Airpower and Counterinsurgency

The Strategic Logic of Operation Inherent Resolve

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Introduction

Faced with the threat of the Islamic State (ISIS), the United States began its participation in the conflict with Iraq and Syria in August 2014 by employing air strikes to support local efforts against insurgents. In September 2014, President Obama outlined nine lines of effort as a strategy to defeat ISIS, which encompassed governance, economics, security, and development. The security line of effort sought to deny terrorists a "safe haven," to degrade ISIS leaders, their operational and logistical capabilities, and to prevent access to resources and sanctuaries from which their attacks were prepared and executed.[1] This strategy was conducted throughout Operation Inherent Resolve (OIR), whose efforts were the responsibility of the Global Coalition against Daesh, a coalition of more than 60 countries.

However, difficulties persist today in using airpower in unconventional conflicts, such as operations against insurgencies.[2] Such difficulties include the blurring of boundaries on the battlefield, the terrain in which insurgents fight, and insurgents' "blending in" with the population. Another difficulty is the absence of decisive targets[3] and their ability to be attacked by airpower. For example, irregular groups do not rely critically on supply lines and are not supported by an industrial structure or hierarchical command center. Conversely, recent debates in the literature point to evidence in favor of using airpower in combating irregular groups.[4]

Taking into account the limitations and possibilities regarding the uses of airpower in irregular conflicts, this article seeks to answer the following question: What was the logic of employing air strikes designed to defeat ISIS in OIR This question will be answered by both the congruence method and a theoretical model created by highlighting the contrast between the theories of John Warden III[5] and Robert Pape.[6]

Airpower and counterinsurgency against the Islamic State: Competition of Theories as an Analysis Model

According to George and Bennett,[7] the congruence method tests whether the predictions of a theory can be observed in a specific case by analyzing the relationships between variables. The variables are analyzed to identify whether they behave

as expected. To accomplish this, this article's proposed theoretical model points out the main variables of the selected theories and then identifies which ones best apply to OIR.

In Warden's model,[8] an enemy can be represented by a system comprised of five concentric rings, as shown in below figure. The central ring comprises leadership—considered the system's crucial component—and the surrounding rings, from the center to further away are in order of diminishing importance: organic essentials, infrastructure, population, and military. In this model, targets are distributed throughout the enemy's system, not just application to the military forces. Warden[9] believed that by attacking the system according to the importance of the targets, the system's military forces would lack the support of leaders, supplies, infrastructure, and the population. However, this does not entirely negate the use of attacks on military forces. As Warden states, there may be situations in which attacks on military forces will be necessary to reach strategic centers. Military forces are prime targets when a combatant does not have the means to reach strategic centers directly.
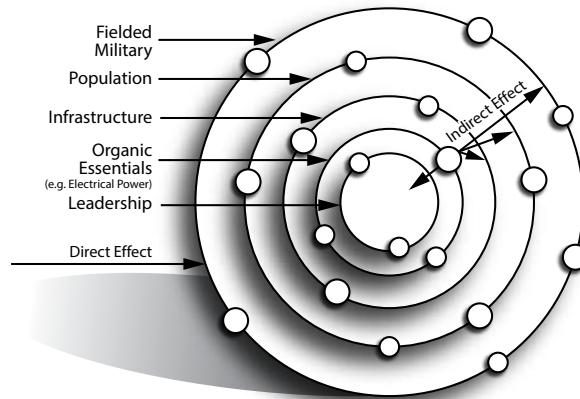

Figure. Warden's Five Ring System Theory
Source: Warden (1995, p. 48)

According to this model, a parallel attack strategy targeting all components of the enemy system at the same time would be the most advantageous strategy. Although the central leadership ring is an opponent's most vulnerable point, Warden[10] recognizes that it is difficult to have a direct impact on this ring. Thus, parallel attacks can influence an opponent's decision-making and ensure strategic paralysis that prevents access to combat capabilities.

For Pape[11], however, the use of airpower in conflict is based on the theory of coercion. This is a concept that refers to bringing about changes in an opponent's be-

havior by manipulating the costs and benefits associated with the conflict. These changes can be achieved through four coercive air strategies. The first form of coercion, punishment, affects the morale of the population, including economic disruption, to increase the costs of an adversary's interests, to make a government surrender, or to provoke a civilian population revolt. It can be employed through risk strategies—the objective of which is to gradually increase expectations of destruction to civilians—which will induce an opponent to make concessions so they do not incur future costs. Thus, according to Pape,[12] bombings escalate to convince an opponent that targets will be attacked depending on their behavior.

Another coercive strategy is decapitation, which presupposes that leaders and their communication networks are the pillars that sustain an opponent, and this also reflects Warden's theory of airpower. There is also denial, a coercive strategy, whereby enemy forces are weakened so that ground troops can advance over territories without incurring devastating losses.

Thus, it is possible to foil an opponent's strategy by conquering territories to induce opponents to make concessions to avoid future losses. Air denial campaigns are aimed at the destruction of weapons, the interdiction of supplies between the sources and the battlefield, the disruption of movement and communications in the theater of operations (TO), and are conducted in a war of attrition. Since coercion by punishment or risk can be resisted, coercion by denial is more likely to succeed.

