategies, denial strategies make no special effort to cause suffering to the opponent's society, only to deny the opponent hope of achieving the disputed territorial objectives. Thus, denial campaigns focus on the target state's military strategy (PAPE, 1996, p. 19).

Broadly speaking, there are three main ways in which air forces can be employed for denial purposes. The first is close air support to surface forces in combat. The idea is that of a kind of air artillery, able to concentrate firepower with agility and flexibility, in order to reduce opposition to allied troops in a confrontation. The second, strategic interdiction, comprises "largescale operations either to destroy the enemy's sources of military production or to isolate them from combat theaters or fronts" (PAPE, 1996, p. 71). The focus of strategic interdiction is logistical and its aim is to defang the opposing front line forces by eliminating or isolating their supplies of the materials and equipment essential for the exercise of combat functions. Finally, there is operational interdiction, characterized by attacks on the back up and support functions to the forces at the front. The goal is to produce, to use the term employed by Pape (1996), operational paralysis, by hampering the movement and coordination of the opposing forces in the theater of operations[7] (PAPE, 1996, pp. 70-73).

To end the discussion of 'coercion strategies', Pape (1996) identifies a new procedure brought to light by Operation Desert Storm in the 1991 Gulf War, and associated with the name of John A. Warden III. 'Decapitation' is the cumulative result of advances in precision munitions and the 'five concentric rings' approach proposed by Warden III (1992). The leaders of a State, presented in the central ring of Warden's scheme, are, according to the argument, a potential and politically decisive target, and made much more vulnerable by precision technology.

[7]For a discussion of these functions as subsidiary for doctrinal elaboration, see Warden III (1989). For a presentation with a focus on technology and pre-requisites, see Mason (1987).

According to Pape (1996), there are three types of decapitation. The first is that of the 'leadership' itself, which is based on the assumption that the elimination of key leaders will lead to a call for peace. The second is 'political decapitation', in which air strikes are employed against national resources of communication and control, aimed at separating the leadership from the population and its support base, in order to facilitate the occurrence of revolts and coups d'état. Finally, there is 'military decapitation', whose purpose is to cut off combat units in the theater of operations from the orders and directives of their military leadership through the obliteration of the command and control apparatus. Putting it all together, Pape believes decapitation to be a mixed category, with punishment and denial components (PAPE, 1996, pp. 79-86).

There is still something to be considered here, especially regarding the literature on the area, namely, why is it that the study of 'military coercion', in general, has become the study of 'air coercion'? Pape's (1996) understanding seems quite representative of this phenomenon. For Pape , researching military coercion through the employment of air power is historically and methodologically justified: "the most important instrument of modern military coercion, and the most useful for investigating the causes of coercive success and failure, is air power" (PAPE, 1996, p. 55).

According to Pape (1996), air forces have been the preferred instrument for coercively influencing the calculations of political and military leaders throughout the twentieth century. In terms of the rationale behind the analytical treatment developed by Pape (1996), when rulers want to change an opponent's political stance while also wanting to avoid the tribulations and costs involved in achieving a military victory, air campaigns are preferred to the alternatives.

Methodologically speaking, it is believed that the use of air power is quite distinct from that of land and/or naval forces. Although the use of ground troops is possible in both denial and punishment scenarios, armies disproportionately oppose armies, constituting an eminent instrument of denial. Naval forces can be used for denial in combat and are often employed in blockades, which can produce both denial and punishment effects. The problem with naval forces, for Pape (1996), is their inability to select accurately targets and mechanisms. By contrast, the flexibility and greater selectivity offered by air power make it easier to test

hypotheses on the specific effects of particular courses of action: "[a]ir campaigns can be, and often are, tailored to a specific coercive strategy through selective attack of targets identified with that strategy but not others" (PAPE, 1996, p. 46).