Pape[13] theorizes that the Air Force should adopt a denial strategy. In this method, airpower can be employed in missions of strategic interdiction, operational interdiction, or Close Air Support (CAS), depending on the duration of the conflict and the situation on the front. This way, it is possible to affect an enemy's military strategy, who will feel pressured to compromise.

Therefore, the theoretical model should not only include the types of targets attacked but also the effects of the attacks. Table 1 contains the elements present in this theoretical model:

Theory/Author	Five-ring Model (Warden)	Conventional Military Coercion (Pape)
Type of strategy	Parallel Attacks	Coercive air strategy of denial
Types of most essential targets	Leadership and their communications, industry, infrastructure	Forces and communications in the TO, ordnance, supplies
Types of missions to execute the strategy	Distant and intermediate interdiction	Operational interdiction, strategic interdiction, or CAS
Expected result	Strategic paralysis	Impossible to conduct military strategy

Table 1. Model for Analysis of OIR
Source: Author

As demonstrated above from the elements that make up the theoretical model we can hypothesize that: 1) Based on Pape's strategy, due to the irregular character of ISIS, which has little reliance on logistics, the campaign against insurgents is focused on CAS to exert coercion through denial; and 2) Based on Warden's strategy, as a consequence of ISIS' control over the resources of the dominated territories and the existence of targets related to logistics and infrastructure, the campaign's focus is on parallel attacks that seek their strategic paralysis.

These hypotheses provide two main assumptions. In the first hypothesis, OIR planning may have emphasized the irregular character of ISIS. In this case, the first hypothesis argues that because of the absence of strategic targets, a CAS-based campaign was planned—reflecting Pape's theory that airpower is best exploited on the battlefield to exercise coercion. On the other hand, in the second hypothesis, the exercise of state functions through the control of infrastructure and resources may have been stressed. Thus, the second hypothesis considers that given the presence of logistics, infrastructure, and resource targets, a parallel attack strategy was chosen to cause strategic paralysis in the enemy—per Warden's theory.

The Political-Strategic Level of Operation Inherent Resolve (OIR)

According to the "Quarterly Report and Biannual Report to the United States Congress,"[14] which spans December 2014 to March 2015, the overall strategy for defeating ISIS consisted of nine lines of effort, namely: support for effective governance in Iraq; denying ISIS a safe haven; enabling the capabilities of allied forces; improving intelligence gathering regarding ISIS; breaking its financial structure; exposing its true nature; stopping the flow of foreign fighters; protecting the homeland; and humanitarian aid. According to Connable, Lander, and Jackson[15], later, the White House Strategy became more specific, as seen in the four pillars announced in 2015, which included not only attack prevention and humanitarian aid but also the air campaign against ISIS and more significant support for ground forces. Another change noted by the authors in the military aspect of the strategy released in 2016 is the inclusion of persecution of insurgent leaders. On the other hand, Connable, Lander, and Jackson[16] show that such lines of efforts determined by the coalition in 2014 were divided into five lines, namely: military support for allies; the interruption in the movement of foreign fighters; the dismantling of ISIS' finances; the exposition of its essence in fact; and the management of the humanitarian crisis in the region.

Since the initial strategy of aggressive containment did not prevent the Islamic State from advancing over more territories, Ohlers[17] states that at the end of 2015, efforts to combat the group were intensified. During this period, ground offensives were conducted to exert more significant pressure on ISIS. This change in strategy is

reflected in the document "Quarterly Report to the United States Congress - October 1, 2015 – December 31, 2015,"[18] which was described as the "Three Rs," and gave air raid priority against the cities of Raqqa and Ramadi, the latter retaken in December 2015. Such change, according to the document, considered the control of the cities and not just the extension of the recovered territories a measure of success. This prioritization is justified by the strategic importance of these cities, as ISIS leadership infrastructure was established in Raqqa, and Ramadi is located near Baghdad, on the route connecting Syria and Jordan. According to this "Quarterly Report," these city incursions were led by a specialized expeditionary force and were conducted in a coordinated manner with Iraqi and Kurdish forces. While in Syria, these forces acted unilaterally. Subsequently, more significant pressure focused on high-value targets such as leadership and was exerted on ISIS through air strikes, intelligence gathering missions, and border defense.
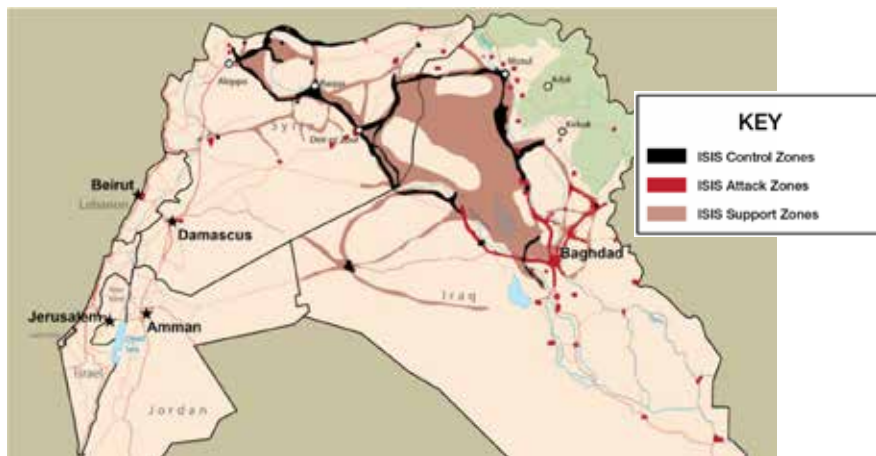
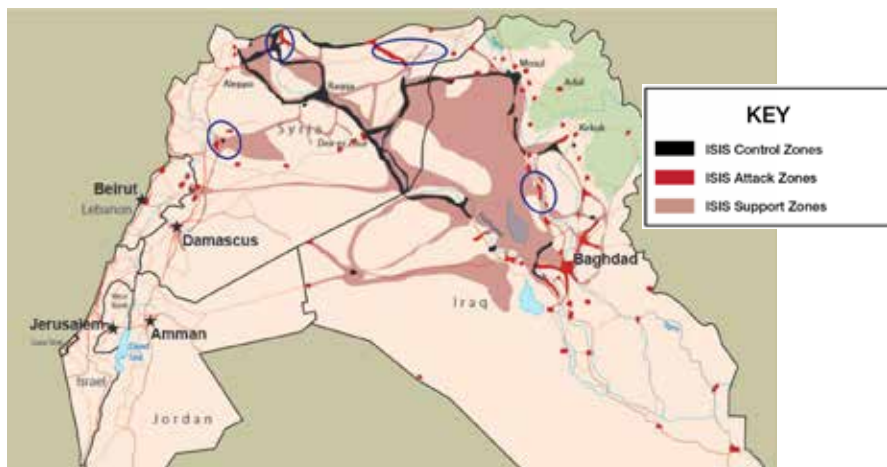**Map 1. ISIS' Territorial Situation on 30 October 2014**
Source: Institute for the Study of War (2014)

Effects of OIR's Strategy against ISIS[19]

As seen on Map 1,[20] the insurgents were able to consolidate their dominions in northern Syria on the Turkish border. They also expanded their attack zone near the Euphrates River in central Iraq, although they lost control of a small section of the territories west of Baghdad.

Over the next six months, there was progress in efforts against ISIS in areas where coalition bombing occurred. According to Map 2,[21] previously ISIS-controlled territories were recovered in Iraq near the border with Syria and Jordan, west of Kirkuk, and southwest of Baghdad. However, such areas were used primarily for support, and the insurgents only modestly expanded their

attack zones. Additionally, ground was recovered around the cities of Baiji and Tikrit (highlighted on the map by the blue circle), although insurgents still held small portions of these territories for support and staging of attacks. The recovery of these areas near the borders was operational, thus reflecting Pape's strategy of denial. However, ISIS consolidated a support zone in a strip of territories from central to western Iraq and expanded its holdings to the city of Hit, near the Euphrates River. ISIS also expanded its support zones in Syria, seen in the eastern stretch of the border with Lebanon, and in areas south of Aleppo. ISIS established attack zones in northern Damascus, and extended these areas northeast of Raqqa.[22] During this period, ISIS lost control of territories bordering Turkey but maintained attack zones in the region.

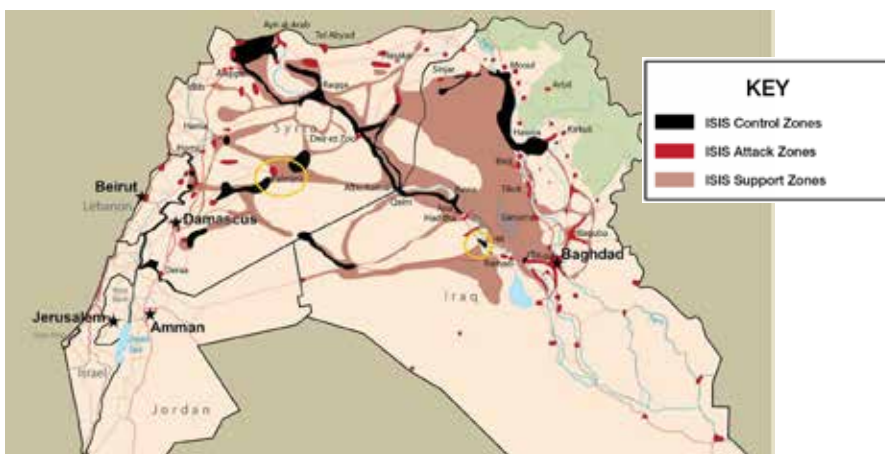**Map 2. ISIS' Territorial Situation on 3 April 2015**
Source: Institute for the Study of War (2015)