In summary, the greater clarity of the effects sought by different aerial campaigns is especially useful for testing hypotheses about military coercion, which compete with each other in terms of which variable – p(B), C or p(C) – has the potential to maximize the chances of achieving coercive success. Pape (1996) presents his own set of hypotheses, separated into two distinct scenarios – conventional coercion and nuclear coercion – that the author intends to test with reference to 33 twentieth century air campaigns. His hypotheses on conventional coercion are that:

> 01. Punishment strategies will rarely succeed; 02. Risk strategies will fail; 03. Denial strategies work best; 04. Surrender of homeland territory is especially unlikely; 05. Surrender terms that incorporate heavy additional punishment will not be accepted; and 06. Coercive success almost always takes longer than the logic of either punishment or denial alone would suggest (PAPE, 1996, p. 20).

For the nuclear coercion strategy, Pape hypothesizes that: "01. Nuclear coercion requires superiority[8]; 02. Denial strategies are not useful in nuclear disputes; 03. Risk strategies can be successful in nuclear disputes; and 04. Nuclear punishment should be effective but rare (PAPE, 1996, p. 20).

In fact, Pape (1996) ends by testing what he characterizes as a reduced version of his theory, restricted to the hypothesis that denial coercion is the only type of coercion capable of producing meaningful political concessions, and punishment and risk only acquire great potential in the rare case of a credible nuclear threat. As a result of his test, Pape announces that his expectations have

[8]Nuclear superiority is achieved when a State can make use of its nuclear arsenal without fearing retaliation of the same nature – in other words, that there is no reciprocal nuclear deterrence. This may be verified, of course, when one State holds the world nuclear monopoly. In the most credible situation in which two or more states possess nuclear arsenals, superiority can be achieved through the ability to launch a devastating first strike, capable of destroying the opponent's second-strike capability, or by building an effective anti-missile defense system, which would make the state invulnerable to a nuclear attack.

been corroborated in 37 of the 40 observations made[9] (PAPE, 1996, p. 52). For Pape (1996), this constitutes spurious result-proof, robust, and secure corroboration.

Unsurprisingly, a work of such magnitude soon attracted a number of criticisms. These mainly concerned: 01. the inadequacy of the aerial campaign planning model underlying Pape's study (EHRARD, 1995); 02. his forced and theoretical apologia for the potential of strategic bombing as a pathway to rapid and decisive victories (WARDEN III, 1997); 03. the inadequacy of simplified and rational models for dealing with complex social phenomena (WATTS, 1997)[10]; 04. the taxonomic characterization of 'coercion strategies', the codification of the model's variables – in particular, the binary opposition 'coercive success vs. coercive failure' – and the selection of cases for study (BYMAN and WAXMAN, 2000; MUELLER, 1998); 05. refinement and new testing of Pape's hypotheses (BYMAN et al., 1999; BYMAN and WAXMAN, 2000; HOROWITZ and REITER, 2001); and 06. the employment of distinct and skewed parameters in judging the results of punishment and denial campaigns (BRATTON, 2003).

For the purposes of this article, more important than detailing each specific criticism is to recognize that none of them questions the basic assumption underlying the whole undertaking: i.e., 'the logical and essential distinction between military coercion and waging war'. This reinforces the conclusion that this distinction is fundamental not only to Pape's study (1996), but to all the literature dealing with military coercion. Even the most profound and essential critique, that of Watts(1997), for whom political phenomena are not amenable to treatment from predictive quasi-mathematical models (WATTS, 1997, p. 117), misses the mark. It amounts to little more than epistemological questioning, and in no way deals with the underlying conception of the object of study.

The notion that military coercion is a less costly alternative to real war is the rationale for the treatment that Pape (1996) and other authors give to the subject; without this, it would not make sense to separate the act of coercion from that of war. Confronting this notion, hitherto preserved intact, requires a scientific and rigorous approach to the phenomenon of war in its entirety and that identifies

[9]The number of observations is higher than the number of aerial campaigns analyzed (33) because, according to Pape (1996), some campaigns presented more than one test possibility.
[10] For Pape's response to this criticism in particular, see Pape (1997b).

its defining elements and the relationship between them. In the field of Strategic Studies, this would be the theory of war derived from the work of Carl von Clausewitz (1993).