Subsequently, Map 3[23] shows insurgents' progress in both countries. Even with losing control of zones on the Syrian-Turkish border, ISIS was still able to consolidate its domains near Raqqa; south of Hasaka; north of Aleppo; in Palmira, located in the center of the country, expanding them to the west; and to the east of Damascus. ISIS also established support zones in these regions, as well as south of Aleppo and the western border with Jordan. In Iraq, despite the reduction in controlled and support territory between northern and southern Fallujah and west of Mosul, and the elimination of its attack zone in Kurdish territory east of Kirkuk, the group considerably strengthened their control in zones south of Mosul and Sinjar, near Hawija, in the far west of the country toward the Syrian border, and the vicinity of Ramadi and Hit.
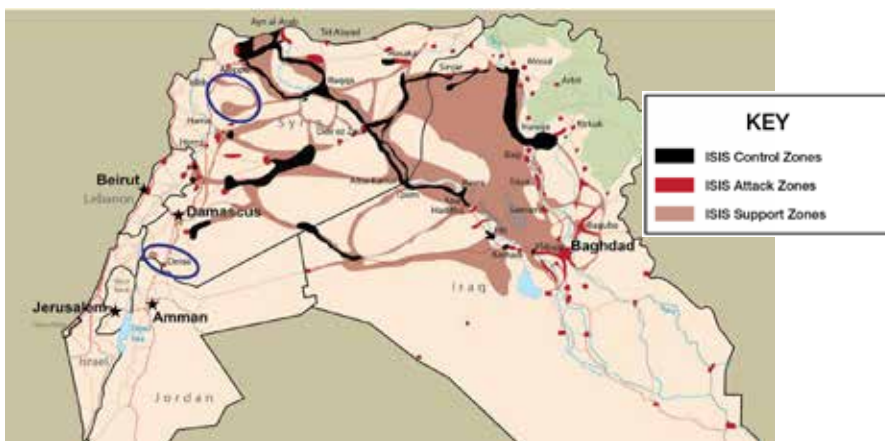
Map 3. ISIS' Territorial Situation on 15 September 2015
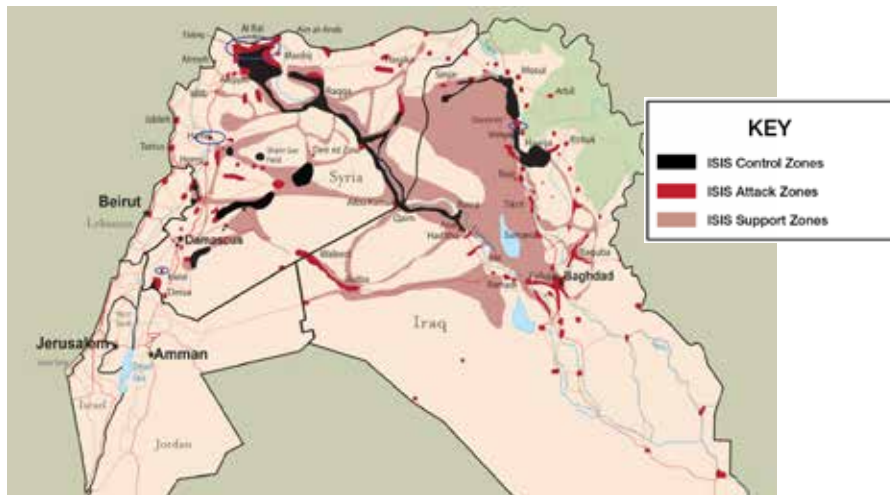*Source: Institute for the Study of War (2015)*

Map 4. ISIS' Territorial Situation on 31 March 2016
Source: Institute for the Study of War (2016)

At the end of March 2016, despite many advances, ISIS also suffered losses. According to Map 4, in Syria, the insurgents expanded their control to areas on the Turkish border and settled in areas near the Israeli border but lost control of territories near Hasaka, northwest of Raqqa toward Ayn-al-Arab and in the region of Palmira. The latter, nonetheless, was taken over by pro-regime forces, according to the ISW.[24] In Iraq, however, there were no territorial advances from ISIS, which lost control over Ramadi, nearby areas of Sinjar that stretched to Syria, and over territories in the Hit region. Additionally, there was a decrease in the insurgent-dominated territory north of Hawija toward Mosul.

Map 5 shows that over the subsequent months, the coalition and its allies achieved significant results. After a series of arduous clashes in northwestern Syria, insurgents lost control of areas on the Turkish border, and Manbij to US-backed Syrian forces, although they still retained enough presence at those locations to conduct attacks. The recovery of these territories was aimed at facilitating the recapture of Raqqa, impeding the flow of foreign fighters and supplies, as well as preventing ISIS from strengthening its domains and sending terrorist cells to conduct operations in other areas.[25] The group also lost control of west of Palmira and Deraa to Syrian regime forces.[26] On the contrary, the group took the Sha'er natural gas field located in Palmira and established attack zones in the coastal towns of Jableh and Tartus. In Iraq, ISIS suffered several territorial losses without being offset by other gains. It lost control of Fallujah, the territorial strip between the cities of Rutba and Waleed (although it was still able to stage attacks), areas southwest of Hit, small territories north of Fallujah and southwest Kirkuk, and the areas near Qayyarah, Shirqat, and Baiji.

Map 5. ISIS' Territorial Situation on 17 October 2016
Source: Institute for the Study of War (2016)

Maps are not available for the second-to-last period of the time frame (i.e., until September 2016). However, Map 6 from the third week of October shows ISIS' territorial evolution since the end of March for the same year. Therefore, it is noteworthy that on October 16, control of the city of Dabiq, northwest of Syria, was regained.[27]
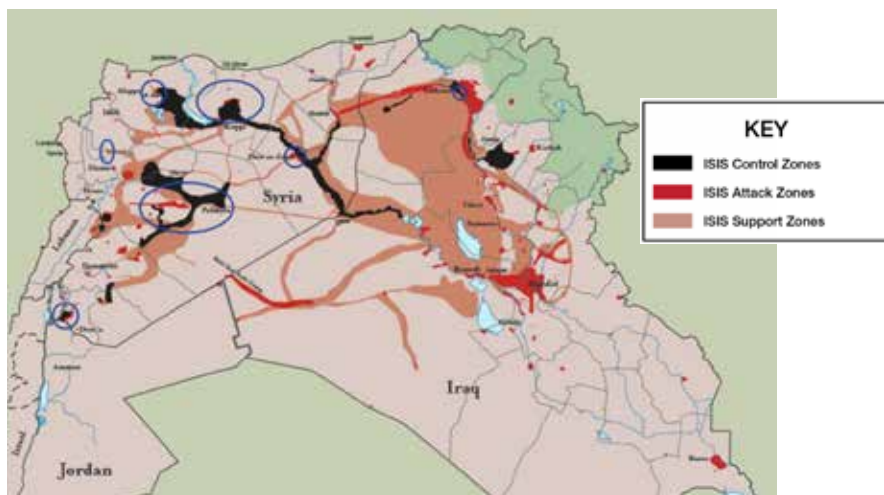
**Map 6. ISIS' Territorial Situation on 26 February 2017**
Source: Institute for the Study of War (2017)

Map 6 illustrates ISIS' territorial situation until February 2017, the period closest to the end of this study's time frame, 20 January 2017. Until early 2017, ISIS continued to suffer territorial losses. This occurred in both attack and control zones in northwestern Syria, in areas close to the Turkish border,[28] and included having limited domains and support areas north of Raqqa. Conversely, insurgents regained control of areas between Hama and Palmira, despite losses northeast of Damascus. In Iraq,[29] territories near Sinjar had been recovered back toward Mosul, and from there toward Hawija, although ISIS still had fixed attack zones in such regions. Besides these losses, ISIS also lost control of areas east of Qaim. Additionally, they also reinforced attack zones near Baghdad and Fallujah and were present in a small area in eastern Iraqi Kurdistan.

Map 6 demonstrates that by the end of this study period, the losses imposed on ISIS were higher in Iraq than in Syria. This can be explained by the higher number of coalition air bombings in Iraqi territory (10,762 attacks), according to the graph on the next page. In Syria, 6,751 attacks occurred on the border with Turkey, while these bombings did not target surrounding regions like Palmira and the south of the country. Another factor that may explain the advantageous territorial situation of ISIS in Syria is the Obama administration's adoption of a strategy that prioritized efforts against insurgents in Iraq.[30]

On the coalition website, additional data on ISIS territorial losses is available: From August 2014 to September 2016, insurgents lost approximately 52 percent of their territories in Iraq, corresponding to an area between 29,000 and 30,000 km², while in Syria the insurgents lost between 10,500 and 11,500. km², which represented 25 percent of its territories in this country in August 2014. By the end of the

time frame of this survey, January 2017, ISIS territorial losses in Iraq totaled between 35,000 and 36,000 km², a 62 percent loss of the territories which were held in August 2014, and around 30 percent of the ISIS-dominated Syrian territories, approximately 13,000 to 14,000 km². Between these territories, the cities of Tikrit, Baiji, Sinjar, and Ramadi were recovered by the coalition and its allies in Iraq in 2015; and Hit, Ar-Rutbah, Fallujah, Qayyarah, and Sharkat in 2016. In Syria, the cities of Kobani and Tal Abyad were taken back by the coalition and its allies in 2015; and Shaddadi, Manbij and Dabiq, in 2016.[31]
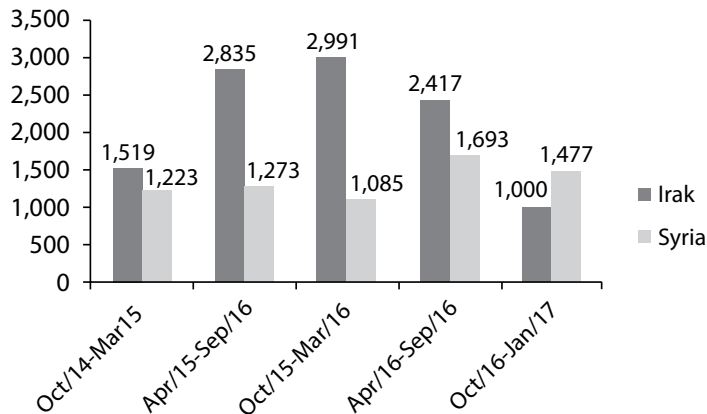
Graph. Coalition Attacks on Iraq and Syria between October 2014 and January 2017
Source: Author

OIR's Tactical-Operational Level: Air Strikes and Targets Hit

In this section, reports provided by the coalition on targets hit since 16 October 2014 (the date of the first report on OIR's attacks) until 20 January 2017 (which marked the end of the Obama administration), were analyzed. These reports served as the basis for the elaboration of a database to account for the types of targets attacked, through a search for terms carried out with the aid of the Atlas.Ti software. The reports become routine in January 2015, when they started being published daily.