Before war: what type of war[11]?

Clausewitz, the great theorist of war, understood that war is, essentially, "an act of force to compel our enemy to do our will" (CLAUSEWITZ, 1993, p. 83). This very simple definition delimits the phenomenon of war around its central elements: the means (force), the end (our will) and the necessity that produced it (the resistance of the opponent, which must be broken)

For Clausewitz (1993), this understanding should logically lead to the war reaching the extremes of violence, and consuming all the resources and energies of the contenders in a single gigantic confrontation in which everything would be decided. This is because: 01. there is no logical limit to the scale of the effort employed, given that moderation before an immoderate opponent could lead to defeat and the loss of everything, including resources that had not been employed; 02. war being necessarily an armed confrontation, the natural goal of each side would be to disarm the opponent before being disarmed, which again leads towards the immoderate use of violence; and 03. the need to overcome resistance by means of a marginally superior effort and disposition to those of the opponent would impose itself on both sides, thus engendering a competitive relationship that would bring the war to the extreme of violence (CLAUSEWITZ, 1993, pp. 83-86). The result of these logical processes would be absolute war, a gigantic spasm of violence that would concentrate all means and energies in a single decisive confrontation.

The theory of war is born of the confrontation between such expectations, which are logically derived from the concept of war, and wars as they present themselves in reality (DINIZ, 2002; PROENÇA JR et al., 1999). It is necessary to explain why, in reality: 01. wars are never isolated acts, disconnected from the political context in which they occur; 02. wars rarely consist of a single confrontation; and 03. war outcomes are seldom definitive (CLAUSEWITZ, 1993, pp. 87-89).

[11]The ideas contained in this section are derived broadly from the work of Diniz (2002), and may be found, in part, in Mendes (2012, 2014).

Clausewitz (1993) noted that wars were conducted in a series of combats, separated by periods of inaction. His explanation for pauses in the course of a war is derived from two conclusions whose importance is impossible to overestimate: 01. defense and attack are two qualitatively distinct forms of warfare, there being no real polarity between them; and 02. the defensive is the intrinsically stronger side (CLAUSEWITZ, 1993, pp. 94-95; DINIZ, 2002).

For Clausewitz (1993), the polarity between attack and defense is restricted to their intended ends: the attacker has a 'positive' purpose and aims to change the situation, while the defender seeks the 'negative' purpose of keeping things as they are. In this sense, real polarity exists. Clausewitz (1993) concludes that there is no real polarity in the 'relationship' between attack and defense. The attacking and defending sides wage war in distinct ways due to the existence of advantages enjoyed by the defender.

The first advantage comes from the fact that, for the defender, who carries the negative purpose, victory requires only that things remain as they are; the attacker must act to change the situation. The second advantage is that the defender has immobile resources at its disposal – fortifications, terrain, natural barriers, etc. – and these increase its strength, while the aggressor can count only on what it can move to the defender's territory (DINIZ, 2002).

Clausewitz' second conclusion (1993) is that the defense is intrinsically stronger than the attack. In his own words: "I am convinced that the superiority of the defensive (if rightly understood) is very great, far greater than appears at first sight" (CLAUSEWITZ, 1993, p. 95). This is because the conduct of the war by the attacker imposes a gradual weakening process, thus summarized by Diniz:

> Clashes undertaken with the advantages of defense will produce losses to the attacker. In addition, as the attack progresses, it enters hostile terrain – which implies that in order to exploit the resources of the occupied area, it will have to send forces sufficient to do so, forces that will be subtracted from confrontations with the defender that will follow; it extends its lines of communication, exposing them to the enemy counterattack – and therefore has to send forces to protect them, forces that will also be subtracted from future attacks; as it advances it distances itself from sources of reinforcements – hindering the arrival of reinforcements, that could bolster the forces in the field for later confrontations (DINIZ, 2002, p. 112).