The time frame of this study was a total of 28 months, divided into four semesters, and the four last months of the analyzed period. According to the source "Airwars," from the beginning of the OIR until January 2017, as seen in Figure 1, 10,762 air strikes were conducted in Iraq and 6,751 in Syria, totaling 17,513 attacks.

Such attacks, according to reports, reached 39,608 targets. In table 1 below, the top 15 targets are identified in each time division, in both countries, corresponding to approximately 91 percent of all targets mentioned in the reports, for a total of 36,023 attacks.

Type of target	Oct/14-Mar/15	Apr/15-Sept/15	Oct/15-Mar/16	Apr/16-Sept/16	Oct/16-Jan/17	Total
Tactical Units	791	2.033	1.908	2.140	1.131	8.003
Combat positions	872	1.739	2.513	1.132	692	6.588
Weapons**	244	1.188	1.390	1.897	947	5.666
Vehicles***	975	1.073	1.059	1.303	752	5.162
Buildings	480	666	529	-	400	2.075
Areas of concentration*	68	339	684	574	71	1.736
Supply routes	-	149	391	-	389	929
Fuel trucks-tanks*	-	-	-	329	482	811
Weapons depots*	-	77	238	254	114	683
Anti-bomb shelters*	73	234	198	91	67	663
Ships	57	41	-	392	-	490
Tunnels/tunnel system	-	68	56	198	155	477
Excavators	96	255	-	-	-	351
Command and control centers*	-	-	94	93	68	255
Tankers*	-	-	-	202	-	202
Structures	-	194	-	-	-	194
Oil pumps*	-	-	-	95	91	186
Main barracks*	-	-	52	101	-	153
Roads	-	-	66	-	67	133
Supply depots	-	-	-	109	-	109
Oil distilleries	-	-	-	-	106	106
Big units*	102	-	-	-	-	102
Small units*	96	-	-	-	-	96
Front end loaders	-	-	-	-	78	78
Weapon installations	-	-	77	-	-	77
Command posts*	72	-	-	-	-	72
"Sleeping areas"*	-	-	68	-	-	68
Motorcycles	-	64	-	-	-	64
Containers	50	-	-	-	-	50
Bridges	-	48	-	-	-	48
Units*	19	-	-	-	-	19
Bridges for oil operations	17	-	-	-	-	17
Total	4.012	8.168	9.323	8.910	5.610	36.023

Table 2. Top Targets Hit During OIR

Source: Author's compilation of data from http://www.inherentresolve.mil/News/Strike-Releases/ and http://www.centcom.mil/MEDIA/NEWS-ARTICLES/.

* US Army Combined Arms Center terms: staging area, staging location, oil tanker truck, weapons cache, bunker, command and control node, oil tanker, oil pump jack, headquarters, large unit, small unit, checkpoint, and bed down location.

** This term refers to targets related to firepower, such as heavy weapons, tanks, antiair artillery, machine guns, rockets, mortars, positions for firing mortars, rockets, machine guns, IEDs (improvised explosive devices), VBIEDs (vehicle-borne improvised explosive devices, or car bombs), among others.

*** In this category, the following targets are also included: Humvees, tactical vehicles, armored vehicles, technical vehicles, support vehicles, supply vehicles, armored vehicles for personal transportation, among others.

Note that the top three targets in the table (tactical units, combat positions, and weaponry), relate to battlefield warfare efforts, as well as large units and small units, and areas of concentration. These targets consist of more than half the top 15 targets and all targets mentioned in the reports, 61.65 percent, and 56 percent, respectively, totaling 22,210 targets. Regarding logistics and replenishment, 10,369 targets were bombarded in the period, 28.78 percent of the targets in the table and 26.17 percent of the total targets, including vehicles, buildings, supply routes, armaments depots, boats, tunnels, roads, supply depots, armaments facilities, checkpoints, motorcycles, containers, and bridges. Critical infrastructure targets (organic essentials in Warden's terminology[32]) relate to energy sources, mainly oil in the case of ISIS—tanker trucks, tankers, oil pumps, oil distilleries, and bridges for oil exploration. During this period, 1,322 such targets were attacked, representing 3.67 percent of the targets listed above and 3.34 percent of the total targets. Finally, military facilities not located on the battlefield such as shelters, command and control centers, headquarters and dormitory areas, were targeted as well. The top three targets can be considered as components of the central leadership ring, which also houses its facilities and communications networks. These three total 1,071 targets and represent only 3 percent of the targets indicated in the table, or 2.7 percent of all targets identified in the reports. Other targets cannot be categorized according to the classification of the targets mentioned above.[33]

In the context of existing theories, an analysis of the targets attacked is needed to understand the theories applied by the coalition. As Table 2 demonstrates, air efforts focused mainly on the battlefield, thus reflecting on the application of Pape's theory, followed by targets related to supply flow. According to this table, it is clear that there were not significant changes in the profile of the targets that were most consistently bombed. Thus, the data analyzed allow this writer to conclude that the use of airpower in OIR is closer to Pape's theoretical approach. This is because of its promulgation of aerial bombardment of targets on the frontlines as the most efficient means of exerting coercion. Additionally, these targets allow researchers to understand that such attacks were conducted during CAS missions and useful on static fronts, as experienced in some of the battles against ISIS.[34] Furthermore, operational interdiction missions may have been conducted during the reporting period, given the considerable attacks on targets, such as vehicles, supply routes, and weapons depots to affect support functions in the TO. Denial through strategic interdiction does not

appear to have occurred on a substantial scale, as armaments factories were not among the hardest-hit targets.

Although leadership is included as targets in the US strategy to combat ISIS in 2016, the coalition's strategy for OIR did not prioritize this type of target (albeit other agencies or institutions outside the scope of OIR might have prioritized it). Consequently, there is little data on attacks on insurgent leaders in OIR reports.[35] Furthermore, the data does not show substantial attacks on organic essentials—that for ISIS was related mainly to oil and infrastructure. Instead, this type of target was the focus of other coalition efforts, materialized in Operation Tidal Wave II, which began in October 2015.[36]

Final Considerations

After analyzing the components of OIR, this study concludes that the conduct of the coalition's operations fits most closely with the coercive air strategy of denial. Regarding strategy, early containment efforts did not prevent ISIS from expanding. Therefore, this called for a shift to a more aggressive stance, which focused on taking back territories, especially cities. This thwarted political control and made continuous territories unfeasible; which together would have provided ISIS with the basis for the physical constitution of the caliphate, and would have facilitated the flow of supplies and insurgents. Concerning air bombing, targets located on the battlefield dominated, followed by targets related to support functions in the TO. Despite the inclusion of ISIS leaders as targets of the US strategy to combat the group, such targets are scarcely mentioned in coalition reports. Therefore, it appears from these coalition reports that the missions conducted by OIR consisted mainly of CAS and operational interdiction. The missions excluded emphasis on ISIS leadership, strategic interdiction, or parallel attacks to undermine the insurgents' response capability, which would have been indicative of an air strategy of strategic paralysis. Thus, there is congruence between the objectives defined in the coalition's documents and the conduct of the attacks.

As a result of the bombings, the territories needed to carry out ISIS' strategy, such as Fallujah, from which the insurgents conducted their attacks on Baghdad; Sinjar and Shaddadi, which were part of supply and combatant transport routes; Tabqa and Manbij, whose recovery was necessary for the conquest of Raqqa; among others;[37] were all recaptured. Moreover, the recapture of large urban centers discredited ISIS' narrative of viable governance. Thus, by the loss of strategic territories, the denial of safe refuge to insurgents was also achieved; and their movements and resources were curtailed. Since ISIS' activity was focused on territorial dominance—reducing the likelihood of reaping the benefits provided by territories, it is practically impossible

to change ISIS' perceptions about the costs and benefits of their resistance, on account of the importance given by them to the conquered areas. ❑

Notes

1. Jon Rymer, Operation Inherent Resolve: Quarterly Report and Biannual Report to the United States Congress: December 17, 2014–March 31, 2015. (Washington: US Government Printing Office, 2015). https://oig.usaid.gov/node/1287.

2. Elinor C. Sloan, Modern Military Strategy: An Introduction (New York: Routledge, 2012).

3. John Warden, The Air Campaign: Planning for Combat (Darby: Diane Publishing, 1995). https://apps.dtic.mil/dtic/tr/fulltext/u2/a259303.pdf.

4. James S. Corum; Wray R. Johnson, Airpower in Small Wars: Fighting Terrorists and Insurgents (Lawrence: University Press of Kansas, 2003).

5. John Warden, "The Enemy as a System," *Air Power Journal* 9, no. 1 (Spring 1995): 40-55. https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-09_Issue-1-Se/1995_Vol9_No1.pdf.

6. Robert Pape, Bombing to Win: Air Power and Coercion in War (London: Cornell University Press, 1996).

7. Alexander George; Andrew Bennett, Sean M. Lynn-Jones, and Steven E. Miller, Case Studies and Theory Development in the Social Sciences (Cambridge: MIT Press, 2005).

8. Warden (1995), 48.

9. Warden (1995), 47-49.

10. Warden (1995), 49-50.

11. Pape (1996), 4.

12. Pape (1996), 55.

13. Pape (1996), 69-72.

14. Jon Rymer, Operation Inherent Resolve: Quarterly Report and Biannual Report to the United States Congress: December 17, 2014–March 31, 2015. (Washington: U.S. Government Printing Office, 2015). https://oig.usaid.gov/node/1287.

15. Ben Connable; Natasha Lander; Kimberly Jackson. Beating the Islamic State: selecting a new strategy for Iraq and Syria (Santa Monica: RAND Corporation, 2017).