The defense, for its part, conducts a war in the face of a quite distinct reality. According to Mendes,

> In retreating, while trying to impose some losses on the attacker in favorable engagements, the defender approaches its source of supplies and reinforcements, shortens its lines of communication, finds a supportive population that may even participate in the fight in the capacity of a militia, sees gains in willpower and disposition as it sees its territory being occupied by the attacker. Furthermore, its setbacks tend to rally allies to its cause because of balance of power logic (MENDES, 2012, pp. 91-92).

For Clausewitz (1993), war is a means whose end is the production of our will, as opposed to the will of our opponent, which must be bent to ours. War therefore takes place necessarily in a context of a battle of wills, which endows the relationship with an eminently 'political' character[12]. Thus is born the complementary and more narrow definition of war as "the continuation of policy by other means" (CLAUSEWITZ, 1993, p. 99).

In an absolute war, a war fought with the greatest intensity as the logical consequence of its conceptualization, the war's political purpose would necessarily be displaced by the purpose of war. Regardless of the nature and value of the political purpose, both sides would inevitably be compelled to prepare for a gigantic confrontation involving all of the means and energy at their disposal. War would still be a continuation of politics, but politics would totally lose control over war once a confrontation had begun.

This is not the case in reality, however, since the relationship between attack and defense modifies the conduct of war in practice. The sequential and diffuse nature of military confrontations means that political considerations can

[12]In addition to political considerations, concerning the battle between wills, the war phenomenon is also composed analytically by tactical, strategic and logistical considerations. To the extent that wars consist of a series of combats, there are naturally matters to be considered and decisions to be made about how to wage each individual combat and about the value and importance of each combat in the light of what is sought by the war. Clausewitz (1993) refers to the first group of considerations and decisions as 'tactics', or the use of force in combat; Clausewitz (1993) calls the second 'strategy' or the use of combats (or their results) for the attainment of the purpose of a war. One notes that the difference between tactics and strategy only makes sense because wars are not decided in a single clash, as in absolute war. In this case, only tactical considerations and decisions, or decisions on the use of forces in combat would be present. For a conception of 'logistics' – possible material conditions available the combatant forces, covering their creation, displacement and maintenance – derived from Clausewitz (1993) and defended as a fourth group of considerations and decisions that permeate wars, along with tactics, strategy and politics, see Proença Jr. and Duarte (2005).

return and influence war in its every aspect: "[w]e see, therefore, that war is not merely an act of policy but a true political instrument, a continuation of political intercourse, carried on with other means" (CLAUSEWITZ, 1993, p. 99). The return of politics to war is the sine qua non for a Clausewitzian (1993) understanding of the forms that wars can take in reality.

In observing the wars that take place in reality, Clausewitz (1993) concludes that they can take two different forms. In one, the goal is the total prostration of the opponent, its reduction to such a state of weakness that any serious capacity for resistance would cease to exist. To this end, Clausewitz (1993) identifies three important sequential objectives: 01. the destruction of the opposing combatant forces, meaning to "put [them] in such a condition that they can no longer carry on the fight" (CLAUSEWITZ, 1993, p. 102); 02. the occupation of the opponent's territory, to deprive it of the resources that could enable it to build up new combat forces; and 03. the submission of its population, whose will must be broken. For this reason, this form of war deserves the designation 'unlimited', even though the term was not used by Clausewitz (1993)[13]. Clausewitz refers to this form of warfare as "designed to lead to the total defeat of the enemy" (CLAUSEWITZ, 1993, p. 746).