16. Connable, 24.

17. Alexander C Ohlers, "Operation Inherent Resolve and the Islamic State: Assessing 'Aggressive Containment,'" Orbis 61, no. 2 (March 2017): 195-211.

18. Glenn Fine, Operation Inherent Resolve: Quarterly Report to the United States Congress: October 1, 2015–December 31, 2015 (Washington: U.S. Government Printing Office, 2015). https://oig.usaid.gov/node/1291.

19. To identify the effects of coalition attacks on ISIS, the maps available on the Institute for the Study of War's (ISW) website were analyzed. Additional data can be found on the coalition website: https://theglobalcoalition.org/en/.

20. The swathes of land highlighted in black refer to ISIS control zones. They are defined by the ISW as areas where insurgents exert pressure—physical and/or psychological—on the inhabitants to ensure their obedience and submission. The areas marked by dark red are the attack zones from which ISIS conducts offensive maneuvers. In the support zones, represented by the lighter shade of red, there is not significant opposition to the insurgents, and they serve as a basis for lo-

gistical and administrative support from their forces. Finally, there are the Kurdish territories in Iraq, identified by the color green. These demarcations will also be present on the following maps. See "ISIS Sanctuary Map: October 30, 2014," Institute for the Study of War, http://www.understandingwar.org/backgrounder/isis-sanctuary-map-october-30-2014.

21. Although the first ISIS target cut-off time frame ends at the end of March, the nearest map of this period dates from April 3rd, while the insurgents' territorial situation wasn't reported until the 4th. The circles on this and the next maps only highlight some of the territorial changes already indicated in the areas determined by the legend, and do not reflect the size of the territories in which these changes occurred. See "ISIS Sanctuary Map: October 30, 2014," Institute for the Study Of War, http://www.understandingwar.org/backgrounder/isis-sanctuary-map-october-30-2014.

22. During this period, insurgents were also denied the use of a small area near Damascus as an attack zone. However, this area had not been bombarded by the coalition, according to Airwars. org. https://airwars.org/conflict/coalition-in-iraq-and-syria/.

23. "ISIS Sanctuary: September 15, 2015," Institute for The Study of War, http://www.understandingwar.org/map/isis-sanctuary-map-september-15-2015.

24. Harleen Gambhir, "ISIS Sanctuary Map: March 31, 2016," http://www.understandingwar.org/map/isis-sanctuary-map-march-31-2016.

25. Caitlin Forrest, "ISIS Sanctuary Map: July 1, 2016," http://www.understandingwar.org/backgrounder/isis-sanctuary-map-july-1-2016 Caitlin Forrest, "ISIS Sanctuary Map: August 19, 2016," http://www.understandingwar.org/backgrounder/isis-sanctuary-map-august-19-2016.

26. Harleen Gambhir, "ISIS Sanctuary Map: April 22, 2016," http://www.understandingwar.org/map/isis-sanctuary-map-april-22-2016.

27. Alexandra Gutowski, "ISIS Sanctuary Map: October 17, 2016," http://iswresearch.blogspot.com/2016/10/isis-sanctuary-map-october-17-2016.html.

28. The city of Al Bad, near Aleppo, was taken over only in February by forces allied with Turkey. See Alexandra Gutowski, "ISIS Sanctuary Map: February 26, 2017," http://www.understandingwar.org/backgrounder/isis-sanctuary-map-february-26-2017.

29. In the country, the configuration of the territories from December 2016 had not changed significantly until the date of map 8. See Alexandra Gutowski, "ISIS Sanctuary Map: December 8, 2016," http://iswresearch.blogspot.com/2016/12/sanctuary.html.

30. Anthony H. Cordesman, "The Road to Hell in Iraq and Syria," https://www.csis.org/analysis/road-hell-iraq-and-syria.

31. France Diplomatie. "Interactive Map of The Military Victories of The Global Coalition Against Daesh, City by City (October 2017)," https://webapps.france-diplomatie.info/diplocarto/carte/map-of-military-victories-by-the-international-coalition-against-daesh-city-by.

32. Warden (1995).

33. According to quarterly reports prepared for the US Congress, attacks were conducted on the leadership of ISIS and also on leaders of al-Qaeda who cooperated with the former. Between April 2015 and March 2017, more than 100 individuals related to leadership positions were killed. These reports are available at: https://www.stateoig.gov/reports/overseas-contingency-operations/.

34. Christopher Jones, "ISIS October News Roundup: October 2014," https://gatesofnineveh.wordpress.com/2014/10/08/isis-october-news-roundup/Jared Malsin, "Iraq Liberates Fallujah from ISIS. Now the Hard Part Begins," Time.com, https://time.com/4384000/isis-fallujah-iraq-mosul-campaign/.

35. Although speeches on attacks on combatants and leaders are present in the reports issued on March 31, 2015, and April 16 and 18 of the same year, only the report published on September 24, 2015 mentions an attack on a tactical unit in the which a senior leader was killed.

36. Glenn Fine, Operation Inherent Resolve: Quarterly Report to the United States Congress: October 1, 2015–December 31, 2015 (Washington: U.S. Government Printing Office, 2015). https://oig.usaid.gov/node/1291.

37. Fine.

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