Unlimited wars seemed to fit better in the mold of ideal war, or to be conceptually derived therefrom, and were imposed on Clausewitz (1993) by the recent experience of Napoleon's wars at the head of Revolutionary France. However, the honesty of Clausewitz' study (1993) once again did not allow him to ignore an important aspect of reality: there is another form of warfare, much more common in the historiography of war prior to Napoleon, one that was by no means discarded for the future. In this second form of war, the objective is sought by a result other than an opponent's prostration and total destruction of its capacity to resist. Clausewitz' understanding (1993) of this is summarized by the following passage:

> But the aim of disarming the enemy (the object of war in the abstract, the ultimate means of accomplishing the war's political purpose, which should incorporate all the rest) is in fact not always encountered in reality, and need not be fully achieved as a condition of peace. On no account should theory raise it to the level of a law (CLAUSEWITZ, 1993, p. 103).

[13]The term is Corbett's (1911).

What Clausewitz (1993) means is that there are wars where it is not necessary for one side to be wholly defeated for a favorable peace to be achieved. This is evident in cases where a decisive defeat of an opponent is unrealistic because it is substantially stronger (CLAUSEWITZ, 1993, p. 103). History is replete with examples in which a weaker side has caused its political will to prevail in an armed dispute against a stronger one. This would be an impossibility in a situation of absolute war, whose outcome of which would be decisive and determined by the sum of all the capacities of the contenders.

In short, the second form of war is waged with a more limited goal, which falls short of the total prostration of the opponent, but is hoped will lead to the production of the desired political outcome. For this reason, it can be called 'limited' war. This is where war as a political instrument gains all the strength that its conception can acquire. The fact that politics permeates every part of war, as determined by the material realities of the interaction between attack and defense, allows for a calculation that is ubiquitous throughout a war – that between efforts already expended and those yet to come, and the value of its political purpose. In other words, the costs and sacrifices demanded by war are constantly weighed against the importance of the political objective being pursued. This gives rise to the possibility of imposing costs that exceed the value to one of the combatants of the political objective, leading that combatant to reconsider its interest in continuing the war. Again, Clausewitz's formulation is made with incomparable clarity:

> Since war is not an act of senseless passion but is controlled by its political object, the value of this object must determine the sacrifices to be made for it in magnitude and also in duration. Once the expenditure of effort exceeds the value of the political object, the object must be renounced and peace must follow (CLAUSEWITZ, 1993, p. 104).

In short, Clausewitz (1993) has verified that two forms of war exist. In one, the political objective is only achieved when one side is decisively defeated, prostrated and deprived of its means of resistance; in the other, one side may be motivated by merely limited efforts and become willing to allow its opponent to attain some degree of success. Clausewitz' central conclusion (1993) in this regard – and this is possibly the most important conclusion in his work – is that the form

taken by war is an exclusively political determination, even though unlimited wars move closer to absolute wars and appear to move beyond the sphere of political control: "while policy is apparently effaced in the one kind of war [unlimited] and yet is strongly evident in the other [limited], both kinds are equally political" (CLAUSEWITZ, 1993, p. 100). In other words, it is the value attached to the political object under dispute that determines whether one side will need to be forced to fully surrender to its opponent's will, or whether limited efforts will be sufficient to lead to such an outcome and a consequent peace. This makes both types of war equally and fully political manifestations.

Final considerations: military coercion as limited war

The central argument of this article – concerning the distinction between military coercion and limited wars – depends on having a means to classify a given approach as military coercion, such as that developed by Pape (1996) within the Clausewitzian Scientific Research Program[14]. The following lines deal with the justification of these means.

As has been demonstrated, the Clausewitzian edifice is founded on a dual definition of the phenomenon of war: "war therefore is an act of force to compel our enemy to do our will" (CLAUSEWITZ, 1993, p. 83); "war is merely the continuation of policy by other means" (CLAUSEWITZ, 1993, p. 99). From these two simple conceptions, Clausewitz has circumscribed the entire phenomenon of war and laid the groundwork for his scientific treatment. The time has come to verify whether there exists a real distinction between Pape's conceptions and Clausewitz', and whether the Clausewitzian theoretical construction applies to Pape.

Pape defined coercion, the general theme of his research, as "efforts to change the behavior of a state by manipulating costs and benefits" (PAPE, 1996, p. 04). The demarcation of his object within the universe of coercion occurred through the addition of a means of action – violence. Military coercion thus consists of efforts to alter an adversary's posture by employing concrete or potential means of force. It is not difficult to recognize that there is a clear distinction between Pape's military

[14]On Scientific Research Programs as the basic unit of the rational development and reconstruction of science, see Lakatos, 1970; for an exposition of the Clausewitzian Program, see Duarte and Mendes (2015).

coercion (1996) and Clausewitz' war (1993). Military coercion is an act of force to compel an adversary to alter its behavior. It is clear from Pape's approach (1996) that this act of force does not take place in a vacuum, but within the political context of a conflict of wills. Pape went so far as to restrict his study to cases "in which the target was asked to give up important interests" (PAPE, 1996, p. 48). In short, it is recognized that Pape researched (1996) cases of recourse to violence for the resolution of political conflicts.

There remains a potential caveat. The study of military coercion predicts that the phenomenon can occur without an actual 'act of violence', but with violence held in reserve and used as a threat. For Pape, the potential for threatened violence that produces concrete results is the purest form of coercion, in which there is an uncontroversial distinction between military coercion and war (PAPE, 1996, p. 14). However, a real understanding of the extent of the centrality of combat in warfare, based on an understanding of Clausewitz (1993), completely refutes this.

For Clausewitz (1993), whatever the purpose of war, there is only one way to achieve it: combat. Combat is the central activity of war, the condition of possibility for the sum of the strategic results leading to the political purpose of war. In other words, that which forces on one side can exercise on forces on the other depends on any consequent outcome of the war. In Clausewitz' words, "it is inherent in the very concept of war that everything that occurs must originally derive from combat" (CLAUSEWITZ, 1993, p. 108).

It so happens that the centrality of combat in war is so manifest that it is present even when combat does not actually occur. This is one of Clausewitz' most counterintuitive conclusions (1993): the anticipation of combat can produce results even if the combat itself does not actually happen. A force that leaves its position or surrenders without fighting, for example, has been no less influenced by combat than one that fought and was forced to abandon its position or surrender. The force in question merely anticipated the outcome of the combat, undertook it mentally, and acted on the expected outcome[15]. According to Clausewitz: "Combat is the only effective force in war; its aim is to destroy the opposing forces as a means to a further

[15]For an argument that it is possible, in the study of war, to identify that force has been used to bring about a change of behavior without an 'act of force' having necessarily taken place, see Proença Jr. (2002).

end. That holds good even if no actual fighting occurs, because the outcome rests on the assumption that if came to fighting, the enemy would be destroyed" (CLAUSEWITZ, 1993, p. 110).

Another source of confusion that can be anticipated and countered – and Pape (1996) must be judged partially innocent here – concerns distinguishing between phenomena on the basis of instruments. War is a political phenomenon that is distinguished solely on the basis of its means – force. However, the instruments that transform force into a means are not essentially linked to war and in no way influence its theoretical treatment. This is to say that war is war, regardless of tactical and technical devices, whether waged with spears and swords, rifles and machine guns, submarines or airplanes. This caveat is important because studies such as Pape's (1996) may create the illusion that certain acts of force would be more or less coercive, or 'more or less war', depending on the employment of this or that instrument. The theoretical force of the Clausewitzian approach (1993), and its applicability throughout history lies in the generality and simplicity of the concept of war as an act of force – however realized – to bend an adversary's will. As mentioned above, however, Pape (1996) deserves a partial acquittal on this point, because despite identifying a certain historical correspondence between military coercion and the use of air resources, his justification for the choice of this instrument is methodological, in that it gives greater analytical clarity to the study of air campaigns (PAPE, 1996, p. 55).

From these general considerations it appears that Pape's study (1996) is unmistakably embedded in the Clausewitzian universe (1993). What Pape calls (1996) military coercion is war in its essence and not a distinct manifestation of warfare worthy of its own differentiated logic. This conclusion holds regardless of the context of the action – combined or purely aerial weapon operations, the nature of the targets and coercion mechanisms pursued, etc. – and even when the use of force is only threatened, which for Pape (1996) would constitute a pure instance of military coercion. The immediate conclusion to be drawn from this finding is that the relationships and interactions scientifically constructed by Clausewitz (1993) to account for the phenomenon of war have unquestionable validity in the cases examined by Pape (1996); a fact that clearly undermines the latter's conclusions.

Pape's central question (1996) (i.e. which type of attack – punishment, risk or denial – is most likely to change an opponent's behavior?) immediately loses its importance. The truly central question, derived from Clausewitz' theory (1993) of warfare, is this: what kind of warfare, limited or unlimited? The answer to this question is, as previously shown, entirely 'political'.

The nature of the targets of armed action, as well as subsequent tactical, strategic, and logistical developments, relate to the purpose of war, or to what is directly sought by force. However, it has been demonstrated that this is only a means to a greater end – the political objective of a given war – and it is solely that objective which determines the appropriateness of the purpose of the war being waged. In other words, the sufficiency of the efforts expended in the war, whether in a restricted or unrestricted attack on civilians or an attempt to obliterate an opponent's capacity for armed resistance, is determined by the importance attached to the political objective under dispute. A passage from Clausewitz deserves repetition here for its clarity:

> Since war is not an act of senseless passion but is controlled by its political object, the value of this object must determine the sacrifices to be made for it in *magnitude* and also in *duration*. Once the expenditure of effort exceeds the value of the political object, the object must be renounced and peace must follow (CLAUSEWITZ, 1993, p. 104).

It is now time to return to the criteria established by Pape (1996) for judging the success or failure of military coercion. Success is defined as the extraction of a political concession from an adversary who still possesses the means for resistance; failure is defined as either an inability to achieve a political objective, or the achievement thereof only after the complete prostration and disarming of an adversary (PAPE, 1996, p. 15). Here too the Clausewitzian theory of war (1993) as an entirely political phenomenon provides the basis for the appreciation of the possibilities envisioned by Pape (1996). Cases that Pape (1996) regards as successful instances of military coercion turn out to be manifestations of limited warfare, in which the defender weighed incurred and future costs against the value of the political objective at stake and decided to abandon it. The most curious cases of failure, in which the objective is achieved by the prostration of the adversary,

correspond to the occurrence of unlimited wars[16]. Here, the outcome is equally determined by politics. The high value of the political objective under dispute demands that the will of the defender be entirely broken to obtain the desired outcome.

Unlike almost all works produced in reaction to Pape's work (1996)[17], this article has set out to confront the fundamental premise of Pape's research (1996), namely, that military coercion has its own identity, separate from that of conventional warfare. The seemingly simple demonstration that no such distinction exists and that military coercion is essentially war, and that understanding the dynamics of military coercion depends on an understanding of war in its entirety and the forms it can actually take, serves not only to warn us of the fallacious tone of studies of military coercion, but also of the almost ubiquitous tendency to hail recent and circumstantial developments as transformations and/or revolutions.

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[16]The cases studied by Pape (1996) illustrate this conclusion. For example, WWII punitive campaigns against Germany and Japan are considered coercive failures. Both cases constituted unlimited war: the political purpose of the Allies could only be achieved once their adversaries had been unarmed, occupied and subjected. The cited cases of coercive success – such as the 1991 Gulf War, which Pape (1996) considered a partial success when, after the air campaign of denial, Saddam Hussein showed a willingness to withdraw his forces from Kuwait – are examples of limited wars: political purposes can be reached when even when opponents are still able to resist.

[17]The exception, as shown above, is Watts (1997), who questions the validity of the application of the scientific method to the treatment of political and social phenomena.

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